3rd CTI Regional Exchange on the Implementation of EAFM Activities in the Coral Triangle Countries

Putrajaya, Malaysia May 22-25, 2012

CORAL TRIANGLE INITIATIVE ON CORAL REEFS, FISHERIES AND FOOD SECURITY

REGIONAL EXCHANGE PROGRAM ACTIVITY REPORT

3RD CTI REGIONAL EXCHANGE ON THE IMPLEMENTATION OF EAFM ACTIVITIES IN THE CORAL TRIANGLE COUNTRIES

MAY 22-25, 2012 (PUTRAJAYA, MALAYSIA)

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CONTENTS

ACRONYMS

ADB	Asian Development Bank
APEC	Asia-Pacific Economic Cooperation
ATSEA	Arafura-Timor Sea Ecosystem Action
BFAR	Bureau of Fisheries and Aquatic Resources (Philippines)
CBFM	community-based fisheries management
CBRM	community-based resource management
CCA	Climate change adaptation
CCRF	Code of Conduct for Responsible Fisheries
CI	Conservation International
COASTFISH	Sustainable Coastal Fisheries and Poverty Reduction Initiative (CTI)
CPUE	catch per unit effort
CT	Coral Triangle
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
CTSP	Coral Triangle Support Partnership (USAID/Asia)
DENR	Department of Environment and Natural Resources (Philippines)
EAF	ecosystem approach to fisheries
EAFM	ecosystem approach to fisheries management
EBM	ecosystem-based management
EEZ	economic exclusive zone
EO	executive order (Philippines)
FAD	fish aggregating device
FAO	Food and Agriculture Organization
FARMC	Fisheries and Aquatic Resources Management Council (FARMC)
FMA	fisheries management area
FSA	fish spawning aggregation
GEF	Global Environment Facility
HLFR	High-Level Financial Roundtable (ADB)
ICM	Integrated coastal management
ICRS	International Coral Reef Symposium
IEC	Information, education, and communication
IFMP	Integrated Fisheries Management Plan
IMACS	Indonesia Marine and Climate Change Support
IOC	International Oceanographic Commission (UN)
IUU	illegal, unreported and unregulated (fishing)
KM	knowledge management
km	kilometre
LGU	Local government unit
LME	large marine eco-region
LMMA	Locally Managed Marine Area

LRFF	live reef food fish
LRFFT	live reef food fish trade
LRFT	live reef fish trade
M&E	Monitoring and evaluation
MCS	monitoring, control and surveillance
MM	Ministerial Meeting
MMAF	Ministry of Marine Affairs and Fisheries (Indonesia)
MOF	Ministry of Forestry (Indonesia)
MOSTI	Ministry of Science, Technology and Innovation
MOU	memorandum of understanding
MPA	marine protected area
MSN	MPA Support Network (Philippines)
MSP	marine spatial planning
MSSIF	Mekem Strong Solomon Islands Fisheries (Fisheries Sector Institutional Strengthening)
MSY	maximum sustainable yield
NACA	Network of Aquaculture Centres in Asia-Pacific
NAFC	National Agricultural and Fishery Council
NAPC	National Anti-Poverty Commission
NCC	National CTI Coordinating Committee
NEDA	National Economic and Development Authority (Philippines)
NFA	National Fisheries Authority (PNG)
NFC	National Fisheries College (PNG)
NGO	non-governmental organization
NKSNP	Niño Konis Santana National Park
NOAA	National Oceanic and Atmospheric Organization (US)
NPOA	National Plan of Action
NTA	no-take areas
OLE	Office of Law Enforcement (NOAA)
PEMSEA	Partnership in Environment Management for the Seas of East Asia
PES	payment for ecosystem services
PI	Program Integrator (for USAID/Asia US CTI Support Program)
PIP	Public Investment Program (Philippines)
PNG CLMA	PNG Centre for Locally Managed Areas
PNG	Papua New Guinea
PO	people's organization
PPP	public-private partnerships
RAP	Regional Office for Asia and the Pacific (UN FAO)
REX	regional exchange (USCTI)
Rio+20	UN Conference on Sustainable Development (Earth Summit 2012)
RPOA	Regional Plan of Action
SCS	Sulu-Celebes Sea
SEAFDEC	Southeast Asian Fisheries Development Center
SOM	Senior Officials Meeting

SPAG	spawning aggregation
SPC	Secretariat of the Pacific Community
SSME	Sulu-Sulawesi Marine Ecoregion
SST	sea surface temperature
TMP	Tun Mustapha Park
TNC	The Nature Conservancy
TOR	terms of reference
TURF	territorial user rights fisheries
TWG	technical working group
UMS	Universiti Malaysia Sabah
UN	United Nations
UNDP	UN Development Programme
UNESCO	UN Educational, Scientific and Cultural Organization
UNOPS	UN Office for Project Services
UPMSI	University of the Philippines Marine Science Institute
URI-CRC	University of Rhode Island Coastal Resource Center
USAID	United States Agency for International Development
USCTI	United States Support to the Coral Triangle Initiative
USG	United States Government
VA	vulnerability assessment
VIP	Verde Island Passage (Philippines)
VMS	vessel monitoring system
WB	World Bank
WCPFC	Western and Central Pacific Fisheries Commission
WWF	World Wildlife Fund

EXECUTIVE SUMMARY

BACKGROUND

The Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF) held its *3rd Regional Exchange on the Implementation of an Ecosystem Approach to Fisheries Management (EAFM)* last 22-25 May 2012 in Putrajaya, Malaysia. The event, participated in by the six CTI-CFF member-countries tackled Action 1 under Goal 2 Target 1 of the CTI-CFF Regional Plan of Action (RPOA), which calls on member-countries to "collaborate to develop a common regional framework for legislation and policy that would support EAFM in the Coral Triangle." It was the second CTI-CFF regional exchange (REX) to directly respond to this mandate.

CTI-CFF is composed of Indonesia, Malaysia, Papua New Guinea (PNG), Philippines, Solomon Islands and Timor-Leste, often collectively called the "CT6." Last May's activity was hosted by the Government of Malaysia through its CTI-CFF National Coordinating Committee (NCC) and Ministry of Science, Technology and Innovation (MOSTI) with assistance from the US CTI Support Program (USCTI) and in coordination with the CTI-CFF Regional Secretariat.

Malaysia also hosted the 2nd CTI-CFF REX (REX2) on EAFM held in Kota Kinabalu in September 2011, where the six countries first attempted to develop a common regional EAFM policy and legislative framework. What came out of that meeting was an initial draft framework that served as the main input to the 3rd REX (REX3). Also at REX2, the CTI-CFF EAFM Technical Working Group (TWG) was constituted and met formally for the first time to deliberate on specific provisions of their draft Terms of Reference (TOR) and a number of proposals put forward by the CTI-CFF EAFM Resource Team composed of experts from USCTI and development partners.

USCTI is a five-year project assisted by the US Government through the US Agency for International Development (USAID) Regional Development Mission for Asia in collaboration with USAID Indonesia, USAID Philippines and USAID Timor-Leste. It is implemented by the Coral Triangle Support Partnership (CTSP), a consortium of World Wildlife Fund (WWF), Conservation International (CI), and The Nature Conservancy (TNC); the Program Integrator (PI); and the National Oceanic and Atmospheric Administration (NOAA).

REX3 is the sixth regional activity on fisheries management organized under the CTI-CFF in the last four years. The first REX on EAFM was held in Cebu, Philippines, where local governments shared strategies for addressing fisheries issues. A related activity, the CTI REX and Roundtable on Live Reef Food Fish Trade (LRFFT), was held in early 2010 in Kota Kinabalu. Also in 2010, USCTI facilitated and funded the participation of 11 government officials, university faculty and professionals from the CT6 in a three-week course on Leadership for Fisheries Management held at the University of Rhode Island's Coastal Resource Center (URI-CRC) in Narragansett, Rhode Island, USA. Finally, almost immediately preceding REX3, an experts' workshop was convened in Bohol, Philippines, to develop local, national and regional guidelines for incorporating climate change and ocean acidification into EAFM in the Coral Triangle.

REX3 consisted of two main activities:

1) A three-and-a-half-day policy workshop attended by 71 people, including 40 CT6 delegates and 38 participants from partner organizations; and
2) The 2nd formal CTI-CFF EAFM TWG meeting attended by 17 TWG members and 16 partners.

The workshop portion of the four-day event consisted of a total of 11 sessions and included both plenary and breakout discussions aimed at achieving maximum country participation based on the

following process principles: (1) participatory design of the agenda; (2) CT6 leadership of each session; (3) CT6 country-led review and revision of draft EAFM regional framework; and (4) regional leadership and follow-through on implementation of the framework, supported by CTSP, NOAA, PI and technical partners.

A full session was included on the REX3 agenda to discuss the proposed EAFM guidelines from the March 2012 expert workshop. Also on the agenda were outstanding matters left over from or arising out of developments since REX2, including considerations on illegal, unreported and unregulated (IUU) fishing and LRFFT, and integrating these and other CTI themes into the EAFM process and framework. A proposed set of indicators for EAFM forwarded to the EAFM TWG by the CTI-CFF Monitoring and Evaluation Working Group (MEWG) was also presented.

The EAFM TWG meeting closed out the four-day REX3. On the agenda was the review of the full text of TWG's draft TOR. The TWG discussed and adopted specific provisions of the draft TOR at their first formal meeting in September 2011 but did not review the full text. As well as deciding on matters arising out of this REX, they agreed to table at this week's formal TWG meeting the final review and adoption of the document to support the full mobilization of the TWG. In addition, a discussion on the EAFM indicators endorsed by the MEWG was added to the agenda.

In all, there were seven target results:

1) Final draft of a common regional framework for legislation and policy that would support EAFM in the Coral Triangle, to be presented to SOM8;
2) Roadmap for 2012-20 to implement the regional framework;
3) Guidance on national legislation and policy that would support EAFM;
4) Revised and refined CTI-CFF EAFM TWG work plan and activities;
5) Improved understanding of the impacts of climate change and ocean acidification on nearshore fisheries and guidance on its incorporation into EAFM in the Coral Triangle;
6) Plans for a CTI-CFF LRFFT Multi-stakeholder Forum and LRFFT strategies and direction for the Coral Triangle; and
7) Improved understanding on how to incorporate IUU fishing concerns into the EAFM process and framework and the development of strategies and direction to combat IUU fishing in the Coral Triangle.

RESULTS AND NEXT STEPS

Below are key results from EAFM REX3, including workshop outputs, TWG actions, and agreed upon next steps.

1. Revised final draft of a "common regional framework for legislation and policy that would support EAFM in the Coral Triangle" completed

Working with the Resource Team, the countries reviewed and revised a fleshed-out version of the initial draft developed at the EAFM REX2 (see Annex **Error! Reference source not found.**). Five objectives related to the following major CTI-CFF concerns were identified in this initial draft:

a. Legislation and policy on EAFM
b. Building community resilience to climate change and ocean acidification
c. IUU fishing
d. Capacity building for EAFM
e. Data and information collection and sharing

The final draft, as shown in Annex 11 (A11), contains the following substantive and contextual revisions:

a. For the most part, the framework extends the timelines for achieving the five objectives from 2015 to 2017 in consideration of the time it takes for most countries to adopt new policies and legislations. Because legislation takes more time than policy adoption, the words "legislation" and "policy" in **Objective 1** are transposed to emphasize that policy adoption is the more immediate objective.
b. All bullet items previously labeled as "Indicators" in the initial draft are relabeled as "Activities." Prior to REX3, the section title, "*7. Objectives and Indicators*," had already been changed to "*7. Objectives and Activities*" according to feedback from early reviewers.
c. The framework is revised to make specific mention of the Sulu-Sulawesi Marine Eco-region Sub-committee on Sustainable Fisheries as an important part of the regional **coordination mechanism**. The point is also made, however, that coordination should not be limited to the organizations specifically mentioned in the framework.
d. With regard to **Objective 2**, the word adaptation is added in consideration of the situation of most small island communities in the Pacific, where resilience may not be an option and adaptation is the only way to go.
e. The role of the EAFM TWG in relation to the Regional Secretariat is clarified, i.e., the TWG, with support from and in collaboration with the Regional Secretariat, is the primary coordinating body for the CTI and has the mandate to provide a mechanism for the CT6 and their development partners to work together.

Other related actions: The CT6 delegates accepted the Resource Team's offer to draft a policy statement that they can use to support the adoption of an EAFM policy in their respective countries.

TWG action: The completion of the draft was noted by the TWG but the framework was not discussed further during the TWG meeting. The TWG also agreed that a draft policy statement will serve as starting point for national level discussions on the framework.

Next steps: The Regional Secretariat will come up with an initial draft policy statement to be circulated to the CT6 for discussion and finalization.

2. Roadmap to implementing a "common regional framework for legislation and policy that would support EAFM in the Coral Triangle" revised and updated

The target result was to have a roadmap for 2012-20 but the countries decided to set timelines only for those activities that they considered to be doable in five years (up to 2017). No specific targets were identified for 2020.

TWG action: The TWG meeting noted that the roadmap was revised and updated but did not discuss it further.

The revised and updated roadmap for 2012-17 is shown in **Table 1**:

Table 1. Roadmap to implementing regional EAFM framework

Activities	Timeline	Lead/Support
Develop a regional framework for the implementation of EAFM	May 2012	Secretariat, EAFM-TWG
Initial review and revision of draft regional framework by NCCs	June through July 15, 2012	EAFM-TWG
CT6 NCCs submit comments and suggestions to TWG Chair (Dr. Galid)	July 15	NCCs
Regional framework revised; Chair sends to NCCs for review	August 1	EAFM-TWG
Second review and approval of revised draft regional framework completed by NCCs	September 1	NCCs
Finalize regional framework by TWG	September 15 2012	EAFM-TWG
Presentation of regional framework at SOM8 for approval	Oct 2012	EAFM-TWG/Secretariat
Develop EAFM briefs and information materials	TBD	EAFM-TWG/Secretariat
Dissemination and socialization	TBD	EAFM-TWG, NCC
Establish EAFM coordination mechanism	TBD	EAFM-TWG, NCC
Translated into local languages and dialects	TBD	EAFM-TWG, NCC, USCTI-SP
Institutionalization of programs on EAFM at regional and national levels	2012 onwards	EAFM-TWG, NCC, USCTI-SP
Integration or incorporation into national policies and/or legislations	2017	EAFM-TWG, NCC

3. Reporting by CT6 delegates on the progress of EAFM program implementation in their respective countries

During the plenary workshop, each of the countries reported on the progress of their respective EAFM program implementation. Overall, it can be said that some form of EAFM is present in the CT6 at different levels of implementation and sophistication. Below are some highlights of the country reports:

Indonesia has subdivided their fishing grounds into 11 fisheries management areas (FMAs), defined and tested their EAFM indicators and formed an expert panel to support EAFM implementation. A number of area-based and species-based fisheries management plans have been developed.

Malaysia has formed a National Steering Committee on EAFM to guide the country toward the full establishment of EAFM by 2016. The EAFM approach is now being piloted in Sabah, where management initiatives have been in place since 2011.

In PNG, the National Fisheries Authority (NFA) encourages the adoption of EAFM through community-based fisheries management (CBFM); CBFM is still very much the work of NGOs however, so coordination between government and the NGOs is needed to scale up implementation. The CTI RPOA provides the framework for the country's marine program.

In the Philippines, EAFM is embedded in the management plans of the various agencies, including the Philippine Investment Plan (PIP), which guides development programs across the government.

Integrated FMAs have been defined and delineated and will serve as the building blocks for EAFM, with the local government units (LGUs) as the frontline implementers.

The Solomon Islands is drafting an LRFT management plan based on EAFM. EAFM is embedded in community-based resource management (CBRM) approaches being employed there. Currently, EAFM principles find application in key pillar activities such as CBRM, aquaculture and ICM at different levels of governance.

Timor-Leste has LMMAs in two districts and is implementing ICM with PEMSEA assistance.

TWG action: The TWG meeting noted that the country reports were presented to plenary but did not discuss the specifics of reports.

4. Presentations by CT6 delegates on current policies and legislations having significance to EAFM in their respective countries

The CT6 delegates also reported during the plenary workshop on current policies and legislations that support EAFM in their respective countries. There is no policy or legislation that specifically prescribes EAFM in any of the countries but each country has several legislations that provide for some elements of EAFM. Below are some salient points from the reports:

Indonesia has many laws and regulations on conservation and ecosystem management, including a number that specifically address fisheries. In principle, Indonesia also subscribes to the EAFM guidelines contained in the FAO Code of Conduct for Responsible Fisheries, but it has not been easy to translate the guidelines into laws and regulations. Nevertheless, there are many aspects of EAFM that are covered by existing fisheries laws and regulations. For example, the objective of the country's Fisheries Act is to conserve not only fisheries but also the environmental aspects of fisheries, which can be translated into an ecosystem approach. This law serves as guidance for local governments.

The legal framework for fisheries management in Malaysia is provided by the Fisheries Act of 1985 and its regulations and other relevant laws. Malaysia has no policy or legal instrument focused specifically on EAFM but elements and principles EAFM have been adopted in various policies and laws that are now being implemented in the country. National plans of action on sharks, sea turtles, marine mammals, fishing capacity and IUU fishing are currently under review or in development.

PNG has several policy and legal instruments that contain various elements of EAFM but there is no single policy or legislation that encompasses all aspects of EAFM. One provision of the fisheries management act requiring the preparation of fisheries management plans can easily apply EAFM planning. In addition, PNG has signed with Australia the Torres Strait Treaty, which contains provisions that can be translated to applications of EAFM. There is a policy on protected areas but it does not extend to marine waters and needs to be amended, and another policy on flora and fauna that describes a few aspects of EAFM but is not explicit about its application. There is an opportunity to insert the ecosystem approach in at least one of the provisions in the current amendment of the fisheries act that is going to parliament.

The Philippines has adopted several policies and laws on sustainable development, so it has applied and/or used in different ways the various EAFM concepts and principles. Executive Order (EO 533) or the Integrated Coastal Management (ICM) national policy, which was enacted about five years ago, promotes the application of EAFM principles in the country. However, because of policy, legislative and institutional gaps, implementation has not been comprehensive.

The Solomon Islands has current national laws and provincial ordinances that address various aspects of fisheries but not EAFM specifically. There is an environment law that is also ecosystem-based but does not specifically refer to EAFM. CBRM, which has worked well in the Solomon Islands, encompasses every aspect of the managed resource and thus provides some opportunity for EAFM. The ridge-to-reef approach is also gaining momentum.

Timor-Leste does not have any legislations specific to EAFM. There is an inter-ministerial decree that incorporates climate change, biodiversity conservation and marine pollution, but it has no clear fisheries component. There is also an inter-ministerial decree that incorporates climate change, biodiversity conservation and marine pollution, but it has no clear fisheries component. A national marine policy is being formulated and is expected to be completed by July. A draft decree on sustainable fisheries is also being finalized, and fisheries mapping has started with assistance from NOAA.

TWG action: The country reports on EAFM policy and legislation were noted by the TWG meeting but not discussed further.

5. Draft EAFM regional guidelines presented by the Resource Team considered for further study and review by the countries.

The draft *Coral Triangle EAFM Regional Guidelines* (see Annex **A12**) developed at the March 2012 expert workshop on climate change, ocean acidification and EAFM held in Bohol, Philippines, was presented to the body on the last day of the workshop. The *Guidelines* is intended to provide more detail or explanation specific to the Coral Triangle and identify areas of compatibility and complementarity between existing guidelines created to advise EAFM in Asia and the Pacific Islands Countries, namely, (a) the *Ecosystem Approach to Fisheries and Aquaculture: Implementing the FAO Code of Conduct for Responsible Fisheries* written by FAO primarily for Asia and (b) the Pacific-centric *A Community-based Ecosystem Approach to Fisheries Management: Guidelines for Pacific Islands Countries* by the Secretariat of the Pacific Community (SPC).

The Resource Team noted comments from Indonesia and WWF-Philippines saying the *Coral Triangle EAFM Regional Guidelines* needed to have more "local content" and be more CTI-specific, if not country-specific.

TWG action: The TWG agreed to "come up with regional guidelines on EAFM for CTI" based on the draft guidelines prepared by the EAFM Resource Team.

Next steps: The countries will send their comments on the draft guidelines to the TWG Chair by 15 July 2012.

6. Results from the breakout session on the proposed Coral Triangle Multi-stakeholder LRFF Forum considered for review and further consideration toward achieving the objective of establishing the Forum

Action 2 under Goal 2 Target 4 of the CTI RPOA calls on the CT6 to "establish an informal CTI Forum on Management of and International Trade in Coral Reef-Based Organisms….to serve as an informal dialogue and partnership mechanism" for sharing information, advancing CTI's LRFT work program and developing and promoting "practical solutions for a more sustainable trade, including through public-private partnerships (PPP)."

One full session of the EAFM REX3 was allotted to the discussion of a proposal on a "Coral Triangle Multi-stakeholder LRFF Forum" patterned after the chamber of commerce and industry

model. Workshop participants broke into small group discussions to discuss the proposal and then reported to plenary that the countries generally agreed with the suggestion that the chamber of commerce and industry as proposed would be the most appropriate model for a Coral Triangle stakeholder forum. In principle they were supportive of the idea of having a multi-stakeholder forum but said they needed more information to make a decision. There was also interest within the USCI and CTSP to assist the process. The full report from the LRFFT breakout discussions is shown in Annex A10.

A TOR for the proposed CTI Multi-stakeholder LRFF Forum was also presented but not acted upon (Annex A9). The TOR provides that while the forum should primarily be a stakeholder/business forum, the government "must not leave it entirely to the stakeholders," and must have a role, primarily "to spur the formation of the various chambers at the various locations where the industry is aggregated". It includes a roadmap for the establishment of the Forum which was considered but, because of time overrun, not fully discussed in the breakout discussions. The proposed roadmap basically suggests that "what can be done first [should] get done first." A small group meeting would be convened at the end of the EAFM REX3 to develop a roadmap that USCTI can use to determine how they can assist the process.

TWG actions: The TWG meeting considered a proposal for the CTI-CFF EAFM TWG to convene an "Inaugural Coral Triangle Live Reef Food Fish Trade Forum," as appended (Annex 7, Appendix 3). The countries generally agreed to "coordinate through their relevant agencies and industry players for agreement on country participation in the [CTI Multi-stakeholder LRFF] Forum through appropriate arrangements" and "to participate on an inaugural forum to be convened at a future date to be set." They also agreed that, until the Forum is established, they could not act on the proposal "to utilize the [CTI Multi-stakeholder LRFF] Forum to achieve integration of EAFM into relevant sectoral plans and policies."

Next steps: The CT6 delegates will communicate with relevant agencies in their respective countries about the proposed CTI Multi-stakeholder LRFF Forum.

7. Presentation on "Livelihoods and EAFM" considered and consensus reached to consider or address livelihood issues within the EAFM regional framework.

In response to a USAID mandate for all REX's to include a discussion on livelihood, the EAFM Resource Team put together a presentation on integrating the development of alternative livelihoods into EAFM. The presentation included the following guidelines for applying sustainable livelihoods to EAFM:

a. Highlight actual livelihood conditions and needs. Fisheries managers may come in with preconceptions of what fishers need, and find out that fishers are actually concerned with totally different issues.
b. Identify factors affecting livelihood, the drivers that make people do what they do.
c. Identify how to improve and maintain sustainability of resource, income and household needs.
d. Highlight how livelihoods link to ecosystem health.
e. Clarify potential impacts of fisheries management changes on livelihoods and social resilience. Changes in practices to favor management entails risks for fishers – it is important to talk about such risks and other potential impacts.

There was general consensus that livelihood issues should be addressed under the EAFM regional policy and legislative framework, but the countries agreed that livelihood development need not be explicitly stated as an objective because, by definition, EAFM considers the issue of livelihood as a critical concern and therefore seeks to address it. In addition, they pointed out that the

focus of the framework is on RPOA Goal 2, Target 1 on EAFM, and the livelihood objective is more specifically covered by Goal 2, Target 2 on improved income.

TWG action: The TWG noted the presentation on "Livelihoods and EAFM" and that the countries agreed that livelihood issues should be addressed under the EAFM framework. There was no further discussion on this matter during the TWG meeting.

8. Presentations on the integration of priority CTI-CFF themes with EAFM noted for further consideration

The integration of priority CTI-CFF themes with EAFM was a major theme in this REX. There were two presentations on the integration of marine protected area, climate change and ocean acidification with EAFM, and integration was also a theme in the LRFT and IUU discussions as well as the overarching theme of the EAFM framework.

The countries agreed that the EAFM framework addresses in broad terms everything that concerns fisheries management and therefore all CTI-CFF priority themes, including climate change, ocean acidification, habitat protection through marine protected areas, IUU fishing and LRFT, even if these are not specifically referred to.

TWG action: The TWG meeting noted "for further consideration" but did not discuss the presentations on integration.

9. Proposed actions toward achieving the objectives related to combatting IUU fishing taken up in small group discussions

There were three presentations and three small group discussions that responded to Target 7 of this REX ("improved understanding on how to incorporate IUU fishing concerns into the EAFM process and framework and the development of strategies and direction to combat IUU fishing in the Coral Triangle").

Below are salient points from the presentations:

a. All of the CT6 have some form of MCS system in place at different levels of sophistication. In PNG, for example, tuna monitoring activities are conducted regularly, aided by fisheries observers and in-port fish sampling, apart from a satellite-based VMS that covers almost all vessels. The Philippines has a VMS for tuna and various control measures are in place for different fisheries. The Solomon Islands has a management plan for sea cucumber fishery that allows harvesting only in specified areas that have been restocked using hatchery-produced seed. In Malaysia, there is no explicit mention of IUU in current legislation, but there are many regulations in place to control fishing activities and fish catch; the government is currently working toward amending its Fisheries Act to more explicitly support MCS.
b. Information sharing is important and the CT6 must figure out how they can begin to share information across all levels. Regional coordination arrangements involving the US Coast Guard and other countries have been successful.
c. Under the USCTI, NOAA has assembled a team to provide technical assistance to the CT6 on aspects of EAFM dealing with IUU fishing. Several activities are planned to support this goals, including: (i) port state measures training (one in June 2012 in Jakarta, Indonesia and another in August 2012); (ii) Coral Triangle fishers forum on IUU (June 2012, Suva, Indonesia); (iii) legal workshop on the Lacey Act and relevant legal processes (July 2012, Silver Spring, Maryland, USA); and (iv) trans-boundary training (August 2012).

d. Over the past two years, the NOAA IUU team focused on undertaking an MCS assessment to evaluate existing MCS capacities and gaps, control measures, practices and training needs in the CT6. Preliminary results show that the CT6 overall need to work on their catch accounting and enforcement system. A summary of the results is included in the main body of this report (Session 4, **Presentation 1**).
e. *"Strengthening local marine resource compliance and community-supported enforcement in the Coral Triangle: Developing appropriate training programs and curricula,"* a USCTI-supported research-based project that is currently in the pipeline seeks to document current models of enforcement practice in the Coral Triangle, success and challenges, and gaps in local compliance and enforcement programs.

The small group discussions identified priority actions toward achieving the following CTI objectives on IUU fishing: (a) Strengthen regional MCS through the RPOA to promote responsible fishing practices (including combating IUU fishing) in the region; (b) Promote/adapt best practices for MCS within the Coral Triangle; (c) Develop proposal for Regional IUU Information Center; and (d) Analyze markets/trade routes of IUU to/from the Coral Triangle. The discussion results were presented to plenary but not discussed further, without clear decisions being made on the proposed actions. These results are shown in the main body of this report (Session 4, **Breakout workshops and plenary report-out**).

TWG action: The TWG meeting noted "for further consideration" but did not discuss the presentations on MCS and IUU fishing.

Next steps: The countries are expected to submit to the NOAA Assessment Team (through Dr. Ann Mooney) their respective updated participant lists so the assessment results can be distributed to the right persons.

10. EAFM REX4 topics, indicative date and venue proposed

TWG actions: Plans for holding the EAFM REX4 in January 2013 were discussed by the TWG meeting. The following topics were proposed:

a. Status updates on REX plan and next steps
b. COASTFISH/livelihood program
c. Payment for ecosystem services (PES) initiatives on EAFM (scaling up to regional level)
d. Case studies on EAFM application at the local level ("Assessing how far we have gone in EAFM") – Invite people who are implementing EAFM at the local level.
e. IUU and EAFM (follow-up discussion to REX3, particularly on coordination)
f. Transition and handover of USCTI to CT6 and partners (institutionalization and progress throughout the Program)
g. LRFT projects that the CT6 are interested in
h. Climate change and ocean acidification
i. Finalization of the EAFM Regional Guidelines

The Regional Secretariat recommended that REX4 should be moved to a later date to coincide with the annual reporting cycles of the respective countries. The Chair suggested March 2013. Indonesia offered to host the event, possibly in Bali.

11. Others matters

Capacity-building needs and training opportunities. The countries indicated they need to build capacity, particularly in EAFM, fisheries enforcement, data collection, catch controls and

certification, among others. NOAA said they recently completed in Indonesia a training program called EAFM 101 that can be replicated or customized to each country.

Next steps: The countries agreed to identify their training needs and communicate these to the Resource Team.

TOR of the CTI EAFM TWG. The draft TOR of the EAFM TWG was adopted by the TWG meeting as appended (Annex 7, **Appendix 1**) with no opposition and no further changes.

Next steps: The TOR will be submitted to SOM8 in October 2012.

EAFM indicators. The Philippines tabled for the TWG's consideration a draft set of indicators for EAFM prepared by the CTI MEWG (see Annex 7, **Appendix 4**). The TWG accepted the document for review by its members.

Next steps: Comments will be sent to the TWG Chair, who will sign off on the document as a response to the MEWG's request, and the signed document will be forwarded to the MEWG through the Regional Secretariat.

Possible partnership with SEAFDEC. The SEAFDEC representative noted in plenary that SEAFDEC has adopted EAF in its resolution and plan of action. "I believe the SEAFDEC Secretary-General would…like to establish links between CTI and SEAFDEC initiatives."

12. Country statements

During the closing session of the workshop portion of the REX, the countries made the following statements:

Host country **Malaysia** thanked the guest countries for their attendance and participation and expressed hope that "more EAFM-related programs and activities will be conducted soon."

Indonesia said they would "communicate the results of this workshop to our colleagues in our country" and that they hoped Indonesia and CTI would pursue and achieve the objectives that have been set in the EAFM regional framework.

PNG signified they would "try our best within our capacity to get some policy work done that applies EAFM," and noted that the next major step for all countries would be to communicate the regional framework to national leaders, discuss the regional EAFM guidelines at the national level, and send feedback on the guidelines to the EAFM TWG Chair so they can be completed in time for SOM8 in October 2012.

The **Philippines** would seek support for the framework at the bureau level and "hopefully we can bring this all the way to the top and get the President to sign an executive order adopting the framework." They expressed confidence that, "given time," the countries would be able to operationalize the framework and harness support for EAFM on a national scale as well as at regional level.

The **Solomon Islands**, noting that the countries have refined the regional EAFM policy and legislation framework and agreed to continue to refine the draft regional EAFM guidelines, said they would report to their government on what has been accomplished in this workshop.

Timor-Leste said they hoped to translate the framework to the local language, consult with concerned institutions on the EAFM guidelines, and submit their comments to the EAFM TWG through the Regional Secretariat so that the guidelines could be completed before SOM8.

I. INTRODUCTION

Action 1 under Goal 2 Target 1 of the Regional Plan of Action (RPOA) of the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF, also referred to in this report as CTI) calls on member states to "collaborate to develop a common regional framework for legislation and policy that would support EAFM." The *3rd CTI Regional Exchange (REX3) on the Implementation of EAFM (Ecosystem Approach to Fisheries Management) in the Coral Triangle* was the second CTI REX to directly respond to this mandate. Held in Putrajaya, Malaysia on May 22-25, 2012, this activity was hosted by the Government of Malaysia through its CTI National Coordinating Committee (NCC) and Ministry of Science, Technology and Innovation (MOSTI) with assistance from the US CTI Support Program (USCTI) and in coordination with the CTI Regional Secretariat.

CTI is composed of six countries, namely, Indonesia, Malaysia, Papua New Guinea (PNG), Philippines, Solomon Islands and Timor-Leste, often collectively called the "CT6."

The framework was first tackled in the 2nd CTI EAFM REX (REX2) held in Kota Kinabalu, Malaysia in September 2011. REX2 produced a draft framework that served as the main input to REX3. Also at REX2, the CTI EAFM Technical Working Group (TWG) was constituted formally and met for the first time to deliberate on specific provisions of their draft Terms of Reference (TOR) and a number of proposals put forward by some members of the CTI EAFM Resource Team, including considerations on illegal, unreported and unregulated (IUU) fishing and a proposal on a CTI Live Reef Food Fish (LRFF) Multi-stakeholder Forum. These and other matters were not fully settled at the end of REX2 and were again tabled in the 2nd formal CTI EAFM TWG meeting that was scheduled as a sidebar event at the close of this REX3.

REX3 is the sixth regional activity on fisheries management organized under the CTI in the last four years. The first REX on EAFM was held in Cebu, Philippines, where local governments shared strategies for addressing fisheries issues. A related activity, the CTI REX and Roundtable on Live Reef Food Fish Trade (LRFFT), was held in early 2010 in Kota Kinabalu. Also in 2010, USCTI facilitated and funded the participation of 11 government officials, university faculty and professionals from the CT6 in a three-week course on Leadership for Fisheries Management held at the University of Rhode Island's Coastal Resource Center (URI-CRC) in Narragansett, Rhode Island, USA. Finally, immediately preceding REX3, an experts' workshop was convened in Bohol, Philippines, to develop local, national and regional guidelines for incorporating climate change and ocean acidification into EAFM in the Coral Triangle. A full session was included in the REX3 agenda to discuss these guidelines.

Seventy-one people representing the CT6 and their development partners attended four days of country and expert presentations and workshops. The CT6 were officially represented by 40 delegates, most of them government managers and staff involved in fisheries management and policy work in their respective countries. All countries were represented.

Participants at the 3rd Regional Exchange on the Implementation of EAFM in Coral Triangle Countries held on May 22-25, 2012, in Putrajaya, Malaysia. (Photo: MOSTI)

OBJECTIVES AND EXPECTED RESULTS

Building on past EAFM regional activities, REX3 focused on four main topics: the EAFM regional framework; IUU fishing; LRFFT; and integrating other CTI themes (marine protected area [MPA] and climate change) in fisheries. Its overall objective was to address Goal 2 of the CTI RPOA, which states, *"Ecosystem approach to management of fisheries and other marine fisheries fully applied*," in particular, Target 1, *"Strong legislative, policy and regulatory frameworks in place for achieving EAFM."* The specific objectives were to:

1) Finalize a common regional framework for legislation and policy that would support EAFM in the Coral Triangle;
2) Review and update roadmap for 2012-20 to implement the regional framework;
3) Discuss national legislation and policy needs to support EAFM;
4) Revise and refine work plan and activities of the EAFM TWG to incorporate recent developments;
5) Present state of knowledge of impacts of climate change and ocean acidification to fisheries and how it can be incorporated into EAFM in the Coral Triangle;
6) Increase capacity to incorporate IUU fishing concerns into the EAFM process and framework; and
7) Initiate consultation on a CTI LRFF Multi-stakeholder Forum and develop LRFFT strategies and direction for the Coral Triangle.

During their 2nd formal meeting set for 25 May 2012, the EAFM TWG would also consider for adoption the full text of their draft TOR. The TWG discussed and adopted specific provisions of the draft TOR at their first formal meeting in September 2011 but did not review the full text. As well as deciding on matters arising out of this REX3, they agreed to table at this week's formal TWG meeting the final review and adoption of the document to support the full mobilization of the TWG. In addition, a proposed set of indicators for EAFM forwarded to the EAFM TWG by the CTI Monitoring and Evaluation Working Group (MEWG) was added to the agenda.

There were seven target results:

8) Final draft of a common regional framework for legislation and policy that would support EAFM in the Coral Triangle, to be presented to SOM8;
9) Roadmap for 2012-20 to implement the regional framework;
10) Guidance on national legislation and policy that would support EAFM;
11) Revised and refined EAFM TWG work plan and activities;
12) Improved understanding of the impacts of climate change and ocean acidification on nearshore fisheries and guidance on its incorporation into EAFM in the Coral Triangle;
13) Plans for a CTI LRFF Multi-stakeholder Forum and LRFFT strategies and direction for the Coral Triangle; and
14) Improved understanding on how to incorporate IUU fishing concerns into the EAFM process and framework and the development of strategies and direction to combat IUU fishing in the Coral Triangle.

II. SESSION PROCEEDINGS

The overall conduct of the workshop was facilitated by the CTI EAFM TWG, led by its Chair Dr. Rayner Galid and assisted by NCC-Malaysia, the Regional Secretariat and the CTI EAFM Resource Team. Most of the workshop was focused on finalizing the CTI Regional Policy and Legislative Framework for EAFM. Also discussed were strategies to combat IUU fishing and regulate LRFFT and how these and other CTI themes, including MPA, ocean acidification and climate change, could be incorporated into the EAFM process and framework.

In a sidebar event at the end of the workshop, the EAFM TWG held their second formal meeting to discuss the following agenda items:

1) Minutes of 1st formal CTI-EAFM TWG meeting
2) TOR of the CTI-EAFM TWG.
3) Final report on CTI EAFM REX2
4) Interim executive summary of proceedings from this REX3
5) Proposal on a CTI LRFF Multi-stakeholder Forum
6) 4th CTI REX on EAFM
7) Proposed CTI indicators for EAFM

The first formal EAFM TWG meeting was held on 22 September 2011 in Grand Borneo Hotel, Kota Kinabalu, Sabah, Malaysia. The minutes of the first and second TWG meetings are shown in Annexes (A6 and A7, respectively) and are not discussed further in this Session Proceedings.

Day 1, 22 May 2012

Today's sessions were focused on the following topics:

1) Introduction to EAFM REX3 and review of past and most recent EAFM-related regional activities.
2) Review of draft common regional framework for EAFM policy and legislation.
3) Country reports on EAFM implementation.

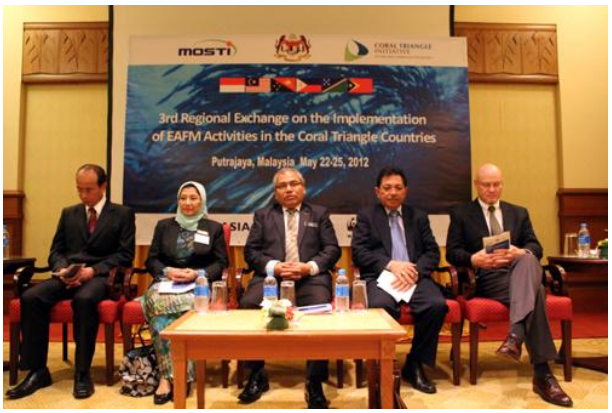
OPENING SESSION

The opening program started at 8:59a.m., presided by the His Excellency Y.H. Dato' Ahamad Sabki bin Mahmood, Director General of the Department of Fisheries, Malaysia; Prof. Dr. Nor Aieni Haji Mokhtar, Chair of CTI NCC-Malaysia and Director of National Oceanography Directorate; Mr. Maurice Knight, Chief of Party of the US Coral Triangle Support Partnership (CTSP); and Dr. Sukoyono Suseno, Executive Chair of the CTI-CFF Interim Regional Secretariat.

Speaking as Chair of NCC-Malaysia, Dr. Mokhtar officially welcomed participants to the four-day event, then briefly outlined some of the work that NCC-Malaysia has done to get buy-in for CTI programs from the various agencies at the national, state and district levels of government. She said one milestone for her agency as well as Sabah Fisheries was "to create a model utilizing the knowledge that we learned from CTI by translating it into operational terms for the Sulu-Sulawesi Marine Ecoregion (SSME) and Tun Mustapha Park (TMP), areas that are very critical and vulnerable to climate change." She added, "I am confident that CTI will instil motivation and act as a catalyst for the implementation of EAFM activities in the Coral Triangle region."

Mr. Knight, representing USCTI, looked back at the "action-packed road" that the CTI EAFM team has gone through in the last four years, beginning with the first REX in the Philippines in 2009. "The team is looking down the road another year to the completion of USCTI only a little over 12 months from now," he noted. "This is an opportunity to talk about not only what we have done but

also about how to the countries could move forward from here. As USCTI nears completion, we are looking to all of you to pick up the banner and move this forward. At the same time, this may be a good time to start talking to our US Government (USG) partners on how we can move our partnership forward."



Opening session presided by (from left) Dr. Rayner Stuel Galid (CTI EAFM TWG Chair), Prof. Dr. Nor Aeini Haji Mokhtar (CTI NCC-Malaysia Chair); Hon. Y.H. Dato' Ahamad Sabki bin Mahmood (Director-General, Department of Fisheries Malaysia), Dr. Sukoyono Suseno (CTI Interim Regional Secretariat Executive Chair) and Mr. Maurice Knight (CTSP Chief of Party) (Photo: MOSTI)

Dr. Suseno exhorted the CT6 representatives to coordinate and collaborate "to make sure that [the EAFM policy framework] helps the countries integrate their different activities under EAFM. He reminded the body that "40% of the targets under the CTI RPOA are EAFM targets. This does not mean that the other goals are less important, but it does put some perspective to our challenge in this workshop… the challenge of coordinating the wide array of activities related to fisheries," he said, adding, "We're here to integrate these activities into one regional framework in order to have some kind of assurance that our goals will be accomplished. We need to let go of our unit exclusiveness." He revealed plans for a side event at the upcoming United Nations (UN) Conference on Sustainable Development (Rio +20) "to show that CTI is the most significant regional platform for collaboration on everything related to ocean and fisheries in this part of the world."

Department of Fisheries-Malaysia Director General Mahmood officially opened REX3 at 9:45am. In his opening address, he described EAFM as "a means of managing fishery resources in an inclusive manner," and observed that in Malaysia and other countries in the Coral Triangle, "EAFM principles are not new – we apply some of these elements and principles to some extent in our fisheries management practices." Noting this EAFM REX3's objectives to mobilize the CTI EAFM TWG and develop a common regional framework for EAFM policy and legislation in the Coral Triangle, he said the workshop "will mark a major achievement by way of highlighting the lessons learned from each country in CTI and elsewhere, and its outcome will be an important milestone for CTI to be reported to SOM8 and the 4th CTI Ministerial Meeting (MM4) to be hosted by Malaysia in October this year."

SESSION 1. OVERVIEW

This session included one plenary presentation to orient participants on the work done so far toward developing the CTI EAFM regional policy and legislative framework, and a second plenary presentation on integrating the development of alternative livelihoods into EAFM. The EAFM Resource Team put together the second presentation in response to a USAID mandate for all REX's to include a discussion on livelihood. The session also included an open forum.

EAFM TWG Chair Dr. Galid presided over this first working session, which started at 10:17a.m. He briefly outlined the objectives of the four-day workshop, and expressed hope that "we will do the heavy lifting needed to achieve these objectives." He also noted the EAFM TWG meeting scheduled for the end of the workshop, which would further deliberate on the results of this week's discussions

and other matters that needed the TWG's formal consideration.

The full workshop would have a total of 11 sessions, consisting of both plenary and breakout discussions. Mr. Nygiel Armada (PI), who presented an overview of the week's activities, explained that discussions would be generally based on the following process principles: (1) participatory design of the agenda; (2) CT6 leadership of each session; (3) CT6 country-led review and revision of draft EAFM regional framework; and (4) regional leadership and follow-through on implementation of the framework, supported by CTSP, NOAA, PI and technical partners.

Presentation 1. Review of EAFM REX2 outputs and agreed next steps
Dr. Robert Pomeroy (CTSP/USCTI EAFM Lead)

EAFM REX2 was the first attempt to directly address Goal 2 Target 1 Action 1 of the CTI RPOA, which calls on the CT6 to "collaborate to develop a common regional framework for policy and legislation that would support EAFM." It was attended by 55 participants from the CT6 and development partners and hosted by the Government of Malaysia through its CTI NCC, in coordination with the CTI Regional Secretariat and assisted by the Sabah Fisheries Department, Sabah Parks, Universiti Malaysia Sabah (UMS) and USCTI. REX2 included two main activities:

1) Policy workshop to initiate the development of the CTI regional framework for EAFM legislation and policy and map out its implementation.
2) CTI EAFM TWG inception and operational meetings.

REX2 was focused primarily on assisting the CT6 to develop a common regional framework on policy and legislation that would support EAFM, as prescribed by the CTI RPOA. Such objective presumed the existence of a TWG that would lead the framework development process and see it through to adoption by the SOM and eventually by the countries. An *ad hoc* EAFM TWG was formed at the 1st EAFM REX in the Philippines in 2009, but it was never formalized. Thus, it was deemed imperative that REX2 should aim to formalize the EAFM TWG and, if necessary, reconstitute it. Consequently, the following key objectives were planned for the four-day event:

1) To mobilize and operationalize the EAFM TWG; and
2) To initiate the development of a common regional framework for legislation and policy to promote EAFM in the Coral Triangle.

There were two desired outputs:

1) A roadmap for 2012-2020 for the development and implementation of the regional EAFM policy framework alongside relevant regional and national actions and the establishment of a learning network; and
2) Draft national EAFM frameworks or position papers for legislation and the identification of "champions" to support EAFM.

IUU was highlighted in the discussions, as the countries were encouraged to consider how the regional framework could help bring about integration between the EAFM community and the Monitoring, Control and Surveillance (MCS) community that deals primarily with IUU fishing. It was noted that while IUU fishing is a critical concern in EAFM, the MCS group and the EAFM group in most countries operate independently of, and mostly separate from, each other. IUU fishing is a priority concern of the CTI RPOA, and one regional action has been identified to specifically address it (*Goal 2 Target 1 Regional Action 2: Improve enforcement [against] IUU fishing through greater collaboration*).

The EAFM REX2 and Policy Workshop resulted in the following key outputs:

1) EAFM TWG, duly constituted and formalized as prescribed by the SOM6.
2) Initial draft of a common regional framework on policy and legislation that would support EAFM

3) Draft roadmap for 2012-2020 for the development and implementation of the regional EAFM policy framework
4) Draft outline for a national EAFM policy paper for each of the CT6

The EAFM TWG was constituted in plenary during the first working session of REX2 on 20 September 2011. During this session, Malaysia was elected by consensus to serve as Chair, and the countries approved an updated version of the list of focal points who served in the ad hoc TWG during the 2009 REX. This list was subsequently further refined during the first formal meeting of the TWG that was held as a side event on 22 September 2011. The final TWG members list that came out of the REX is shown below. It was presented by the EAFM TWG Vice-Chair during the final working session as the list of "members for this meeting."

CTI EAFM TWG: Members		
Malaysia (Chair)	**G Mohammad** *(Formal)*	**Rayner Galid** *(Operational/Vice Chair)*
Indonesia (Co-Chair)	**Agus A Budiman**	Abdul Ghofar
Philippines (Co-Chair)	**Jessica Munoz**	Noel Barut*
PNG	**Leban Gisawa***	Luanan Koren-Yaman *(ad hoc)*
Solomon Is	**James Teri***	Peter Kenilorea *(ad hoc)*
Timor-Leste	**Fernando da Silva***	Lino Martins
Reg Sect	Darmawan	
Partners	TNC: A. Smith; CI: Frazer McGilvray; WWF: G. Muldoon; AUS: S. Veitch	US-CTSP: R. Pomeroy; NOAA: R. Brainard (M. Moews); US-PI: Nygel Armada
Experts	SPC: E. Ropeti	IUU RPOA: I. Kusuma; IUU: Todd Dubois, NOAA

Decisions made during the TWG meetings included the following:
1) Draft provisions of CTI EAFM TOR adopted.
2) TWG progress report for May 2009-May 2011 to be submitted to the SOM7 in October 2011
3) TWG roadmap for EAFM, which outlines EAFM TWG's tasks and timelines from October 2011 through 2012 (see below), to be implemented with communication support from USCTI through the PI.

Topic	Activity	When?	Sponsor/Host
Policy Framework	EAFM Framework ROADMAP to draft FINAL Framework	Oct –Dec 2011	USA/Phil
	Present EAFM Framework to TWG, then SOM 8	Jan 2012	TBD
IUU	Draft Concept Paper on integration of IUU RPOA and CTI Mechanism	Oct 2011	USA with CT6
	IUU Workshop of MCS Practitioners (in conjunction with other IUU Event)	2012	USA
LRFT	LRFT Forum Terms-of-Reference developed by Small Team for TWG	Oct 2011	PNG Lead of TWG 6
	CTI LRFT Informal Forum Launched	HK Meeting 2012	USAID, Others
OTHER	IUU Convening Workshop of MCS practitioners Draft Paper on IUU RPOA as CTI Mechanism or EAFM Framework (and IUU internal links) TWG recommend marrying IUU and EAFM Components:		

	Use IUU RPOA *Net Returns* as CTI Cap Bldg Framework, Share Activities		

4) CTI-IUU Consolidated Workplan for 2011-2012 to be handled by qualified experts in the CT6. Each country would designate an IUU focal point to coordinate with the EAFM TWG Chair.
5) TOR for a proposal on a CTI-LRFF Multi-stakeholder Forum accepted by consensus: Malaysia, PNG, the Philippines, Solomon Islands and Timor-Leste voted in favor without reservations; Indonesia voted yes but reserved the right to "further discuss details as implementation moves forward." The TWG agreed to form a small team that would further develop the proposal. The group would be made up of seven members: one member from each of the CT6 and the seventh member representing World Wildlife Fund (WWF). Countries were requested to send to the Team Leader the names and email addresses of their respective representatives. PNG agreed to lead the team.
6) Next TWG meeting to be scheduled for October 2011 if necessary to complete preparations for the SOM7.

The following outline was developed during the workshop and accepted by the countries as the working outline for the regional EAFM policy framework: (1) Introduction; (2) Mandate for a framework; (3) Situational analysis; (4) Vision; (5) Rationale and purpose; (6) Guiding principles; (7) Objectives and indicators; (8) Implementation mechanisms, roadmap and timeline; (9) Coordination mechanisms; (10) Financing and resources; (11) Review/monitoring and evaluation. Based on this outline, the countries came up with an initial draft of the regional EAFM policy framework.

The CT6 and CTI partners also developed and agreed on the following draft roadmap based on the assumption that SOM8 would be held in April 2012. The roadmap outlines the steps for completing the regional EAFM policy framework, delivering it to the SOM and implementing it at country level. The first five tasks with timelines up to October 2011 were completed but, as of the start of REX3, there had been no further progress made with the succeeding activities outlined in the roadmap.

Activities	Timeline	Lead/Support
Establishment of TWG for EAFM	Sep 2011	Secretariat, USCTI-SP
EAFM Regional Exchange	Sep 2011	Secretariat, USCTI-SP
Develop a regional framework for the implementation of EAFM	Sep 2011	Secretariat, USCTI-SP
Form writing team/committee; Regional framework draft finalized	Oct 2011	Bob Pomeroy EAFM team
Presentation of REX report to SOM	Oct 2011	Regional Secretariat
TWG meeting to draft position paper on EAFM framework	Nov or Dec 2011	EAFM-TWG
Country reviews of position paper	Dec 2011 to Feb 2012	EAFM-TWG
Finalize position paper	Feb to Mar 2012	EAFM-TWG
Presentation of position paper to SOM for approval	Apr 2012	EAFM-TWG/Secretariat
Develop EAFM briefs and information materials	Apr 2012	EAFM-TWG/Secretariat
Dissemination and socialization	Jun 2012	EAFM-TWG, NCC
Establish EAFM advisory committee	Oct to Dec 2012	EAFM-TWG, NCC
Translated into local languages and dialects	Dec 2012	EAFM-TWG, NCC, USCTI-SP
Implementation of programs on EAFM at regional and national levels	2012 onwards	EAFM-TWG, NCC, USCTI-SP
Integration or incorporation into national policies and legislations	2015	EAFM-TWG, NCC

Five EAFM policy paper outlines were developed, as PNG and the Solomon Islands decided they could work together on a common outline "because our structures are somewhat similar." The countries were told the completion of the policy papers was entirely voluntary so there would be no deadlines for their submission. Dr. Rusty Brainard (NOAA Technical Lead for EAFM, USCTI) and Dr. Robert Pomeroy (CTSP/USCTI EAFM Lead) offered to review the papers for those countries that could submit them by December 2011.

Presentation 2. Livelihoods and EAFM in the Coral Triangle
Dr. Robert Pomeroy (CTSP/USCTI EAFM Lead)

EAFM has a strong human dimension that is closely linked to the natural components of fisheries management. In 2003, the UN Food and Agriculture Organization (FAO) published its technical guidelines on ecosystem approach to fisheries (EAF), which identified the following human dimension principles:

1) Improving human well-being and equity
2) Allocating user rights
3) Promoting sectoral integration
4) Broadening stakeholder participation

Related to this, in 2008, De Young et al made the following observations:

1) A shift to EAFM may well have impacts on employment, livelihoods, and regional economies;
2) Regional employment trends show increased concentration within fisheries due to lack of livelihood alternatives; and
3) Low employment alternatives and low education levels act as obstacles to smoothly implementing EAFM at the regional level

These are important considerations to keep in mind in the development of any policy or legislative framework for EAFM. For CTI, it is particularly important to consider the four dimensions of coastal livelihoods, as follows:

1) Diversity – the variety of available livelihood opportunities within a coastal community; includes full- and part-time, seasonal, and migratory. It is important to know what opportunities exist and how to make coastal communities more diverse to make them more adaptive. The more diverse the communities are, the better they can survive.
2) Adaptation – user and household-level strategies designed to reduce financial and food security risks, which are temporarily and spatially variable. Fishers and their households constantly change what they do and the way they do it over time and space in order to adapt to their environment. To understand how policy can respond to EAFM needs, it is useful to look not only at the fisher but the entire household and how they adapt, and how they can do that within EAFM.
3) Incentives – range of factors that individuals and households face in livelihood choice, including lack of alternatives and limited capital mobility. These factors drive people to do what they do, and why they select certain options over others.
4) Vulnerability – level of resource-dependency; factors include: physical isolation, alternative livelihood access, proximity to health and education services, infrastructure, and market access. If a huge proportion of the household income comes from fishing, there may be resistance to change that must be managed.

Developing sustainable livelihood is one of the most important components of EAFM. Following are some guidelines for applying sustainable livelihoods to an ecosystem approach to fisheries:

f. Highlight actual livelihood conditions and needs. Fisheries managers may come in with preconceptions of what fishers need, and find out that fishers are actually concerned with totally different issues.
g. Identify factors affecting livelihood, the drivers that make people do what they do.

h. Identify how to improve and maintain sustainability of resource, income and household needs.
i. Highlight how livelihoods link to ecosystem health.
j. Clarify potential impacts of fisheries management changes on livelihoods and social resilience. Changes in practices to favor management entails risks for fishers – it is important to talk about such risks and other potential impacts.

Participant comments

Indonesia – The objective of the meeting is to develop a roadmap for 2012-20, but the roadmap that was presented early in this session has a timeline up to 2015 only. Are we extending the timeline to 2020? Also, one of the objectives relates to climate change and ocean acidification, which were not taken up during REX2. Is this a new objective?

Mr. Armada – We will have a session on the roadmap. We can discuss the timeline there.

Dr. Brainard – Climate change and ocean acidification were among the priority issues identified by the countries during REX2.

SESSION 2. EAFM REGIONAL FRAMEWORK

This session, facilitated by Mr. Etuati Ropeti (Secretariat of the Pacific Community [SPC]), introduced a fleshed out version of the initial draft of the regional framework that came out of REX2. Dr. Pomeroy presented the draft (see Annex 8 [**Error! Reference source not found.**]) and requested the countries to review the draft "and work your way through it," so it could be finalized in a later session (see Day 3, **Session 8**). He noted that "Section 7: Objectives and Indicators" of the draft framework (see page **107**) had been revised to "Section 7: Objective and Activities." Also, he reiterated that the roadmap had not been fully implemented. "There has been no progress on work items beyond the presentation of the REX report to SOM7, so we are behind schedule," he said. "We need to revisit and rethink this roadmap and see if our 2012 deadlines are still achievable, and we need to agree on what we can do realistically."

Dr. Galid also reported that, "between REX2 and REX3," the EAFM TWG through the Regional Secretariat tried to facilitate the submission of comments by email, but only two countries responded.

Discussion:

Indonesia – I don't know about the other countries, but Indonesia feels that the objective to institutionalize EAFM by 2015 (see Objective 1, **Indicator 3**) is too ambitious. On **Objective 2**, with regards to enhancing the resilience of fishers and coastal communities to impacts of climate change and ocean acidification, we think we need to consider the work that has already been done under CTI on climate change adaptation (CCA), and we need to reconsider the 2015 target, which may not be realistic. Finally on Objective 5, on data sharing, we need more intensive discussions on how to go about this – as of now, for Indonesia, Activities 1-3 under this objective are achievable after 2015, but once we have the data sharing protocol, we think the rest of the activities can be accomplished smoothly.

PNG – My comment relates to **Objective 1** on EAFM implementation as well as to **Objective 4** on human capacity development. In our part of the world EAFM is a very new concept and a lot of projects do not focus on, for instance, training/modelling on stock assessment. We were wondering if we could be able to move Objective 4 a little bit earlier so we can start identifying regional institutions that can deliver the training modules relative to EAFM and get

every CT6 up to par by our target years. We would like to get more details on this in ***Session 8*** (Day 3) when we discuss the framework more fully.

SESSION 3. PROPOSED EAFM INDICATORS AND CT COUNTRIES RECENT EAFM ACTIVITIES

Broadly, this session covered two topics: (1) Proposed indicators for the CTI-RPOA Goal 2 on EAFM prepared by the CTI MEWG; and (2) Progress in the implementation of EAFM by each of the CT6. Dr. Darmawan (Regional Secretariat), who chaired the session, explained that the country reports would provide the national perspectives that would help determine the final form of the EAFM policy and legislative framework at the regional level. Dr. Darmawan was assisted by Mr. Armada (PI).

Presentation 1. Review of Goal 2 (EAFM) indicators

Mr. Nygiel Armada (PI)

Since SOM2 in Manila (October 2008), where the CT6 agreed to establish the CTI MEWG with the Philippines as Chair, there has been an ongoing effort to establish indicators for each of the 10 targets under the five CTI RPOA goals. The MEWG was tasked to identify parameters for monitoring progress in the implementation of EAFM in the region, and that same year, completed the first draft indicators. The indicators have been presented a number of times to the SOM, but have yet to be formally adopted. Last April 2012 in Manila, where the MEWG was formally constituted, the draft indicators were reviewed and updated, and a revised set of draft indicators were adopted for endorsement to and further review by the concerned TWGs. The indicators for Goal 2, as shown in Annex 7, **Appendix 4**, would be included in the agenda of the EAFM TWG meeting set for the end of this REX3.

Presentation 2. Country reports on EAFM activities and implementation

Indonesia

Presenter: Mr. Hary Christijanto

EAFM in Indonesia is supported by a strong legislative, policy and regulatory framework and includes the following broad activities:

1) Developing EAFM performance indicators to support regulations related to the EAFM Law No 27/2007 on coastal small island management and Law No. 31/2004 on fisheries
2) Surveillance activities to support the enforcement of legislation and regulations against IUU.
3) Participation in FAO Regional Fisheries Management Organizations in accordance with various international commitments

Thirty-one indicators have been identified for monitoring changes in the five components of the fisheries (fish resources, habitat, fishing technology, socio-economic component and institutional component) and an EAFM Expert Panel was formed to develop and test these indicators. As shown in the roadmap below, the target is for EAFM to become fully established as the basis for fisheries in Indonesia by 2014.

Timeline	Activity	Status
2010	Develop a set of EAFM indicators	Completed
	Conduct preliminary assessment of EAFM indicators (desktop exercise) in 11 fisheries management areas	Completed
2011-2012	Establish EAFM expert panel at MMAF	Completed
	Enter EAFM as part of the national budget of MMAF	Completed
	Conduct expert consultation to refine EAFM indicators	Completed
	Develop EAFM learning modules and survey/assessment questionnaires	Ongoing
	Conduct EAFM assessment (field testing) in several FMAs with universities and local agencies	Ongoing
2013	Develop regulations to encourage EAFM implementation	
2014	Fully establish EAFM as basis for fisheries management in Indonesia	

The following activities are planned toward the full development and application of the EAFM indicators:

1) Continue pilot-testing of indicators (started in late 2011)
    a. Area-based – Savu Sea (FMA-573), East Flores, Lembata, Alor; Eastern Seram Island and Wakatobi (FMA-714); Berau (FMA-716)
    b. Species-based – Flying fish, Grouper and Snapper, Tuna
2) Refine survey questionnaires, learning modules and training (June 28-29, 2012)
3) Develop EAFM learning and information center: website (under development), mailing list (eafm_id@yahoogroups.com)
4) Develop regulations to encourage EAFM implementation

Other activities under the overall EAFM framework that are now being implemented are as follows:

1) Development of fisheries management plan:
    a. 3 area-based FMPs completed covering FMA 571, FMA 711, FMA 712, FMA 714 and FMA 718
    b. 1 species-based FMP completed for Flying fish in Makassar Strait and Flores Sea
2) Development of marine protected area (MPA)
    a. MPAs covering a total area of more than 13 million hectares have been enacted and gazetted by Ministry of Marine Affairs and Fisheries (MMAF) and local governments (about 8 million hectares) and the Ministry of Forestry (about 5 million hectares)
3) Fisheries enhancement and habitat rehabilitation
    a. Restocking by involving fishers and fisheries associations;
    b. Artificial reefs/fish home deployment; and
    c. Coral transplantation
4) Enforcement of legislation and regulations to combat IUU
    a. Regular surveilance by MMAF (offshore and quay side surveillance)
    b. Inter-agency surveillance (MMAF coordinates and works with other agencies also involved in fishing and non-fishing surveillance activities)
    c. Joint-state surveillance activities (e.g. with Malaysia)
    d. Vessel monitoring system (VMS)
    e. Community-based surveillance
    f. Prosecution of fishery cases
    g. Establishment of Fisheries Court to expedite the judicial process

Implementation may be affected by the following contextual and process factors:

1) Multi-species and multi-gear fisheries;
2) Multiple players (subsistence, small scale and industrial scale)
3) Possible inertia of inter- and cross-sectoral coordination that may inhibit EAFM implementation;

4) Impacts from other forms of economic development (e.g., mangrove clearance for land development and aquaculture; discharges from industrial and agricultural activities, etc.);
5) Limited assessment (biology, stock) and management of the resources.

These challenges notwithstanding, there are many existing and emerging opportunities to help drive the EAFM process forward, including:

1) Rising awareness of the important interactions between fishery resources and their environment;
2) Growing acceptance of the limitations of current management approaches in promoting resource sustainability, as shown by the current critical state of Indonesian fisheries;
3) Recognition of the cross-sectoral objectives and values of fisheries resources and marine ecosystems within the context of the national policy (pro-poor, pro-growth, pro-job, pro-environment) for sustainable development;
4) Recent advances in science, which highlight knowledge and uncertainties about the functional value of ecosystems to humans (i.e. the goods and services they are capable of providing services);
5) Increasing need to show sustainable trade in fisheries products.

Malaysia

Presenter: Dr. Rayner Galid

EAFM is not a new subject for Malaysia. It has been part of development discussions in West Malaysia since about 5-6 years ago, and in 2010, the government conducted a visioning workshop for what it then termed as "ecosystem-based fisheries management." In early May 2012, the National Steering Committee on EAFM was formed to guide the country toward the full establishment of EAFM by 2016. This shift to EAFM has been driven mostly by the growing perception that conventional fisheries management is not sufficient to address the complex issues affecting the fisheries industry.

The Malaysian fisheries industry is concentrated mainly in East Malaysia and West Malaysia, which contributed in 2010 about 400,000 tons and 756,000 tons, respectively, to the total national production of 1.4 million tons valued at RM6.65 million. While current fish landings are still significant enough to engender a degree of comfort among resource managers, the current scenario does not point to a healthy fisheries resource base. Some indications of a declining resource base have been reported, including, (1) high landings of trash fish and mixed fish contributing to overall low value production; (2) continuous harvesting of juvenile stock and marine forage-based fish that suggests impending collapse of fisheries resources; (3) fisheries resources being exploited beyond their maximum sustainable levels; and (5) significant shifts in species profile of the catch. Overall, between 2001 and 2010, there has been a significant and steady decline in fishing output per fisher.

A fisheries management system is in place but it is still inadequate to address many issues of resource health. Management is still strongly focused on controlling fishing effort through licensing and access limitations to sustain present stock levels. Such one-dimensional management approach does not consider the complexity of environmental issues that need to be managed. Habitat conservation has been limited to the establishment of marine parks and protection of coral reefs. Issues such as water quality degradation associated with unsustainable land development on the island adjacent to the marine park that can cause destruction of the coral reef ecosystem are not properly considered. Also, although mangroves and seagrass habitats, like coral reefs, are also major determinants of marine environmental health, no mangrove or seagrass reserves have been declared exclusively for marine environmental or fisheries purposes. The extent of mangrove forests across Malaysia has declined by an average of 36 percent between 1973 and 2005, and by as much as 88 percent in the state of Perlis. Such degradation of the marine environment and the fisheries resources that depend on it also has strong socio-political implications that are not adequately addressed by conventional management approaches.

The above issues, particularly those that relate to the state of the fisheries industry and the health of the resources on which it is based have compelled the introduction of EAFM in Malaysia. The government's blueprint for the implementation of EAFM is documented in its CTI National Plan of Action (NPOA) and lists 16 actions, including, among others, the following action items:

1) Implement an EAFM Plan for small pelagic fisheries for SSME demonstration and replication sites throughout Malaysia.
2) Design and implement management measures and protocols, including economic incentives for protection and management of marine turtle populations and their habitats.
3) Strengthen a high-level EAFM Steering Committee comprising inter-agency government representatives and stakeholders.
4) Establish a national policy on EAFM.
5) Update the Fisheries Act 1985 to encompass EAFM principles.
6) Develop an EAFM strategy for Sabah fisheries.
7) Conduct regular tagging programs for economically important pelagic fish species in the Sulu and Sulawesi Seas with the cooperation and cost sharing of Coral Triangle neighbor countries
8) Assess human resource capacity to identify and address gaps in EAFM implementation

EAFM is being piloted in Sabah, where management initiatives have been in place since 2011, particularly in the districts of Semporna and Kudat. Also in Sabah, in the north, the government is establishing one-million hectare TMP marine managed area. The intention is to create a platform for integrated management of fisheries and fishery ecosystems that sectorally limited management agencies and relevant coastal communities can subscribe to. The process involves four major activities, namely, (1) establishment of the specific demonstration site and inter-sectoral committees; (2) specific studies relating to fish stock assessments, especially of small pelagics; (3) development of inter-sectoral Integrated Fisheries Management Plan (IFMP) together with all stakeholders; and (4) implementation and monitoring of the plan. The collaborative mechanisms set up under the project would facilitate the sustainability of fisheries resources by promoting greater understanding among land use managers as well as fisheries managers about the importance of maintaining habitats for fisheries management purposes.

There are challenges to taking state-level EAFM work to a national scale. Among the major challenges are as follows:

1) Institutional fragmentation
    a. The management of fisheries and fisheries habitats are spread over several Federal and State agencies and governed by 10 federal acts and 25 state ordinances
    b. Agencies responsible for implementing the legal instruments do not have a formal platform for coordination.
2) Lack of data on fisheries resources/habitats and their health
    a. Fisheries resource/habitat studies are sporadic, scattered and not done on a scheduled or regular basis, contributing little to promoting understanding of the need to sustain the nation's fisheries resources.
    b. Absence of a comprehensive appraisal limits the ability to pursue effective management and conservation.

The following actions are recommended to help push the process forward:

1) Revise current policy environment -- The current National Agriculture Policy 3 supposedly promotes sustainability of the fish stocks in the country, but its heavy emphasis on sustaining, if not increasing, landing volumes without a corresponding emphasis on protection and conservation of the marine environment is a serious shortcoming that must be addressed in future reviews of the policy.
2) Establishment of ecosystem based fisheries management regime -- Current fisheries resource management regimes are inadequate and ineffective in sustaining catch levels. A

new regime needs to be established, one that combines control of fishing effort and conservation of ecosystems in a cohesive, integrated package.

PNG

Presenter: Mr. Leban Gisawa

PNG has no direct national policy on the implementation of EAFM. There are existing draft policies, including those for fish aggregating devices (FADs), community-based management, and protected areas. Currently, the national protected areas policy is not based on marine protection, but is very much focused on terrestrial concerns.

There is also no single legislation that promotes EAFM in PNG. However, several laws cover various aspects of EAFM, including flora and fauna, fisheries management, and habitat management. A proposed amendment to the Fisheries Act has been put forward, particularly under Section 28, to allow the application of EAFM. If amended, Section 28(2) would read, "The Managing Director may, and where the Minister so requires shall, cause to be drawn up an Ecosystem and Fishery Management Plan in respect of any fishery resource in the fisheries waters." In addition, a new subsection (3) under Section 28 is proposed to possibly read, "identify and describe the status of the ecosystem and its characteristics, including the use of the ecosystem by other users"

The CTI RPOA serves as the basis for PNG's marine program, with the Marine Program TWG as its main implementation mechanism. The Marine Program TWG evolved from the NCC and has three sub-working groups, namely, (1) Learning and Training Network sub-working group under the PNGCLMA (PNG Centre for Locally Managed Areas) Secretariat, (2) EAFM sub-working group under the NFA (National Fisheries Authority) Secretariat, and (3) ATSEA (Arafura and Timor Seas Ecosystem Action) sub-working group, also under the NFA Secretariat. Members of the EAFM sub-working group include technical experts in the fields of fisheries management, fisheries and marine science, ecosystem science, community-based fisheries management, social science, conservation, land planning, governance and policy. They perform the following functions: (1) provide technical advice to the TWG and NCC on EAFM implementation; (2) formulate and review EAFM annual work plan; (3) coordinate and guide policy development for EAFM; and (4) coordinate the implementation of EAFM activities as outlined in the marine program and revised annual work plans.

Several activities to advance EAFM in the country are now being implemented, including:

1) Capacity building – Two training workshops have been conducted, one in Manus and the other in Kimbe, with around 200 community practitioners and fisheries officers participating. The training has been well-received and has found application in the development of local government laws, some of which are now being enforced. There is also ongoing effort to develop an EAFM course to be delivered through the National Fisheries College (NFC), which is affiliated with the University of Natural Resources and Environment. Community-based fisheries management is now being taught at NFC.
2) CBFM (community-based fisheries management) implementation -- Despite the absence of a clear policy on EAFM, NFA is encouraging the adoption of EAFM at the community level. Locally managed marine areas (LLMA) have been established at Manus, Kimbe, Kaveing, Milne Bay and Madang. CBFM is still very much the work of NGOs, however, so coordination between government and the NGOs would be needed to take its implementation to a national scale.
3) Precautionary approach – The precautionary approach is being adapted to fisheries management plans. Almost all fisheries of national interest have management plans but most are based on conventional management and need to be revised to incorporate EAFM principles. One such EAFM plan has been completed for LRFFT, based primarily on the guidelines developed by SPC.

Philippines

Presenter: Ms Jessica Muñoz

The following existing programs, activities and legal and institutional mechanisms promote the implementation of EAFM in the Philippines:

1) *Incorporating EAFM in strategic plans of relevant ministries and government agencies* – Executive Order (EO 533) or the Integrated Coastal Management (ICM) national policy, which was enacted about five years ago, promotes the application of EAFM principles in the country.
2) *Formal process or structure of providing and utilizing advice on EAFM* -- Existing national laws provide for the creation and operationalization of special bodies such as FARMCs (Fisheries and Aquatic Resources Management Councils), NAFC (National Agriculture and Fisheries Council), NAPC (National Anti-Poverty Commission) and others where scientists of physical and social orientations by default form part of government advisory bodies.
3) *Registration and licensing of fishers, vessels, and fishing gear* **--** Under existing Philippine laws, the Maritime Industry Authority (MARINA), the Bureau of Fisheries and Aquatic Resources (BFA) and local governments are authorized to register and license fishers, vessels and gears.
4) *Identification and delineation of FMAs based on ecosystem principles* **–** The delineation of marine waters in the Philippines is based on both scientific and jurisdictional limitations
5) *Management of species specific fisheries incorporated ecosystem principles* **–** Current regulations allowed seasonal restriction for sardines (3-month closure of the northern Mindanao sardine fishery during the spawning season) as a precautionary measure in the absence of stock reference points, harvest controls, and reproductive assessment. A similar provisional instrument for tuna is expected. Live reef fish policy provides stiffer regulations but lacks appropriate enforcement.
6) *Surveillance and response system in national waters* **-** A satellite VMS has been established for tuna fleets in fulfilment of the country's commitment to the Western and Central Pacific Fisheries Commission (WCPFC), but compliance is still low. A coast watch system is being enforced in collaboration with the military (Philippine Navy) and the Philippine Coast Guard.
7) *Surveillance and response system in municipal waters* - The Local Government Code assigns surveillance and response system as a responsibility of municipal and city governments; there are no standards for enforcement.
8) *Promoting integrity of the environment and CCA and mitigation through sustainable natural resource utilization* **–** Climate change research on small pelagics is being undertaken in the Verde Island Passage (VIP). There are government bodies/commissions that provide similar research opportunities.
9) *Incorporating EAFM into government-sanctioned researches on fisheries exploitation and management.* Some 10-15 species-specific research activities are currently ongoing.
10) *Promoting joint actions (research or management) to address issues* **–** A current program under the SSME subcommittee on sustainable fisheries has completed its trans-boundary diagnostic analysis. The government is also working with the UN Development Programme (UNDP) Celebes Sea Project for Fisheries Management.
11) *Connecting MPAs to form a larger biophysical and social network* **-** The MPA Support Network established by the UP Marine Science Institute (UPMSI) is supported by many government agencies.

Solomon Islands

Presenter: Mr. Peter Kenilorea

The Ministry of Fisheries and Marine Resources is primarily responsible for EAFM in the Solomon Islands. There is no specific legislation for EAFM at the moment but EAFM is embedded in community-based resource management (CBRM) approaches being employed there and EAFM principles are being considered in policy and legislative development, particularly the Fisheries Act (currently under review), the Tuna Management Plan (draft) and the proposed Solomon Islands

National Strategy for the Management of Inshore Fisheries and Marine Resources. Principle 3 of the proposed Strategy states, "*The strategy takes an ecosystem based approach to sustainable inshore resource management. In the context of the Solomon Islands this encompasses resilience to vulnerability, adaptation to climate change, and biodiversity conservation in watersheds and coastal zones.*"

Currently, EAFM principles find application in key pillar activities such as CBRM, aquaculture and ICM at different levels of governance. In the first and second EAFM REX's, the Solomon Islands delegation specifically identified the following EAFM-related activities: (1) Enact EAFM ordinance in Western Province (in draft stage); (2) draw up IEC (information, education and communication) plan for Isabel (captured by the New Zealand-funded MSSIF [Mekem Strong Solomon Islands Fisheries or Fisheries Sector Institutional Strengthening]) Programme; (3) review EAFM policies and legislation (in progress under the Asian Development Bank [ADB]-CTI Project); (4) draw up and socialize ridge-to-reef conservation plan (in progress through The Nature Conservancy [TNC]); and (5) draft LRFFT management plan (in progress).

Timor-Leste

Presenter: Mr. Fidelino Sousa Marquez

The National Directorate of Fisheries and Agriculture is the lead agency for fisheries management in Timor-Leste. EAFM falls under the directorate's fisheries management department while IUU is mainly the responsibility of the inspection department. Timor-Leste has a 730km coastline that spans 11 of its 13 administrative districts (only the districts of Ermera and Aileu have no coastline). It has a relatively small fishing sector of about 6,360 fishers and 2,205 aquaculture operators. Probably about 80 percent by weight of the local marine fish consumed in the country belong to 15 families and species (Cook, 2005). In a 2005 survey using 58 sampling stations, the Southeast Asian Fisheries Development Center (SEAFDEC) found that 95 species belonging to 47 families and 70 genera were caught by 5 gear types in Timor-Leste's exclusive economic zone (EEZ).

There are a number of fisheries laws that set the general management and regulatory framework for fisheries and aquaculture, or prescribe tariff rates for fisheries activities and services, definitions of fishing zones, by-catch limits, protected aquatic species, minimum sizes of fish species that can be caught and penalties for fisheries violations, but there are no specific laws on standards, VMS or IUU. Also, species commonly targeted by the live reef fish trade (LRFT) are currently not under any regulatory protection. Nevertheless, several activities that are related to or support EAFM have been initiated. These include:

1) Establishment of LMMAs in Mantuto and Dili districts covering mangrove, seagrass and coral reef habitats;
2) Capacity building (three workshops conducted in June 2011 through the Partnership in Environmental Management for the Seas of East Asia or PEMSEA):
    a. Development and implementation of ICM programs
    b. EAFM
    c. Planning workshop
3) Costing of the CTI Timor-Leste NPOA and identification of priority programs, including a mini-household census and the establishment of MPAs.

Related to this, nine activities were identified at last April's ADB High Level Financial Roundtable (HLFR) in Manila for implementation under the Timor-Leste NCC project. These include 5 EAFM, 2 MPA, and 2 activities on climate change. The EAFM activities are as follows:

1) Drafting of operational regulations and procedures on the marine development fund (the fund is covered by a law but there is no specific provision for small-scale fisheries)
2) National legislation on marine resource conservation
3) Oceanographic and offshore stock assessment (to be implemented this year in the southern part of Timor-Leste)
4) Coastal habitat mapping and biodiversity research in six districts

5) National fisheries household census in 13 districts

MPA activities include:
1) Establishment of MPAs
2) Capacity building for MPA management

Under the climate change program, the following activities have been identified:
1) Mangrove ecosystem rehabilitation
2) Establishment of climate change information system

Timor-Leste has identified 9 fish auction sites in different districts across the country. Of these, 5 are supported by FAO through staffing assistance, fish processing training, data collection and verification of sea safety. The rest of the auction sites are inoperative because of lack of resources.

Summary

Mr. Armada summarized the country reports and offered the following additional insights that he said he gleaned from the country reports and from conversations with country representatives:
1) Some form of EAFM is present in the CT6 at different levels of implementation but is called by different names. It would be valuable to put together the various EAFM practices across the region to support a common understanding of how "E" in EAFM can be translated in practical terms.
2) Indonesia is ahead of the other countries in some aspects of EAFM. They have subdivided their fishing grounds into 11 fisheries management areas (FMAs), defined and tested their EAFM indicators, and formed an expert panel to support EAFM implementation.
3) In Malaysia, a TWG is going to be created to serve as the "arm" of the National Steering Committee on EAFM.
4) PNG has no single legislation to address EAFM but several laws contain certain aspects of EAFM and the NFA encourages the adoption of EAFM through CBFM. Additional capacity building is needed to support implementation.
5) In the Philippines, EAFM is embedded in the management plans of the various agencies, including the Philippine Investment Plan (PIP) of the National Economic and Development Authority (NEDA), which guides development programs across the government. Integrated FMAs have been defined and delineated and will serve as the building blocks for EAFM, with the local government units (LGUs) as the frontline implementers.
6) The Solomon Islands is currently reviewing a proposed Fisheries Act anchored on EAFM principles, and has drafted an LRFT management plan based on EAFM. In addition, there is an ongoing review of national policies for nearshore fisheries.
7) Timor-Leste has LMMAs in two districts and is implementing ICM with PEMSEA assistance.

Participant comments

Dr. Galid – I believe all the countries have one thing in common: We all want to implement the COASTFISH program as stated in the CTI RPOA under Goal 2, Target 2: *Improved income, livelihoods and food security in an increasingly significant number of coastal communities across the region through a new sustainable coastal fisheries and poverty reduction initiative (COASTFISH)*. During the HLFR in Manila, all CT6 identified COASTFISH as a priority program. Perhaps we should consider COASTFISH in our discussions on EAFM. I'm throwing this for discussion so the countries can consider the program for implementation, either cooperatively between countries sharing common borders or in a parallel manner where we have some kind of technical steering committee at the regional level to guide the overall implementation of common approaches or programs.

Dr. Darmawan – Thank you for your suggestion. Related to that, when you start fleshing out your roadmap, you might want to discuss whether you want to create a team that will help the countries formulate program proposals for donor funding. I remember in our earlier discussion with donors, we were told that the programs under CTI were developed before CTI was established and therefore they could not be changed. But that was then. Our hope is that the CT6, acting collectively as CTI, could now be more proactive in terms of defining the programs that they truly need and want to propose for donor funding. We started doing this in the HLFR with the help of our development partners. In the future, I think we will continue to need a dedicated team to write program proposals that are comprehensible and acceptable to the donors.

At the end of the session, Dr. Darmawan reiterated that the country reports should inform the development of the regional EAFM framework, and Dr. Pomeroy reminded the countries to "prepare your comments on the draft framework before Thursday (Day 3)." Some members of the Resource Team were then invited to take the floor and provide an overview of the next day's (Day 2) sessions. The workshop was adjourned for the day at 4:45p.m.

Day2, 23 May 2012

Today's sessions were designed to achieve the following results:

1) Improved understanding on how IUU could be incorporated into the EAFM process and framework and initial CT6 agreement on strategies and direction to combat IUU in the Coral Triangle.
2) Briefing on CTI LRFT activities, including plans for a CTI LRFF Regional Multi-stakeholder Forum, and initial CT6 agreement on strategies and direction to regulate and manage LRFFT in the region.

SESSION 4. ILLEGAL, UNREPORTED AND UNREGULATED (IUU) FISHING

This session kicked off Day 2 activities, starting immediately at the day's opening at 8:24a.m. Dr. Galid opened the session by introducing Mr. Lawrence Kissol (Malaysia) as the session chair. The session included three presentations and plenary discussion followed by breakout discussions and plenary report-out.

After briefly introducing the session topics and reminding participants that "IUU was recognized in REX2 as one of CTI's most critical concerns," Mr. Kissol presented the session objectives as follows:

1) Gain a common understanding of IUU fishing in the global, regional and local contexts.
2) Get updates on a region-wide MCS assessment conducted by NOAA.
3) Get updates on CTSP's local compliance and enforcement program.
4) Contribute to the enhancement of EAFM framework.

Three speakers were scheduled to present on the following topics:

1) Global initiatives to deter, reduce and eliminate IUU fishing -- LCDR Gregg Casad (US Coast Guard/NOAA Fisheries)
2) Regional initiatives to deter, reduce and eliminate IUU fishing (based on preliminary results of region-wide MCS assessment by NOAA) -- Dr. Ann Mooney (NOAA Fisheries)
3) CTSP local compliance and enforcement program -- Mr. Mar Guidote (PI)

The first two topics were taken up in one continuous presentation using an open discussion format. Shown below are some of the key points that came out of the presentation.

Presentation 1. Global and regional initiatives to deter, reduce and eliminate IUU fishing (including preliminary results of region-wide MCS assessment by NOAA)

Resource speakers: LCDR Gregg Casad (US Coast Guard/NOAA Fisheries) and Dr. Ann Mooney (NOAA Fisheries)

The "I" in IUU fishing, i.e., illegal fishing, is easy to understand and relatively easier to address compared to the other two components of IUU fishing. Illegal fishing is any fishing done contrary to established rules or regulations. All of the CT6 have their own fishery laws and enforcement strategies that they use to deal with the problem. In Indonesia, for example, the encroachment of foreign fishing vessels on national waters is primarily the responsibility of the Navy, but other agencies, including an enforcement section under the MMAF, have their own mandates and are involved in fisheries law enforcement as well. In PNG, the government has prosecuted, tried in court, and heavily fined several licensed fishery operators that were found to have violated the country's fishery laws.

Unreported fishing is a common problem as well. It is defined from the international community's perspective as "fishing that has been unreported or misreported to the relevant national authority or regional organization, in contravention of applicable laws and regulations," but must be taken in

the context of what every state must do at all levels to comply with its commitments as a responsible fishing nation, including promoting accurate and transparent reporting of fish catches at the local level, where the challenge of enforcement is greatest. A recent case in PNG involved a logging ship that was apprehended and found to be loaded with large quantities of sea cucumber; the unreported cargo was confiscated. The Philippines reported having many cases of misdeclared catch. Some shippers and fishing vessels are known to maintain two sets of records, one showing actual catch and another containing false information that is submitted to authorities. To correct the problem, the fisheries bureau has instituted an inspection and reporting system that requires fish inspectors to physically check landings and shipments of fish, not only so that violators can be made accountable for misdeclared catch but also to ensure that accurate and correct information is reported. This is important because not having accurate records degrades the fisheries authority's ability to perform sound science – it would be difficult to understand and manage a system if one does not know what is being taken out from that system.

The impacts of IUU fishing span the globe and cut across different perspectives. From the economic standpoint, it has been estimated that about USD23 billion is lost annually worldwide to IUU fishing; because of IUU fishing, legitimate fishers are losing out on their ability to maximize their income, and countries are missing great value adding and revenue generation opportunities and multiplier effects that could be generated from fisheries. From a resource management perspective, IUU fishing causes damage to coastal stocks, and compromises the ability of fisheries managers to assess and manage the fisheries. From the social perspective, there is potential for conflict, especially when communities have to deal with outside entities coming in, causing damage and not being held accountable for their actions; also people's livelihoods and ability to have a sound life are compromised. And finally, from the ecological standpoint, most IUU fishing causes damage to sensitive marine ecosystems, as even legal gear such as nets and fish traps often become lost or are abandoned across the Coral Triangle, causing damage to reef ecosystems or injury to marine life.

A number of destructive fishing practices, including highly damaging blast fishing and trawling, have been outlawed in at least some of the CTI member states but enforcement is inconsistent and differ across local governments and sometimes from one year to the next. In the Philippines, for example, some laxity in the enforcement of fishery laws is often observed around campaign periods before elections.

A critical component of the strategy to combat IUU is MCS, or monitoring, control and surveillance, which is defined as follows:

- ***Monitoring*** - the collection, measurement and analysis of fishing activity including, but not limited to: catch, species composition, fishing effort, by-catch, discards, area of operations, etc.
- ***Control*** - involves the terms and conditions under which resources can be harvested. The national fisheries legislation provides the basis for which fisheries management arrangements, via MCS, are implemented.
- ***Surveillance*** - involves the regulation and supervision of fishing activity to ensure that national legislation and the terms and conditions of access and management measures are observed.

All of the CT6 have some form of MCS system in place at different levels of sophistication. In PNG, tuna monitoring activities are conducted regularly, aided by fisheries observers and in-port fish sampling, apart from a satellite-based VMS that covers almost all vessels. PNG has also started a tuna tagging program to inform stock assessment and management. The data are submitted to Port Moresby and goes to SPC for the preparation of country reports. The Philippines also has a VMS for tuna, although compliance is low. In addition, various control measures are in place for different fisheries. For example, the Philippine government declared recently a three-month closed season for sardine fisheries in northern Mindanao to allow overfished stocks to recover; the results have been encouraging, and the fisheries bureau is looking at declaring a temporal closure every year during

the sardine spawning season. The Solomon Islands has a management plan for sea cucumber fishery that allows harvesting only in specified areas that have been restocked using hatchery-produced seed.

In Malaysia, there is no explicit mention of IUU in current legislation, but there are many regulations in place to control fishing activities and fish catch. In some areas, not reporting catch is an offense. The government is currently working toward amending its Fisheries Act to more explicitly support MCS.

Worldwide, various tools are being employed to address IUU fishing that may be applicable to the CTI. The WCPFC, for example, has provisions for the establishment of VMS that covers the high seas within the Convention area, as well as provisions establishing a boarding and inspection regime that answers questions about authority, legalities and process.

Information sharing is important and the CT6 must figure out how they can begin to share information across all levels. One example that may be useful as a model for CTI is an agreement between Russia, Japan and South Korea to share information about importation and transhipment of crabs harvested in Russian waters and imported into Japan and South Korea, which has helped ensure that IUU fishing does not occur or the products of IUU fishing do not transit through. Also regional coordination arrangements involving the US Coast Guard and other countries have been successful.

Another tool that the CT6 might want to consider is domestic legislation such as the US Lacey Act, which prohibits the export, import or purchase of illegal products from any country or state. The Act prescribes different levels of culpability for those who knowingly engage in trade in such products and those who should have known but did not. It also makes it illegal to falsify records and misrepresent a product (products must be appropriately labelled).

Globally, there is a voluntary International MCS (IMCS) Network of member-countries committed to improving the efficiency and effectiveness of fisheries-related MCS activities through enhanced cooperation, coordination and information collection and exchange. In addition, the Interpol, which has had an environmental crime section for some time, has begun to address IUU fishing, providing another mechanism for MCS practitioners to work together. Also, FAO member-states have an Agreement on Port State Measures to Prevent, Deter and Eliminate IUU Fishing. Port state measures make it difficult for illegal fishers to operate by restricting their access to ports and port services.

Under the USCTI, NOAA has assembled a team to provide technical assistance to the CT6 on aspects of EAFM dealing with IUU fishing. The team has the following goals: (1) CT6 participation in international MCS networks; (2) integrated fisheries MCS; (3) coordinated regional MCS operations (where appropriate); (3) harmonization of legal frameworks/fisheries laws; and (4) a self-sustained fisheries MCS training program. Several activities are planned to support these goals, including: (1) Port state measures training (one in June 2012 in Jakarta, Indonesia and another in August 2012); (2) Coral Triangle fishers forum on IUU (June 2012, Suva, Indonesia); (3) Legal workshop on the Lacey Act and relevant legal processes (July 2012, Silver Spring, Maryland, USA); and (4) Trans-boundary training (August 2012).

Over the past two years, the NOAA IUU team focused on undertaking an MCS assessment to evaluate existing MCS capacities and gaps, control measures, practices and training needs in the CT6. To facilitate gathering consistent information across the region, NOAA's Office of Law Enforcement (OLE) and the IMCS Network developed an MCS-related questionnaire that walks through the different aspects of national fisheries, gathering information on the types of vessels fishing in domestic waters, target and by-catch species, authorized and illicit activity by foreign vessels, ports and port security, fisheries management practices, international legal obligations, and

domestic legal frameworks. Representatives from the IUU team visited each of the CT6 to discuss and identify MCS colleagues across the region that can take part in the assessment. The assessment had the following objectives: (1) identify areas of known or suspected IUU fishing activity; (2) identify fisheries MCS capacity and gaps; (3) identify applicable fisheries legislation/laws and gaps; and (4) determine fisheries MCS training needs. A legal analysis is being undertaken separately. Below is a summary of the preliminary assessment results:

MCS Assessment Results*							
		Indonesia	**Philippines**	**Malaysia**	**PNG**	**Solomons**	**Timor-Leste**
Input : rules and regulations	Foreign Vessels						
	Domestic Vessels						
output: rules and regulations	catch accounting						
	gear						
	closed areas						
	electronic monitoring						
Enforcement System:	at-sea						
	shoreside						
	legal						
	communication						

Green: Present and good to go (or minor tweaks needed). Yellow: Present but needs work. Red: Non-existent or lacking.

***Note:** Assessment was based on informant responses, not on direct observation; results as presented were preliminary and had not been reviewed by the countries.

CT6 requests for assistance*							
		Indonesia	**Philippines**	**Malaysia**	**PNG**	**Solomons**	**Timor-Leste**
Input : rules and regulations	Foreign Vessels						
	Domestic Vessels						
output: rules and regulations	catch accounting						
	gear						
	closed areas						
	electronic monitoring						
Enforcement System:	at-sea						
	Shoreside						
	Legal						
	communication						
Observer Program: presence	Foreign Vesseels						
	Domestic Vessels						

*** Note:** Assessment was based on informant responses, not on direct observation; results as presented were preliminary and had not been reviewed by the countries.

Presentation 2. Developing appropriate training programs and curricula for enforcement in the Coral Triangle
Resource speaker: Mr. Marlito Guidote (PI)

This is an introduction to an upcoming project called "Strengthening local marine resource compliance and community-supported enforcement in the Coral Triangle: Developing appropriate training programs and curricula." The project has two main objectives, as follows: (1) to assess the approaches and progress of locally-based compliance and enforcement of fisheries and/or MPAs in priority geographies, and (2) to develop a curriculum and/or training modules regionally and/or in several of the CT6.

The project is essentially research-based, with the following target outputs: (1) a description of current models of practice; (2) identification of successes and challenges; and (3) documentation of the gaps/needs in local compliance and enforcement programs, including skills and capacity building needs. The research design will include a rapid assessment (not scientific), collection and analysis of primary data (interviews), and collection and review of secondary data (including unpublished literature).

Priority geographies and sites to be covered by the project have been identified in all of the CT6 except Indonesia, as shown in the table below:

Country	Priority geography	Site
Malaysia	Kudat-Banggi Sabah coastal waters	Tun Mustapha Park Sabah coastal waters
PNG	Milne Bay Province Manus Province	Nuakata-Iabam-Phailele MPA Manus Island
Philippines	Palawan Province Tawi-Tawi Province Verde Island Passage	Dumaran, Taytay and Araceli Languyan, Sitangkai and Sibutu San Juan, Lubang/Looc and Calatagan
Solomon Islands	Western Province	Ghizo Island and environs
Timor-Leste	Niño Konis Santana National Park	Niño Konis Santana National Park

The research team includes:

Name	Research area
Mar Guidote, Cebu, Philippines	**Philippines** (Tawi-Tawi, Palawan, Verde Island passage) **Malaysia** (Kudat-Banggi, Sabah coastal waters)
Hugh Govan, Fiji	**Papua New Guinea** (Milne Bay, Manus Province) **Solomon Islands** (Western province)
Indonesian (under negotiation)	**Timor-Leste** (Niño Konis Santana National Park) Indonesia
Bob Pomeroy, Connecticut	Technical lead
John Parks, Honolulu	Team coordinator

Participant comments

Dr. Darmawan – In his presentation, LCDR Casad said we're losing USD23 billion annually to IUU fishing, but we haven't really talked about how much we need to spend to address IUU fishing. We're looking at developing countries here, and I'm thinking, what if, instead of trying to combat IUU fishing, we spent the money on providing economic opportunities that will take IUU fishers away from fishing? This is just a general question for everybody.

Mr. Ropeti – I have a general observation on MCS coming from a Pacific perspective. I must admit that national legislation in most of the Pacific countries is a very good example of total failure relative to MCS because the oceanic or tuna fisheries industry and resources are well looked after at the regional level. Most countries are now looking into establishing community-based monitoring systems in order to have eyes and ears on the ground. In most cases, national fisheries institutions do not have the capacity to actually extend their MCS program to the isolated areas where the island communities are. Getting the community involved is an innovative way to address gaps in the MCS system. This is the challenge that the Pacific countries are facing now, how to implement an MCS system for coastal fisheries. So I'm very glad that there is this project, and we would be happy to share what we have in SPC not only in the Solomon Islands and PNG but it would be useful if to also share information from the other Pacific countries. My second point is how the various scales of IUU fishing should be considered from the regional management standpoint given that Malaysia and Indonesia are looking at industrial fishing scales while PNG and the Solomon Islands are more concerned about coastal fisheries.

Malaysia – My comment relates to the proposed LRFFT forum. We said that one of the things that Malaysia would like to achieve from this forum is certification for the whole LRF industry. Obviously when we talk about certification, IUU fish would be one of the biggest considerations. So our recommendation is that we should consider IUU fishing also when we talk about the LRFFT forum.

Breakout workshops and plenary report-out: Priority actions to achieve regional MCS objectives

Participants were divided into four groups based on their expertise, experience, mandate or interest in the following MCS objectives:

1) Strengthen regional MCS through the RPOA IUU (facilitated by Dr. Mooney)
2) Develop best practices for MCS within the Coral Triangle (facilitated by LCDR Casad)
3) Develop proposal for Regional IUU Information Center (facilitated by Mr. Frank Giaretto, NOAA)
4) Analyze markets/trade routes of IUU to/from the Coral Triangle (facilitated by Mr. Guidote).

Each breakout group was asked to identify at least three action items needed to achieve the objective of their choice, get a consensus agreement, and report output to plenary. The breakout workshop results are shown below in the order that they were presented to plenary.

Group 3: Develop proposal for Regional IUU Information Center
Presenter: Mr. Frank Giaretto (NOAA)

The group agreed on the following:

1) Each of the CT6 has their own information needs. Identify these needs as they relate to the Information Center.
2) Identify regional priorities: what will all countries agree on?
3) Define objectives of the center from agreed upon priorities.
4) Information sharing: Create database (NOAA).
5) Who will run the Center? Secretariat with member countries.
6) Have the Center located within the Regional CTI Secretariat.
7) Funding would be provided via CT6 countries and partners.
8) Reporting center will link up CT6 countries regarding MCS issues.
9) Received data will be disseminated to the CT6 countries via the Information Center and will address various enforcement issues, i.e., IUU, narcotics smuggling, weapons smuggling, human trafficking, and various environmental crimes (e.g. direct take of turtles).

10) Training programs – Develop a toolkit and reporting templates.
11) Templates will address various types of violations/data.
12) Data access should be limited to CT6-designated representatives. Link the database to other RMFO's, CT6 country databases, etc. Offer some of the non-sensitive data for public consumption.
13) The ability to share information is of upmost importance because while there is some information-sharing going on right now, it is not to the extent needed to support MCS effectively.
14) Define a roadmap and agreement to include a timeline. Assign a team to develop a proposal within 6 months.

Responding to a question from the Philippines about how the Center would link to the ADB CTI knowledge management (KM) project, the group said their proposal would be to link the Center to all relevant existing databases, including the CTI KM database and the CT Atlas (http://ctatlas.reefbase.org).

Group 1: Strengthen regional MCS through the RPOA-IUU
Presenter: Mr. Abdul Rahman Abdul Wahab (Malaysia)

The group agreed that the overarching action CTI should pursue is to maximize/mainstream the work done by the sub-regional MCS TWGs on IUU for the South Eastern South China Sea and Sulu-Celebes Sea, and the Arafura-Timor Sea. These sub-regional TWGs have identified actionable items that also resonate with the CTI representatives.

1. Adapt centralized database system within countries for licensing and catch reporting
    a. Information-sharing between the various countries, looped into the sub-regional groups
2. Strengthen joint surveillance for countries with shared maritime boundaries.
    a. Establish memorandum of understanding (MOU) between countries
    b. Coordinate inshore and offshore patrol efforts
3. Communicate with each NCC that the CTI has a program to combat IUU fishing so they can identify and explore funding opportunities such as the GEF (UN Global Environment Facility) regional funding for IUU under the umbrella of coastal marine resources management.
    a. In-country support
    b. National monetary support for RPOA activities
    c. Keep contact information of funding agencies, implementing agencies and partners up to date
4. Recognizing that the Solomon Islands is a cooperating party but not a full member of the RPOA-IUU, incorporate/invite the Solomon Islands to join the RPOA as a full member nation.

Group 4: Analyze markets/trade routes of IUU to/from the Coral Triangle
Presenter: Dr. Eny Buchary (Indonesia)

The group was given the task of identifying specific actions to achieve three objectives, as follows:
1) Reduce IUU.
2) Increase collaboration.
3) Increase awareness.

They reached consensus on five "most crucial" actions:
1) Increase awareness of enforcers (customs, ports, quarantine) on IUU species commonly traded so these species can be correctly identified as IUU while they are in transit.

2) Develop and continuously update detailed list of species that are commonly traded or prone to enter the IUU market. To-date there is one particular database – FishBase (http://fishbase.org) -- that is quite complete and can be used as a template for CTI.
3) Determine/identify the market (supply/demand) including transhipment of species and through this prioritize MCS efforts on the most traded species.
4) Develop collaboration with industry players/groups/associations engaged in marine products trade within the countries and between the countries (responsible business people tend to report the "bad players," who are usually not members of associations).
5) Promote a policy to "encourage" producers of IUU-vulnerable species (LRFFT/ornamental and ETP [endangered/threatened/protected] species) to join an association that is accredited by the government as a requirement for the issuance of export permit (e.g. Sabah live fish).

In reply to Indonesia's comment that some regional effort may be necessary to prevent transhipment of species (or its derivative products) that are protected in one country but not in others because it compromises the protection of that species in the country of origin, the group said action no. 2 above may be taken as an initial step. "If a species is listed in the database, each country would know the status of that species in the other countries," they explained.

Group 2: Develop best practices for MCS within Coral Triangle
Presenter: LCDR Gregg Casad (US Coast Guard/NOAA)

The group found the objective to be very broad and agreed to narrow it down as follows: "Identify and share best practices for MCS across the Coral Triangle." They agreed on the following priority actions:

1) Countries identify best practices at the national/local level to share across the region for MCS so each set of best practices becomes a discrete list that provides information that can be shared across the region, such as:
    a. Catalogue of innovations, e.g. Bantay Dagat; look across training, outreach with communities, operations
    b. Need to identify who, how, and at what level they are involved across the three components and different sectors
    c. Culturally appropriate; ownership
    d. How is information shared? Need to determine the means of sharing
    e. Identification and sharing of trends and threats, e.g. ghost fishing
2) Synthesize commonalities
3) Distribute and solicit feedback
4) Discuss during MCS practitioners workshop and identify areas for potential collaboration or incorporation into national laws or regulations

SESSION 5. LIVE REEF FOOD FISH TRADE (LRFFT)

This session included three plenary presentations, an open forum and a breakout workshop. Four speakers presented to plenary on the following topics:
1) LRFFT: Overview and synthesis – Dr. Geoffrey Muldoon (WWF Coral Program)
2) Case Study: LRFFT in Malaysia – Mr. Irwin Wong (WWF Malaysia)
3) Case Study: Ecosystem approach to managing LRFFT in Palawan – Ms Mavic Matillano (WWF Philippines)
4) Proposal for CTI Multi-stakeholder Forum on LRFFT – Mr. Gopinath Nagaraj (FanLi Marine and Consultancy)

The session was facilitated by Mr. Kevin Hiew (WWF).

Presentation 1. LRFFT -- Overview and Synthesis
Presenter: Dr. Geoffrey Muldoon (WWF Coral Program)

The NPOAs of the CT6 acknowledge LRFFT issues and that these issues could be addressed most effectively through multi-stakeholder engagement and the application of EAFM principles. Discussions along those lines have taken place in a number of regional activities involving the CT6. A workshop in Hong Kong in 2009 identified priority actions based on the status and trends of the trade and issues on sustainability versus functionality – as shown in the matrix below, the formulation of LRFFT management plans incorporating EAF was identified as a priority action by all countries except Timor-Leste (Timor-Leste was not known to have any significant LRFFT at that time).

Priority Actions	Malaysia	Philippines	Indonesia	PNG	Solomon Islands	Timor Leste
Certification Standards Best practice						
Forums AND Private Public Partnerships						
Full-cycle mariculture expansions						
Management plans (incorporating EAF)						
Collect baseline data on target species						
Protection target species / Spatial closures						
Export / Catch Controls (including CITES/IUU)						
Enforcement and Capacity Building (including provincial)						

The Hong Kong workshop was followed by the first CTI LRFFT REX in 2010, which examined the EAFM-LRFFT link and identified the science needed for sustainability; also at this REX, roundtables and forums were considered as possible venues to promote stakeholder engagement in support of EAFM. The CT6 also participated in a bigger LRFFT workshop organized under the Asia Pacific Economic Forum (APEC) which looked at bringing more countries to the LRFFT discussion table, particularly buyer countries such as China (including Hong Kong), and identifying platforms for strengthening LRFFT standards and market-based policy initiatives. Subsequently, in the CTI EAFM REX2 in September last year, the idea of a creating a CTI Multi-stakeholders LRFFT Forum was again taken up, and a proposed TOR for establishing the forum was considered by the EAFM TWG based on the overarching goal of improving the sustainability of LRFFT, particularly in priority CTI/CTSP geographies.

In general, building and managing multi-stakeholder alliances (government, NGOs and private sector) ranks among the top five priorities of EAFM, and among the sectors, LRFF fisheries are a major EAFM concern because, while LRFF fisheries can be extremely lucrative to coastal communities and fishers, they are also potentially very detrimental to the sustainability of fish stocks and, ultimately, livelihoods. Conversely, LRFFT can be part of the strategy to "force" EAFM to be applied on the ground because it clearly has a large and complex human dimension that underscores the importance of the EAF principle on improving human well-being and inter-generational equity – i.e., LRFFT can on one level improve human well-being in the present but, if not managed properly, its success today could come at the expense of future benefits. Also, in terms of the EAF principle of

broadening stakeholder participation, the experience in Palawan (see **Presentation 3,** this session) shows that LRRFT is one economic activity that can benefit from private sector engagement through stakeholder forums.

On a wider, regional scale, LRFFT is huge in terms of volume and value traded (approximately 30,000 tons worth in excess of USD800 million annually) and geographically expansive. Between 2005 and 2006, there was a steep increase in LRFF shipments to Hong Kong, largely coming out of the Philippines. In more recent years, Philippine LRFF exports have slowed significantly, but exports from Indonesia have increased, indicating an expansion of the trade from the Philippines to the south and potentially, the overfishing of stocks in the Philippines. This suggests a need for management of LRFFT on a regional scale by promoting transboundary cooperation and collaboration among governments and the greater community of stakeholders in order to facilitate tracking of the movement of fish from the coral reefs down to the consumer and the identification of strategic control points along the supply chain.

Presentation 2. Case Study 1 -- LRFFT in Malaysia
Presenter: Mr. Irwin Wong (WWF-Malaysia)

LRFFT existed in Sabah before the 1980s, but it was not until 1985, when Brunei Airlines and later Malaysian Airlines commenced service between Kota Kinabalu and Hong Kong, that the floodgate was opened for the trade. The first negative growth for the trade came in 1998, during the Asian financial crisis, but the worst downturn happened during the SARS outbreak of 2002, when many LRFF businesses in Malaysia collapsed. Today, one can make a distinction between LRFF traders who entered the business before 2002 and those that came in post-2002. Those that were well-established before 2002 are more receptive to changes brought about by new regulations, while those who came in after 2002 are largely resistant to change because many of them have yet to make money from the trade.

WWF-Malaysia has been working to engage the industry in finding a balance between profitability and sustainability. Sabah traders participated for the first time in the regional LRFFT stakeholder workshop held in Hong Kong in 2009, which was also attended by members of the buyer community; this workshop acknowledged the socioeconomic dimension of LRFFT. In 2010, the Department of Fisheries-Sabah decided to ban the export of humphead wrasse (HHW), following recommendations of a 2008 WWF study on HHW NDF (non-detriment finding). The government helped traders dispose of their HHW stocks by buying the fish. The fish were tagged and then released in six protected locations in Sabah identified by science experts; monitoring dives conducted a year later showed that there still were a good number of the tagged HHW in the release areas.

More than 50 traders from Kota Kinabalu, Kudat, Semporna and Tawau also participated in a problem identification workshop organized by WWF; the workshop revealed how the different geographical areas present vastly different challenges to LRFFT management in Sabah. The traders also participated in the first CTI LRFFT REX in October 2010 in Kota Kinabalu.

Other activities initiated or assisted by WWF to support sustainable LRFFT in Malaysia are as follows:

1) Establishment of TMP, which encompasses Kudat, a transhipment hub for LRFF from the Philippines. A fisheries workshop was recently conducted to develop a fisheries management plan for the area.
2) Alternative livelihood workshop to encourage operators to shift to sea cucumber and abalone aquaculture (and reduce pressure on stocks targeted by LRFFT).
3) Regional workshop in Bali attended by government officials, traders from Kota Kinabalu and Kudat and WWF-Malaysia that resulted in the mapping of the supply chain and transboundary issues involving the Philippines, Malaysia and Hong Kong.

4) 1st Sabah sustainable LRF meeting that resulted in the publication of a report called "Moving toward Sustainable Management of LRFT."
5) Collaboration with stakeholders to establish compliance criteria for best management practices, particularly emphasizing juvenile growout aquaculture and the maintenance of biosecurity.
6) Consumer campaign for 2012-13 targeting end users, restaurants and hotels.
7) Cross-visit between Sabah and Palawan that provided a venue for discussions between traders from Southern Palawan, Kudat, and Kota Kinabalu and resulted in a recommendation for government to legalize and regulate the trade using an appropriate platform.

Presentation 3. Case Study 2 -- Ecosystem approach to managing LRFFT in Palawan, Philippines

Presenter: Ms Mavic Matillano (WWF-Philippines)

Located west of the Philippines, the main island of Palawan is the country's LRFFT capital and has been a focal area for WWF-Philippines' LRFF work for the past 10-11 years. The whole province is essentially an LRF-producing area with a long history of LRFT that dates back to the early 1970s. The area has experienced localized collapse of stocks but the trade is still expanding – it is now a Php1-billion industry in Palawan alone, employing thousands of fishers. In Taytay, a major LRF-producing town, about 80 percent of all fishers are engaged in LRFT. WWF has worked in several sites in the province, but Taytay, along with Araceli, Dumaran, and Quezon has been the main focus of its LRFT sustainability program. A WWF study conducted in 2006 provided many reasons for choosing Taytay as a project site, including:

1) 60 percent of LRF cage operators in northern Palawan are in Taytay
2) 69 percent of LRF cages in northern Palawan are in Taytay. (There were no data for southern Palawan because at the time of the study there were no cages in southern Palawan, but there are cages there now).
3) 90 percent of the total area in northern Palawan occupied by cages is in Taytay.
4) About 54 percent of the income of fishers in Taytay comes from LRF.

The study also revealed two environmental issues related to LRF: (1) the use of hookah with cyanide; and (2) unregulated and unsustainable resource use. It recommended that the local government should: (1) Take immediate action to protect remaining fish spawning aggregates (FSA); and (2) institutionalize funds for MPA management

Between 2007 and 2009, in response to these recommendations, the local government established 2,700 hectares of MPAs and implemented a fisheries management program covering more than 193,000 hectares of municipal waters. It also set up a fishery trust fund based on an ordinance that earmarked 50 percent of revenues from fisheries for fisheries management.

The MPAs in Taytay have been selected based on the following criteria that the local government, in consultation with experts, identified: (1) manageability; (2) high biodiversity area/presence of spawning aggregates (SPAGs); (3) productivity; (4) science-based establishment; and (5) multi-sectoral participation/public-private sector partnership (PPP). Following a coral bleaching event in 2010, when scientists discovered one reef – Black Rock Reef – that survived the bleaching, the local government in a recent resolution added CCA capability as a criterion for MPA site selection, and Black Rock Reef was declared an MPA. Meanwhile, Tecas reef, which suffered massive bleaching, was put under 24/7 protection. This allowed grazer populations to grow and prevent algae from completely overrunning the reef, giving the corals a chance to regenerate.

The experience in Taytay have been replicated in Araceli and Dumaran, producing equally encouraging results over a much shorter time: As replication sites, these towns did not have to go

through the trial-and-error process that Taytay went through, so they completed in 2 years what took Taytay 6 years to do.

WWF has worked in other sites in Palawan, dealing with other priority issues, such as engaging the indigenous communities in MPA planning in Balabac; dugong conservation in Roxas; biodiversity conservation in Tubbataha Reef National Park (a World Heritage Site); conservation of the critically endangered Irrawady dolphin at Malampaya Sound; and environmental law enforcement in El Nido. But whatever the priority concern may be, the approach used is integrated and considers all aspects of the ecosystem, including social, economic and ecological considerations. This approach is science-based as well as rights-based, promotes multi-sectoral participation and PPP, and recognizes the value of working with indigenous peoples (Palawan is home to a number of indigenous communities). For the most part, WWF's role in the development process is that of a facilitator and solutions provider.

The goal now is to establish a network of MPAs across Palawan so as to achieve some scale in EAFM, all the while taking into consideration the following lessons from past experience:

1) EAFM addresses not only LRFF but also other fisheries.
2) EAFM should always be science-based but does not necessarily have to start with "hard science." More important than science, at least initially, is to get community buy-in, so it is often useful, for example, to let the community identify the MPA site and add the science later.
3) Management requirements can be generalized and standardized but the application and procedures will vary from site to site (what works in some places may not work in other places).
4) The process should always be participatory.

Presentation 4. Proposal on a CTI Multi-stakeholder Forum on LRFFT (based on a paper by Mr. Gopinath Nagaraj and Mr. Kevin Hiew)
Presenter: Mr. Gopinath Nagaraj (FanLi Marine and Consultancy)

The establishment of "new multi-stakeholder forums" on LRFFT is provided in the RPOA under Goal 2, Target 4, "a more effective management and more sustainable trade in live-reef fish and reef-based ornamentals achieved." The forums are seen to promote the following objectives: "(i) advance a more in-depth and comprehensive discussion of problems and solutions; (ii) provide for a more active dialogue between the private sector and governments of the region; and (iii) create a dialogue process that involves a broader range of stakeholders."

To address this mandate, USCTI commissioned a study on LRFFT in the region in order to determine the parameters by which multi-stakeholder forums might be established. The study is based on consultations with fisheries authorities in Indonesia, Malaysia and the Philippines, and data provided by key informants in PNG, the Solomon Islands and Timor-Leste. Although the latter countries are not dominant LRFFT players, it was deemed important to include them in the study given the rapid expansion of a trade that is known to be voracious and demands and wants more and more stocks – sooner or later, LRFFT will find its way to PNG, the Solomon Islands and Timor-Leste in search of new stocks to exploit and every country in CTI will eventually become involved in the trade. For example, in Timor-Leste, there is no known LRFF industry of any significance, but it is not known also how much of the fish stocks are harvested and shipped out through Indonesia.

Below are some highlights of the study:

1) The major LRFFT focal points are:
    a. Live reef fishes are exported to Hong Kong, mainland China, Taiwan, Singapore, Japan, and Thailand
    b. The largest markets of live reef fishes are Hong Kong and China

c. Hong Kong imports approximately 15,000 – 20,000 tons annually, valued at approximately USD350 million

2) The functional environment – i.e., the environment that the forum is expected to operate – can be described as follows:
    a. Economic environment – LRFFT is essentially a monopolistic situation where there is a large number of producers and traders competing for a small group of buyers in basically one market (China).
    b. Industry Structure – The trade is characterized by high ethnic and national diversity and very little interaction between stakeholders, which are mostly small to medium size, family-owned companies with very traditional outlook and linkages built over time. To build community and maximize mutual gain, a grouping of these diverse stakeholders would have to rely on consensus building to reach any unified decisions.
    c. Lack of a compelling unifying factor – There is currently no compelling reason for the establishment of the forum from within the industry itself. The single biggest buying country, China, currently has no regulations relating to the sustainability of LRFT, and no market demand for sustainable LRF products. There is also a lack of leadership in the supplier side of the trade, which, as has already been noted, is highly fragmented. Local leaders are needed to bring together stakeholders from the bottom up.
3) Given the characteristics of the trade, the forum model should:
    a. Avoid a cartel-type structure/focus - In a market heavily dominated by one buyer country, creating a producer cartel may lead to more fragmentation as the dominant buyer tries to keep the status quo.
    b. Be embracing of ethnic and national diversity.
    c. Recognize that local issues should be resolved locally by local stakeholders and not by a regional fiat.
    d. Avoid being underpinned by a transient compelling factor that would cause the forum to become irrelevant when such factor becomes inconsequential.
4) Out of all the different models for producer-based organizations considered in the study, the chamber of commerce and industry was found to be the most appropriate model for a multi-stakeholder LRFF forum because:
    a. It is essentially a mutual self-help club where members come together to promote the interests of their respective businesses.
    b. It embraces diversity and heterogeneity while at the same time having a common focus (some future contribution that stakeholders can bring to the group that will benefit members).
    c. It has the least possibility of conflict, most sustainable outlook, and greatest possibility of international linkages.
5) The host institution should be:
    a. Multi-lateral in nature and not simply be supported by one-off funding from development agencies.
    b. Able to embrace all CT6 nations.
    c. Bring value to the forum and not just act as a secretariat.
6) Among the different institutions studied, INFOFISH was found to be the most appropriate host institution for the proposed multi-stakeholder LRFF forum because:
    a. It has the widest coverage.
    b. It is business-oriented and has had considerable success bringing industry operatives in Tilapia, Tuna and Ornamental Fish industries together. The Network of Aquaculture Centres in Asia-Pacific (NACA) and SEAFDEC tend to be more technical organizations.
    c. It is a market-oriented organization reputed for being able to supply up to date market pricing/intelligence for many commodities in the global seafood trade.

7) Chambers are financed by their own members' contributions, but inevitably, national and regional chambers should be supported by the government for at least the first few years.

A proposed TOR defining the objectives and structure of the forum, as well as a roadmap, has been developed. This is shown in Annex 9 (see A9)

Participant comments

Mr. Knight – There are only about 20 months left before USCTI ends. What is realistically doable in that time relative to getting this forum organized and getting something off the ground?

Mr. Nagaraj – Bringing together organizations in national assemblies can be done in 20 months. Concurrently, we can start organizing other groups so that ultimately the community as a whole will become organized. But taking this to a regional scale cannot be done in 20 months because that will require country commitment. What we need to do is use this as a springboard for discussion, and basically start with what we've got. We have producers' organizations in the region in various places so we start with those and build off whatever stakeholder organizations are already there and formalize them into a structure that will eventually grow into something bigger.

Breakout workshop

Participants were divided into two groups. Delegates from Malaysia, the Philippines and Solomon Islands made up the first group, while delegates from Indonesia, PNG and Timor-Leste comprised the other group. The breakout discussions focused on two main topics: (1) integrating LRFT considerations in the CTI EAFM regional framework, and (2) proposed CTI LRFFT Multi-stakeholder forum. The following process questions guided the discussions:

1) Integrating LRFFT considerations in the CTI EAFM regional framework:
    a. Is there a need for separate policies and plans for LRFT?
    b. What measures are currently in place to address LRFT concerns in your country?
    c. What are your capacity build needs with respect addressing to LRFT issues?
2) Proposed CTI LRFFT Multi-stakeholder forum:
    a. What model do you recommend for the forum?
    b. What actions should be taken toward establishing the forum? (Roadmap)

Due to time overrun, the plenary presentation of the breakout discussion results was not done during this session but instead was rescheduled for one of the Day 3 sessions.

SESSION 6. CASE STUDY: SULU-SULAWESI MARINE ECOREGION (SSME)

This session was chaired by Ms. Norasma Dacho (Malaysia). It consisted of one plenary presentation.

Presentation. Sulu-Celebes Sea Sustainable Fisheries Management Project: Updates and lessons learned

Presenter: Dr. Annadel Cabanban (GEF/UNDP/UNOPS Sulu-Celebes Sea Sustainable Fisheries Management Project)

The Sulu-Celebes Sea Sustainable Fisheries Management Project (http://www.scfishproject.org) is a project of GEF and the Sulu-Sulawesi Conservation Program developed under the *Action Plan for Sustainable Fisheries,* Sub-committee on Sustainable Fisheries, SSME Trinational Committee. It is funded by GEF for about USD2.98 million over three years in three countries under its Coral Triangle Program, International Waters. There are other projects under the Coral Triangle Program, including the

Coastal and Marine Resources Project-Southeast Asia and Pacific, and the Arafura-Timor Sea Project. GEF has contributed to the Coral Triangle even before the countries signed on to CTI in Manado in 2009 (the Coral Triangle Program started in 2007) and continues to be the largest contributor of funds to the CTI.

SCSSFM is implemented by UNDP and executed by the UN Office for Project Services (UNOPS) with Indonesia's Ministry of MMAF; Malaysia's Department of Fisheries; and the Philippines' Bureau of Fisheries and Aquatic Resources (BFAR). Broadly, it aims to "improve the condition of the fisheries and their habitats in the Sulu-Celebes Sea (SCS) through an integrated, collaborative and sustainable tri-national management," echoing the SSME vision and specifically, Objective 10 of the SSME conservation plan, which states, "improve coastal, oceanic and other types of fisheries resource condition and management by developing a framework strategy, institutions and appropriate interventions." EAFM is regarded as the framework that best supports this objective.

The traditional way that GEF supports large marine eco-regions (LME) is to lay down first the foundation for management and then demonstrate how management should be done. In SCSSFM's case, there are four support components. The first two components, transboundary diagnostic analysis and strategic action program for regional fisheries management, comprise the traditional GEF cycle of support. The first component looks at the transboundary threats to fisheries in the region; the first part of the analysis has been completed and will be presented to the countries for acceptance in June 2012. The report is an update of a similar analysis conducted in 2004 and basically shows the same top five transboundary threats as those found in 2004, namely, (1) overfishing; (2) loss of habitat and community modification; (3) overexploitation of marine resources; (4) marine pollution; and (5) impacts of climate change.

Under the second component, the project will focus primarily on the top 1 threat, overfishing, mainly through the formulation of a strategic action program for regional fisheries management; this activity will start in June with policy formulation and a review of governance in the region. A parallel activity under a third component focused on institutional strengthening is a study that evaluated the institutional strengthening needs of the countries for regional fisheries management using the ecosystem approach.

The fourth component is focused on demonstrating best management practices. The project has sites in the priority conservation areas of the SSME, namely East Kalimantan in Indonesia, East Sabah in Malaysia, and Zamboanga in the Philippines. EAFM is applied in these areas at both regional and local scales. At the regional scale, specific steps need to be taken toward EAFM particularly for small pelagics, which will be used as a vehicle toward EAFM in SSME. At the local scale, EAFM is now being employed at the demonstration sites. The first step involves understanding the ecosystem and gathering data on the indicators relevant to EAFM. Other concepts are also being employed, such as ICM to address threats to fisheries coming from land, and adaptive management to build on scientific information as it is being gathered.

As prescribed by the 2003 FAO EAF guidelines, the project has defined its operational objectives and indicators. From the biological standpoint, the operational objectives are as follows: (1) increased fish stocks; and (2) better understanding of small pelagics. The indicators are: (1) catch per unit effort (CPUE) "and/or other applicable indicators depending on availability of financial resources (e.g. assessments through fish population dynamics, etc.)"; and (2) spatial and temporal trends in catches of shared species.

Recognizing the need to generate economic benefits for stakeholders, the project has also defined its socioeconomic operational objectives, which include: (1) per capita income at demonstration sites increased; (2) increased contribution to national economy and local community; and (3) increased exports. Socioeconomic outcomes will be measured using the following indicators: (1) profit from fishing activity/unit vessel/year; (2) income gained from fishery-related activity

(processing, marketing, supplying fishing equipment and logistic); (3) total fishery profit; (4) receipts of landings or markets; and (5) total value of exports (small pelagic fishery products).

The project also has an institutional/management operational objective, which is, "ICM plans for fisheries developed in demonstration sites," and the indicators related to this objective are as follows: (1) status of Local ICM Plans with fisheries objectives in Demonstration and Replication Sites; (2) status of inter-sectoral committees; and (3) level of participation and inputs from all stakeholders and relevant sectors included in the ICM plans.

So far in its implementation, the project has generated the following lessons:

1) The road to EAF management is long – be patient, avail of opportunities. SCSSFM actually builds on initiatives that go back to 1999 when WWF developed a biodiversity vision for SSME. This vision was not formally adopted by the concerned parties (Indonesia, Malaysia and the Philippines) until 2004, and it took another two years (2006) before the MOU was ratified by the three countries. Initial interest in supporting the initiative through GEF first emerged in 2007, and another three years passed before the GEF grant became reality. The first phase of project implementation has started and is expected to be completed by 2014.
2) Build on existing programs and institutions. The project used the biodiversity vision, the priority conservation areas identified by the countries, and the action plan of the SSME fisheries sub-committee, as well as existing institutional arrangements, as platform for implementation. The plan has been reviewed and expanded into a comprehensive action plan for fisheries in the SSME that also covers climate change and includes a business plan to support the different actions.
3) Listen to the sound of science, not only hard science but also ethnobiological information.
4) Work with stakeholders who know and understand the threats to their fisheries, including those that are not listed or presented in papers.
5) Disseminate and share progress to build support.

Participant comments

Ms Dacho informed the body that Dr. Galid heads the SSME sub-committee on fisheries and can also answer questions about SSME. Dr. Pomeroy again reminded the country delegates to prepare their comments on the proposed CTI EAFM regional framework that were due the next day (Day 3). No other comments were raised, and the workshop was adjourned for the day at 5:30pm.

Day3, 24 May 2012

Day 3 began at 8:05am. There were two sessions scheduled for the day, mostly focused on finalizing a draft EAFM regional framework for legislation and policy that was first taken up at the EAFM REX2 in Kota Kinabalu in September 2011. The following results were expected from today's sessions:

1) Improved understanding of the impacts of climate change and ocean acidification
2) Finalized draft of CTI EAFM regional framework
3) Draft roadmap for 2012-20 to implement the EAFM regional framework for policy and legislation

SESSION 7. INTEGRATING OTHER CTI THEMES IN FISHERIES

This session included two plenary presentations on the following topics:

1) Integrating fisheries, biodiversity and climate change objectives into resilient MPA network design in the Coral Triangle – presented by Dr. Andrew Smith (TNC) for Dr. Alison Green, Dr. Alan White and Mr. John Tanzer (TNC)
2) Incorporating climate change and ocean acidification into EAFM in the Coral Triangle – Dr. Rusty Brainard (NOAA Technical Lead for EAFM, USCTI), Dr. Adel Heenan (NOAA), Dr. Robert Pomeroy (CTSP/CTI EAFM Lead), and Dr. Phil Munday (James Cook University); presented by Dr. Brainard.

At the end of his presentation, Dr. Smith offered the following discussion points for the countries to consider in their deliberations on the draft EAFM framework later in the day and on a proposed set of EAFM Guidelines for the CTI that would be taken up on Day 4:

1) What actions can be taken to link with, guide and influence MPA theme outputs?
2) Should specific reference(s) to the role of fisheries management be added to the EAFM framework?
3) Should section on MPA in EAFM Guidelines be expanded?

An open forum followed the second presentation. Also included in this session was a presentation of the consolidated results of the Session 5 breakout workshop to develop LRFFT strategies and direction for the Coral Triangle.

The session was facilitated by Mr. Leban Gisawa (PNG).

Presentation 1. How can we make no-take areas work for fisheries? – Integrating fisheries, biodiversity and climate change objectives into resilient MPA network design in the Coral Triangle: Dr. Alison Green, Dr. Alan White and Mr. John Tanzer (TNC)
Presented by Dr. Andrew Smith (TNC)

This presentation is based on findings of a CTSP-funded research that was completed recently on how MPAs could be made to work more effectively for fisheries management, biodiversity conservation and CCA in the Coral Triangle.

MPA practitioners have long maintained that no-take areas (NTAs) are an effective tool for fisheries management that also supports CCA, tourism management and biodiversity protection. However, the potential of MPAs has not been fully reached because network design has tended to focus on either biodiversity protection and CCA or fisheries management, and MPAs designed to achieve one objective do not necessarily benefit all objectives. So there has been much skepticism among some fisheries specialists about the fisheries benefits of MPAs. The goal is to address such skepticism by designing MPAs to simultaneously address multiple objectives. To achieve this goal, CTSP supported a study aimed at developing MPA design principles that would achieve multiple objectives. The study,

conducted by Dr. Leanne Fernandes, came up with 15 design principles. Some principles relevant to fisheries are explained below:

1) *Create large multiple use areas that include but are not limited to NTAs (Principle 6).* To be successful, NTAs must be integrated with other zones within an EAF that encompasses all of the ecosystem within a multiple use marine managed area.
2) *Represent 20-40% of each habitat within NTAs (depending on the situation) (Principle 2).* The extent of protection will vary with each situation, but if the only protection available is that provided by NTAs, then 35-40 percent is recommended. If additional effective protection is provided outside of NTAs, or if fishing pressure is low, then 20-30 percent may be enough. With fish species, the general rule is to maintain at least roughly 30-35 percent of the unfished stock.
3) *Include habitats that are connected through movements of key species (Principle 2).* Where key species use different habitats throughout their lives, habitats that are connected through regular movements of these species should be protected.
4) *Spread the risk: Include at least 3 widely separated replicates of each habitat type in NTAs (Principle 3)* so if a bleaching event or major sediment runoff happens there is greater likelihood that at least some of the NTAs will not be affected.
5) *Ensure that NTAs include critical areas such as spawning areas and nursery habitats for fisheries management (Principle 4) and special and unique areas for biodiversity protection (Principle 14).* Sites where animals aggregate must be protected in MPAs to help maintain their populations, and so must special or unique sites – for example, isolated habitats that often have unique assemblages and populations that are disconnected from all others – to help ensure that all biodiversity and ecosystem processes that contribute to overall ecosystem health and resilience are protected.
6) *For CCA, ensure that NTAs include resilient sites (Principle 13).* These include areas known to have withstood environmental changes (or extremes) in the past (e.g. rising sea surface temperatures [SST]); areas with historically variable sea surface temperature and ocean carbonate chemistry which may be more likely to withstand changes in those parameters in the future; and coastal habitats (e.g. mangroves, turtle nesting areas) which have adjacent, low-lying inland areas without infrastructure that they can expand into as sea levels rise. In Micronesia, researchers monitored the recovery of reefs from bleaching in order to identify resilient reefs that should be included in the MPA network.
7) *Take connectivity into account in determining size, spacing and location of NTAs.* Connectivity models provide useful information to guide MPA design, but even if they are not available, it is still possible to include connectivity in the design of an MPA using information from recent studies on connectivity of key species. These studies suggest that:
    a. The size of an MPA should take into account the movement patterns and larval dispersal distance of the species to be protected. Most reef species have two life history phases: an adult phase that is spent living on the reef, and a larval phase which takes place in the waters above the reef. The MPA size should be bigger than the home range of key species because size matters in the maintenance of fish populations. For example, a 40cm coral trout will produce around 350,000 larvae, but a 50cm trout will produce 1 million larvae and a 60cm trout will produce 3 million larvae.
    b. The scale of larval dispersal is much smaller than previously thought (20-60 percent of recruits stay in the local area, most within 5km), but huge variability is common. The general advice for spacing therefore is to vary the spacing of NTAs between 1km and 20kms (with a mode of ~1-10km) throughout the managed area (Principle 8).
    c. Most species do not move very far as adults or juveniles (most move within <1-3km^2, although some move longer distances of between 5 and >20km), and most don't move far as larvae either. This suggests that contrary to previous advice that NTAs must be large (10-20km across) to protect all species, there are ways to refine this advice. More can be achieved by small NTAs provided they are large

enough to protect key species (based on how far they move) and are combined with effective management outside of NTAs to protect wide ranging species.

8) *Apply minimum and a variety of sizes depending on key species and how far they move and whether or not other effective protection (e.g. fisheries management) is in place (Principle 7).* For biodiversity conservation and climate change resilience, scientists recommend using moderate to large NTAs (e.g. 4-20km across), since they are more likely to contain adult movement and larval dispersal of most species. Others have demonstrated significant fisheries benefits from much smaller NTAs (e.g. 0.2-0.4 km^2) that allow for export of adults and larvae to fished areas, leading to increased levels of recruitment and stock replenishment (a recent study contracted by CTSP (Maypa et al, 2010) shows the scale of movement of key species and what size of MPA is needed to protect them). Where fishing pressure is high and there is no additional effective fisheries management for wide ranging species, then networks of both small and large NTAs will be required to achieve biodiversity, climate change and fisheries objectives. However, if there is additional effective management of wide ranging species, networks of small NTAs can achieve most objectives, particularly regarding fisheries management.
9) *NTAs for 20-40 percent of habitat representation should be long term/permanent to allow time for all species to recover, including key fisheries species such as groupers (Principle 5). Include an additional 15 percent of key habitats in shorter-term NTAs within the network, including seasonal, rotational and other temporally variable zones.* Some benefits can be realized in the shorter term (1-5 years), especially if fishing pressure has not been heavy. However, 20-40 years protection is needed to allow heavily fished species, particularly longer-lived targeted predator species (e.g. shark, large groupers) to recover.
10) *Keep addressing other threats or work around them in the design.* Prohibit destructive activities throughout the management area, e.g., blast and poison fishing, bottom trawling (Principle 1). Choose areas for protection that have been, and are likely to be, subjected to lower levels of damaging impacts (Principle 12).

Overall, the study suggests that, by protecting spawning stock that provides recruitment to local fisheries, NTAs, even small ones, can result in local benefits for communities, provided they comply with other design principles, particularly: (1) 30 percent protection of fish habitat; (2) protection of critical habitats; and (3) other protection for wide ranging species. This is good news for locally-based marine areas, which tend to be small (much smaller than previously recommended), because it means that if communities protect key species in NTAs they will benefit directly from spillover to their fished areas.

CTSP is also working toward the integration of EAFM, MPAs and CCA. There are two integration products that are nearing completion: (1) a 30-page guide that describes a simple, step-by-step process to begin integrating CCA, EAFM and MPAs at the site management level; and (2) a 2-page policy brief for policy makers on enabling policies for integrated management to move toward ecosystem-based management (EBM).

Going forward, CTSP plans to (1) publish communication products for governments, field practitioners and communities, as well as scientific papers; (2) develop guidance on NTA duration; (3) apply the integration tools at multiple scales (local, national, and regional) in the Coral Triangle and beyond; and (4) improve integration of NTAs within EAFM.

Presentation 2. Incorporating climate change and ocean acidification into EAFM in the Coral Triangle – Dr. Rusty Brainard (NOAA Technical Lead for EAFM, USCTI), Dr. Adel Heenan (NOAA), Dr. Robert Pomeroy (CTSP/USCTI EAFM Lead)
Presenter: Dr. Brainard

This presentation followed on an initial discussion during REX2 on how to begin incorporating climate change and ocean acidification considerations into EAFM in the Coral Triangle. At REX2, climate change was identified as a priority concern for CTI and in response to that, an expert workshop was held in Bohol, Philippines last March 2012 to try to come up with guidelines for incorporating climate change and ocean acidification into EAFM in the Coral Triangle. The experts agreed that:

1) Climate change will affect fisheries and marine ecosystems through ocean warming, sea level rise, changes in precipitation, ocean circulation, frequency, intensity, and tracks of storms, and ocean acidification.
2) Though specific impacts on ecosystems and fisheries are uncertain, it is certain that there will be significant changes that will likely include species ranges and composition, productivity, ecological resilience, and increased stress to marine and coastal habitats.
3) Fisheries managers will have to explicitly consider these impacts and move beyond management under the assumption of *status quo* conditions.
4) EAFM plans should include climate change vulnerability in the fisheries management unit over time and allow for additional management measures to be considered to address impacts of climate change.
5) Guidelines for EAFM should be modified to include climate change/ocean acidification into the EAFM planning and implementation process.
6) The resource management decision making process should always ask the question "how will this decision be impacted by climate change and ocean acidification?"

The experts also drafted a set of guidelines for EAFM in the Coral Triangle that incorporated climate change and ocean acidification. These guidelines would be presented on **DAY 4** of this REX3 for the CT6 to deliberate on.

There is global concern that increased concentrations of greenhouse gases in the atmosphere have accelerated the changes that naturally occur in the Earth's climate system. Studies show a pattern of rising CO_2 globally, and it is accelerating. Some of the impacts are still very distant but there are enough changes in the last 130 years to allow scientists to make both near- and longer-term projections for climate change and its impacts. For example, tropical SST increased by an average of about 0.5°C between 1871 and 2007, and observations from 1998 to 2007 show increasing severity and frequency of coral bleaching in many areas. SST is projected to rise by about 1-3°C by 2100, which means that, if the coral reef systems are not able to adapt to warmer SST, there is going to be even more bleaching in the coming years. Coral reef habitats will start collapsing as the warming ocean causes mass coral bleaching, ocean acidification leads to reduced calcification, and stronger storms cause more physical damage.

Over time, the loss of coral cover will lead to a shift in community composition. Generally, coral loss results in fewer fish. Although only 10 percent of fish species are coral reef dependent, observations from areas affected by coral bleaching show that up to 75 percent of species decline as a result of coral bleaching. This is because as the ocean surface warms, the water column becomes more stratified, resulting in less mixing and reduced productivity and, subsequently, reduced fish biomass.

The other CO_2 problem – ocean acidification – is caused by the uptake of anthropogenic CO_2. About 30 percent of excess CO_2 is absorbed into the ocean. Current projection models are showing that aragonite saturation levels in the tropical oceans are now down to marginal levels from adequate levels in 1765 and are projected to decrease further by 30 percent and reach low levels by 2100. There is a significant gap in available knowledge about the impacts of ocean acidification, but studies indicate that acidification affects not only the calcification of corals but, because plankton are calcareous, also much of the food supply and, consequently, various aspects of fish production (reproduction, eggs/larvae). Scientists predict that a doubling (560ppm) or tripling of atmospheric CO_2 (840ppm) will cause major problems for most species. Looking back over Earth's history,

recent studies have concluded that mass extinction events in the past 300 million years were ocean acidification events.

Overall, available knowledge suggests that habitat degradation will have the most immediate and probably greatest effects on reef fish communities -- this does not mean that all fish will disappear, but there will be generally low reef fish abundance across the globe. The direct effects of temperature and acidification will mostly be longer-term (second half of century), but even now some of the effects of rising SST and to a lesser degree ocean acidification are already happening; scientists predict that ocean acidification will become more dominant over the long term. Ocean acidification will have critical, albeit at present poorly understood, interactions with productivity, and important interactions as well with fishing pressure, which acts as an additional stressor. There is therefore a need to consider both climate change and ocean acidification in fisheries management decisions, and to begin preparing fishing and coastal communities for ecosystem and fishery changes. The guidelines developed by the NOAA-supported CTI expert workshop last March 2012 in Bohol, Philippines can help address this need.

Other NOAA-assisted activities to support CTI's climate change and ocean acidification work include the following:

1) Presentation at the ICRS (International Coral Reef Symposium) of draft Guidelines for Incorporating Climate Change and Ocean Acidification into EAFM – July 2012
2) Establish baseline observations and initiate capacity building for long-term monitoring of carbonate chemistry, calcification rates and biodiversity
    a. Verde Island Passage, Philippines – February 2012
    b. Tubbataha Reefs, Philippines – April 2012
    c. Timor Leste (country-wide) – September 2012

The UN International Oceanographic Commission (IOC) has also requested NOAA to monitor long-term ocean acidification in the Western Pacific.

Participant comments

The following comments ensued from Dr. Brainard's presentation:

Indonesia (Mr. Christijanto) – This looks like a gloomy scenario. From the fisheries management perspective, it seems that the impacts of ocean acidification and climate change are irreversible and, because they are external factors, there is nothing we can do to prevent them from happening. You said we should use the information to prepare our fishers and coastal communities for corrective actions, but those corrective actions will very likely fall outside fisheries management. What kind of advice do the guidelines offer in this regard?

Dr. Brainard – In the shorter term, we can look at managing the stressors affecting the system, for example, implement temporal closures during major events. In the long term, fishing communities may have to be informed and prepared for the changes, for example, in fish composition. The increase in gas emissions can be reversed because it is man-made, but you're right, a lot of the corrective measures fall outside your jurisdiction as fisheries managers. In fact, no single sector can contribute all the reduction in gas emissions needed to reverse climate change and ocean acidification. As fisheries managers, you need to work with your government and other sectors.

Malaysia (Dr. Galid) – How do we even get to sink our teeth into these guidelines? There are all these things in the guidelines outside fisheries management that concern us and require us to talk to people that we as fisheries managers don't normally talk to.

Dr. Brainard – Your point really demonstrates why we need EAFM. Fisheries managers cannot manage everything but through EAFM and ICM, they can reach out to and work with other sectors. A key first step in the fisheries management process is to engage all sectors that impact fisheries, which can mean asking them your exact question.

Malaysia (Dr. Galid) – Is there one source that provides all the data and science we need so people cannot argue about climate change and ocean acidification anymore? Are there training programs, doable programs, to help us grapple with this problem?

Dr. Brainard – There are bits of those, and it makes it incumbent upon us to make the information available to our coastal communities. Fisheries managers should reach out to the universities that hold some of the information and then put the information through a communication process so that people can understand what it means to them in practical terms.

Malaysia (Dr. Mokhtar) – I would like to recommend that we collect baseline information and use available science to tell us where the "hotspots" are that we need to pay attention to, and then develop a mechanism to systematically transfer the information to fisheries people and other concerned sectors. The establishment of baselines is actually one of the objectives of the CTI RPOA and our NPOAs, but we need to take that a step further and figure out how to make sure that the information is utilized. We need to train not only the fisheries managers, but also other strategic sectors such as the media, to translate technical and scientific information to something that the layman can understand.

Dr. Pomeroy – One organization that has shown leadership in this is the SPC. They have already done a comprehensive analysis of the impacts of climate change on fisheries in the Pacific region and they can now take the information to the country level and community level so it can be used for management. Our recommendation is that we should try to replicate what SPC has done in the Pacific region.

Report-out: LRFFT breakout workshop results
Presenter: Dr. Geoffrey Muldoon (WWF Coral Program)

Note: *The report that came out of the LRFFT breakout workshops (See* **Session 5, Breakout Workshop***) was not presented in full to plenary. What is shown below is the summary of results as presented by Dr. Muldoon. For documentation purposes, the full report is included in Annex 10 (see* **A10***).*

Integrating LRFFT considerations in the CTI EAFM regional framework

1) *Is there a need for separate policies and plans for LRFT?*
   -- There is no need to separate LRFT from any of the broad issues in terms of fisheries management There might be a need to implement LRFT-specific policies, but if you want to implement EAFM in your fisheries then you cannot and should not consider LRFT separately.
2) *What measures are currently in place to address LRFT concerns in your country?*
   -- Clearly one of the issues is lack of enforcement. Enforcement is made difficult by the fact that most coastal fishers in, for example, the Philippines and Indonesia, are entitled to fish so there are few opportunities to reduce fishing pressure on particular areas by controlling who goes fishing there.
3) *What are your capacity building needs with respect addressing to LRFT issues?*
   -- The countries expressed interest in developing partnerships with universities. There was also some discussion on what role the stakeholder forum can play in building capacity. For Indonesia, PNG and Timor-Leste, country-specific training priorities were identified, as well as specific fisheries within each of the countries to be targeted by capacity building programs.

CTI LRFFT Multi-stakeholder forum

1) *What model do you recommend for the forum?*
   -- The countries found the chamber model as proposed by Mr. Nagaraj to be the most attractive because it is designed to embrace heterogeneity. There was discussion on how the forum can promote business and networking and how it needed to be able to provide members some mutual benefits for it to be successful. Participants agreed that the forum must be based on economic sustainability first before environmental sustainability. In principle, the countries were supportive of the idea of having a CTI LRFFT Multi-Sectoral Stakeholders Forum but said they needed more information to make a decision. There was also interest within USCTI and CTSP to assist the process in order to maintain its momentum.
2) *What actions should be taken to establish the forum? (Roadmap)*
   -- The roadmap was not fully discussed because of time overrun. A small group meeting might be convened at the end of this REX to develop a roadmap that USCTI and CTSP can refer to in order to determine how they can assist the process.

SESSION 8. EAFM REGIONAL FRAMEWORK AND ROADMAP

The focus of this session was to review and finalize the draft EAFM regional framework and roadmap that came out of REX2. On Indonesia's suggestion, the body decided to have a breakout meeting attended by country representatives who would review the draft framework and later report to plenary for the finalization of the draft. The EAFM TWG Chair (Dr. Galid) presided at the breakout meeting.

Report-out and finalization of draft EAFM regional framework and roadmap.

The results of the breakout meeting were presented and discussed in plenary, with the TWG Chair (Dr. Galid) and Regional Secretariat (Dr. Darmawan) co-presiding. The final revised draft is shown in Annex 11 (see A11). Shown below are key revision points discussed in this session (changes are shown in red text):

1. Introduction

Entire section was unchanged.

2. Mandate for the Framework

Entire section was unchanged.

3. Situational Analysis

On Dr. Brainard's suggestion, the 2nd paragraph was corrected to add specific mention of ocean acidification, as follows:

> *While the environmental imperative for preserving... Overfishing, destructive fishing practices, pollution, and climate change and ocean acidification all threaten the future of this precious seascape and its inhabitants.*

4. Vision

The section was edited as follows "to make it more of a vision statement":

~~*Tangible and measurable*~~*To sustain and improve~~*ments in the sustainability*~~ the health of marine and coastal ecosystems in the Coral Triangle region that support productive fisheries, food security and livelihoods, and the well-being of coastal communities; and conserve the region's marine natural heritage.*

The objectives and activities outlined under this framework are designed to support this vision.

5. Rationale and Purpose

The review of this section, particularly the last sentence of Paragraph 4, took some deliberation. Indonesia suggested that the sentence "may cause confusion," and the Philippines recommended that it should be deleted. "Let's be silent on what the specific approaches are, and let the countries make the decision on what approach to take in their own way." PNG concurred, adding, "The application of these different approaches will be different from country to country because how programs are run will be up to each country."

Some elements of EAFM are already being done through conventional fisheries management. However, EAFM builds further on these existing management approaches to address the range of issues beyond simple management of target species within a fishery. With EAFM, some assessments, decision-making and management are done differently to take a more integrated approach to fisheries management that includes managing the interactions between the fishery - fish and fishers - and the other essential components of marine eco-systems that are critical for sustaining the fishery such as conserving biological diversity and ecological resilience. EAFM helps to align fisheries management with natural and human systems. ~~*EAFM complements and includes many existing approaches to fisheries and marine and coastal resources management such as co-management, integrated coastal zone management (ICM), marine protected areas (MPAs), and ecosystem based management (EBM), to name a few.*~~

In addition, "Regional Secretariat" was deleted from Paragraph 5 because, as Dr. Darmawan pointed out, "whatever the CT6 adopt, we adopt."

Through this regional framework, the ~~*Regional Secretariat and*~~ *CT6 countries…*

6. Guiding Principles

The two sets of guiding principles that were included in the first draft were moved to appendix and Paragraph 1 was corrected to add reference to the appendix, as shown below.

This framework is guided by two sets of principles: (1) Section II of the CTI-RPOA, and (2) the FAO 2003 EAF guiding principles. See appendix.

In the appendix, a sentence was also added to make specific reference to climate change and ocean acidification, i.e., "Recognizing that the FAO Code of Conduct was written a decade ago, we add the following principle: Recognize the impacts of climate change and ocean acidification."

7. Objectives and ~~*Indicators*~~*Activities*

Section title was corrected as shown above. Dr. Pomeroy explained that a number of reviewers had pointed out that the paragraph items in this section called "Indicators" were in fact activities and should be labeled as such.

Several other revisions were made in this section. The revisions are shown below, along with the commentary that accompanied them.

Objective 1 was revised as follows:

Objective 1: By 2017, ~~5,~~ the six countries of the CTI should formally adopt EAFM into their national legislation and policy.

~~*Indicator*~~ *Activity 1: Incorporation of internationally recognized definitions, principles and eleme~~*ndicator*~~nts of EAFM into legislation, policies and regulations.*

~~*Indicator*~~ *Activity 2: Integration of EAFM into relevant sector plans/policies (e.g., live reef food fish trade and fisheries management plans) and cross-sector plans/policies (e.g. integrated coastal management plans, poverty reduction strategies).*

~~*Indicator*~~ ***Activity*** *3: EAFM is institutionalized with government, including ~~(i)~~ building EAFM into corporate and strategic plans of relevant ministries; and ~~(ii) requiring the use of EAFM projection models that incorporate an EAFM as part of fishery stock assessment processes and (iii)~~ establishing fisheries advisory ~~management~~ committees or other appropriate bodies on a country-by-country basis to provide expert advice and analysis on the implementation of EAFM.*

Commentary:

1) Timeline was extended to 2017.
2) Under *Activity 3,* item *(ii) requiring the use of EAFM projection models that incorporate an EAFM as part of fishery stock assessment processes* was deleted "because it is difficult for the CT6 to achieve." Mr. Armada tried to convince the countries to put the item back, saying, "Projection models are useful tools for looking at fisheries issues from an ecosystem perspective. If we take out Activity 3(ii), we might lose the 'E' in EAFM." His suggestion was considered but eventually set aside for the following reasons: (a) it is a very specific requirement that should be left to the discretion of the advisory body (Indonesia [Mr. Christijanto]); (b) there are ecology models available but probably nothing that is appropriate for EAFM, or specifically fish stock assessment (Indonesia [Ms Buchary]); and (c) given current limitations in technology and resources, and the need to get buy-in from concerned agencies, requiring countries to use projection models may not be a realistic objective for the prescribed timeline (Philippines [Ms Muñoz]).
3) Under *Activity 3*, items *(i)* and *(iii)* were combined because "*(iii)* is part of the responsibility of the advisory committee."
4) Dr. Muldoon suggested adding "Activity 4: Application of EAFM to target fisheries that the countries themselves would decide." This suggestion was offered as a compromise after an earlier recommendation that LRFT be specifically mentioned under one of the objectives was set aside by the countries. The countries did not agree to the addition of a 4th activity, but accepted another suggestion to specify LRFT as an example under *Activity 2.*

Objective 2 was revised as follows:

Objective 2: By 2015, enhance the resilience of fishers and coastal communities from the impacts of climate change and ocean acidification on fisheries and marine ecosystems by implementing an EAFM framework~~, policies, regulations and legislation~~.

~~*Indicator*~~ *Activity 1: Convene a technical workshop on scientific guidance incorporating climate change and ocean acidification into EAFM framework and prepare a report.*

~~*Indicator*~~ *Activity 2: Regional awareness campaign (public) including (a) CT Atlas, (b) Flyers/brochures, (c) Drama groups/role play, (d) Translation into local language, and (e) Constituency building (political will)*

~~*Indicator*~~ *Activity 3: Ministerial/agency capacity building (for each CT6)*

~~Indicator~~ Activity 4: Provide guidance to assist in developing national policies on climate change and ocean acidification into EAFM

Commentary:

1) The words "*policies, regulations and legislation"* were deleted because "these are covered by *Objective 1."*

Objective 3 was revised as follows:

Objective 3: By 2017, reduce IUU fishing through greater collaboration and increased enforcement and awareness ~~by 2017~~.

~~Indicator~~ Activity 1: Strengthen Regional MCS through the RPOA IUU
~~Indicator~~ Activity 2: Convene an MCS practitioner workshop (REX)
~~Indicator~~ Activity 3: ~~Develop~~ Adopt Best Practices for MCS within CT
~~Indicator~~ Activity 4: Develop proposal for Regional IUU information center
~~Indicator~~ Activity 5: Analysis of markets/trade routes for IUU to/from CT

Commentary:

1) The words "*By 2017"* were transposed for consistency.
2) *Activity 3* was changed from "*Develop…*" to "*Adopt…"* because the countries thought that developing new best practices would not be a realistic objective for the given timeline.

Objective 4 was not changed except for replacing the word "*Indicator*" with "*Activity*":

Objective 4: By 2017, a regional EAFM Human Capacity Development Program is in place to effectively implement EAFM.

~~Indicator~~ Activity 1: Conduct one pilot study per country to develop fishery specific management plans that incorporates EAFM
~~Indicator~~ Activity 2: Develop regional EAFM guidelines
~~Indicator~~ Activity 3: Under the Sulu-Sulawesi Marine Eco-region involving Indonesia, Malaysia and the Philippines (SSME) and the Bismarck-Solomon Seas Eco-region involving PNG and the Solomon Islands (BSSE) Arrangements, conduct a project to develop and incorporate EAFM approaches to Fisheries management
~~Indicator~~ Activity 4: Incorporate learning from (1) into all existing fisheries management plans.
~~Indicator~~ Activity 5: Develop a regional EAFM training program
~~Indicator~~ Activity 6: Conduct EAFM knowledge exchange and training on fisheries prioritization exercise
~~Indicator~~ Activity 7: Conduct national EAFM prioritization exercise
~~Indicator~~ Activity 8: Conduct regional analysis on fisheries prioritization exercise

Objective 5 was revised as follows:

Objective 5: By 2017, ~~5,~~ establish a regional platform for collection and sharing data and information relevant to EAFM.

~~Indicator~~ Activity 1: Undertake ~~a~~ scoping exercises on existing data from each country
~~Indicator~~ Activity 2: Defining what data is needed for EAFM at the regional level
~~Indicator~~ Activity 3: Establish ~~a~~ and adapt or maintain data sharing protocols
~~Indicator 4: Formulate data sharing/collection policies/regulations/laws in support of EAFM~~
~~Indicator 5: Socialization, dissemination and absorption of data sharing and collection into relevant government system of each country~~

~~*Indicator 6: Establish system to address common data/information gap*~~
~~*Indicator 7: Sharing of data/information among countries*~~
~~*Indicator 8: Management of database*~~

Commentary:

1) Paragraph items 4-8 were deleted "because they are covered by the *Activity 3* (as amended)."

8. Implementation mechanisms, roadmap and timeline

The roadmap and timeline was updated as follows to reflect new developments in the CTI EAFM workstream:

The following roadmap and timeline for implementation of the EAFM Regional Framework has been developed.

Activities	***Timeline***	***Lead/Support***
~~*Establishment of technical working group (TWG) for EAFM*~~	~~*Sep 2011*~~	~~*Secretariat, USCTI-SP*~~
~~*EAFM Regional Exchange*~~	~~*Sep 2011*~~	~~*Secretariat, USCTI-SP*~~
Develop a regional framework for the implementation of EAFM	*May ~~Sep~~ 2012~~1~~*	*Secretariat, USCTI-SP*
~~*Form writing team/committee; Regional framework draft finalized*~~	~~*Oct 2011*~~	~~*Bob Pomeroy EAFM team*~~
~~*Presentation of REX report to SOM*~~	~~*Oct 2011*~~	~~*Regional Secretariat*~~
~~*Review of draft regional framework by TWG and revisions*~~	~~*Nov or Dec 2011*~~	~~*EAFM TWG*~~
Initial r~~R~~eview of draft regional framework by NCCs ~~and others and revisions r~~	*Jun ~~Dec~~ through Jul 15, 2012~~1~~*	*EAFM-TWG*
CT6 NCCs submit comments and suggestions to TWG Chair (Rayner)	*Jul 15*	*NCCs*
Regional framework revised; Chair sends to NCCs for review	*Aug 1*	*EAFM-TWG*
Second review and approval of revised draft regional framework completed by NCCs	*Sep 1*	*NCCs*
Finalize ~~and approve~~ regional framework by TWG	*~~Feb~~ Sep 2012*	*EAFM-TWG*
Presentation of regional framework at SOM8 for approval	*~~TBD~~ Oct 2012*	*EAFM-TWG/Secretariat*
Develop EAFM briefs and information materials	*TBD*	*EAFM-TWG/Secretariat*
Dissemination and socialization	*TBD*	*EAFM-TWG, NCC*
Establish EAFM coordination mechanism	*TBD*	*EAFM-TWG, NCC*
Translated into local languages and dialects	*TBD*	*EAFM-TWG, NCC, USCTI-SP*
Institutionalization of programs on EAFM at regional and national levels	*2012 onwards*	*EAFM-TWG, NCC, USCTI-SP*
Integration or incorporation into national policies and legislations	*2015*	*EAFM-TWG, NCC*

9. Regional Coordination Mechanism

This section was revised as follows:

> ~~*The CTI Regional Secretariat should establish an EAFM regional coordination mechanism to guide and assist in the implementation of EAFM at regional and national levels. This coordination mechanism will serve to implement the five objectives identified in section 7 above.*~~ *The CTI EAFM Regional Technical Working Group (TWG), with support from and in collaboration with the CTI Regional Secretariat, shall serve as the coordinating body on EAFM, and be recognized as the platform to provide guidance in the planning, implementation, and communication of EAFM at regional and national levels. The CTI Regional EAFM TWG should work closely (but not exclusively) with projects and entities addressing EAFM in the region.*
>
> ~~*The connection/coordination of*~~ *The EAFM TWG will coordinate with the CTI Regional Secretariat in accordance with the SOM and Ministerial Meeting resolutions and legal documents on the establishment of the CTI Regional Secretariat.*
>
> *The regional coordination mechanism* ~~*should*~~ *will include* ~~*work closely with*~~ *the UNFAO Regional Office for Asia and Pacific (RAP) and the Secretariat for the Pacific Community (SPC), and the SSME Sub Committee on Sustainable Fisheries.*

Commentary:

1) On Malaysia's suggestion, specific mention was made of the SSME Sub-committee on Sustainable Fisheries as a critical part of the regional coordination arrangement.
2) The revisions considered comments from the Regional Secretariat (Dr. Darmawan) that it is the EAFM TWG, with support from and in collaboration with the Regional Secretariat, that should serve as the coordinating body on EAFM. Dr. Darmawan explained that the TWG's role as a coordinating mechanism is specified in its TOR, and that the TWG was created precisely to provide a mechanism for the CT6 and their development partners to work together. He added, "The TWG is an independent group and can work with all appropriate institutions (and not only those organizations listed in the original draft), and the Regional Secretariat is the one that's going to facilitate that."
3) Reacting to Indonesia's suggestion that the relationship between the TWG and Regional Secretariat should be explicitly stated, Dr. Darmawan pointed out that "the connection is there, and by default there is going to be a connection," but if the body wanted the relationship or connection to be specifically mentioned then "it needs to be stated that it should be in accordance with the SOM and Ministerial Meeting resolutions and legal documents of the CTI-CFF on the establishment of the CTI-CFF Regional Secretariat."

10. Financing and resources

This section was revised as follows:

> ~~*The Regional Secretariat should establish a sustainable funding mechanism to support the EAFM regional coordination mechanism.*~~ *Upon completion of the regional financial architecture for CTI-CFF, the Regional Secretariat would facilitate the access to resources to implement EAFM in the Region. The EAFM TWG requests that the Regional Secretariat establishes a mechanism to support implementation of this regional framework.*

11. Review and Monitoring and Evaluation

The section title was edited as shown above, and the rest of the section was revised as follows:

~~*CT6 countries*~~ *The NCCs should report to the EAFM Technical Working Group annually on progress made toward applying EAFM in their country. The EAFM TWG will report annual regional progress to the SOM in collaboration with CTI Regional Secretariat.*

The workshop was adjourned early at 3:39pm to give participants time to prepare for a dinner program hosted by the Government of Malaysia.

Day4, 25 May 2012

Day 4 had two plenary sessions to discuss (1) national legislation and policy needs to support EAFM and (2) the draft *Coral Triangle Regional EAFM Guidelines* that came out of the March 2012 climate change/EAFM expert workshop. A wrap-up and closing session capped the workshop portion of this EAFM REX3. The following results were expected from these sessions:

1) Guidance on national legislation and policy that would support EAFM.
2) Improved understanding on how the thematic strategies of CTI are integrated.

After the closing session, the 2nd formal CTI EAFM TWG meeting was convened to discuss the week's outputs, finalize and adopt the TWG TOR for endorsement to SOM8, and formally decide on specific actions (work plan and activities) to advance the CTI EAFM process. The minutes of the TWG meeting are included in Annex 7 (see **A7**) and are not discussed further in this section.

SESSION 9. NATIONAL LEGISLATION AND POLICY NEEDS TO SUPPORT EAFM

The first session of the day started at 8:26am. Dr. Pomeroy explained that the session would be mostly an open forum to allow the countries to freely exchange ideas and learn from each other about "how the regional (EAFM) framework could be brought down to and institutionalized at the national level." He told the country delegations, "Under the regional framework, you agreed to set 2017 as the timeline for getting EAFM in your national laws and policies. What do you need to do to make that happen? This would be an important discussion to have here, where you can learn from each other and see from your different perspectives how you can move EAFM forward from the regional level to the national level in each of your own countries."

He also informed the body of a USCTI-supported legislative and policy review in Malaysia, PNG, Philippines, Solomon Islands and Timor-Leste. The review has been completed in the first four countries and is expected to begin soon in Timor-Leste. "The idea is to review national laws and policies and see what is needed to institutional EAFM in each of the CT6," Dr. Pomeroy. He added, "We didn't do one for Indonesia but it seems Indonesia is already moving ahead with a lot of these issues."

NOAA is also supporting EAFM at the local level through an EAFM 101 training program. "NOAA has just finished the training in three locations in Indonesia," Dr. Pomeroy reported. "In this session, we hope to get feedback from the other countries on whether or not they find the training useful, and if they do, we will program it for Year 5 and, moving forward, try to solidify support for EAFM in each country."

Presentations on the findings of the EAFM policy and legislative review in the Philippines and Malaysia, as well as statements from the other countries on their respective legal and policy situations, served as a lead-in to the open forum discussion. Ms Muñoz (Philippines) chaired the session, with Mr. Armada (PI) co-facilitating.

Presentation 1. Malaysian laws and policies in relation to the implementation of EAFM
Presenter: Ms. Hajah Mahyam Mohd Isa (Malaysia)

The legal framework for fisheries management in Malaysia is provided by the Fisheries Act of 1985 and its regulations and other relevant laws. The Department of Fisheries is the lead agency responsible for the development, management and regulation of fishing activities, but there are other agencies involved in the various aspects of the fisheries management system, including: (1) Fisheries Development Authority, which provides infrastructure for fish landing, ecotourism, and licensing for the import and export of fish as well as develop the livelihood for fishers; (2) Department of Environment, which is responsible for controlling and preventing pollution of the marine environment; (3) Marine Department, which approves any fisheries program or operation in waterways to ensure that navigation is not obstructed; (4) Malaysian Maritime Enforcement Agency, which is responsible for carrying out air and maritime surveillance to ensure the security and safety of fishers and resources; and (5) Mangrove Section of the Forestry Department, which controls and manages mangrove forests.

Legislation is created and implemented by the Federal Government, which directly administers the Federal Territories, and the State Governments, which share legislative power with the Federal Government. The States of Sabah and Sarawak have a higher degree of autonomy compared to the peninsular states in areas such as immigration, some control over state revenue and legislative power over land and local government.

Malaysia has several legislations pertinent to the governance and management of fisheries and fishery habitats, but none that makes specific reference to EAFM. These include the following:

1) The Malaysian Constitution, which came into force on 27th August 1957, governs relationship between the Federal and State Governments, has 188 articles and applies to the Federal Government and all 13 States that form the country. It contains no specific reference to EAFM or even general reference to the sustainable management of the environment and biodiversity, but Item 9(d) of the Federal List empowers the Federation to engage in "maritime and estuarine fishing and fisheries, excluding turtles (which are a State matter)."
2) Federal laws, including the (a) Fisheries Act of 1985 as amended (1993); (b) Malaysian Maritime Enforcement Agency Act of 2004; (c) Exclusive Economic Zone Act of 1984; (c) Convention on International Trade in Threatened and Endangered Species (CITES) (2008); (d) Continental Shelf Act of 1996; (e) Malaysia Quarantine and Inspection Services Act of 2011; (f) Environmental Quality Act of 1974; (g) Food Act of 1985; (h) Merchant Shipping Ordinance (MSO) of 1952; (i) Merchant Shipping (Oil Pollution) Act of 1994; (j) National Forestry Act of 1984; (k) Wildlife Protection Act of 2010; (l) National Parks Act of 1980; and (m) Customs Act of 1967 as amended (1988).
3) State laws, including:
    a. In the State of Sabah, (a) Environment Protection Enactment, 2002; (b) Forest Enactment, 1968; (c) Forest (Constitution of Forest Reserves and Amendment) Enactment, 1984; (d) Parks Enactment, 1984; (e) Sabah Biodiversity Enactment, 2000; (f) Inland Fisheries Enactment; and (g) Wildlife Conservation Enactment, 1997.
    b. In the State of Sarawak, (a) Sarawak Forestry Corporation Ordinance, 1995; (b) Wildlife Protection Ordinance, 1998; (c) National Parks and Nature Reserves Ordinance, 1998; (d) Sarawak State Fisheries Ordinance, 2003; (e) Natural Resources and Environment (amendment) Ordinance, 1993; and (f) Sarawak Biodiversity Centre Ordinance, 1997.
    c. In other states, state-level enactments on forestry, state parks (Johor, Pahang, Kelantan, Terengganu, Perlis and Perak); and inland fisheries (Johor, Perak, Pahang, Perlis, Kedah, Terengganu, Kelantan and N. Sembilan.

There are also policies created by the Federal Government and passed down to the Federal Territories and peninsular States. The States of Sabah and Sarawak have greater autonomy can create their own policies. Current policies relevant to fisheries management are as follows:

1) Federal
    a. *National Agro-Food Policy, 2011-2020* covers fisheries and aquaculture. It makes no specific reference to marine biodiversity conservation, but implies it in provisions relating to resource sustainability that covers habitat protection. It seeks to (i) enhance food security; (ii) increase productivity and competitiveness of the sector; (iii) deepen linkages with other sectors; (iv) create new sources of growth for the sector; and (v) conserve and utilize natural resources on a sustainable basis.
    b. *National Biodiversity Policy (NBP), 1998* reviews status of conservation and management of biological diversity in terms of conservation efforts and their effectiveness, sectoral policies concerning biological diversity, current applicable legislative framework and its restrictions, and international cooperation and linkages involving biodiversity conservation and management in Malaysia. It lists 15 strategies for effective management of biological diversity, followed by action plans to achieve each strategy.
    c. National Environment Policy, 2002 seeks the continued economic, social, and cultural progress of Malaysia and enhancement of the quality of life of its people through environmentally sound and sustainable development. Based on eight principles that harmonize economic development goals with environmental concerns, it sets strategies to ensure that the environment remains productive, both ecologically and economically.
    d. *National Policy on Climate Change (NPCC), 2009* seeks to ensure climate-resilient development that fulfills national aspirations for resource sustainability. One of its key principles is to *emphasize the adoption of balanced adaptation and mitigation measures to climate-proof development; and strengthening environmental conservation and promotion of sustainable use of natural resources.*
    e. National Forestry Policy (NFP), 1978, (revised 1993)
    f. National Ecotourism Plan (NEP), 1997
    g. National Physical Plan (NPP), 2006
2) Sabah
    a. Forestry Policy, 2005
    b. Sabah Agricultural Policy (1999-2010)
3) Sarawak
    a. Sarawak State Forestry Policy, 1954

The report concluded that although Malaysia has no policies or legislations focused specifically on EAFM, the elements and principles of EAFM have been adopted in various policies and legislations that are now in effect and being implemented by concerned agencies at the federal and state levels of government in peninsular Malaysia as well as Sabah and Sarawak. A National EAFM Steering Committee composed of policy makers, fisheries managers, legal officers, researchers, academicians and NGO workers has been set up to coordinate fisheries-related activities and address gaps in the implementation of EAFM. A TWG is also being set up to help implement EAFM; it will include researchers, resource managers, NGO workers and stakeholders. National plans of action on sharks, sea turtles, marine mammals, fishing capacity and IUU fishing are currently under review or in development.

Presentation 2. Review of national laws and legislations in the Philippines in relation to EAFM

Presenter: Ms. Jessica Muñoz (Malaysia)

The presentation took excerpts from a report that came out of a review of Philippine policy and legislation that was done in 2011 to support the CTI EAFM process, focusing in particular on the

policy and legislative issues affecting EAFM in the Philippines. Overall, the report concluded that the EAFM approach and its concepts and principles are not new to the Philippines. The country has undertaken many CRM and fisheries management initiatives, and has adopted several policies and laws on sustainable development, so it has applied and/or used in different ways the various EAFM concepts and principles. However, because of policy, legislative and institutional gaps, implementation has not been comprehensive. A key challenge to moving EAFM forward, therefore, is to address the gaps and issues, which include:

1) Policy conflicts (conflicting thrusts, management perspective), for example:
    a. The Agriculture and Fisheries Modernization Act prioritizes agricultural productivity and industrialization while the Fisheries Code (RA 8550) gives premium to conservation. The AFMA law provides for the establishment of Strategic Agriculture and Fisheries Development Zones (SAFDZ) within the identified Network of Protected Areas for Agricultural and Agro-Industrial Development (NPAAAD). Agricultural lands are ecologically fragile and their inclusion into this network will entail their conversion into industrial uses. Areas included in the NPAAD are also areas included under strict protected areas where construction and industrial development are not permitted. Areas for strict conservation and protection include mangrove areas, coral reefs, fish sanctuaries, and habitats of rare and endangered species (RA 9147). Conversions of mangrove areas are strictly prohibited under RA 8550.
    b. Exportation of live reef fish caught from the wild is prohibited under RA 8550, while the provincial ordinance of Palawan allows the gathering of live reef fish under existing ordinances, so there's conflict between a national law and a local government (provincial) ordinance. Palawan is under the Palawan Council for Sustainable Development (PCSD), which is an independent body that governs Palawan. (In the Philippines there are two areas that have a governing body independent of national agencies: Palawan, which is under the PCSD, and Laguna Lake, which is under the Laguna Lake Development Authority.)
    c. There are conflicts between the NIPAS (National Integrated Protected Areas System) Act and the Fisheries Code with respect to the municipal water income of municipalities within protected areas. Fees relating to the use of the protected area as well as fines imposed for violations of protected area laws are supposed to go to the Integrated Protected Areas Fund. The Local Government Code of 1991, however, provides that municipal LGUs shall impose fees on fishing activities within municipal waters. By definition, municipal waters do not include NIPAS, so the jurisdiction of the LGU to impose fees and fines becomes an issue. To address this, DENR and LGU and other stakeholders can include specific provisions in the protected area management plan on how to raise funds or generate income. Another issue related to NIPAS areas is that there is some ambiguity on fishery use rights for NIPAS areas that are not specifically designated as fish sanctuaries. This makes the enforcement of fisheries regulations problematic for local governments.
    d. The existing management paradigm of BFAR is to focus on commodity production as the main strategy for achieving the national goal of food security. Because of this, non-commodity ecosystem services such as the development of ecotourism projects or services are often not considered in program planning. Government agencies must be engaged so they can expand their scale of management objectives and include non-commodity ecosystem services.
    e. RA 8550 can be considered relatively comprehensive, but its management strategies remain to be generally unimplemented. There is still no guideline for implementing ICM as provided under RA 8550, and the law does not provide for a clear strategy on how sustainability will be achieved. Provisions of other fisheries-related laws are also limited and focus on specific concerns. For instance, the Ecological Solid Waste Management Act focuses on waste management; the Oil Pollution Control law

focuses on oil pollution, and the Toxics and Hazardous Substances Act deals with toxic and hazardous wastes.

2) Jurisdictional issues (overlaps and fragmentation) -- DENR (Department of Environment and Natural Resources) and BFAR jurisdictions intersect or overlap on several areas provided under the Fisheries Code, and these four major areas need to be studied in detail: (a) Strategic planning, particularly, on how to implement ICM or EAFM; (b) Standard setting – classification of rare, threatened and endangered species; establishment of catch ceilings and closed seasons in certain waters; aquaculture; pollution; biosafety and biodiversity; (c) area classification – mapping and surveys; migratory paths of fishery species; fisherfolk resettlement area; and (d) monitoring and evaluation – preparation of EIS and issuance of ECC. While there have been joint administrative orders on the implementation of the Wildlife Act, and there is currently a national convergence initiative which includes ICM among its key concerns, more effort is needed to ensure the clear implementation of the aforementioned areas. Attempts to reinforce, harmonize and bridge the gaps of existing legislations were made in the form of additional issuances by administrative bodies and proposed amendments to existing laws.

(These and other gaps and issues, as well as the various Philippine policies and laws relevant to EAFM, are discussed in greater detail in the report, which can be downloaded from the the US CTI Support Program Integration Portal at **www.uscti.org** under the Workspaces Section. To access the portal log in through username: **coral** and password: **triangle** (non-case sensitive).)

Country statements on their respective situations on EAFM policy and legislation

The remaining countries were asked about the policies and legislations they already had that responded to the requirements of EAFM. Following are their statements:

Indonesia

Indonesia has many laws and regulations on conservation and ecosystem management, including a number that specifically address fisheries. In principle, Indonesia also subscribes to the EAFM guidelines contained in the FAO Code of Conduct for Responsible Fisheries, but it has not been easy to translate the guidelines into laws and regulations. Nevertheless, there are many aspects of EAFM that are covered by existing fisheries laws and regulations in Indonesia. For example, the objective of the Fisheries Act is to conserve not only fisheries but also the environmental aspects of fisheries, which can be translated into an ecosystem approach. This law serves as guidance for local governments, and so, although EAFM principles are not literally applied, the spirit of the ecosystem approach is reflected in fisheries management at the local level. As well as being a party to CITES, Indonesia has also enacted laws on conserving living resources and their environment and is trying to formulate more specific regulations to narrow the gap between policy/legislation and what is required to support the effort to implement EAFM. In addition to developing EAFM indicators and the guidelines on their use, the government has also embarked on the development of an observer program that incorporates the ecology of species. The MMAF has adopted resource sustainability as the focus of its effort to bring EAFM into its programs, and this is clearly stipulated in its strategic plan for 2005-14. At the local government level, around the Malacca Strait, there is an ongoing effort to enact a local regulation on close and open seasons for fisheries.

PNG

PNG has several policy and legal instruments that contain various elements of EAFM but there is no single policy or legislation that encompasses all aspects of EAFM. There are 11 fisheries management plans currently in place in the country that came out of one provision of the fisheries management act requiring the preparation of such management plans – this provision can easily apply EAFM planning. Various fisheries management measures are also in place, including fisheries closure. In

addition, PNG has signed the Torres Strait Treaty with Australia to jointly manage the Torres Strait Protected Zone; there are provisions in this treaty that can be translated to applications of EAFM. There is a policy on protected areas but it does not extend to marine areas and needs to be amended, and another policy on flora and fauna that describes a few aspects of EAFM but is not explicit about its application. There is an opportunity to insert the ecosystem approach in at least one of the provisions in the current amendment of the fisheries act that is going to parliament.

Timor-Leste

Timor-Leste does not have any legislations specific to EAFM. All they have currently are general laws and regulations. These include:

1) Decree Law No 6/2004 of 21 April 2004 providing the general basis for the management and regulation of fisheries and aquaculture.
2) Government Decree No 5/2004 of 28 July 2004 as amended by Government Decree No 3/2005 of 6 July 2005 setting down general regulations on fishing.
3) Law No 12/2004 of 29 December 2004 defining crimes related to fisheries.
4) Government Decree No 2/2005 establishing tariffs for fisheries licences, inspection, related activities and services of fisheries.
5) Ministerial Diploma No 01/03/GM/I/2005 defining fishing zones.
6) Ministerial Diploma No 03/05/GM/I/2005 setting allowable percentages of by-catch.
7) Ministerial Diploma No 04/115/GM/IV/2005 issuing list of protected aquatic species.
8) Ministerial Diploma No 05/116/GM/IV/2005 setting minimum sizes of fish species that can be caught.
9) Ministerial Diploma No 06/42/GM/II/2005 prescribing penalties for fisheries infringements.

Timor-Leste as an inter-ministerial decree that incorporates climate change, biodiversity conservation and marine pollution, but it has no clear fisheries component. A national marine policy is being formulated and is expected to be completed by July. There are pilot areas for ICM that are being assisted by PEMSEA, as well as LLMAs in two districts. A draft decree on sustainable fisheries is also being finalized, and fisheries mapping has started with assistance from NOAA.

Solomon Islands

The Solomon Islands has current national laws and provincial ordinances that address various aspects of fisheries. The national fisheries law mandates provincial governments to enact fisheries ordinances that adhere to the provisions of the national fisheries law. There is an environment law that is also ecosystem-based but does not specifically refer to EAFM. CBRM, which has worked well in the Solomon Islands, encompasses every aspect of the managed resource and thus provides some opportunity for EAFM. The ridge-to-reef approach is also gaining momentum.

Open forum

Malaysia – We would like to ask the Philippine delegation about the deployment of *payaos* (a type of FAD) in their waters. Are there regulations to limit the number of *payaos?* I heard that there are too many *payaos* in the Sulu-Sulawesi area.

Philippines – We don't know of any limitation on the number of *payaos*, but there are policies or guidelines on where they can be deployed, what materials can be used and so on.

Dr. Pomeroy – Looking at Objective 1 of the regional framework, you agreed that the countries should formally adopt EAFM in their national legislation or policy by 2017. How do you intend to go about doing that? What are the steps you need to take to make that happen?

Philippines – In the Philippines, the process of legislation can take years. The Fisheries Code, for example, took 10 years to develop and pass through Congress. So we're looking at possibly having the Department of Agriculture issue a department administrative order, or having the President sign an executive order that mandates BFAR and other concerned agencies to adopt EAFM. That would be a much easier and shorter process.

PNG – For us, getting the EAFM policy developed or putting EAFM in legislation is not a complicated process. Getting down to the nuts and bolts of the practical applications of EAFM is another matter, but if we're talking about just the broad adoption of EAFM, it can easily be done and even if it's not done, there are already a lot of policies out there that address EAFM concerns.

Dr. Pomeroy – Would it be useful to draft a template or general policy statement that the countries can use as a foundation to help policy adoption? If we can prepare that for you, is that something that would be useful for you to have?

PNG – A skeleton framework that would guide us in formulating the national policy would be useful.

Indonesia – If the objective is to adopt EAFM as a national policy, we think it would be more useful to go through SOM.

Solomon Islands – I agree with what we are talking about now but we need to have general agreement already at the SOM before we can push EAFM at the national level. In our case, if it goes to the ministry level then becomes a law.

Timor-Leste – We agree that we should put it on the SOM agenda, because we can have a statement here but we still need to bring it back to our country for our leaders to approve.

Regional Secretariat – From the Regional Secretariat's perspective, it's always good for the six countries to have a joint statement that tells the world what the CTI has in terms of policy.

Philippines – For us to bring this down to a national policy or law, we will need to sell this to our leaders. We all do things differently, but we all need to convince our leaders that we need a national EAFM policy. In our case, what we need is a policy statement that can serve as a companion piece to the executive order or department administrative order. The statement is intended for the President or whoever is supposed to sign the order, so it must state very clearly and strongly why the order is important. We don't agree that we need a common statement per se, because if it's a common statement that we need, we already have the regional framework. But perhaps a general policy statement that we can modify and adapt to how we do things in our respective countries would a useful starting point.

TWG Chair – I am not sure that it is going to be useful to have a general statement with a few words or sentences when we already have a regional framework. It's understood that the countries can do whatever they want to do to make it happen at the national level.

Malaysia – As we develop our national ocean policy we are going to have very deliberate discussions about this, so coming out of this workshop, we would like see what areas of discussion we can use. From the policymaker's perspective, they would like to see what

exactly can be achieved from implementing this framework. So from the Malaysian delegation's viewpoint, a policy statement will be very good.

Dr. Brainard – It seems there is tremendous opportunity to inject EAFM into that policy. So how can this group assist the national effort to incorporate EAFM into that policy initiative?

TWG Chair – I see now the utility of having a policy statement, so I agree. But moving forward what is more important is how we operationalize these policies that we agree on.

Mr. Armada – Do all the countries agree to have a policy statement?

(All countries agree.)

Indonesia – Some of us are still vague in terms of what the policy statement would look like. Could you give us some examples?

Dr. Brainard – There is a sample policy statement on ICM from the Philippines.

Mr. Ropeti – A regional policy for all Pacific Islands Country that they can use to develop their own national policy is available on the SPC website (http://spc.int).

Mr. Armada – (to Dr. Pomeroy) Can we start drafting the statement?

Dr. Pomeroy – We can talk about it and see what we can come up with.

TWG Chair -- Are we going to settle on the actual text of the policy statement before we proceed? Do we have time today?

Dr. Pomeroy – Not today – this is just to get feedback from the countries.

SESSION 9a. FINALIZATION OF EAFM REGIONAL FRAMEWORK AND ROADMAP

This open forum session was added in response to a question from Session 9 Co-facilitator (Mr. Armada) on whether or not the countries agreed that livelihood considerations had been adequately addressed in the draft regional framework. There was a suggestion that livelihood considerations should be explicitly stated in either Objective 1 or Objective 2 to more clearly reflect the priorities of CTI. The suggestion was set aside after it was pointed out that the focus of the framework is on RPOA Goal 2, Target 1 on EAFM, which presupposes that livelihood would be an objective (and therefore need not be explicitly stated), and, in addition, the livelihood objective (improved income) is more specifically covered by Target 2.

The plenary agreed on a few final changes to the draft EAFM regional framework and roadmap as shown below. The final revised draft is shown in Annex 11 (see A11).

1) Indonesia noted that the RPOA's emphasis appears to be on legislation first, "but because of our timeline, we suggest that we should put the emphasis on policy (legislation takes longer than policy adoption and may not be achievable within the agreed timeline)." Consequently, Objective 1 was corrected as follows:

   Objective 1: By 2017, the six countries of the CTI should formally adopt EAFM into their national policies and/or legislation ~~and policy~~.

2) Mr. Ropeti pointed out that for most small island communities in the Pacific, resilience may not be an option, so adaptation is the only way to go. "If we want resilience, we look at resilience of species rather than resilience of communities because there's no way to build these communities' resilience," he said. He suggested that Objective 2 should be edited to reflect this reality. The body agreed, and Objective 2 was revised as follows:

Objective 2: By 2015, enhance the adaptation and/or resilience of fishers and coastal communities from the impacts of climate change and ocean acidification on fisheries and marine ecosystems by implementing an EAFM framework.

3) The roadmap was revised to make it consistent with the objectives as follows:

Activities	Timeline	Lead/Support
Develop a regional framework for the implementation of EAFM	May 2012	Secretariat, EAFM-TWG
Initial review and revision of draft regional framework by NCCs	June through July 15, 2012	EAFM-TWG
CT6 NCCs submit comments and suggestions to TWG Chair (Rayner)	July 15	NCCs
Regional framework revised; Chair sends to NCCs for review	August 1	EAFM-TWG
Second review and approval of revised draft regional framework completed by NCCs	September 1	NCCs
Finalize regional framework by TWG	September 15 2012	EAFM-TWG
Presentation of regional framework at SOM8 for approval	Oct 2012	EAFM-TWG/Secretariat
Develop EAFM briefs and information materials	TBD	EAFM-TWG/Secretariat
Dissemination and socialization	TBD	EAFM-TWG, NCC
Establish EAFM coordination mechanism	TBD	EAFM-TWG, NCC
Translated into local languages and dialects	TBD	EAFM-TWG, NCC, USCTI-SP
Institutionalization of programs on EAFM at regional and national levels	2012 onwards	EAFM-TWG, NCC, USCTI-SP
Integration or incorporation into national policies and/or legislations	2015~~5~~7	EAFM-TWG, NCC

SESSION 10. EAFM REGIONAL GUIDELINES AND BEST PRACTICES INCLUDING CCA

This session focused on introducing to the countries the draft *Coral Triangle EAFM Regional Guidelines* (see Annex 12 [A12]) prepared at an expert workshop on climate change and EAFM held in Bohol, Philippines in early March 2012. Mr. Christijanto chaired the session; Dr. Pomeroy presented the guidelines, highlighting the following key points.

1) Prior to the *Coral Triangle EAFM Regional Guidelines*, there were two sets of guidelines created to advise EAFM in Asia and the Pacific Islands Countries. These are (a) the *Ecosystem Approach to Fisheries and Aquaculture: Implementing the FAO Code of Conduct for Responsible Fisheries* written primarily for Asia and (b) the Pacific-centric *A Community-based Ecosystem Approach to Fisheries Management: Guidelines for Pacific Islands Countries* by SPC. Both sets of guidelines focus on participatory management. The difference is that the FAO guidelines

looked at co-management as the structure for doing EAF, and the Pacific guidelines are based on community-based strategies.

2) A new set of guidelines for the Coral Triangle was deemed necessary to provide more detail or explanation specific to the Coral Triangle and identify areas of compatibility and complementarity between the two sets of guidelines.
3) The *Coral Triangle Ecosystem Approach to Fisheries Management Guidelines* uses a Q&A format. These guidelines have been reviewed by regional resource persons, including Dr. Smith, Mr. Ropeti, Dr. Simon Funge-Smith (FAO), Dr. Derek Staples (FAO) and others.
4) The *Introduction* is based on the CTI RPOA and states the reasons for having the EAFM Guidelines, which is "to support achieving [Goal 2 Target 1) of the CTI Regional Plan of Action. These guidelines have been produced to describe the what, why and how of the application of EAFM. [They] are meant to complement two previously developed guidelines on EAFM for the Asia and Pacific region" and provide a little more information on how to implement EAFM in the Coral Triangle.
5) The 2nd section, *What is an ecosystem approach to fisheries management?*, defines EAFM using the definition from the FAO CCRF that the CT6 have signed up to and then provides a little more information on what EAFM is, including some practical information from the Pacific guidelines.
6) The 3rd section answers the question "What are the differences between conventional fisheries management and EAFM?" The basic difference is that EAFM "broadens the perspective beyond seeing a fishery as simply 'fish in the sea, people in boats,' beyond consideration only of commercially important species, and beyond management efforts directed solely at the harvesting process." And one big difference is that EAFM is participatory, while conventional fisheries management is more of a top-down approach.
7) Section 4 talks about the benefits of EAFM over conventional fisheries management.
8) The 5th section explains the relationships between the different marine management approaches, including MPAs, ICM, and marine spatial planning (MSP). This section illustrates how all these approaches relate to the broader EBM.
9) The 6th section gets into more detail on some of the important considerations in shifting to EAFM from conventional fisheries management. For example, under EAFM, management is done on a broader scale. In a lot of ways fisheries management has tended to be based on political jurisdictions. EAFM takes management to a broader, ecosystem level, where there are various scales from local to large marine ecosystem scales. Another important consideration is participation, and this section talks about co-management. One issue that is highlighted is the need for institutional collaboration – fisheries authorities cannot do EAFM by themselves, they need to work with other agencies and integrate with other types of management approaches such as ICM and integrated watershed management. Having clear, outcome-based objectives that are developed with stakeholders is important, and because there is so much to do under EAFM and limited resources to do it, there is a need to prioritize. Also, because EAFM is so broad, it requires a broader set of information and knowledge, moving beyond conventional stock assessment to dealing with a mix of scientific and traditional knowledge. There are issues of cost (EAFM entails higher management costs), resilience, adaptive management, need for capacity building and increased financial resources.
10) Section 7 talks about how to implement EAFM. It highlights the differences between the conventional fisheries management process and the EAFM process, and explains the EAFM process further by illustrating the six-step EAFM process developed by FAO and the 4-step CEAFM process developed for the Pacific Islands Countries. The FAO EAFM process and the SPC CEAFM process are then consolidated into a "new" 13-step EAFM process geared toward the Coral Triangle. This process involves the following steps:
    1. Start-up tasks
        1.1 Define broad goals and strategies,
        1.2 Identify EAFM team and facilitators,
        1.3 Define the scope/boundaries and integrated management unit (IMU),

1.4 Area integration (courtesy calls, meetings and public awareness raising),
1.5 Coordinate with other ministries/agencies and government levels,
1.6 Identify stakeholders and organizations,
1.7 Establish core consultative group,
1.8 Develop a broad workplan
1.9 Determine if there is a legal basis for EAFM

2. Stakeholder engagement
2.1 Assess stakeholder interest and commitment,
2.2Community organizing,
2.3 Awareness raising and empowerment,
2.4 Community meetings
2.5 Social marketing

3. Research and IMU profile (establish spatial frameworks; resource and ecological assessment; socioeconomic assessment; legal and policy assessment; problems, needs and opportunities assessment)

4. Identify and prioritize issues through consultative process

5. Establish goals and objectives, indicators and benchmarks (performance measures)

6. EAFM management plan
6.1 Management actions to meet objectives
6.2 Evaluation and monitoring plan and reports
6.3 Finances
6.4 Communication

7. Conflict management mechanism
8. Plan implementation (management measures, MCS, enforcement)
9. Legal and policy support
10. Monitoring performance
11. Communication, education and outreach
12. Evaluating and adapting/modifying the plan
13. Scaling up

11) Additional details are provided in Section 7 to explain some of the steps in the process, for example, what is involved in identifying the management unit or managed area, what the composition of the core consultative group should be, how to coordinate with different institutions, how to engage stakeholders, what types of research should be done, how to address conflict, what is involved in adaptive management, how monitoring and evaluation should be done, etc.
12) Section 8 talks about how existing fisheries management can be scaled up to EAFM. Dealing with scale and managing at different time and space scales are some of the biggest issues in EAFM.
13) Section 9 explains what is involved in implementing the EAFM plan.
14) The final section provides guidelines on integrating MPAs and climate considerations in EAFM

The EAFM 101 training that NOAA did in Indonesia was based on these guidelines, Dr. Pomeroy noted. He added, "We're now working with SPC and NOAA to prepare a set of guidelines on climate change and ocean acidification to complement the EAFM guidelines. What we will be doing with these guidelines is to add the climate change and ocean acidification layers and explain what additional activities or thought processes are involved in dealing with the impacts of climate change and ocean acidification on fisheries. Also, in Year 5, we will be developing an EAFM 101 training package that the countries can adapt to their needs and use for training."

The following discussion ensued from Dr. Pomeroy's presentation:

Dr. Smith – When we developed the SPC EAFM guidelines, we knew they had to be tested and refined. They've been used for nearly two years now in the Pacific, and we realized that we have not incorporated climate change into those guidelines, so now we want to include climate change, as well as build in the lessons from the last couple of years, and perhaps make it more compatible with the Coral Triangle to improve complementarity.

Dr. Brainard – Megan (Dr. Moews, NOAA), Janna (Dr. Shackeroff, NOAA) and I and a couple of others in the NOAA team worked closely with Bob (Dr. Pomeroy) in developing some EAFM 101 training workshops primarily for folks with the MMAF in Indonesia, working closely with IMACS (Indonesia Marine and Climate Change Support). We had three EAFM 101 workshops with 25-30 participants. The first training involved people working on national fisheries management issues; the second included participants primarily from the provincial and district levels, with about 7 districts represented; and the 3rd training was in Southeast Sulawesi, with participants from six districts and another program in Northern Sulawesi. Each of these trainings lasted 4-5 days and was not lecture-based but based on these guidelines and was very participatory. We presented outlines with many examples from our experiences, but really spent more time in discussions with the participants on how each district or community make their decisions and go about doing things. It was all about stakeholder participation throughout the process, going through many of the steps. It was not possible to go through in one week all aspects of the process (which can take months or years) but we managed to work through some of the steps and as we moved from week to week, we actually modified the direction of the course and managed to make it work better and better. In each of the three cases when we started the training workshops and asking the participants questions, it was clear that they did not feel empowered to do EAFM because they needed a higher authority to give them clear guidance on what to do. But generally by midweek, as they were learning more about what EAFM entails, they saw parts of the process that they could do at their level. By the week's end, they transformed from feeling completely un-empowered to feeling empowered. Generally there was a significant misconception of what EAFM is at the beginning of the workshop, but at the end of it, they realized that there were many things they could do to promote EAFM. Although EAFM is not an overnight process and needs time to happen, they can be agents of change at whatever level they're at and don't have to wait for laws to be pass to do something. We'll see over time whether they'll actually do some of the things that they said they could do. We are trying to do something like the EAFM 101 training in each of the other five countries and we want your guidance or initial thoughts on this. Can we reach some of the senior fisheries managers and ministers through guidance from the regional and national frameworks that are developed and give them a little depth in terms of what it means to actually implement EAFM?

Dr. Moews – If you look at these guidelines, they may seem overwhelming at first but when you go through each of the steps, you will find them really helpful because they break down the process and look at issues one at a time, so you don't have to cover everything all at once. You can prioritize and then figure out which steps you need to do first, which steps are most applicable and which ones you are able to do within your laws and frameworks. At the end of three-week stay in Indonesia, we had people willing to sign up for trainers' training. Hopefully we can standardize this across the CT6 and help bring it to the higher level managers.

Mr. Christijanto – Does anyone have any comments or suggestions on the guidelines?

Indonesia – All of the guidelines were taken from FAO and SPC, so why don't we just refer directly to FAO and SPC, and for these CTI regional guidelines to develop EAFM in the spirit of CTI? For example, talking about the socio-economic, ecological and governance objectives of EAFM, the CTI guidelines should look at the challenges in the region and how existing guidelines, whether FAO or SPC or others, can be adapted to the special features of the region. My point is we cannot just duplicate FAO and SPC, we cannot claim that these are CTI guidelines. We have to make it more specific to CTI.

Mr. Christijanto – So Indonesia wants to see more local and CTI-specific content in the guidelines.

Ms Matillano – Can the guidelines include more specific local content? For example, one valuable experience we have in Palawan is the integration of MPA plans with ancestral domain and ancestral waters.

Dr. Pomeroy – Yes, thank you. That's exactly the kind of input that we want.

Mr. Christijanto – What timeline are you looking at for the submission of comments on the guidelines?

Dr. Pomeroy – We're trying to finish the guidelines before the ICRS in July so the sooner the better. One thing we need to emphasize is that these are regional guidelines and they need to be nationalized to meet your needs. And this is something we can help you with. We can work with you to try and take these and make them into national guidelines. SEAFDEC is one organization we really want to work with.

Ms Pattaratjit Kaewnuratchadasorn (SEAFDEC) – EAF is also one of the approaches that we're trying to implement based on a SEAFDEC resolution and plan of action from last year. We have a regional policy and guidance for our SEAFDEC member-countries, and at the national level our member-countries implement their own activities through their national plans. We have regional guidelines on fisheries co-management and rights-based fisheries. I don't want to confuse you with terminology, but the concept is more or less the same. I believe the SEAFDEC Secretary-General would also like to establish links between CTI and SEAFDEC initiatives.

Dr. Galid – Earlier Dr, Pomeroy mentioned the need to integrate MPAs and climate change and ocean acidification with EAFM. In our experience, sometimes there's disconnect between the different sciences that underpin those management regimes. Is there anything that we can do to resolve such disconnect?

Dr. Brainard – During the EAFM 101 course, we realized that there are all those activities or things to consider in the guidelines that we couldn't go through in any detail, so we did a prioritization exercise. We were quite surprised to see climate change and ocean acidification among the top priorities because we thought they would fall off the list. Generally in our experience fisheries managers are focused on the here and now or next year's catch, and climate change and ocean acidification are something that's farther down the road. So it was shocking for us to see in most cases climate change and ocean acidification being voted among the top 2 of 15 or more topics that they wanted to know more about.

Dr. Moews – One thing that we're doing with Indonesia with the bilateral agreements is working with them on work plans is to see what's needed in the future, for example, training and science for ocean acidification and climate change, or legal assistance. In going through the EAFM 101 training, there were all these different subjects that came up with EAFM so we talked to them about what would be needed for different activities in terms of capacity building. So perhaps when you look through these guidelines, see where you might need some capacity building assistance and talk to the TWG, Dr. Pomeroy, our NOAA team or any of our NGO partners, and if there is anything that we can help with, that would be something that we can look into.

Dr. Galid – (to Dr. Pomeroy) How would these guidelines stand if we put them side by side with the MSP guide of UNESCO (UN Educational, Scientific and Cultural Organization)?

Dr. Pomeroy – MSP is a different type of tool from EAFM. The guidelines complement the MSP guide, which really pertains to managing a confined area.

Dr. Galid – To my mind, if we do EAFM as part of our commitment to CTI, we need to initially identify a particular area where we can focus our resources.

Dr. Pomeroy – In that case, the UNESCO MSP guide has been well used and quite useful.

Dr. Brainard – To answer your earlier question, in the EAFM 101, we spent a half day talking about what the science needs are. We focused on the key questions that science can help address and the first of those is establishing a spatial framework; where the people, resources and habitats are; where management is needed; what the threats are; how resources are changing and why. I think identifying the science that can help support EAFM is an essential part of the process that makes for better decision-making.

Before bringing the session to a close, Mr. Christijanto reminded the country delegates that they needed to review the draft EAFM guidelines through in-country dialogues or consultations with proper authorities, and then send their comments to Dr. Pomeroy by 15 July 2012. Mr. William Jatulan (PI) also relayed to the body a request from the IUU country assessment team for the CT6 countries to submit to Dr. Mooney (NOAA) by 1 June 2012 "an updated participants list from each country so she can disseminate the country assessment reports."

WRAP UP AND CLOSING

In the closing session, host country **Malaysia** thanked the guest countries for their attendance and participation and expressed hope that "more EAFM-related programs and activities will be conducted soon." In response, the guest countries expressed their congratulations and gratitude to the Government of Malaysia for the successful conduct of this EAFM REX3, and offered their statements of commitment or hope for moving the EAFM process forward:

Indonesia said they would "communicate the results of this workshop to our colleagues in our country" and expressed hope that Indonesia and CTI would pursue and achieve the objectives that have been set in the EAFM regional framework.

PNG signified they would "try our best within our capacity to get some policy work done that applies EAFM," and noted that the next major step for all countries would be to communicate the regional framework to national leaders, discuss the regional EAFM guidelines at the national level, and send feedback on the guidelines to the EAFM TWG Chair so they can be completed in time for SOM8 in October 2012.

The **Philippines** would seek support for the framework at the bureau level and "hopefully we can bring this all the way to the top and get the President to sign an executive order adopting the framework." They expressed confidence that, "given time," the countries would be able to operationalize the framework and harness support for EAFM on a national scale as well as at regional level.

The **Solomon Islands**, noting that the countries have refined the regional EAFM policy and legislation framework and agreed to continue to refine the draft regional EAFM guidelines, said they would report to their government on what has been accomplished in this workshop.

Timor-Leste said they hoped to translate the framework to the local language, consult with concerned institutions on the EAFM guidelines, and submit their comments to the EAFM TWG through the Regional Secretariat so that the guidelines could be completed before SOM8.

The workshop portion of this event was officially closed by EAFM TWG Chair Dr. Galid. The draft regional framework was expected to be approved by the TWG for endorsement to SOM8, the Chair said in his closing statement. He exhorted the countries, even as they move toward getting the framework approved by the SOM, to "already think about achieving our objectives and actually incorporating EAFM principles in our national policies and legislation, because these are actions that are within our national capacity and powers to do."

The closing session ended at 3:36pm and was immediately followed by the 2nd formal CTI EAFM TWG meeting, which lasted about two-and-a-half hours, ending at 6:00pm and finally concluding the 4-day CTI EAFM REX3. The minutes are included in this report as Annex 7 (see **A7**).

ANNEXES

A1. AGENDA (as published, does not reflect changes during actual workshop)

Day 1: 22May 2012, Marriott Putrajaya Hotel		Putrajaya, Malaysia
8:00-8:30	**Registration**	MOSTI Malaysia NCC
8:30-9:30	**Opening Ceremony** • Doa Selamat (Opening prayers) • Welcome remarks: Prof. Dr. Noraieni, Malaysia NCC, NOD/MOSTI • Remarks: Maurice Knight, US CTSP • Remarks: Dr. Suseno Sukoyono, Regional Secretariat • Official opening speech: Dato' Ahamad Sabki bin Mahmood, Director General of Fisheries, Malaysia	MOSTI Malaysia NCC
9:30-9:45	BREAK	
9:45-11:00	**Session 1. Overview** • Remarks by TWG Chair • Review of EAFM REX 2 outputs and agreed next steps • EAFM REX 3 objectives and expected outputs • Integrating development of alternative livelihoods into EAFM	*Chair:* Rayner Stuel Galid *Resource persons:* Mr. Nygiel Armada Dr. Robert Pomeroy
11:00-12:30	**Session 2. EAFM Regional Framework** • Presentation (reintroduction) of draft EAFM regional framework • Open forum, discussions and agreement on key elements to be further fleshed out for finalization	Chair: Mr. Etuati Ropeti *Resource person:* Dr. Robert Pomeroy
12:30-13:30	LUNCH	
13:30-15:00	**Session 3. CT countries recent EAFM activities** • Review of Goal 2 Indicators (EAFM) and stock taking of status • Update on EAFM activities and implementation by CT country	*Chair:* Dr. Darmawan *Resource persons:* Mr. Nygiel Armada CT countries representatives
15:00-15:30	BREAK	
15:30-17:30	Session 3. (continued) • Update on EAFM activities and implementation by CT country • Consolidation of EAFM activities and implementation by CT countries	CT countries representatives

Day 2: 23May 2012, Marriott Putrajaya Hotel		Putrajaya, Malaysia
8:00-10:00	**Session 4. Illegal Unreported and Unregulated (IUU) Fishing** • Goals and outputs of the session • Global initiative to deter, reduce and eliminate IUU • Regional initiative to deter, reduce and eliminate IUU • Local compliance and enforcement project	*Chair:* Mr. Lawrence Kissol *Resource persons:* LCDR Gregg Casad Dr. Ann Mooney Mr. Mar Guidote
10:00-10:30	BREAK	
10:30-12:00	Session 4. (Continued) • Breakout group workshop • Group report • Synthesis	*Resource person* Mr. Frank Giaretto
12:00-13:00	LUNCH	
13:30-15:00	**Session 5. Live Reef Food Fish Trade (LRFFT)** • LRFFT overview for the Coral Triangle - Review LRFFT REX/EAFM REX 2 outputs and agreed next steps - Market links as driver of need for EAFM • Case study 1: Ecosystem approach to managing LRFFT in Palawan, Philippines (Indicator 2.4.2) • Case Study 2: LRFFT country cooperation to address trans-boundary issues between Sabah-Malaysia and Palawan-Philippines (Indicator 2.4.1) • Briefing on CTI Live Reef Fish Trade (LRFT) Regional Forum	*Chair:* Mr. Kevin Hiew *Resource persons:* Dr. Geoffrey Muldoon Ms. Mavic Matillano Mr. Irwin Wong Mr. Kevin Hiew Mr. Gopinath Nagaraj
15:00-15:30	BREAK	
15:30-17:00	Session 5. (Continued) • Breakout groups to develop LRFFT strategies and direction for the Coral Triangle including links to EAFM RPOA • CTI Live Reef Fish Trade (LRFFT) Regional Forum Next Steps	*Resource persons:* Dr. Geoffrey Muldoon Mr. Kevin Hiew Mr. Gopinath Nagaraj
17:00-18:00	**Session 6. SSME UNDP GEF LME** • Program background, updates • Lessons learned	*Chair:* Ms. Norasma Dacho *Resource person:* Dr. Annadel Cabanban

Day 3: 24May 2012, Marriott Putrajaya Hotel		Putrajaya, Malaysia
08:00-9:30	**Session 7. Integrating other CTI themes in fisheries** • Integrating Marine Protected Areas, Climate Change and Fisheries • Climate change, ocean acidification and fisheries	*Chair:* Mr. Leban Gisawa *Resource persons:* Dr. Andrew Smith Dr. Rusty Brainard
9:30-9:45	BREAK	
9:45-12:00	**Session 8. EAFM regional framework and roadmap** • Review key elements of EAFM regional framework for legislation and policy • Discussion	*Chair:* Dr. Darmawan *Resource persons:* Dr. Robert Pomeroy Dr. Rusty Brainard Mr. Nygiel Armada
12:00-13:00	BREAK	
13:00-15:00	Session 8. (continued) • Finalization of EAFM regional framework for legislation and policy • Presentation of roadmap template	*Resource persons:* Dr. Robert Pomeroy Dr. Rusty Brainard Mr. Nygiel Armada
15:00-15:30	BREAK	
15:30-16:15	Session 8. (continued) • Drafting of roadmap to implement EAFM regional framework regional framework by breakout groups (mix country representation) • Presentation of roadmap to implement EAFM Regional framework by groups • Open forum • Consolidation of 2012-2020 roadmap to implement EAFM regional framework	*Resource persons:* Dr. Robert Pomeroy Dr. Rusty Brainard
16:15-16:30	Prepare for dinner to be hosted by NCC Malaysia	
16:30	Bus leaves for Kuala Lumpur for dinner	

Day 4: 25May 2012, Marriott Putrajaya Hotel		Putrajaya, Malaysia
08:00-10:00	**Session 9. National legislation and policy needs to support EAFM** • CT countries present inventory and priority of their EAFM policy and legislation • Open forum, discussion and initial agreements on how to move forward as CT initiative • Break out groups (by country) to develop priority list of national policy and legislations to support EAFM	*Chair:* Ms Jessica Muñoz *Resource persons:* Dr. Robert Pomeroy Dr. Rusty Brainard Mr. Nygiel Armada
10:00-10:30	BREAK	
10:30-11:00	• Country presentation of priority policies and legislations to support EAFM	*Chair:* Ms Jessica Muñoz *Facilitators:* Dr. Robert Pomeroy Mr. Nygiel Armada
11:00-12:30	**Session 10. EAFM regional guidelines and best practices including climate change** • Presentation of EAFM regional guidelines and best practices including climate change • Open forum and "next steps" activities	*Chair:* Mr. Hary Christijanto *Resource persons:* Dr. Robert Pomeroy Dr. Rusty Brainard
12:30-15:00	LUNCH AND PRAYER	
15:00-16:30	**Wrap up session** • Country summary • Closing Ceremony	*Facilitators* Dr. Robert Pomeroy Malaysia NCC
16:30-18:00	**Session 11. Meeting of EAFM TWG** • Opening Remarks • Acceptance of the EAFM REX 2 Report • Formalize and establish a joint resolution on Regional Framework for EAFM and Regional Forum • Matters arising • Agreement on "next steps" activities and timelines	*Chair:* Dr. Rayner Galid

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A3. MPA REGIONAL EXCHANGE PARTNERS

A3.1 EAFM Technical Working Group

The EAFM Technical Working Group (TWG) was informally established during the 1st Regional Exchange on EAFM in Cebu, Philippines in 2009. At the start of the Regional Exchange and Policy Workshop on EAFM in Kota Kinabalu, Sabah, Malaysia on 20 September 2011, the TWG was composed of members acting in an ad hoc capacity but its membership and operation were formalized during the first session of the Regional Exchange. At present, the TWG is chaired by Malaysia, with Indonesia and the Philippines acting as Co-chairs. The TWG's functions include the following: 1) Convene regional EAFM TWG (CT6 and partners) meetings; 2) Coordinate and assist in the identification and compilation of thematic issues and relevant consultations; 3) Organize regional exchanges and workshops of EAFM priorities; 4) Communicate with CT6 focal points, experts, partners and other groups on specific themes; and 4) Prepare technical and communication materials on working group matters for distribution to the Regional Secretariat and CT6.

A3.2 Coral Triangle Support Partnership (CTSP)

The Coral Triangle Support Partnership (CTSP) is a five-year project of the US CTI Support Program executed through a cooperative agreement with USAID to the World Wildlife Fund (WWF). This includes a consortium of WWF, Conservation International (CI), and TNC. The CTSP works with government, private sector, and local partners to catalyze transformational change by assisting governments with enabling policy support, strengthening capacity building and institutions, building constituencies, and building decision support capacity.

A3.3 CTI Interim Regional Secretariat

The CTI Interim Regional Secretariat is hosted by the Government of Indonesia and resides in Jakarta. The Secretariat provides long-term, wide ranging support to the CTI governments and partners for implementation of the CTI Regional Plan of Action, particularly through direct support for the various coordination mechanisms. The CTI Regional Secretariat provides coordination, technical, and communications support for CTI-related activities such as the ministerial and senior official meetings, the technical working groups, partners, and the national coordination committees.

A3.4 Ministry of Science, Technology and Innovation (MOSTI)

The Ministry of Science, Technology and Innovation (MOSTI) is the Malaysian ministry in charge of research, telecommunication and information technology. It was created in 1973 by the federal government as the Ministry of Technology, Research and Local Government and was reformed in 1976 as the Ministry of Science, Technology and Environment (MOSTE). Following the cabinet reshuffle of 2004, MOSTE evolved yet again to its current form. The objective behind the creation of the ministry is to improve competitiveness in the fields of science and technology through the generation of knowledge and sustainable development.

A3.5 NCC-Malaysia

NCC-Malaysia, headed by officers of MOSTI, oversees and coordinates the integration and implementation of the Malaysian CTI NPOA including the CTI RPOA. It acts as the national coordination body for Malaysia regarding CTI regional processes and represents the Malaysian government in meetings, conferences, forums, and workshops pertaining to the CTI. It is also tasked to review and endorse policy and project proposals related to NPOA implementation.

A3.6. US CTI Support Program Integrator (PI)

The US CTI Support Program Integrator (PI) provides overarching coordination support to the USG for the implementation of US CTI Support Program. The PI is responsible for coordinating inputs from various US Government (USG) agencies and partners, and for facilitating a unified USG response to the CTI. Activities include facilitating networking and cooperation; promoting information exchange; providing administrative support to USAID's Regional Development Mission for Asia (RDMA); supporting communications and alliance building among USAID, USG, and other donors to harmonize assistance to the CTI; and providing technical support to the CTI mechanisms to facilitate implementation of the CTI Regional and National Plans of Action.

A3.7 US National Oceanic and Atmospheric Administration (NOAA)

NOAA is a federal scientific agency within the USA Department of Commerce focused on the conditions of the oceans and the atmosphere. It is an important partner in the CTI, providing technical support and capacity building for fisheries management, environmental law enforcement, CCA, and MPA networks.

A4: PARTICIPANTS BREAKDOWN BY GENDER AND ORGANIZATION

A.4.1. Gender

Country Delegates		
Male	29	72 percent
Female	11	28 percent
TOTAL	40	100 percent
Partners/Resource Persons		
Male	23	74 percent
Female	8	26 percent
TOTAL	31	100 percent
OVERALL TOTAL		
Male	52	73 percent
Female	19	27 percent
TOTAL	71	100 percent

A4.2.Country Delegates' Institutions

Government	37	92 percent
Academe, NGOs and CBOs	3	8 percent
TOTAL	40	100 percent

A5: LIST OF PRESENTATIONS AND OTHER WORKSHOP MATERIALS

Presentations from the 2ndMPA Regional Exchangecan be viewed electronically at the US CTI Support Program Integration Portal at **www.uscti.org** under the Workspaces Section. Photos from the Exchange can also be viewed at the Document Library Section under the Photo Gallery folder and Events sub-folder. To access the portal log in through username: **coral** and password: **triangle** (non-case sensitive).

1) Review of EAFM REX2 outputs and agreed next steps
   Dr. Robert Pomeroy (CTSP/USCTI EAFM Lead)

2) Livelihoods and EAFM in the Coral Triangle
   Dr. Robert Pomeroy (CTSP/USCTI EAFM Lead)

3) Review of Goal 2 (EAFM) indicators
   Mr. Nygiel Armada (PI)

4) Country reports on EAFM activities and implementation
   a. Indonesia
   b. Malaysia
   c. PNG
   d. Philippines
   e. Solomon Islands
   f. Timor-Leste

5) Global and regional initiatives to deter, reduce and eliminate IUU fishing (including preliminary results of region-wide MCS assessment by NOAA)
   Resource speakers: LCDR Gregg Casad (US Coast Guard/NOAA Fisheries) and Dr. Ann Mooney (NOAA Fisheries)

6) Strengthening local marine resource compliance and community-supported enforcement in the CT: Developing appropriate training programs and curricula
   Resource speaker: Mr. Marlito Guidote (PI)

7) LRFFT -- Overview and Synthesis
   Dr. Geoffrey Muldoon (WWF)

8) Case Study 1 -- LRFFT in Malaysia
   Mr. Irwin Wong (WWF-Malaysia)

9) Case Study 2 -- Ecosystem approach to managing LRFFT in Palawan, Philippines
   Ms Mavic Matillano (WWF-Philippines)

10) Proposal on a CTI Multi-stakeholdersForum on LRFFT (based on a paper by Mr. Gopinath Nagaraj and Mr. Kevin Hiew)
    Mr. Gopinath Nagaraj (FanLi Marine and Consultancy)

11) Sulu-Celebes Sea Sustainable Fisheries Management Project: Updates and lessons learned
    Presenter: Dr. Annadel Cabanban (GEF/UNDP/UNOPS Sulu-Celebes Sea Sustainable Fisheries Management Project)

12) Presentation 1. Malaysian laws and policies in relation to the implementation of EAFM
    Presenter: Ms. Hajah Mahyam Mohd Isa (Malaysia)

A6: MINUTES OF THE 1ST FORMAL CTI EAFM TWG MEETING

Minutes of the CTI EAFM TWG Meeting
Grand Borneo Hotel, Kota Kinabalu, Jakarta, 22 September 2011
(Revised and approved at the 2nd Formal CTI EAFM TWG Meeting, 25 May 2012, Putrajaya, Malaysia)

TWG members and partners present:

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   Mr. Agustiani Widajati (Indonesia)
2) Dr. Rayner Galid (Malaysia)
3) Ms. Norasma Dacho (Malaysia)
4) Dr. Connie Fay Komilus (Malaysia)
5) Dr. Noraieni Haji Mokhtar (Malaysia)
6) Mr. Zainudin Ahmad Zuwairi bin (Malaysia)
7) Mr. Shahruddin Yusof (Malaysia)
8) Ms. Jessica C Muñoz (Philippines)
9) Ms. Luanah Yaman (PNG)
10) Mr. Matheus Eko Rudianto (Regional Secretariat)
11) Dr. Darmawan (Regional Secretariat)
12) Mr. Peter Kenilorea (Solomon Islands)
13) Mr. Aleixo Leonito Amaral (Timor-Leste)
14) Mr. Lino de Jesus Martins (Timor-Leste)
15) Mr. Sebastiao Meni (Timor-Leste)

Others:

16) Dr. Geoffrey Muldoon (USA)
17) Dr. Rusty Brainard (USA)
18) Mr. Maurice Knight (USA)
19) Ms. Megan Moews (USA)
20) Mr. Nygiel Armada (USA)
21) Dr. Robert Pomeroy (USA)
22) Dr. Stacey Tighe (USA

Proceedings:

The meeting was called to order at 5:14pm, with EAFM TWG Vice Chair Dr. Rayner Galid (Malaysia) presiding. This was the first formal meeting of the TWG after it was constituted last 20 September 2011 during the first working session of the CTI Regional Exchange and Policy Workshop on Policy and Legislation. Dr. Stacey Tighe (USA) facilitated the meeting.

1) **Background**. The Chair informed the body that this meeting would be put on record as the inception meeting of the CTI EAFM TWG to formalize the formation of the TWG. He said the proceedings of this meeting would be transcribed into formal minutes.

   a. **Agenda**

   - **Terms of Reference of the CTI EAFM TWG (TOR)**. The first task of this meeting was to review and approve a draft TOR for the TWG. Noting that the TWG officers had already been elected, he suggested, "We can just commit to record what we have decided and transcribe that into the minutes of this meeting."

   - **Regional Progress Report of the TWG**. The group would review the work required to complete two major documents:

- ***Progress report of the TWG for May 2009-May 2011*** – This entailed putting together a list of activities that the CT6 and the CTI have undertaken during the reporting period to support EAFM.

- ***Regional framework on policy and legislation that would support EAFM in the Coral Triangle and Roadmap for its adoption by the SOM and eventual implementation.*** These framework and roadmap would serve as the final outputs of the workshop and would be formalize as deliberated documents from the TWG.

- **CTI-IUU Consolidated Workplan for 2011-2012**. The Chair noted that there was agreement at the informal TWG meeting on 21 September 2011 that "we would at least report what we plan to do by way of a workplan on IUU fishing, which is one of the priorities of the CTI-RPOA."

- **Proposal on a CTI-LRFF Multi-stakeholder forum.** The TWG would deliberate deliberate on a proposal that came out from the 2010 CTI Regional Exchange and Roundtable on Live Reef Food Fish Trade held in Kota Kinabalu for a CTI-LRFF Multi-Stakeholders. The Chair noted that Dr. Geoffrey Muldoon (WWF) would provide a briefing on the proposal to guide and inform the TWG before the group would make a decision on the proposal and deliberate their next steps.

- **Any other business**

2) **Discussion**

a. **CTI EAFM TWG TOR**

- The EAFM TWG decided to adopt, with changes, the TOR developed by the CCA TWG. The revised elements of the TOR are described below:

  - **Membership and structure**

    i. The TWG will be led by a Chair (country) and two Co-chairs (countries).
    ii. The Chair and two Co-chairs will have a term of two years. After the Chair's term, one of the two sitting Co-chairs will be elected as Chair, and a new Co-chair will be chosen to serve a two-year term.
    iii. Each country will have at least one member in the TWG. This TWG member may be the CCA Focal Point in the NCC or a country team member chosen by the TWG as appropriate. At all times, the NCC can send an alternate.
    iv. A partner can sit as a non-voting member of the TWG upon request by the concerned partner and approval by the Chair. A non-voting member, the partner can participate in the discussion of all matters that come to the TWG.
    v. Other staff from a member country may be invited to participate in a TWG meeting upon request by the concerned country and approval by the Chair.

  - **Mode of decision-making**

    i. Consensus is the preferred mode of decision-making but under "certain conditions" the TWG can accept voting by majority. (The specific conditions for voting by majority were not defined during the meeting.)
    ii. Only countries can vote. Each country has one vote.
    iii. In cases where the TWG cannot reach a decision, the Regional Secretariat may be called upon to give an opinion.

  - **Regional Secretariat's Role** was deleted.

  - **Additional Tasks** were deleted

i. Upon the advice of Dr. Darmawan, the group decided to leave out some of the more specific provisions in the CCA TWG TOR. "The idea of having an EAFM TWG is that this working group would be the place to go for all matters related to EAFM, so it is not necessary to be very specific about the tasks," Dr. Darmawan explained. He said the TOR must be broad enough to cover any future changes in the CTI's priorities and strategies with respect to EAFM.

- The Philippines sought clarification on the status of the TWG's membership. Reiterating their interest in being a Co-chair, they noted that although an announcement was made during the plenary that Indonesia would be the Co-chair, the matter had not been put to a vote. The Chair called for a vote, which resulted in the TWG electing both Indonesia and the Philippines as Co-chairs.

b. **Regional Progress Report**

- Dr. Tighe presented the filled-out template and noted that there were "a couple of pieces" missing. She requested the countries to submit their edits by 12:00pm on 23 September 2011 so that the template could be updated, and then "you'd have 95-percent of your template done."

- The partners would be consulted on the draft report.

- The deadline for the submission of the TWG reports to the Regional Secretariat was October 1, 2011.

c. **CTI-IUU Consolidated Workplan for 2011-2012**.

- Apart from an earlier agreement that the countries would identify their respective focal points for IUU, no specific decisions were made on this matter.

d. **Proposal on a CTI-LRFF Multi-stakeholder forum**. Dr. Muldoon presented for the TWG's consideration a draft TOR that came out of the 2010 LRFFT Regional Exchange.

- The proposal was accepted by consensus. Malaysia, PNG, the Philippines, Solomon Islands and Timor-Leste voted in favor without reservations; Indonesia voted yes but reserved the right to "further discuss details as implementation moves forward."

- Upon the advice of Dr. Tighe, the TWG agreed to form small team that would further develop the proposal.
  - The group would be made up of seven members: one member from each country and one member representing WWF.
  - PNG would be the Team Leader.
  - Countries were requested to send to the Team Leader the names and email addresses of their respective representatives.

e. **Other business**

- The TWG tentatively agreed to meet before the SOM7 to discuss any outstanding matters. The decision to meet would be based on the outcome of their review of the minutes of this meeting and developments on the preparation of the regional progress report.

- Dr. Tighe reiterated the PI's commitment to support the TWG.

3) **Adjournment.** There being no other business, the meeting was adjourned at 7:05pm.

A7: MINUTES OF THE 2ND CTI EAFM TWG MEETING

Minutes of CTI EAFM TWG Meeting
Marriott Putrajaya, Putrajaya, Malaysia
25 May 2012

TWG members and partners present:

Members:

1. Dr. Rayner Galid (Malaysia) - Chair
2. Mr. Permana Yudiarso (Indonesia)
3. Ms. Emy Khonifah (Indonesia)
4. Dr. Eny Buchary (Indonesia)
5. Mr. Hary Christijanto (Indonesia)
6. Ms. Norasma Dacho (Malaysia)
7. Ms. Mahyam Mohd. Isa (Malaysia
8. Mr. Hj Shaharuddin Hj Yusof (Malaysia)
9. Ms. Maznah Othman (Malaysia)
10. Mr. Lawrence Kissol, Malaysia)
11. Ms. Jessica C Muñoz (Philippines)
12. Mr. Leban Gisawa (PNG)
13. Mr. Peter Kenilorea (Solomon Islands)
14. Mr. Akasio da Costa (Timor-Leste)
15. Mr. Fidelino Sousa Marques (Timor-Leste)
16. Mr. Henrique Simão Barreto (Timor-Leste)
17. Dr. Darmawan (Regional Secretariat)

Others:

18. Dr. Rusty Brainard (PI, USA)
19. Mr. Maurice Knight (PI, USA)
20. Ms. Megan Moews (PI, USA)
21. Mr. Nygiel Armada (PI, USA)
22. Dr. Robert Pomeroy (PI, USA)
23. Ms. Nives Mattich (PI, USA)
24. Mr. Peter Collier (PI, USA)
25. Mr. Rene Acosta (USAID, USA)
26. Dr. Ann Mooney (NOAA, USA)
27. Mr. Gregg Casad (US Coast Guard, USA)
28. Mr. Frank Giaretto (NOAA, USA)
29. Mr. Nygiel Armada (PI, USA)
30. Ms. Maria Victoria Matillano (WWF-Philippines)
31. Ms. Evelyn Teh (Maritime Institute, Malaysia)
32. Ms. Annadel S. Cabanban (SSME, Philippines)
33. Dr. Geoffrey Muldoon (WWF-USA)

Proceedings:

The meeting was called to order at 3:54pm, with EAFM TWG Chair Dr. Rayner Galid (Malaysia) presiding.

1) Background. The CTI EAFM TWG was constituted last 20 September 2011 during the first working session of the 2nd CTI Regional Exchange (REX2) on EAFM in Kota Kinabalu, Malaysia and held their inception and first formal meeting on the last working session of that REX on 23 September 2011. This 2nd formal meeting was convened at the end of the 3rd CTI EAFM Regional Exchange held in Putrajaya Malaysia last 22-25 May 2012. The Chair, after announcing that observers would be allowed at this meeting, presented the meeting agenda, which was adopted without changes, as follows:

a. Agenda

• **Minutes of the 1st formal CTI-EAFM TWG meeting**. This first order of business would be to review and approve the minutes of the 1st CTI-EAFM formal meeting.

• **Terms of Reference of the CTI EAFM TWG (TOR)**. The 1st formal CTI EAFM TWG meeting adopted revisions of the draft TOR. Under this agenda item, the TWG would review and consider for adoption the full revised text of the TOR.

• **Final report on the 2nd CTI Regional Exchange on EAFM.** This agenda item called for the TWG to act upon the final report on the 2nd CTI EAFM REX held on 20-23 September 2011 in Kota Kinabalu, Malaysia.

• **Interim executive summary of proceedings from the 3rd CTI Regional Exchange on EAFM**. The draft summary, which outlined key outputs of the just concluded 3rd EAFM REX, would be reviewed and considered for adoption by the TWG.

• **Proposal on a CTI Live Reef Food Fish (LRFF) Multi-stakeholder forum**. A proposal for a CTI-LRFF Multi-stakeholder forum would be presented to the TWG for their consideration.

• **4th CTI Regional Exchange on EAFM**. The Chair noted that the 4th CTI Regional Exchange on EAFM was tentatively set for January 2013 and that inputs from the countries would be required to inform and advise the organizers in their planning.

• **Other matters**

2) Discussion

a. Minutes of the 1st formal CTI-EAFM TWG meeting
• The Chair presented to the body the Minutes of the 1st formal CTI-EAFM TWG meeting.

• PNG pointed out that Ms. Luanah Yaman, the PNG delegate, was erroneously identified in the Minutes as a member of the Philippine delegation.

• The Minutes (see A6) was corrected and adopted on motion by the Philippines with no further changes.

b. Terms of Reference of the CTI EAFM TWG (TOR)
• The Chair presented the full text of the TOR of the CTI-EAFM TWG, explaining that while specific provisions of the TOR were discussed during their 1st formal meeting in September 2011, the TWG had yet to review the TOR in its complete form.

• Indonesia pointed out that the document in many instances referred to "MPA" rather than "EAFM" and should be corrected.

• The corrected TOR was adopted as appended (Appendix 1) with no further changes or opposition.

b. Final report on the 2nd CTI Regional Exchange on EAFM
• The Chair presented but did not discuss the final report on the 2nd CTI Regional Exchange on EAFM. Noting that the report had been reviewed by the EAFM Resource Team and TWG, he requested the countries to approve it "as a formality."

• The TWG adopted the report with no changes. (The full text of the report is available at the US CTI Support Program Integration portal at www.uscti.org.)

c. Interim executive summary of proceedings from the 3rd CTI Regional Exchange on EAFM
• The Chair presented a draft "interim executive summary" of proceedings prepared by the Resource Team from the just concluded CTI EAFM REX3. The summary highlighted the key outputs of the four-day event.

• The TWG revised the draft to include, rather than the key outputs, the actions taken by the countries (key results) in response to specific REX3 agenda items.

• The TWG meeting accepted with no further changes and as appended (Appendix 2) the revised "interim executive summary" pending the finalization of the REX3 report.

d. Proposal on a CTI-LRFF Multi-stakeholder forum.
• Upon request by the Chair, Dr. Geoffrey Muldoon (WWF-USA) presented a proposal for the CTI EAFM TWG to convene an Inaugural CT Live Reef Food Fish Trade Forum, as appended (Appendix 3).

• The Philippines noted that the countries needed to be included "in the loop" in discussions with industry on the proposed Forum.

• The TWG agreed to "coordinate through their relevant agencies and industry players for agreement on country participation in the Forum through appropriate arrangements."

• The TWG generally agreed to "participate on an inaugural forum to be convened at a future date to be set." The Solomon Islands, PNG, and Timor-Leste noted that although they did not have significant trade in live reef food fish, they would be interested to participate in the forum as appropriate.

• The TWG agreed they could not act on the proposal "to utilize the Forum to achieve integration of EAFM into relevant sectoral plans and policies" until the Forum is established.

e. 4th CTI Regional Exchange on EAFM (EAFM REX4)
• On request by the Chair, the group suggested the following as possible topics for EAFM REX4 planned for January 2013:

j. Status updates on REX plan and next steps
k. COASTFISH/livelihood program
l. Payment for ecosystem services (PES) initiatives on EAFM (Scaling up to regional level)
m. Case studies on EAFM application at the local level (Assessing how far we have gone in EAFM) – Invite people who are implementing EAFM at the local level.
n. IUU and EAFM (follow-up discussion to REX3, particularly on coordination)
o. Transition and handover of US CTI Support Program to CT6 and partners (institutionalization and progress throughout the Program)
p. LRFT projects that the CT6 are interested in
q. Climate change and ocean acidification
r. Finalization of the EAFM Regional Guidelines

• The Regional Secretariat recommended that REX4 should be moved to a later date to coincide with the annual reporting cycles of the respective countries. The Chair suggested March 2013.

• In response to the Chair's request for proposal for venue, Indonesia offered to host REX4, possibly in Bali.

f. Other matters
• **EAFM indicators.** The Philippines tabled for the TWG's consideration a draft set of indicators for EAFM prepared by the CTI Monitoring and Evaluation Working Group (MEWG), as appended (Appendix 4). The TWG accepted the document for review by its members. Comments shall be sent to the TWG Chair, who shall sign off on the document as a response to the MEWG's request, and the signed document shall be forwarded to the MEWG through the Regional Secretariat.

• **EAFM Regional Guidelines.** The Chair reminded the countries to send their comments on the draft guidelines to the TWG Chair by 15 July 2012.

3) Adjournment. There being no other business, the meeting was adjourned at 6:00pm.

Appendix 1: TOR of the CTI EAFM TWG

Terms of Reference: Coral Triangle Initiative Ecosystem Approach to Fisheries Management (EAFM) Technical Working Group
(Adopted at the 2nd Formal CTI EAFM TWG Meeting, 25 May 2012, Putrajaya, Malaysia)

1. Purpose and Tasks of the EAFM TWG

1.1 The RPOA has five (5) Goals, and technical working groups are created to help facilitate progress on achieving these goals were approved at SOM5, along with a general Terms of Reference for all the TWGs.

1.2 The primary function of the EAFM TWG, as provided by SOM6, is to provide technical inputs and recommendations to the Regional Secretariat and the National Coordinating Committees of the CT6 in achieving the over-arching goals that have been set forth in the RPOA. Generally as approved by the SOM6, the Working Groups shall:

- Convene Working Groups meetings and discussions by creating CT6 team and partners for each theme.
- Coordinate and assist identification, compilation, and consultation of thematic issues in CT6.
- Assist regional exchange and workshop as public consultation.
- Communicate with CT6 focal points, experts, partners, and other groups on specific theme.
- Prepare technical and communication material on WG matters to be distributed to Regional Secretariat and CT countries.

1.3 Specifically, the TWG may also perform the following functions:

- Track and report on the progress on the implementation of the regional priority actions especially pertaining to the EAFM goal and targets
- Guide and review progress on other actions in the RPOA as requested by SOM
- Provide inputs and review of the regional State of the Coral Triangle Report especially the chapters relating to the EAFM goal and targets
- Prepare and review the TWG inputs to the CTI Annual Progress Report
- Link with Learning Networks for collaboration
- Assist in the organization and conduct of regional exchanges and workshop as public consultations
- Review and make inputs on funding proposals, reports and other related CTI activities.

2. Membership and Structure

2.1 Membership and structure:

2.1.1. The TWG will be led by a Chair (country) and two Co-chairs (countries).

2.1.2. The Chair and two Co-chairs will have a term of two years. After the Chair's term, one of the two sitting Co-chairs will be elected as Chair, and a new Co-chair will be chosen to serve a two-year term.

2.1.3. Each country will have at least one member in the TWG. This TWG member may be the EAFM Focal Point in the NCC or a country team member chosen by the TWG as appropriate. At all times, the NCC can send an alternate.

2.1.4. A partner can sit as a non-voting member of the TWG upon request by the concerned partner and approval by the Chair. A non-voting member, the partner can participate in the discussion of all matters that come to the TWG.

2.1.5. Other staff from a member country may be invited to participate in a TWG meeting upon request by the concerned country and approval by the Chair.

2.2 Term of the Chair and Vice Chair: The term of the Chair and Vice Chair is two years starting on 01 January of the year, following the confirmation of the SOM. The TWG will decide the subsequent Chair and Vice Chair.

3. Mode of Decision-making

3.1 Consensus is the preferred mode of decision-making but under "certain conditions", voting by majority. Only CT6 countries can vote. Each country has one vote. In cases where the TWG cannot reach a decision, the Regional Secretariat may be called upon to give an opinion.

4. Program Planning and Coordination

4.1 Regular meetings: The TWG shall conduct at least one meeting annually to prepare the annual report and submit to the SOM. The schedule of the meetings will take into consideration planned CTI regional events and SOM / MM meetings. In addition to the annual meeting, conference calls may be arranged among the TWG focal points to keep the CT6 abreast with the developments on the TWG work plans and progress towards the overall MPA target across the CT6. The Chair shall inform the TWG focal points of the CT6 at least two weeks prior to the date of the conference call and the agenda.

4.2 EAFM TWG Annual Work Plan Preparation and Presentation to SOM: In coordination with and support from the CTI-CFF Regional Secretariat, the TWG shall prepare an annual work plan showing directions and activities leading towards the successful completion of the priority actions set forth by SOM on EAFM goal and targets. The TWG shall encourage the support and participation of the CTI-CFF development partners and other TWGs in drawing the TWG annual work plan.

4.3 Collaboration with other TWGs: The TWG shall coordinate and collaborate with other CTI TWGs and the Regional Secretariat in the planning and conduct of regional priority actions.

4.4 Collaboration with Technical Experts and Supporting Institutions and Organizations: The TWG shall invite and duly recognize the technical experts and supporting institutions (e.g. academe and research organizations) as technical advisers to the TWG. The TWG may seek the help of the Regional Secretariat in putting together a pool of technical advisors which will be called on for specific questions or issues. The specific functions of the technical advisors are:

- To provide technical support in the compilation, review and analysis of data/information and provide decision support regarding issues relating to RPOA EAFM goal and targets
- To provide technical support in the preparation of communication messages including press releases, and other information and communication materials
- To guide the preparation and/ or review concept notes and or funding applications
- To guide the preparation of reports of CTI regional activities concerning EAFM

4.5 Monitoring and Reporting of Progress: The EAFM TWG shall develop an M&E system and indicators to track and report on progress of the EAFM TWG work plan implementation and the achievement of the EAFM goal and targets. The EAFM TWG shall review and provide inputs to the EAFM Section of the State of the Coral Triangle Report (SCTR).

5. Administrative Support

5.1 The administrative support for the TWG shall be provided by the country chairing the TWG. Coordination with other CT6 countries pertaining to schedules of activities, collaboration with other countries and other related activities should be coordinated with the Regional Secretariat.

6. Financial Arrangements

6.1 The TWG will extend assistance in mobilizing financial resources in support to the implementation of the annual work plan as well as in the operations of the TWG.

Appendix 2: Interim Executive Summary of Proceedings from EAFM REX3

Interim Executive Summary of Proceedings from EAFM REX3
(Adopted pending the finalization of the EAFM REX3 report
at the 2nd Formal CTI EAFM Meeting, 25 May 2012, Putrajaya, Malaysia)

The 3rd Coral Triangle Initiative (CTI) Regional Exchange and Policy Workshop on Ecosystem Approach to Fisheries Management (EAFM) was held in Putra Jaya, Malaysia on 22-25 May 2012. It was designed to support the implementation of the CTI Regional Plan of Action (RPOA), in particular as it relates to *Goal 2 Target 1 Regional Action 1,* which reads:

> *Goal 2:* Ecosystem approach to management of fisheries and other marine resources fully applied.
> *Target 1:* Strong legislative, policy and regulatory frameworks in place for achieving an ecosystem approach to fisheries management (EAFM)
> *Regional Action 1:* Collaborate to develop a common regional framework for legislation and policy that would support EAFM; drawing on this, strengthen regional and national legislation, policies, and regulations.

Attended by more than 70 participants from the six CTI countries (CT6) and development partners,this Regional Exchange (REX) was hosted by the Government of Malaysia through its CTI National Coordinating Committee (NCC), with assistance from the US CTI Support Program, in coordination with the CTI CFF Interim Regional Secretariat. The CT6 include Indonesia, Malaysia, Papua New Guinea (PNG), the Philippines, Solomon Islands, and Timor-Leste.It built on the previous regional EAFM regional exchanges conducted in the Philippines and Malaysia.

Objectives

This REX was focused primarily on finalizing a draft of the common regional framework on policy and legislation that was first developed, as prescribed by the CTI RPOA, at the EAFM REX2 in Kota Kinabalu, Malaysia in September 2011. Other objectives included:

- Develop a roadmap for 2012-2020 to implement a "common regional framework for legislation and policy" that would support EAFM
- Discuss national legislation and policy needs to support EAFM
- Revise and refine work plan and activities of the EAFM Technical Working Group to incorporate recent developments
- Present state of knowledge of impacts of climate change and ocean acidification to fisheries and how it can be incorporated into the ecosystem approaches to fisheries management in the Coral Triangle
- Increase capacity to incorporate IUU concerns into the EAFM process and framework
- Consultation on a CTI Live Reef Fish Trade (LRFT) Regional Forum and develop LRFFT strategies and direction for the Coral Triangle

Key Results

- Final draft of a "common regional framework for legislation and policy" that would support EAFM to be sent to SOM as appended
- Roadmap for 2012-2017 to implement a "common regional framework for legislation and policy" that would support EAFM as appended
- The countries presented the respective reports on their progress of EAFM program implementation.
- The countries presented their respective reports on the current policies and legislations having significance to EAFM.
- The TWG meeting agreed that a draft policy statement will serve as starting point for national level discussions on the framework. The Regional Secretariat will come up with initial draft to be circulated to the CT6 for discussion and finalization.
- The countries considered the draft EAFM regional guidelines presented by the Resource Team as appended, for further study and review by the respective countries. The TWG agreed to come up with regional guidelines on EAFM for CTI.
- The countries were requested to identify their training needs in EAFM and communicate these with the Resource Team and agreed that there is a need for training (on EAFM 101). They shall communicate these needs to the US CTI Support Program.

- The outcomes from the breakout session to discuss the CT LRFFT Multi-stakeholder forum were considered in plenary for review and further consideration toward achieving the objectives of establishing/forming the forum as appended.
- The countries considered the presentation on livelihoods in EAFM as appended. The countries agreed to consider or address issues on livelihood within the EAFM framework
- The countries considered the presentation on MPAs, and climate change and ocean acidification to support the integration of these priority CTI themes in fisheries and took note on these matters for further consideration - as appended
- The outcomes from the breakout session to discuss the following: proposed actions toward achieving the following objectives related to combatting IUU: (a) Strengthen regional MCS through the RPOA to promote responsible fishing practices (including combating IUU fishing) in the region; (b) Promote/adapt best practices for MCS within the Coral Triangle; (c) Develop proposal for Regional IUU Information Center; and (d) Analyze markets/trade routes of IUU to/from the Coral Triangle. The list of activities is appended.

Appendix 3: Proposal on the inaugural CT LRFFT forum

Proposal for Consideration by the EAFM TWG to Convene an Inaugural CT Live Reef Food Fish Trade Forum

(Accepted in part[1] at the 2nd Formal CTI EAFM TWG Meeting, 25 May 2012, Putrajaya, Malaysia)

1. ***Acknowledging*** that Regional Action 2 under Target 4 of Goal 2 within the CTI Regional Plan of Action for the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF) calls for "establishment of a multi stakeholder forum (the "Forum") to serve as an informal dialogue and partnership mechanism to share information and to advance a collaborative work programme on Live Reef Fish";

2. A ***Terms of Reference*** was developed for prosecution on behalf of the EAFM TWG to:
   2.1. Identify a suitable Forum to bring together stakeholders in the regional live reef food fish trade (LRFFT);
   2.2. Propose a multilateral legal framework to support the establishment of an appropriate institutional set-up; and
   2.3. Develop an implementation plan for its establishment

3. ***Recognizing that*** the overarching goal of the Forum is to improve sustainability of the live reef food fish trade regionally through dialogue, networking and technology and information transfer between its members and to create a venue for agreement and consensus; and that the;

4. ***Proposed forum model*** needs to consider the economic environment in which the live reef food fish trade operates, the structure of the industry, the diverse ethnic and national backgrounds of its operatives and recognizing there is no immediate or compelling reason for them to come together

5. ***Accepting*** the report tabled at this REX 3 has reviewed potential multi-stakeholder forum models and has proposed to the six (6) member countries for consideration an institutional structure that has national and regional groupings, a hosting institution that can offer regional coverage and has a fisheries business and marketing orientation and a roadmap for implementation; and

6. ***Pursuant*** with Objective 1, Activity 2 of the EAFM Regional Framework that calls for the integration of EAFM into relevant sectoral plans and policies;

7. ***It is recommended*** that the EAFM TWG members agree to
   - Broader inputs being sought from industry and implementing agencies to finalize institutional structure, hosting arrangements and financial support and shared with the TWG members,
   - Coordinate through their relevant agencies, country endorsement of the Forum and agreement on country participation in the Forum through a Memorandum of Understanding between ?? by the 3rd Quarter of 2013
   - Participate on an inaugural forum to be convened at a future date to be set
   - Utilize the Forum to achieve integration of EAFM into relevant sectoral plans and policies through activities such as
     - Formalizing the trans-boundary trade of LRFFT between CT6 countries
     - Engaging with buyers in Hong Kong and China
     - Improved data collection to support science-based decision making
     - Develop industry guidelines and standards

[1] *Note: The TWG agreed:*
- *To "coordinate through their relevant agencies and industry players for agreement on country participation in the Forum through appropriate arrangements."*
- *To "participate on an inaugural forum to be convened at a future date to be set." (The Solomon Islands, PNG, and Timor-Leste noted that although they did not have significant trade in live reef food fish they would be interested to participate as appropriate.)*
- *That they could not act on the proposal "to utilize the Forum to achieve integration of EAFM into relevant sectoral plans and policies" until the Forum is established.*

Appendix 4: Proposed indicators for CTI RPOA Goal 2

Proposed Indicators for CTI RPOA Goal 2: Ecosystem approach to management of fisheries and other marine resources is fully applied

Target 2.1 (Intermediate Result): Strong legislative, policy and regulatory frameworks in place for achieving an ecosystem approach to fisheries management		
#	**Indicator**	**Description**
2.1.1	**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.
2.1.2	**Number of projects and programs to implement EAFM**	To put EAFM policies and regulatory activities into operation, projects and programs have to be designed and implemented. Key to this is the establishment of baseline for key project and program results that will serve as basis for monitoring to see progress in each CT country and for the CT region in general.

Target 2.2 (Intermediate Result): Improved income, livelihoods and food security of people in coastal communities across the region		
#	**Indicator**	**Description**
2.2.1	**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.
2.2.2	**Percent change in poverty and food threshold 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 to measure improvements in poverty and food security thresholds. Reduction of poverty and improvement of food security of people living in coastal communities are 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. (***Note:*** This indicator is linked to SCTR's higher level outcome on food security. If food security can be tracked here, then maybe the SCTR would be able to tackle related higher level outcomes.)

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		
#	**Indicator**	**Description**
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. (***Note:*** Include forum in draft CTI EAFM Regional Framework)
2.3.2	**Change in conservation status of tuna (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 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.
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.

Target 2.4 (Intermediate Result): A more effective management and more sustainable trade in live-reef fish and reef-based ornaments achieved		
#	**Indicator**	**Description**
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.
2.4.2	**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.
2.4.3	**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.
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)**	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.

A8: A Regional Framework for Legislation and Policy to Support an Ecosystem Approach to Fisheries Management (EAFM) in the Coral Triangle Initiative (CTI)

A Regional Framework for Legislation and Policy to Support an Ecosystem Approach to Fisheries Management (EAFM) in the Coral Triangle Initiative (CTI)
Draft version 10/18/2011 containing inputs from the EAFM Resource Team

Note: *See Annex 11 (A11) for Final Revised Draft EAFM Regional Framework (revised draft 5/25/12)*

1. Introduction

On May 15, 2009, the leaders of the six Coral Triangle (CT6) countries (Indonesia, Malaysia, Papua New Guinea, Philippines, Solomon Islands and Timor-Leste) met for a summit in Manado, Indonesia and signed the declaration launching the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF) and endorsed its Regional Plan of Action (RPOA). This event marked the culmination of a process launched by Indonesian President Yudhoyono in 2007 to bring the CT6 countries together in a multilateral partnership to sustain the extraordinary marine and coastal resources of the CT region by addressing crucial issues such as food security, climate change, fisheries and marine biodiversity. Member nations of the Coral Triangle have committed to implement the Five Goals of the CTI Regional (RPOA) and National Plans of Action (NPOA). The five conservation goals laid out in the RPOA present clear goals and targets necessary to achieve local, national and regional outcomes within 10 to 15 years. These five CTI goals are:

- Priority Seascapes Designated and Effectively Managed
- Ecosystem Approach to Fisheries Management (EAFM) and Other Marine Resources Fully Applied
- Marine Protected Areas (MPAs) Established and Effectively Managed
- Climate Change Adaptation Measures Achieved
- Threatened Species Status Improving

Within the broad framework of the CTI RPOA, the CT6 countries have developed national strategies and action plans, as well as working together to identify and implement those actions that require regional cooperation. CTI thus encompasses a distinctively regional approach, building on country-driven priorities and actions. Management of the CTI is led by a Regional Secretariat, based in Indonesia.

This EAFM Regional Framework was developed through a consultative process among members of the EAFM Technical Working Group representing the six CT countries.

2. Mandate for the Framework

Goal 2 of the RPOA is "Ecosystem Approach to Fisheries Management (EAFM) and Other Marine Resources Fully Applied". Under Goal 2, Target 1 is "Strong legislative, policy and regulatory frameworks in place for achieving an ecosystem approach to fisheries management (EAFM)". The RPOA specifically states: "At the national and regional levels, a strong legislative, policy, and regulatory framework is in place for achieving an Ecosystem Approach to Fisheries Management (EAFM), designed to plan, develop and manage fisheries in a manner that addresses the multiple needs and desires of societies, without jeopardizing the options for the future generations to benefit from the full range of goods and services provided by marine ecosystems (in accordance with the UN FAO 2003 definition of EAFM). EAFM is a key approach toward addressing common trans-boundary policy and regulatory concerns, such as (i) over-fishing of shared pelagic fish stocks; (ii) illegal cross-border fishing by small-scale fishers (stimulated by depletion of local coastal fisheries), commercial-scale fishing operations, and trans-shipment; (iii) overcapacity; and (iv) by-catch of protected and endangered species." The RPOA states that Target 1 is to be achieved by 2012.

Regional Action 1 under Goal 2 states "Collaborate to develop a 'common regional framework for legislation and policy' that would support EAFM; drawing on this, strengthen regional and national legislation, policies and regulations." This Regional Action 1 further states, "Jointly develop a 'common framework for legislation and policy' that would support EAFM."

Thus within the RPOA, the operationalization and implementation of EAFM at legislative and policy levels is a mandated in order to achieve tangible and measurable improvements in the health of marine and coastal ecosystems, in the status of fisheries, and in the food security and well-being of the communities which depend upon them.

3. Situational Analysis

The Coral Triangle is the most biologically and economically valuable marine ecosystem on the planet. Covering just three percent of the globe, the region represents more than half of the world's reefs and boasts 76 percent of its known coral species. Sustaining more than 130 million people who rely directly on the marine ecosystems for their livelihoods and food, the marine habitats of the Coral Triangle also contribute an estimated US$2.3 billion each year towards the economies of the region.

While the environmental imperative for preserving this "Amazon of the Sea" is obvious, the pressures of widespread poverty, rapid development, and global demands continue to place enormous strain on the natural marine resources of the Coral Triangle. There is an urgent need for improvements in management over the last 40 years, more than 40% of the reef and mangroves in the region have disappeared, leaving many habitats and species extremely vulnerable to extinction. Overfishing, destructive fishing practices, pollution, and climate change all threaten the future of this precious seascape and its inhabitants.

4. Vision

The vision of this EAFM Regional Framework is:

Tangible and measurable improvements in the health of marine and coastal ecosystems in the Coral Triangle region that support productive fisheries, food security and livelihoods, and the well-being of coastal communities; and conserve the region's marine natural heritage.

5. Rationale and Purpose

The Coral Triangle represents the global epicenter of marine life abundance and diversity. Marine and coastal resources are a cornerstone for the economies and societies in the region. The growing threats to these resources must be taken seriously, and must be acted upon urgently. Many important coastal and pelagic fisheries across the region are depleted, with some fisheries already collapsed or heading toward collapse. Fisheries underpin the livelihoods and food security of millions of inhabitants in the region and are also crucial to export income. The marine habitats (coral reefs, mangroves, sea grasses) which support these fisheries are similarly threatened and degraded. There is a need for a new approach to fisheries management in the region which recognizes the interactions of various components of the marine ecosystem – fish, people, habitats and climate.

In 2003, the United Nations Food and Agriculture Organization (FAO) defined EAFM as "An approach to fisheries management and development that strives to balance diverse societal objectives, by taking into account the knowledge and uncertainties about biotic, abiotic, and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries." The principles and guidelines in the FAO Code of Conduct for Responsible Fisheries (CCRF) support EAFM and state that: "The purpose of the ecosystem approach to fisheries is to plan, develop, and manage fisheries in a manner that addresses the multiple needs and desires of societies without jeopardizing the options for future generations to benefit from the full range of goods and services provided by marine ecosystems."

The increased understanding of the interactions among different components of marine ecosystems such as fish, people, habitats, and climate has led to a growing recognition of the need to manage fisheries in the context of their supporting ecosystems. EAFM looks beyond seeing a fishery as simply 'fish in the sea and people in boats'. EAFM covers the broader marine environment including natural components such as coral reefs and mangroves, and human activities such as fishers, fishing communities, coastal development and tourism. EAFM merges fisheries management, with its focus on providing food and livelihoods for humans, and ecosystem management, with its focus on protecting and conserving ecosystem structure and functions.

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

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

Through this regional framework, the Regional Secretariat and the CT6 countries agree to adopt an Ecosystem Approach to Fisheries Management to manage fisheries and maintain marine ecosystem integrity. This regional framework will support adoption and strengthening of laws, policies, and regulations to help stimulate and achieve an EAFM in order to reverse the decline in fish stocks in the region, as well as maximise opportunities to millions in the region who rely on fish and fisheries for their food, livelihood and well-being. This regional framework will allow the CT6 countries to meet their EAFM responsibilities under the FAO Code of Conduct for Responsible Fisheries (CCRF). It is acknowledged that EAFM is a widely accepted concept and various international instruments support its application. At the international level, the principles of EAFM are reflected mainly in voluntary instruments such as the UN Conference on Environment and Development, the Convention on Biological Diversity, and the 2002 Plan of Implementation of the World Summit on Sustainable Development. These instruments have been adopted by national parties in the CT6 countries.

The potential value and benefits of having an EAFM Regional Framework include, but are not limited to: (i) helping to promote harmonization and effective action for fisheries management across the region; (ii) addressing common trans-boundary concerns such as illegal, unreported and unregulated fishing (IUU), live reef fish trade (LRFT), overfishing and overcapacity, by-catch; (iii) improving coordination, collaboration, capacity and learning for fisheries management across the region; and (iv) expanded scientific research, data management and monitoring.

6. Guiding Principles.

The following two sets of principles serve as a foundation for this EAFM Regional Framework.

The nine guiding principles in Section II of the CTI-RPOA to guide EAFM actions:
Principle #1: CTI should support people-centered biodiversity conservation, sustainable development, poverty reduction and equitable benefit sharing.
Principle #2: CTI should be based on solid science.
Principle #3: CTI should be centered on quantitative goals and timetables adopted by governments at the highest political levels.
Principle #4: CTI should use existing and future forums to promote implementation.
Principle #5: CTI should be aligned with international and regional commitments.
Principle #6: CTI should recognize the trans-boundary nature of some important marine natural resources.
Principle #7: CTI should emphasize priority geographies.
Principle #8: CTI should be inclusive and engage multiple stakeholders.
Principle #9: CTI should recognize the uniqueness, fragility and vulnerability of island ecosystems.

The principles of relevance to an ecosystem approach to fisheries (EAF) as presented by the FAO-CCRF (FAO Technical Guidelines for Responsible Fisheries 4, Supplement 2, Fisheries Management: 2. The ecosystem approach to fisheries. 2003. UNFAO, Rome. Annex 2, pp. 83-87):

> "The various forms of an ecosystem approach or ecosystem-based management described in literature or adopted formally by states refer to a number of inter-related guiding concepts, principles or requirements. Many of these are accepted and agreed; some of the fundamental ones were established formally in the 1982 United Nations Convention of the Law of the Sea. Others have been derived or expanded from that convention. While these may not be new or specific to EAF, they become more relevant under this approach. They include:
> - Avoiding overfishing
> - Ensuring reversibility and rebuilding
> - Minimizing fisheries impact
> - Considering species interactions
> - Ensuring compatibility
> - Applying the precautionary approach
> - Improving human well-being and equity
> - Allocating user rights
> - Promoting sectoral integration

- Broadening stakeholders participation
- Maintaining ecosystem integrity"

7. Objectives and ~~Indicators~~ Activities

Objectives and indicators are used to guide implementation of the EAFM Regional Framework. Objectives are specific, measurable statements of what must be accomplished. An indicator is a unit of information measured over time that will allow the user to measure progress in meeting the objectives.

The EAFM Regional Framework has five objectives and associated indicators.

Objective 1: By 2015, the six countries of the CTI should formally adopt EAFM into their national legislation and policy.
Indicator 1: Incorporation of internationally recognized definitions, principles and elements of EAFM into legislation, policies and regulations.
Indicator 2: Integration of EAFM into relevant sector plans/policies (e.g. fisheries management plans) and cross-sector plans/policies (e.g. integrated coastal management plans, poverty reduction strategies).
Indicator 3: EAFM is institutionalized with government, including (i) building EAFM into corporate and strategic plans of relevant ministries; (ii) requiring the use of EAFM projection models that incorporate an EAFM as part of fishery stock assessment processes; and (iii) establishing fisheries management committees or other appropriate bodies to provide expert advice and analysis on the implementation of EAFM.

Objective 2: By 2015, enhance the resilience of fishers and coastal communities from the impacts of climate change and ocean acidification on fisheries and marine ecosystems by implementing an EAFM framework, policies, regulations and legislation.
Indicator 1: Convene a technical workshop on scientific guidance incorporating climate change and ocean acidification into EAFM framework and prepare a report.
Indicator 2: Regional awareness campaign (public) including (a) CT Atlas, (b) Flyers/brochures, (c) Drama groups/role play, (d) Translation into local language, and (e) Constituency building (political will)
Indicator 3: Ministerial/agency capacity building (for each CT6)
Indicator 4: Provide guidance to assist in developing national policies on climate change and ocean acidification into EAFM

Objective 3: Reduce IUU fishing through greater collaboration and increased enforcement and awareness by 2017.
Indicator 1: Strengthen Regional MCS through the RPOA IUU
Indicator 2: Convene an MCS practitioner workshop (REX)
Indicator 3: Develop Best Practices for MCS within CT
Indicator 4: Develop proposal for Regional IUU information center
Indicator 5: Analysis of markets/trade routes for IUU to/from CT

Objective 4: By 2017, a regional EAFM Human Capacity Development Program is in place to effectively implement EAFM.
Indicator 1: Conduct one pilot study per country to develop fishery specific management plans that incorporates EAFM
Indicator 2: Develop regional EAFM guidelines
Indicator 3: Under the Sulu-Sulawesi Marine Eco-region involving Indonesia, Malaysia and the Philippines (SSME) and the Bismarck-Solomon Seas Eco-region involving PNG and the Solomon Islands (BSSE) Arrangements, conduct a project to develop and incorporate EAFM approaches to Fisheries management
Indicator 4: Incorporate learning from (1) into all existing fisheries management plans.
Indicator 5: Develop a regional EAFM training program
Indicator 6: Conduct EAFM knowledge exchange and training on fisheries prioritization exercise
Indicator 7: Conduct national EAFM prioritization exercise
Indicator 8: Conduct regional analysis on fisheries prioritization exercise

Objective 5: By 2015, establish a regional platform for collection and sharing data and information relevant to EAFM.
Indicator 1: Undertake a scoping exercise on existing data from each country
Indicator 2: Defining what data is needed for EAFM at the regional level
Indicator 3: Establish a data sharing protocol
Indicator 4: Formulate data sharing/collection policies/regulations/laws in support to EAFM

Indicator 5: Socialization, dissemination and absorption of data sharing and collection into relevant government system of each country
Indicator 6: Establish system to address common data/information gap
Indicator 7: Sharing of data/ information among countries
Indicator 8: Management of database

8. Implementation mechanisms, roadmap and timeline

The following roadmap and timeline for implementation of the EAFM Regional Framework has been developed.

Activities	Timeline	Lead/Support
Establishment of technical working group (TWG) for EAFM	Sep 2011	Secretariat, USCTI-SP
EAFM Regional Exchange	Sep 2011	Secretariat, USCTI-SP
Develop a regional framework for the implementation of EAFM	Sep 2011	Secretariat, USCTI-SP
Form writing team/committee; Regional framework draft finalized	Oct 2011	Bob Pomeroy EAFM team
Presentation of REX report to SOM	Oct 2011	Regional Secretariat
Review of draft regional framework by TWG and revisions	Nov or Dec 2011	EAFM-TWG
Review of draft regional framework by NCCs and others and revisions r	Dec 2011	EAFM-TWG
Finalize and approve regional framework by TWG	Feb 2012	EAFM-TWG
Presentation of regional framework at SOM8 for approval	TBD	EAFM-TWG/Secretariat
Develop EAFM briefs and information materials	TBD	EAFM-TWG/Secretariat
Dissemination and socialization	TBD	EAFM-TWG, NCC
Establish EAFM coordination mechanism	TBD	EAFM-TWG, NCC
Translated into local languages and dialects	TBD	EAFM-TWG, NCC, USCTI-SP
Institutionalization of programs on EAFM at regional and national levels	2012 onwards	EAFM-TWG, NCC, USCTI-SP
Integration or incorporation into national policies and legislations	2015	EAFM-TWG, NCC

9. Regional Coordination Mechanism

The CTI Regional Secretariat should establish an EAFM regional coordination mechanism to guide and assist in the implementation of EAFM at regional and national levels. This coordination mechanism will serve to implement the five objectives identified in section 7 above. The regional coordination mechanism should work closely with the UNFAO Regional Office for Asia and Pacific (RAP) and the Secretariat for the Pacific Community (SPC).

10. Financing and resources

The Regional Secretariat should establish a sustainable funding mechanism to support the EAFM regional coordination mechanism.

11. Review/M&E

CT6 countries should report to the EAFM Technical Working Group annually on progress made toward applying EAFM in their country.

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A9: TERMS OF REFERENCE FOR PROPOSED CTI MULTI-STAKEHOLDER FORUM ON LRFFT

Proposed Terms of Reference

- To enable networking among its members for business and social benefit of all parties.
- To engender business and social linkages and mutual bonding between members within each chamber and between various chambers.
- To represent the interest of members in problems and issues facing members of the chamber, whether at the local, national or regional level.
- To develop industry guidelines and standards for acceptance and implementation by members.
- To enable members to optimize their businesses by providing information and intelligence on various aspects of their operation.
- To develop linkages and liaison between the chamber and various consumer groups

Proposed structure:

1) *Local Chamber for LRFF Trade*
    - Constituted at local levels involves various parties
    - Can be new groupings or simply rebranding of existing grouping as chambers
    - Supported by the respective government agencies
    - Government could provide assistance to enable the formation of the Chamber as a legally constituted body under national/local laws.
2) *National Chamber for LRFF Trade*
    - Represent the various local chambers at a national level
    - Some of the more prominent members of each chamber would have the wherewithal to actually play an active role in the national chamber
    - Role of government agencies in supporting and nurturing the formation of the National Chamber
    - Main purpose of the National Chamber
        a. To deal with the National Government on common issues that cannot be resolved at the local level
        b. Be a prerequisite for the formation of and participation in a Regional Chamber.
    - Appropriate legal avenues should be readily available within most jurisdictions
3) *Regional Chamber for LRFF Trade*
    - A body that would represent the various national chambers at a regional level
    - Only the very largest players in the industry are expected to come in as delegates to the Regional Chamber
    - Institutional support - could come from CTI Secretariat or other regional institutions
    - Signing of an MOU by the various Associations

Government must have a role, not leave it entirely to the stakeholders.

1) To spur the formation of the various chambers at the various locations where the industry is aggregated by:
    - Organizing the industry players.
    - Providing and ensuring that the necessary legal/administrative mandate to formalize the establishment and operations of the chambers are in order.
    - Providing necessary manpower, funding and technical support for their formation and operations at least in the initial stages of its formation.

- To provide advice to the chambers on technical, legal and management issues as they arise.

Roadmap

1) Overall Implementation Approach
    - Local chambers (in some other name) have already been established in many countries.
    - The necessary legal/administrative mandates may have to be considered and established to enable the formation of the chambers at the various levels.
    - The development of a regional LRFFT Chamber is going to take time if a sequential approach (Local leading to national leading to regional) approach is taken.
2) Against this backdrop, a concurrent approach where all three levels are promoted simultaneously is recommended. This approach has two dimensions i.e.
    - Those initiatives by management agencies to help organize local and national chambers would parallel efforts to create a regional representative body.
    - That what can be done first gets done first.

      Element 1
        - That current local assemblies/chambers that are already operational within each country are identified and documented.
        - That where such assemblies/chambers are non-existent, then immediate steps are initiated to encourage their formation.
        - Ideally a chamber should be established in each country by the end of 2013.

      Element 2
        - That where current local assemblies/chambers exist, they should be invited for national level meetings in each country.
        - These meeting are to be held by 4th quarter of 2012.

      Element 3
        - That the first regional meeting comprising of all existing national assemblies be held by the 4th quarter of 2013.
        - That an MOU be signed by all existing national assemblies by the second meeting of the regional grouping. This assumes that by then, there will be at a reasonable number of Associations established within the region.
        - That the MOU be left open for accession by other members of the grouping who join in later (due to delays in the process of formation of their national assemblies)

A10: FULL REPORT FROM THE LRFFT BREAKOUT WORKSHOPS (SESSION 5)

General issues:

1) Relationship between wild-capture fisheries and juvenile based grow-out fisheries – There is no law in Malaysia to manage catching of fingerlings.
2) Capture of broodstock for mariculture is not regulated – There is a need to set a limit on the number of grouper and wrasse broodstock taken out of the wild, but livelihood issues but be simultaneously addressed. The Philippines has a law, Solomon Islands does not.
3) Provincial level licensing/accreditation policy for LRFFT (Philippines, Solomon Islands, Malaysia).
4) Data collection has been focused on key target species (coral trout, HHW)
5) Need to involve small fishers and others in forum to discuss rules, regulations and best practices
6) Fishing gear regulation
7) Philippines: No consensus reached on municipal ordinance review, particularly on:
    a. Where to apply quota (production, trade or export)
    b. Size regulations and catch for cage culture and consumption
    c. Seasonal closures – there are provincial regulations but these are not being implemented by the municipality; presence of bad weather controls fishing effort.

Integrating LRFFT considerations in the CTI EAFM regional framework

1) Is there a need for separate policies and plans for LRFT?

    <u>Malaysia, Philippines and Solomon Islands:</u>

    a. See EAFM guidelines to draw in broader support from different stakeholders -- to broaden stakeholders, "generic" or "all-encompassing" management plans will be needed.
    b. Need to focus on both buyers and suppliers when managing trade (export permit conditions)
    c. Certification of source location for fish and cyanide testing as basis for permitting transport to initial point
    d. Permits for export generated at provincial and local level
    e. As signatories to convention, countries need to enforce CITES
    f. Hong Kong, etc, as signatories are required to abide, but need to address other levels
    g. What could be the role of the stakeholder forum?
    h. Need to consider the habitat and EAFM and not just the fishery
    i. Political will is needed as well as compromise
    j. Palawan could be used as an example…to a degree
    k. Sabah could be used as example-- is trying to follow all of the steps of EAFM—not specifically for LRFFT, but addresses it indirectly
    l. Number of cages has doubled

    <u>Indonesia, PNG, Timor-Leste:</u>

    a. The group agrees to have separate policies and plans for reef fisheries
    b. The group agrees to put the LRFT management plan in a broader reef fisheries plan. However, there is a need to provide a list of target or priority reef fisheries species to be covered by the plan

2) What measures are currently in place to address LRFT concerns in your country?

    <u>Malaysia, Philippines and Solomon Islands:</u>

a. Permits in place, but not necessarily effective
b. Need for increased science/knowledge on biology/ecology (e.g. basis of closed season; Why MPA's a specific size?)
c. Fisheries are open access to farmers and fishermen alike, but there is zoning and MPA's, no quota, can rely on community-based management (territorial use rights fisheries or TURFs)
d. Enforcement (lack thereof) is one of the bigger obstacles/challenges

Indonesia, PNG, Timor-Leste:

Country	Measures	Extent
Indonesia	- Clear prohibition on the use of harmful substances to catch LRFF - Establishment community surveillance group - Regulation allowing to export all LRFF in only 5 international airports - MPA zoning regulation - Marine spatial planning	MCS is implemented down to the community level (about 1900 groups)
PNG	- Prohibition of obnoxious substances, size limits, of certain species. It is contained in the plan which is a law in itself.	MCS is done at the community level in view of the communal ownership nature of the nearshore (3 nautical miles)
Timor Leste	- Prohibition on the use of substances	

3) What are your capacity building needs with respect to addressing LRFT issues?

Malaysia, Philippines and Solomon Islands:

a. Training on community enforcement
b. Managers need to be trained **(Training of trainers)**
c. Scientific data needed to manage
d. **Closer partnerships between universities and CT6**
e. **Stakeholder forum could play role in the capacity building exercise**
f. Institutional capacity building

Indonesia, PNG, Timor-Leste:

Country	Priority Capacity Building	Target Agencies
Indonesia	- Certification standards - Management plans - Data collection - Export/catch controls - Enforcement	DG on product processing & marketing DG on capture fisheries , and other relevant agencies DG on product processing & marketing and other DG on quarantine and capture fisheries DG on marine affairs and fisheries surveillance
PNG	Certification standards - Enforcement - Baseline data on target sp	NFA, DEC and Customs, NAQIA LLG, Provincial govt, NFA, DEC LLG, Provincial govt, NFA, DEC, CBOs

Timor Leste	- Collect baseline data - Management plan - Export/catch controls - Enforcement - Certification standards	Department of Fisheries Department of Fisheries Inter-ministerial Department of Fisheries Inter-ministerial

Proposed CTI LRFFT Multi-stakeholder forum:

1) What model do you recommend for the forum?

   Malaysia, Philippines and Solomon Islands:

   a. to embrace heterogeneity,
   b. promote business and networking
   c. mutually beneficial
   d. use of economic sustainability first versus environmental sustainability to get buy in as means to an end—often stakeholders think with how can make money first, but need to be careful not to give perception of cartel
   e. start with building linkages/network before stakeholders will listen

   Indonesia, PNG, Timor-Leste:

   a. In principle, the group supports the model. However, there is a need for more information about the model and to confirm its acceptability with the people involved in the industry.

2) Roadmap

   a. Build on existing efforts/groups formed
   b. Concurrently have regional and national forums while building the local stakeholder orgs
   c. TWG accept convening (need title)
   d. Report to SOM
   e. Sign off at ministerial level???

A11: FINAL REVISED DRAFT EAFM REGIONAL FRAMEWORK

A Regional Framework for Legislation and Policy to Support an Ecosystem Approach to Fisheries Management (EAFM) in the Coral Triangle Initiative (CTI)

Revised draft version: 25 May 2012[2]

12. Introduction

On May 15, 2009, the leaders of the six Coral Triangle (CT6) countries (Indonesia, Malaysia, Papua New Guinea, Philippines, Solomon Islands and Timor-Leste) met for a summit in Manado, Indonesia and signed the declaration launching the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF) and endorsed its Regional Plan of Action (RPOA). This event marked the culmination of a process launched by Indonesian President Yudhoyono in 2007 to bring the CT6 countries together in a multilateral partnership to sustain the extraordinary marine and coastal resources of the CT region by addressing crucial issues such as food security, climate change, fisheries and marine biodiversity. Member nations of the Coral Triangle have committed to implement the Five Goals of the CTI Regional (RPOA) and National Plans of Action (NPOA). The five conservation goals laid out in the RPOA present clear goals and targets necessary to achieve local, national and regional outcomes within 10 to 15 years. These five CTI goals are:

- Priority Seascapes Designated and Effectively Managed
- Ecosystem Approach to Fisheries Management (EAFM) and Other Marine Resources Fully Applied
- Marine Protected Areas (MPAs) Established and Effectively Managed
- Climate Change Adaptation Measures Achieved
- Threatened Species Status Improving

Within the broad framework of the CTI RPOA, the CT6 countries have developed national strategies and action plans, as well as working together to identify and implement those actions that require regional cooperation. CTI thus encompasses a distinctively regional approach, building on country-driven priorities and actions. Management of the CTI is led by a Regional Secretariat, based in Indonesia.

This EAFM Regional Framework was developed through a consultative process among members of the EAFM Technical Working Group representing the six CT countries.

13. Mandate for the Framework

Goal 2 of the RPOA is "Ecosystem Approach to Fisheries Management (EAFM) and Other Marine Resources Fully Applied". Under Goal 2, Target 1 is "Strong legislative, policy and regulatory frameworks in place for achieving an ecosystem approach to fisheries management (EAFM)". The RPOA specifically states: "At the national and regional levels, a strong legislative, policy, and regulatory framework is in place for achieving an Ecosystem Approach to Fisheries

[2] As modified by the CT6 National Delegations at the 3rd EAFM Regional Exchange, Day Four.

Management (EAFM), designed to plan, develop and manage fisheries in a manner that addresses the multiple needs and desires of societies, without jeopardizing the options for the future generations to benefit from the full range of goods and services provided by marine ecosystems (in accordance with the UN FAO 2003 definition of EAFM). EAFM is a key approach toward addressing common trans-boundary policy and regulatory concerns, such as (i) over-fishing of shared pelagic fish stocks; (ii) illegal cross-border fishing by small-scale fishers (stimulated by depletion of local coastal fisheries), commercial-scale fishing operations, and trans-shipment; (iii) overcapacity; and (iv) by-catch of protected and endangered species." The RPOA states that Target 1 is to be achieved by 2012.

[Possible addition of new language on livelihoods:

Relating to Goal 2, Target 2:

Sustainable livelihoods – (coast fish); collaborative fisheries and poverty reduction; improvement of income and livelihoods in coastal communities]

Regional Action 1 under Goal 2 states "Collaborate to develop a 'common regional framework for legislation and policy' that would support EAFM; drawing on this, strengthen regional and national legislation, policies and regulations." This Regional Action 1 further states, "Jointly develop a 'common framework for legislation and policy' that would support EAFM."

Thus within the RPOA, the operationalization and implementation of EAFM at legislative and policy levels is a mandated in order to achieve tangible and measurable improvements in the health of marine and coastal ecosystems, in the status of fisheries, and in the food security and well-being of the communities which depend upon them.

14. Situational Analysis

The Coral Triangle is the most biologically and economically valuable marine ecosystem on the planet. Covering just three percent of the globe, the region represents more than half of the world's reefs and boasts 76 percent of its known coral species. Sustaining more than 130 million people who rely directly on the marine ecosystems for their livelihoods and food, the marine habitats of the Coral Triangle also contribute an estimated US$2.3 billion each year towards the economies of the region.

While the environmental imperative for preserving this "Amazon of the Sea" is obvious, the pressures of widespread poverty, rapid development, and global demands continue to place enormous strain on the natural marine resources of the Coral Triangle. There is an urgent need for improvements in management over the last 40 years, more than 40% of the reef and mangroves in the region have disappeared, leaving many habitats and species extremely vulnerable to extinction. Overfishing, destructive fishing practices, pollution, and climate change and ocean acidification all threaten the future of this precious seascape and its inhabitants.

15. Vision

The vision of this EAFM Regional Framework is:

To sustain and improve the health of marine and coastal ecosystems in the Coral Triangle region that support productive fisheries, food security and livelihoods, and the well-being of coastal communities; and conserve the region's marine natural heritage.

The objectives and activities outlined under this framework are designed to support this vision.

16. Rationale and Purpose

The Coral Triangle represents the global epicenter of marine life abundance and diversity. Marine and coastal resources are a cornerstone for the economies and societies in the region. The growing threats to these resources must be taken seriously, and must be acted upon urgently. Many important coastal and pelagic fisheries across the region are depleted, with some fisheries already collapsed or heading toward collapse. Fisheries underpin the livelihoods and food security of millions of inhabitants in the region and are also crucial to export income. The marine habitats (coral reefs, mangroves, sea grasses) which support these fisheries are similarly threatened and degraded. There is a need for a new approach to fisheries management in the region which recognizes the interactions of various components of the marine ecosystem – fish, people, habitats and climate.

In 2003, the United Nations Food and Agriculture Organization (FAO) defined EAFM as "An approach to fisheries management and development that strives to balance diverse societal objectives, by taking into account the knowledge and uncertainties about biotic, abiotic, and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries." The principles and guidelines in the FAO Code of Conduct for Responsible Fisheries (CCRF) support EAFM and state that: "The purpose of the ecosystem approach to fisheries is to plan, develop, and manage fisheries in a manner that addresses the multiple needs and desires of societies without jeopardizing the options for future generations to benefit from the full range of goods and services provided by marine ecosystems."

The increased understanding of the interactions among different components of marine ecosystems such as fish, people, habitats, and climate has led to a growing recognition of the need to manage fisheries in the context of their supporting ecosystems. EAFM looks beyond seeing a fishery as simply 'fish in the sea and people in boats'. EAFM covers the broader marine environment including natural components such as coral reefs and mangroves, and human activities such as fishers, fishing communities, coastal development and tourism. EAFM merges fisheries management, with its focus on providing food and livelihoods for humans, and ecosystem management, with its focus on protecting and conserving ecosystem structure and functions.

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

Through this regional framework, the CT6 countries agree to adopt an Ecosystem Approach to Fisheries Management to manage fisheries and maintain marine ecosystem integrity. This regional framework will support adoption and strengthening of laws, policies, and regulations to help stimulate and achieve an EAFM in order to reverse the decline in fish stocks in the region, as

well as maximise opportunities to millions in the region who rely on fish and fisheries for their food, livelihood and well-being. This regional framework will allow the CT6 countries to meet their EAFM responsibilities under the FAO Code of Conduct for Responsible Fisheries (CCRF). It is acknowledged that EAFM is a widely accepted concept and various international instruments support its application. At the international level, the principles of EAFM are reflected mainly in voluntary instruments such as the UN Conference on Environment and Development, the Convention on Biological Diversity, and the 2002 Plan of Implementation of the World Summit on Sustainable Development. These instruments have been adopted by national parties in the CT6 countries.

The potential value and benefits of having an EAFM Regional Framework include, but are not limited to: (i) helping to promote harmonization and effective action for fisheries management across the region; (ii) addressing common trans-boundary concerns such as illegal, unreported and unregulated fishing (IUU), live reef fish trade (LRFT), overfishing and overcapacity, by-catch; (iii) improving coordination, collaboration, capacity and learning for fisheries management across the region; and (iv) expanded scientific research, data management and monitoring.

17. Guiding Principles.

This framework is guided by two sets of principles: (1) Section II of the CTI-RPOA, and (2) the FAO 2003 EAF guiding principles. Both sets of principles are presented in Appendix One.

18. Objectives and Indicators

Objectives and indicators are used to guide implementation of the EAFM Regional Framework. Objectives are specific, measurable statements of what must be accomplished. An indicator is a unit of information measured over time that will allow the user to measure progress in meeting the objectives.

The EAFM Regional Framework has five objectives and associated indicators.

Objective 1: By 2017, the six countries of the CTI should formally adopt EAFM into their national policies and/or legislation.

Activity 1: Incorporation of internationally recognized definitions, principles, and elements of EAFM into legislation, policies, and regulations.
Activity 2: Integration of EAFM into relevant sector plans/policies (e.g., live reef food fish trade and fisheries management plans) and cross-sector plans/policies (e.g. sustainable livelihoods, integrated coastal management plans, and poverty reduction strategies).
Activity 3: EAFM is institutionalized with government, including (i) building EAFM into corporate and strategic plans of relevant ministries; and (ii) establishing fisheries advisory committees or other appropriate bodies on a country-by-country basis to provide expert advice and analysis on the implementation of EAFM.

Objective 2: By 2015, enhance the adaptation and/or resilience of fishers and coastal communities from the impacts of climate change and ocean acidification on fisheries and marine ecosystems by implementing an EAFM framework.

Activity 1: Convene a technical workshop on scientific guidance incorporating climate change and ocean acidification into EAFM framework and prepare a report.
Activity 2: Regional awareness campaign (public) including (a) CT Atlas, (b) Flyers/brochures, (c) Drama groups/role play, (d) Translation into local language, and (e) Constituency building (political will)
Activity 3: Ministerial/agency capacity building (for each CT6)
Activity 4: Provide guidance to assist in developing national policies on climate change and ocean acidification into EAFM

Objective 3: By 2017, reduce IUU fishing through greater collaboration and increased enforcement and awareness.

Activity 1: Strengthen Regional MCS through the RPOA IUU
Activity 2: Convene an MCS practitioner workshop (REX)
Activity 3: Adopt Best Practices for MCS within CT
Activity 4: Develop proposal for Regional IUU information centre
Activity 5: Analysis of markets/trade routes for IUU to/from CT

Objective 4: By 2017, a regional EAFM Human Capacity Development Program is in place to effectively implement EAFM.

Activity 1: Conduct one pilot study per country to develop fishery specific management plans that incorporates EAFM
Activity 2: Develop regional EAFM guidelines
Activity 3: Under the Sulu-Sulawesi Marine Eco-region involving Indonesia, Malaysia and the Philippines (SSME) and the Bismarck-Solomon Seas Eco-region involving PNG and the Solomon Islands (BSSE) Arrangements, conduct a project to develop and incorporate EAFM approaches to Fisheries management
Activity 4: Incorporate learning from (1) into all existing fisheries management plans.
Activity 5: Develop a regional EAFM training program
Activity 6: Conduct EAFM knowledge exchange and training on fisheries prioritization exercise
Activity 7: Conduct national EAFM prioritization exercise
Activity 8: Conduct regional analysis on fisheries prioritization exercise

Objective 5: By 2017, establish a regional platform for collection and sharing data and information relevant to EAFM.

Activity 1: Undertake scoping exercises on existing data from each country
Activity 2: Defining what data is needed for EAFM at the regional level
Activity 3: Establish and adapt or maintain data sharing protocols

19. Implementation mechanisms, roadmap and timeline

The following roadmap and timeline for implementation of the EAFM Regional Framework has been developed.

Activities	Timeline	Lead/Support
Develop a regional framework for	May 2012	Secretariat, EAFM-TWG

the implementation of EAFM		
Initial review and revision of draft regional framework by NCCs	June through July 15, 2012	EAFM-TWG
CT6 NCCs submit comments and suggestions to TWG Chair (Rayner)	July 15	NCCs
Regional framework revised; Chair sends to NCCs for review	August 1	EAFM-TWG
Second review and approval of revised draft regional framework completed by NCCs	September 1	NCCs
Finalize regional framework by TWG	September 15 2012	EAFM-TWG
Presentation of regional framework at SOM8 for approval	Oct 2012	EAFM-TWG/Secretariat
Develop EAFM briefs and information materials	TBD	EAFM-TWG/Secretariat
Dissemination and socialization	TBD	EAFM-TWG, NCC
Establish EAFM coordination mechanism	TBD	EAFM-TWG, NCC
Translated into local languages and dialects	TBD	EAFM-TWG, NCC, USCTI-SP
Institutionalization of programs on EAFM at regional and national levels	2012 onwards	EAFM-TWG, NCC, USCTI-SP
Integration or incorporation into national policies and/or legislation	2017	EAFM-TWG, NCC

20. Regional Coordination Mechanism

The CTI EAFM Regional Technical Working Group (TWG), with support from and in collaboration with the CTI Regional Secretariat, shall serve as the coordinating body on EAFM, and be recognized as the platform to provide guidance in the planning, implementation, and communication of EAFM at regional and national levels. The CTI Regional EAFM TWG should work closely (but not exclusively) with projects and entities addressing EAFM in the region.

The connection/coordination of The EAFM TWG will coordinate with the CTI is in accordance with the SOM and Ministerial Meeting resolutions and legal documents on the establishment of the CTI Regional Secretariat.

The regional coordination mechanism will include work closely with the UNFAO Regional Office for Asia and Pacific (RAP) and the Secretariat for the Pacific Community (SPC), and the SSME Sub Committee on Sustainable Fisheries.

21. Financing and resources

Upon completion of the regional financial architecture for CTI-CFF, the Regional Secretariat would facilitate the access to resources to implement EAFM in the Region. The EAFM TWG requests that the Regional Secretariat establishes a mechanism to support implementation of this regional framework.

22. Review and Monitoring and Evaluation

CT6 NCCs should report to the EAFM Technical Working Group annually on progress made toward applying EAFM in their country. The EAFM TWG will report annual regional progress to the SOM in collaboration with CTI Regional Secretariat.

APPENDIX ONE

Two sets of principles serve as the foundation for this EAFM Regional Framework: (1) Section II of the CTI-RPOA, and (2) the FAO 2003 EAF guiding principles.

The nine guiding principles in Section II of the CTI-RPOA to guide EAFM actions are:
Principle #1: CTI should support people-centered biodiversity conservation, sustainable development, poverty reduction and equitable benefit sharing.
Principle #2: CTI should be based on solid science.
Principle #3: CTI should be centered on quantitative goals and timetables adopted by governments at the highest political levels.
Principle #4: CTI should use existing and future forums to promote implementation.
Principle #5: CTI should be aligned with international and regional commitments.
Principle #6: CTI should recognize the trans-boundary nature of some important marine natural resources.
Principle #7: CTI should emphasize priority geographies.
Principle #8: CTI should be inclusive and engage multiple stakeholders.
Principle #9: CTI should recognize the uniqueness, fragility and vulnerability of island ecosystems.

The principles of relevance to an ecosystem approach to fisheries (EAF) as presented by the FAO-CCRF (FAO Technical Guidelines for Responsible Fisheries 4, Supplement 2, Fisheries Management: 2. The ecosystem approach to fisheries. 2003. UNFAO, Rome. Annex 2, pp. 83-87):

> "The various forms of an ecosystem approach or ecosystem-based management described in literature or adopted formally by states refer to a number of inter-related guiding concepts, principles or requirements. Many of these are accepted and agreed; some of the fundamental ones were established formally in the 1982 United Nations Convention of the Law of the Sea. Others have been derived or expanded from that convention. While these may not be new or specific to EAF, they become more relevant under this approach. They include:
> - Avoiding overfishing
> - Ensuring reversibility and rebuilding
> - Minimizing fisheries impact
> - Considering species interactions
> - Ensuring compatibility
> - Applying the precautionary approach
> - Improving human well-being and equity
> - Allocating user rights
> - Promoting sectoral integration
> - Broadening stakeholders participation
> - Maintaining ecosystem integrity"

- Recognizing that the FAO Code of Conduct was written a decade ago, we add the following principle:
- Recognize the impacts of climate change and ocean acidification.

A12: CORAL TRIANGLE REGIONAL ECOSYSTEM APPROACH TO FISHERIES MANAGEMENT GUIDELINES

DRAFT04/12/12RSP[3]

Coral Triangle Regional Ecosystem Approach to Fisheries Management (EAFM) Guidelines

Table of Contents

Glossary of Terms:
CTI: Coral Triangle Initiative
EAFM: Ecosystem approach to fisheries management
EBM: Ecosystem based management
ECB: Environmental education, capacity development, and social communication
FAO: United Nations Food and Agriculture Organization
IMU: Integrated management unit
ICM: Integrated coastal management
IWM: Integrated watershed management
LMMA: Locally managed marine area
MCS: Monitoring, control and surveillance
MPA: Marine protected area
SPC: Secretariat of the Pacific Community
TURF: Territorial use rights in fisheries

1. Introduction

The governments of Indonesia, Malaysia, Papua New Guinea, Philippines, Solomon Islands and Timor-Leste came together in 2007 to form the Coral Triangle Initiative (CTI) on coral reefs, fisheries and food security. CTI is a multi-government partnership that aims to safeguard the marine and coastal resources of the Coral Triangle—the world's richest marine ecosystem. Under the CTI, the six Coral Triangle countries adopted a Regional Plan of Action with five goals: 1) strengthening management of seascapes; 2) *application of ecosystem approach to fisheries management (EAFM)*; 3) developing and strengthening the management of marine protected areas; 4) implementing climate change adaptation measures; and 5) protecting threatened marine species. Target 1 of Goal Two of the CTI Regional Plan of Action is to have "strong legislative, policy and regulatory frameworks in place for achieving an EAFM". The Regional Plan of Action calls for collaboration to "develop a common regional framework for legislation and policy that would support EAFM and strengthen regional and national legislation, policies and regulations". I. MAP OF CORAL TRIANGLE REGION

[3] Draft version presented and distributed for review by the CT6 at the 3rd CTI Regional Exchange on the Implementation of EAFM, 22-25 May 2012, Putrajaya, Malaysia.

These EAFM Regional Guidelines have been developed to support achieving this target of the CTI Regional Plan of Action. These guidelines have been produced to describe the what, why and how of the application of EAFM.

These current guidelines are meant to complement two previously developed guidelines on EAFM for the Asia and Pacific region. The Secretariat of the Pacific Community (SPC) has developed guidelines for Pacific Island countries (A community-based ecosystem approach to fisheries management: Guidelines for Pacific Island Countries. 2010. Noumea, New Caledonia). The FAO Regional Office for Asia and the Pacific has developed guidelines for the Asia-Pacific region (Staples, D and S. Funge-Smith. 2009. Ecosystem approach to fisheries and aquaculture: Implementing the FAO Code of Conduct for Responsible Fisheries. FAO Regional Office for Asia and the Pacific, Bangkok, RAP Publication 2009/11).

2. What is an Ecosystem Approach to Fisheries Management?

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

An increased understanding of the interactions among different components of marine ecosystems, such as the interactions between fish species themselves and the interactions of fish species within the broader ecosystem, has led to a growing recognition of the need to manage fisheries in the context of their supporting ecosystems. EAFM requires the inclusion in the management paradigm of interactions between the core elements of the fishery - fish and fishers – but also the marine habitats (coral reefs, sea grass, mangroves) and environmental/ oceanographic conditions that support these core elements and the governance structures relevant to management. In the Coral Triangle context, this includes taking into account the fragility of the coastal ecosystems (particularly to coral reef systems); the multi-sectoral uses of marine ecosystems; the multi-species and multi-gear nature of the fisheries; and the various needs of coastal communities. Because of their possibility to address multiple objectives, e.g. fisheries management and nature conservation, marine protected areas (MPAs) fit well into an EAFM. 2. FIGURE/PHOTO OF TROPICAL FISH MIXED WITH MARINE HABITATS

The SPC (2010) guidelines state: "An ecosystem can be defined as a relatively self-contained system that contains plants, animals (including humans), micro-organisms and non-living components of the environment as well as the interactions between them."

Managing a resource species or fish stock in isolation from its ecosystem ignores the fact that fish species depend on ecosystems that are being affected by the fishing activity itself and by other human activities and natural events. Fishing can impact the marine ecosystem by: catching unwanted species, causing physical damage to habitats, disrupting food chains and causing changes in biodiversity. Other human activities unrelated to fishing, such as agriculture, forestry and development, can also affect marine ecosystems, including the species that are part of them. The human impacts on ecosystems are increasingly being exacerbated by the effects of climate change and ocean acidification.

It is pointless to address the problem of depleted fish stocks merely by placing controls on fishing activities if the key threats to their recovery are related to other human activities and natural factors that are causing the degradation of ecosystems. For these reasons, fisheries authorities are replacing narrow, target species–based fisheries management with a broader approach that attempts to manage fish stocks as components of marine ecosystems. Under an EAFM, the usual concern of fisheries managers – the sustainability of targeted species – is extended to address the sustainability of ecosystems upon which the fisheries depend, which include people and fish stocks. EAFM addresses both human and ecological well-being and merges two paradigms: protecting and conserving ecosystem structure and functioning; and fisheries management that focuses on providing food, income and livelihoods for humans.

As the objective of EAFM is sustainable management, it implies that non-fisheries activities that impact marine ecosystems must also be managed, even though these activities may be outside of the responsibilities and purview of fisheries authorities. "In addition to fishing, target stocks are affected by non-fishing issues including climate change, coastal development, pollution and the loss of critical habitats by reclamation. Because of the broad issues involved, the full implementation of EAFM requires collaboration and cooperation between communities and a diverse range of government agencies and communities responsible for managing activities that impact marine ecosystems."(SPC 2010)

3. What are the differences between conventional fisheries management and EAFM?

EAFM is based on conventional fisheries management but broadens the perspective beyond seeing a fishery as simply "fish in the sea, people in boats", beyond consideration only of commercially important species, and beyond management efforts directed solely at the harvesting process (Table 1).

Table 1: Conventional fisheries management and EAFM compared

	Conventional Fisheries Management	**EAFM**
Management objectives	Fisheries sector	Multiple fisheries, ecosystem and socioeconomic
Species considered	Target species	All species in ecosystem, particularly those impacted by fishing
Scale	Stock/fishery	Broader ecosystem (spatial and temporal)
Assessment method	Stock assessment	Multispecies and ecosystem assessment/indicators
Data	Scientific	Scientific and traditional knowledge
Governance/management	Top-down; fishery specific	Participatory (e.g. co-management); adaptive management; cooperation and collaboration with communities and other government agencies
Management intervention	Mainly control of fishing	Broad based incentives (including ecosystem tools such as MPAs); livelihoods

Source: FAO 2009

While EAFM provides a broad approach to management, there is still much to be done to make it a reality on the ground/in the water. It should be remembered that EAFM is still an evolving practice and, at least in the near term, EAFM will be an extension of the current approach to fisheries management. The evolution is occurring now such that today's fisheries management captures more of the elements of an ecosystem approach than a decade ago, but less than will be captured a decade from now. It should be noted that EAFM does not replace or diminish the need for conventional fisheries management, such as to control fishing mortality on target and by-catch species to sustain fisheries, nor the need to control fishing capacity in order to avoid economic waste. However, moving to EAFM will require fisheries managers to shift how they think about and undertake fisheries management to a much broader and holistic approach as shown in Table 1.

4. What are the benefits of EAFM over conventional fisheries management?

EAFM provides a broader framework for management of marine resources that can be used to achieve sustainable development through improved ecological well-being (e.g. habitat protection and restoration, pollution reduction and waste management, sustainable harvesting of fishery resources) and human well-being (e.g. food security, sustainable livelihoods, equitably distributed wealth). EAFM can be implemented at different scales and can be customized to allow a prioritization process of major issues and setting of objectives. The approach inherently incorporates the impacts of fisheries on the ecosystem such that its effects on the predator-prey balance, collateral damage on other species (by catch) and habitats, as well as the reproductive potential of the harvestable species are evaluated and negative results prevented. However, EAFM will be more costly to implement and require more information and data and improved levels of decision-making and coordination, stakeholder (individuals, groups or organizations who are in

one way or another interested, involved or affected (positively or negatively)by a particular action) participation and governance than conventional fisheries management.

5. How does EAFM differ from other marine management approaches?

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

A distinction can be made between these approaches. Multi-sectoral approaches, such as EBM and ICM, deal with goals for management that include all sectors such as fisheries, mining, shipping, and tourism. Sectoral approaches, such as EAFM, focus on managing a given sector, such as fisheries, in a way that is consistent with a wider ecosystem well-being focus (both natural and human). In line with the principles of EAFM, designated management areas such as MPAs address multiple objectives, covering both fisheries management and conservation objectives. 3. FIGURE SHOWING ONE SECTOR (FISHERIES) AND MULTI-SECTOR (FISHERIES, MINING, SHIPPING, TOURISM)

When EAFM, which focuses primarily on aquatic resources, is linked with ICM, which focuses primarily on terrestrial resources, it provides for broader marine and coastal ecosystem based management (EBM). EBM focuses on managing whole ecosystems; integrating all sectors that impact, or are impacted by, the ecosystem; inter-sectoral coordination; and managing with ecosystem functioning in mind. 4. EBM links multiple resource management approaches

With an increasing wider range of marine and ocean governance approaches being utilized (e.g. marine spatial planning, large marine ecosystems, ecosystem-based management, integrated ocean management) that deal with the management of several sectors, EAFM may be one approach "nested" within these broader approaches. All of these approaches recognize that management must deal with broad ecosystem management (including both natural and human components) and try to optimize the social and economic benefits of that activity. In addition, other area or spatial management approaches, such as MPAs, territorial use rights in fisheries (TURFs), and locally managed marine areas (LMMA), may be used as a conservation and/or fisheries management tool and be "nested" within the EAFM management unit.

6. What are important considerations in moving to EAFM?

The shift to EAFM from conventional fisheries management requires consideration of a number of issues and challenges:

- *Scale* - The management system will need to approach EAFM implementation based on the scale needed to address the issues for effective implementation. This certainly has implications for the linkage between decisions about boundaries (for ecosystems versus for jurisdictions) and about scale (how large should be the area considered in an EAFM process, to be compatible with both the ecosystem realities and the management regime in place?). This in turn implies a need – whatever the degree of management centralization – for mechanisms to scale-up or scale-down management decision making. There will also be questions of the efficiency of the management arrangement – which may interact in rather complex ways with the level of centralization and the level of EAFM implementation. The spatial extent of the ecosystem determines which species, other ecosystem attributes, and human activities are the focus of EAFM. The EAFM faces the challenge of defining the relevant "fish stock" to manage, i.e., setting the right boundaries, as well as deciding on the appropriate scale and scope within which to manage. EAFM must be implemented at the multiple spatial and temporal scales that reflect the natural hierarchical organization of ecosystems (e.g., from large marine ecosystems such as the South China Sea in East Asia to small estuaries such as San Miguel Bay in the Philippines). EAFM is by its very nature about interactions: those between land and sea, people and the environment; among stakeholders, managers, and scientists; and among different spatial and temporal scales. There is a need to develop flexible, responsive management structures that allow for integration of science, management, and stakeholder involvement across different scales. 5. FIGURE SHOWING

DIFFERENT SCALES (BOAT, HOUSEHOLD, COMMUNITY, MULTIPLE COMMUNITIES, PROVINCE, FISHERY, ECOSYSTEM)

- *Participation* - Broadening stakeholder participation in the management process is a central principle of EAFM. Co-management is an approach to implement EAFM with stakeholder participation. Cooperative management or co-management can be defined as a partnership arrangement in which the community of local resource users (fishers) and government share the responsibility and authority for the management.
- *Institutional coordination and cooperation* – Many of the issues threatening marine ecosystems are outside of the mandate of fisheries agencies and require the involvement of wider expertise and that the actions of different government agencies are harmonized (share data and information; support local implementation; harmonized work plans and budgets) with one another and are consistent with agreed EAFM goals and policies. Management decisions that are matched to the spatial scale of the ecosystem, to the programs for monitoring all desired ecosystem attributes, and to the relevant management authorities (national to local) are likely to be more successful in achieving ecosystem objectives. EAFM should be integrated with other sectoral and environmental management approaches such as integrated coastal management (ICM) and integrated watershed management (IWM) that address terrestrial and terrestrial/sea management. 6. FIGURE/PHOTO SHOWING DIFFERENT GOVERNMENT MINISTRIES/AGENCIES WORKING TOGETHER
- *Clear outcome-based objectives* – The manager must develop, with the stakeholders, a set of objectives that are internally consistent and acceptable through compromise with the stakeholders. There will be difficulties in reconciling the competing objectives of multiple stakeholders utilizing resources from the same ecosystem.
- *Prioritization* - Due to the often limited resources of fisheries agencies, applying EAFM requires a process of prioritization to identify which areas need more attention or pose greater environmental risk.
- *Policy and legislation* – EAFM is not frequently an integral part of national fisheries policy and legislation. This leads to many deficiencies in current fishery management regimes, such as (i) weak cross-sectoral consultation and cooperation and (ii) the failure to consider, or a legal inability to act on external influences such as pollution and habitat deterioration. Such problems need to be addressed and corrected where required. Especially in the case of national policies and laws, EAFM may require that existing legal instruments and the practices of other sectors that interact with or impact on fisheries need to be considered, and that adjustments to those instruments and practices pertaining to other sectors be made. A supportive EAFM policy framework should include harmonized national and local legislation and policies.
- *Knowledge and information* – EAFM involves a broadening of conventional fisheries management practices and, as such, a broadening of the knowledge and information needs for good management. However, while new knowledge and information are needed, EAFM is based on the best available knowledge and information. Lack of scientific data and certainty should not be used as an excuse not to act. Knowledge and information should not be narrowly understood as simply written scientific material but should include the wealth of local and traditional knowledge of fishers that may not be in written form but constitutes the knowledge basis for a fisher and the ways in which they operate. All sources, be they scientific or local/traditional, should be verified or validated wherever possible, not just used with blind acceptance. Complex models are not necessary, as even simple models of ecosystem function can establish a plausible subset of potential outcomes.
- *Precautionary approach* - The precautionary approach involves the application of prudent foresight to deal with uncertainties in fisheries systems. It implies the explicit consideration of possible undesirable outcomes and the inclusion of appropriate contingency and mitigation measures. Undesirable outcomes include not only overexploitation of fishery resources and negative environmental impacts but also unacceptable social and economic outcomes. An important component of the precautionary approach is to establish legal and social frameworks including the control of access to fisheries. Because uncertainty can be expected to be greater when

widening fisheries management to include ecosystem considerations, the precautionary approach gains even greater importance within EAFM.

- *Costs* - There will be higher management costs to cover the collection of more data and information, additional planning and consultative decision-making, staff costs, and a wider scope in monitoring, control and surveillance (MCS) and enforcement. The question of 'who pays?' for these higher management activities will be an important consideration.
- *Management for resilience* - People in fishing communities are vulnerable to the compounding effects of stresses within fishery systems, as well as to ecological and social forces outside their domain of influence. Building the adaptive capacity of ecosystems and of people is, therefore, central to realizing the conservation, social and economic potential of fisheries (Andrew and Evans 2011). When integrated within the EAFM's overarching legal and policy environment, resilience approaches have the potential to profoundly improve fisheries management. A resilient fishery may be defined as one that 'absorbs stress and reorganizes itself following disturbance, while still delivering ecosystem goods and services derived from the fishery'.
- *Adaptive management* - Due to data and information limitations in undertaking EAFM, adaptive management will be widely used. Adaptive management differs from the conventional practice of fisheries management by emphasizing the importance of feedback from the fishery in shaping management decisions, followed by further systematic experimentation to shape subsequent management decisions, and so on. Adaptive management is the process of testing assumptions in order to learn and adapt future action. The intention of using this test-learn-adapt, or 'learning by doing' approach is that results of testing and learning allow decision-makers and managers to adapt and make decisions regarding future management in a timely and informed manner. Adaptive management is an experimental process that tests hypotheses about management interventions and/or policies. 7. FIGURE OF ADAPTIVE MANAGEMENT
- *Legal instruments* - EAFM is a widely accepted concept and various international instruments support its application. At the international level, the principles of EAFM are reflected mainly in voluntary instruments such as the UN Conference on Environment and Development, the Convention on Biological Diversity, the FAO Code of Conduct for Responsible Fisheries, and the 2002 Plan of Implementation of the World Summit on Sustainable Development. These instruments have been adopted by national parties in the CT6 countries.
- *Capacity building/development* - There may be inadequate capacity within management agencies and stakeholder groups to deal with the additional demands of EAFM and to understand the benefits of healthy marine ecosystems. Human resources are a critical factor and include lack of capacity as well as difficulties of retaining good staff in the government sector. Capacity development includes understanding what EAFM and co-management is and how to organize and participate in it, communicating with other stakeholders, dealing with administrative and business matters, and participating in negotiations. Capacity is a continuing process and is the power of an individual or organization to engage with management. It should be noted that over time, the government fisheries agencies may need to revise their structures and staff skill-sets to be better aligned with implementing EAFM.
- *Financial resources* - EAFM requires substantial financial resources to support the program. Funds need to be available to support various operations and facilities related to planning, implementation, coordination, monitoring and enforcement, among others. Funding, especially sufficient, timely and sustained funding (sustainable financing) is critical to the sustainability of the EAFM program but should not be seen as a reason to not begin to shift to EAFM. A range of funding sources should be considered including payment for ecosystem services or corporate social responsibility (by commercial sector) to contribute to fisheries management.

7. How do we implement EAFM?

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

environment agency or marine park authority; and levels of government, such as local government and community organizations and other stakeholder groups.

The practical implementation of the EAFM typically includes a systematic process of data collection, planning, implementation, monitoring and review. At the heart of the EAFM process is an integrated management plan. EAFM includes stakeholder involvement throughout the management process, management that is adaptive, and objectives relevant to the management unit that are broad in scope. 8. FIGURE/PHOTO OF A MANAGEMENT PLAN

7.1 The conventional fisheries management planning process.

The conventional fisheries management planning process has as its focus the assessment and management of the stock of the target species. Fisheries management plans may be developed for the fishery as a whole and/or for specific fish stocks. The focus of the plan is the target fish stock with no or limited consideration to the sustainable use of the whole ecosystem. In some cases, as in the United States, fisheries management plans may include an appraisal of essential fish habitat.

The conventional fisheries management planning process involves several phases and stages (Hindson et al. 2005):

Phase I. Preparation for developing the management plan
- Stage 1: Define
- Stage 2: Stakeholder analysis
- Stage 3: Situation analysis
- Stage 4: Management approach

Phase II. Developing the management plan
- Stage 5: Purpose
- Stage 6: Goals
- Stage 7: Objectives
- Stage 8: Management standards

Phase III. Developing the management plan
- Stage 9: Management measures
- Stage 10: Control rules
- Stage 11: Resources

Phase IV. Planning to implement, evaluate and review the management plan
- Stage12: Implementation
- Stage 13: Monitoring
- Stage 14: Reviewing

7.2 How does the conventional fisheries management planning process differ from the EAFM planning process?

FAO (2003, 2009) and SPC (2010) provide guidance for the practical development, modification and implementation of an EAFM plan. As stated, at the heart of the EAFM process is an integrated management plan which is an essential tool in implementing the approach.

The FAO (2003, 2009) utilizes a Management Planning and Implementation Cycle that recognizes a series of steps in the EAF co-management planning process, beginning with a scoping phase and running through the conventional steps of setting objectives, making rules, implementing management and monitoring and assessing outcomes. The identification of issues in a fishery should include ecological well-being (retained species, non-retained species, fishing effects, ecosystem effects), human well-being (livelihoods, safety and health, post-harvest, interactions with other sectors) and ability to achieve/governance (institutional, consultation, external drivers) considerations. The process makes clear the need to consult with stakeholders at all phases of the cycle. 9. FAO2009 PAGE17 FIGURE8

The FAO EAF co-management planning process follows six steps:

1. Scope the fishery

1.1 Identify the fishery characteristics, its area and stakeholders
1.2 Identify the fisheries management unit
1.3 Identify fisheries management committee

2. Identify the issues in the fishery
   2.1 Broad issues and policy goals
   2.2 Break down broad issues into more specific issues
3. Prioritize the issues through risk assessment
4. Set objectives, indicators and benchmarks (performance measures)
   4.1 Set broad objectives
   4.2 Develop operational objectives from broad objectives
5. Select management actions to meet the objectives
6. Monitor, assess, report and review

The SPC (2010) process starts with a request from a local community to the promoting agency (government fisheries agency, other government agency, NGO). A scoping process is undertaken to identify fishing, non-fishing and social well-being concerns and issues and the geographic area to be managed. The community is assisted in prioritizing issues, setting goals and objectives and producing a community fisheries management plan. After implementing the plan, the process includes reviewing the effectiveness of management and actions taken and strengthening or adapting the plan as necessary. The inclusion of a multi-agency group to address broad issues is an integral part of the process. 10. SPC2010 PAGE16 FIGURE5

The SPC process follows four steps:

1. Set-up tasks for the promoting agency
   1.1 Define broad goals and strategies
   1.2 Raise public awareness of the need to protect ecosystems
   1.3 Review the work of other groups working in communities
   1.4 Establish a consultative multidisciplinary group
   1.5 Establish a formal or legal basis for CEAFM
   1.6 Provide community facilitators with appropriate skills
   1.7 Develop a culturally appropriate process
2. The community involvement process
   2.1 Assess community requests
   2.2 Define the scope
   2.3 Identify and prioritize key issues
   2.4 Develop community goals and objectives
   2.5 Determine management actions and responsibilities
   2.6 Define indicators and performance measures
   2.7 Produce a community-owned management plan
3. Formalizing and implementing a community management plan
4. Monitoring performance; reviewing and adapting the plan

Both EAFM plan guidelines emphasize some additional considerations or steps from conventional fisheries management planning:

- *High levels of stakeholder participation and community involvement* in the development of the plan. FAO (2009) does this through a participatory process to develop an EAF co-management plan. SPC (2010) does this through a community-based ecosystem approach to fisheries management (CEAFM) defined as "… the management of fisheries, within an ecosystem context, by local communities working with government and other partners."
- *Scoping and issue identification and prioritization process* which identifies a broader set of issues beyond fisheries to include ecological well-being, human well-being and ability to achieve/governance considerations.

- *Consideration of the interactions that occur between fisheries and ecosystems*, and the fact that both are affected by natural long-term variability as well as by other, non-fishery activities, such as coastal development and climate change.
- *Consideration of management measures to manage not only fisheries resources but ecosystems and habitats* (such as MPAs) and humans (such as livelihoods and markets).
- As uncertainty will be much greater under EAFM, the *precautionary approach* is much broader than just environmental degradation, and applies to any undesirable outcome (ecological, social or economic).
- *Longer time scales will need to be considered* under EAFM when dealing with issues such as habitat conservation and restoration and climate change.
- *Linking the EAFM plan with other resource management plans* in the area such as a coastal resource management plan or a marine protected area plan.

7.3 EAFM planning process

Both the FAO (2009) and the SPC (2010) EAFM planning processes provide good guidance on the preparation of an EAFM plan. This publication is meant to complement these two guidelines. Both highlight the importance of stakeholder participation and utilizing a co-management approach. However, each guideline tends to highlight certain steps over another; as such, to make it easier to undertake the planning process and to include the important steps from each guideline, a merger of the two EAFM planning processes would include the following steps:

1. Start-up tasks
    1.1 Define broad goals and strategies,
    1.2 Identify EAFM team and facilitators,
    1.3 Define the scope/boundaries and integrated management unit (IMU),
    1.4 Area integration (courtesy calls, meetings and public awareness raising),
    1.5 Coordinate with other ministries/agencies and government levels,
    1.6 Identify stakeholders and organizations,
    1.7 Establish core consultative group,
    1.8 Develop a broad workplan
    1.9 Determine if there is a legal basis for EAFM
2. Stakeholder engagement
    2.1 Assess stakeholder interest and commitment,
    2.2Community organizing,
    2.3 Awareness raising and empowerment,
    2.4 Community meetings
    2.5 Social marketing
3. Research and IMU profile (establish spatial frameworks; resource and ecological assessment; socioeconomic assessment; legal and policy assessment; problems, needs and opportunities assessment)
4. Identify and prioritize issues through consultative process
5. Establish goals and objectives, indicators and benchmarks (performance measures)
6. EAFM management plan
    6.1 Management actions to meet objectives
    6.2 Evaluation and monitoring plan and reports
    6.3 Finances
    6.4 Communication
7. Conflict management mechanism
8. Plan implementation (management measures, MCS, enforcement)
9. Legal and policy support
10. Monitoring performance
11. Communication, education and outreach
12. Evaluating and adapting/modifying the plan
13. Scaling up

An EAFM plan contains the following elements: 11. FIGURE/PHOTO OF A MANAGEMENT PLAN
1. *Description of the area and resource to be managed*. This includes geography, demography, important coastal resources and their condition, socio-economic status of the people, institutions and laws, and other relevant information for management. Use graphs and tables to present baseline data.
2. *Maps of different scales*. Include a map of the entire area and detailed maps of the marine area with resource locations and use patterns, existing management interventions and other data.
3. *Management threats/issues/problems*. Priority threats/issues/problems must be clearly stated along with their contributing causes and factors. Trends in decline of resources can be used to illustrate issues of concern.
4. *Goals and objectives*. Management goals and objectives should be derived from the main threats/issues/problems. Each objective should have benchmarks and performance measures to measure achievement. Target reference levels, the desired positions in relation to the objectives, must be defined.
5. *Activities*. Activities for each objective with assigned responsibilities should address each major issue at the heart of the plan. The functions and responsibilities assigned to each stakeholder. The activities can also be considered as the management measures to be undertaken. This should also include arrangements for monitoring, control, surveillance (MCS) and enforcement.
6. *Institutional and legal framework*. This section explains the framework that supports the plan, what institution is responsible, and how it is supported by the law. Procedures for negotiating ongoing decisions and managing eventual conflicts. Procedures for implementing and enforcing decisions.
7. *Timeline*. A schedule for implementation helps organize all responsible parties to implement the plan in a timely manner.
8. *Budget*. Funding needs and sources are identified for each activity.
9. *Monitoring and evaluation*. Monitoring and evaluation must be included as a set of activities to provide feedback on plan implementation and impact on the environment and stakeholders.
While many of the steps in the planning process are well described in the FAO and SPC publications, in some cases certain steps could use some additional explanation as the activities may be new or require additional effort to undertake.
10.*Communication and review*. A clear date and nature of review(s) and audit of performance of management needs to be developed. A communication strategy to share the review results is developed.

There are a number of activities to be undertaken during the various steps in EAFM:

<u>During the scoping the fishery phase or step</u>:

- *Integrated management unit (IMU) or managed area*– A successful plan requires a clear statement of the area to be managed – the management unit. Ideally, the management unit will coincide with a clearly and precisely defined ecosystem. However, ecosystems are not usually clearly defined entities with unambiguous boundaries, and may cross or be contained within existing political or resource management boundaries Issues in establishing the IMU for EAFM include not only the appropriate scale, but also boundaries for a marine ecosystem. Marine resources are usually managed at a political jurisdiction level rather than an ecosystem level. The question is how to develop the IMU at the appropriate scale that addresses political, social/customary, and ecosystem needs for management. For practical purposes, the management unit should be defined to include the resources, fishers, and communities that have the strongest interconnections. There will always be an element of subjectivity in assessing what interconnections are sufficiently strong that the elements must be incorporated in the definition. There are no strict rules for achieving the appropriate balance between inclusion of interactions and the simplicity that is essential for management to be feasible. In this regard, stakeholder perceptions and acceptance could be strong guiding factors (Berkes et al. 2001). 12. FIGURE/PHOTO OF A COASTAL AREA WITH MARKED BOUNDARIES SHOWING IMU

- *Area Integration* - Area integration establishes the initial working relationship between the community and the facilitator or agency involved in establishing EAFM. Area integration entails a number of activities to initiate the EAFM planning process including:
    - Formally introducing EAFM to the community;
    - Answering questions about EAFM;
    - Establishing rapport with the community;
    - Identifying roles of partners;
    - Core group formation;
    - Organizing and attending meetings, training and awareness-raising sessions;
    - Collection of baseline data on the management unit;
    - Stakeholder identification;
    - Meeting with local leaders and government officials and obtaining approvals;
    - Initiating the program with the community.

- *Establish a core consultative group* - A core group is a small group of individuals from the stakeholders (perhaps four or five) who will initially work with the facilitators to guide the EAFM process. The members of the core group should represent different sectors of the community. The core group is crucial as it gives initial real responsibility and power to the community members for management. The core group can serve to:
    - Facilitate the circulation of information among community members;
    - Develop dialogue and provoke social discussion about EAFM and resource management issues;
    - Facilitate community organizing;
    - Identify problems, issues and opportunities;
    - Assist in EAFM process decision-making;
    - Identify other stakeholders and stakeholder groups;
    - Assist in the gathering of information. 13. FIGURE/PHOTO OF PEOPLE MEETING

- *Coordination* – This early in the EAFM planning process, it is important to reach out and ensure that the coastal and fisheries institutions (e.g. fisheries, environment, marine protected areas, local government) at each level of government (national, regional, provincial, local) are informed and brought together to engage in the process. The SPC (2010) guidelines call this group the E-MAG. It is a group representing a wide range of community members, authorities, experts and agencies responsible for managing the activities that impact on the marine ecosystem. It is to provide support for a harmonization of policy and operational objectives at different levels.

<u>During the stakeholder engagement phase or step</u>:

- *Community organizing* - The active participation of people is at the heart of EAFM. Success of EAFM through community-based management or co-management is directly related to a well-organized community that has been empowered to take action to manage and conserve its aquatic resources. Fishing cooperatives and fisher associations exist in many communities. However, these organizations will not automatically be suitable as representative organizations in EAFM and co-management. It is likely that they were established with objectives that relate more to expanding exploitation, improving marketing and increasing the incomes of members. Changes in outlook may be necessary for these organizations to play major roles in EAFM. These changes may be difficult and lengthy, especially if the organization is still struggling with its original mandate. Putting more focus on management may strain the internal cohesion of the organization. New community organizations may be more appropriate for EAFM. Community organizing is much more than just establishing organizations, it is a process of empowerment, building awareness, promoting new values and behaviors, establishing self-reliance, building relationships, developing organizations and leadership, and enabling communities to take action. Thus, environmental education, capacity development and social communication are central elements of this process. 14. FIGURE/PHOTO OF COMMUNITY MEETING

It is useful to note that the term 'community' can have several meanings. Community can be defined geographically by political or resource boundaries or socially as a community of individuals with common interests. For example, the geographical community is usually a village political unit (the lowest governmental administrative unit); a social community may be a group of fishers using the same fishing gear or a fisher organization. A community is not necessarily a village, and a village is not necessarily a community. Care should also be taken not to assume that a community is a homogeneous unit, as there will often be different interests in a community, based on gender, class, ethnic and economic variations. Recently, the term 'virtual community' or 'community of interest' has been applied to non-geographically based communities of fishers. Similar to the 'social community' or 'wider stakeholders', this is a group of fishers who, while they do not live in a single geographical community, use similar gear or target the same fish species or have a common interest in a particular fishery.

To participate in EAFM and co-management, the stakeholders will need to organize themselves and arrive at an internal consensus on the interests and concerns that they want brought forward. Meetings and discussions are held among the individual stakeholders to identify and clarify their interests and concerns and for those individuals with common interests and concerns to organize themselves into groups. Effective community participation in EAFM and co-management requires a strong community organization(s) to represent its members. In some cases, community organizations capable of representing their members in EAFM and co-management already exist in the community. In other cases, organizations will either need to be strengthened or newly established. One or more community organizations may be needed in the community depending upon its size, diversity and needs. An appropriate person(s) from the organization must be selected to represent them in the EAFM planning process. There are several components in community organizing:

1. Preparation
   • Create a core group(s) and core leaders;
   • Assess the situation (research);
   • Hold visioning exercises;
   • Decide on a mission for the organization.

2. Mobilization
   • Seek out community support and build a base of support among community members;
   • Hold meeting(s) to discuss the vision or mission, reach consensus and agree on developing an organization or join an existing organization;
   • Develop organizational goals and objectives, organizational structure, leadership/membership and action plan;
   • Appoint a representative of the organization.

3. Strengthening
   • Environmental education, capacity development and social communication;
   • Building alliances and networking;
   • Organizational sustainability to keep members and funding.

4. Evaluation.

- *Empowerment and increased public awareness* – While most resource users have a good awareness and concern for fisheries and the marine environment, the issues of EAFM are generally complex and there may be a need to provide more technical information on fisheries and ecosystems and to develop people's capacity to actively participate in the EAFM planning process. Environmental education, capacity development and social communication (ECB) are integral parts of EAFM. This includes the capacity of community members, as well as government officials and staff. The environmental education, capacity development and social communication activities can be undertaken throughout the planning process. The purpose of environmental education, capacity development and social communication is to empower people with knowledge and skills in order

that they can actively participate in the EAFM program, begin to take greater control over resource and economic and social problems and needs, and increase their awareness and understanding of fisheries resources and their management. Through ECB, community members and government officials and staff are able to better understand the need for EAFM, the approaches to EAFM, and their individual and collective roles in EAFM. In some cases, the community and government may need to be convinced of the need for EAFM. While ECB is a continuing activity throughout the EAFM program, it should be noted that it is important to start the ECB activities as soon as possible in order to empower people with knowledge and skills so that they can actively participate in the EAFM program. 15. FIGURE/PHOTO OF A TRAINING OR WORKSHOP

The cultural context of the community plays a vital part in the introduction of any new program. Sometimes the focus of conservation and management efforts may offend the community members. Understanding traditional protocols plays a role in the introduction of any program.

Activities aimed at increasing awareness, knowledge, skills and institutional capacity, such as environmental education, capacity development and social communication, are sometimes taken together under the term 'social preparation'. Social preparation has several functions in EAFM:

- Reducing social conflict and resource impacts;

Greater compliance and lower enforcement requirements;

- Creating positive change in values and behavior towards the environment;
- Gaining support for EAFM;
- Increasing knowledge and skills of fishers and other stakeholders;
- Fostering participation in EAFM;
- Enabling community members to assert their rights to use and manage its resources.

Social preparation is focused on building a constituency for EAFM through a critical mass of people in the community who are environmentally literate, imbued with environmental ethics, shared responsibilities, and shared actions towards the sustainable management of aquatic resources.

Environmental education, capacity development and social communication are individually distinct but complementary activities.

Environmental education introduces environmental concepts and principles related to coastal and aquatic resource issues, and empowers the community with information and knowledge in order to take the appropriate action to address the issues. The success of aquatic resource management depends on the level of the community's awareness and knowledge of their coastal and aquatic environment. Environmental education activities are directed towards the development and enhancement of resource management capabilities of individuals and organizations through formal and non-formal education and skills development training. Environmental education can build consensus, clarify perspectives and interests about issues, generate a receptive context for change, get people to help carry out activities, help monitor change and create a long-term commitment in the community.

Capacity development provides skills and institutional capacity for fishers, resource user organizations, local-level government officials and staff, and other stakeholders to take an active role in EAFM. Capacity building often implies that activities are carefully planned and executed, and that they follow a clear plan. In reality, capacity building often involves more experimentation and learning. For this reason, the term capacity development, which implies an organic process of growth and development, is more appropriate than capacity building. Capacity development can be defined as "the process by which individuals, groups, organizations, institutions and societies increase their abilities to: (1) perform core functions, solve problems, define and achieve desired objectives over time; and (2) understand and deal with their development needs in a broad

context and in a sustainable manner." This definition highlights two important points: (i) that capacity development is largely an internal process of growth and development, and (ii) that capacity development efforts should be results-oriented.

Local capacity is built in order to:

• Make local resource users, groups and organizations, fishing communities and the local government unit charged with fisheries management more capable of performing this task;
• Make local resource users, their organization leaders, local government officials and staff, and other stakeholders able to undertake their roles and responsibilities in co-management;
• Improve the quality of fisheries management taking place at the community level.

Social communication generates an on-going flow of information and dialogue between the fishery manager and the community members, and among the community members themselves in order to have informed decision-making and to face change. Social communication initiatives can promote social discussions about problems, opportunities and alternative courses of action, including co-management, for the community. Social communication initiatives are very different from education initiatives. They do not merely aim at 'passing on a message about an issue' but at promoting its critical understanding and appropriation in society.

ECB activities should involve as many of the sectors of the community, including government, as possible in order to build up a critical mass of local people with a common understanding of co-management and aquatic resource management. Efforts should be focused on cultivating potential local resource persons who could effectively conduct ECB activities on their own (e.g. local teachers to their students and other teachers) and in the process disseminate information to even more members of the community, leading to the greatest positive impact in the shortest period of time. It is important to monitor and evaluate the effectiveness of ECB activities, including changes in the community's attitude to the need for co-management.

<u>During the design phase</u>:

Research and IMU profile - The role of research in EAFM is to help establish baselines, inform the management process, monitor changes from time to time (for adaptive purposes), and nourish community education and involvement. A common mistake is to focus on research to the exclusion of education and action. By involving community members in these activities, the research process itself becomes one of education and action. In this way, such participatory research lays the foundation of awareness and commitment from which other activities grow. Research constitutes the information gathering activities of the EAFM planning process. A great deal of information is gathered about the fishery, ecosystems, resource use activities and people. During this activity, both secondary and primary data are collected and analyzed and a IMU profile is prepared. The IMU profile will serve as the basis for planning and management activities and as a baseline for future monitoring and evaluation. The decision on the scope and scale of the IMU profile and research is made by the core group, based on information needs for decision-making and on available resources and time. The IMU profile includes four components:

- Resource and ecological assessment;
- Socio-economic assessment;
- Legal and institutional assessment; and
- Management issues and opportunities.

At some stage, EAFM should make use of ecosystem models to determine and establish the trophic structure of the fisheries, determine the effects of removals on the standing stock and trophic structure of the fisheries, and determine the appropriate fishing effort configuration ideal to the system and to the objective set by the stakeholders. Through a participatory process, this

information, including strategies of their implementation, can be included during the refinement of the management planning process.

- *Conflict management mechanism* - Conflicts over fisheries and marine resources have many dimensions including, but not limited to, power, technology, commercial, political, gender, age and ethnicity. Conflicts can take place at a variety of levels, from within the household to the community, regional, societal and global scales and amongst government agencies/authorizes competing. The intensity of conflict may vary from confusion and frustration over the directions fisheries management is taking to violent clashes between groups over resource ownership rights and responsibilities. Conflict may result from power differences between individuals or groups or through actions that threaten livelihoods. 16. FIGURE/PHOTO OF PEOPLE TALKING/ADDRESSING CONFLICT

  Buckles and Rusnak (1999) report that the use of natural resources is susceptible to conflict for a number of reasons:

  - Natural resources are embedded in an environment or interconnected space where actions by one individual or group may generate effects far off-site.
  - Natural resources are embedded in a shared social space where complex and unequal relations are established among a wide range of social actors – fishers, fish traders, boat owners, government agencies, etc. Those actors with the greatest access to power are also best able to control and influence natural resource decisions in their favour.
  - Natural resources are subject to increasing scarcity due to rapid environmental change, increasing demand and their unequal distribution.
  - Natural resources are used by people in ways that are defined symbolically. Aquatic species and coral reefs are not just material resources people compete over, but are also part of a particular way of life, an ethnic identity and a set of gender and age roles. These non-use values and symbolic dimensions of natural resources lend themselves to ideological, social and political struggles that have enormous practical significance for their management and the process of conflict management.

  Buckles and Rusnak (1999) further state that because of these dimensions of natural resource management, specific natural resource conflicts usually have multiple causes – some proximate, others underlying or contributing. A pluralistic approach that recognizes the multiple perspectives of stakeholders and the simultaneous effects of diverse causes in natural resource conflicts is needed to understand the initial situation and identify strategies for promoting change.

  Conflict management is about helping people in conflict develop an effective process for dealing with their differences. The problem lies in how conflict is managed. The generally accepted approach to conflict management recognizes that the parties in a dispute have different and frequently opposing views about the proper solution to a problem, but acknowledges that each group's views, from the group's perspective, may be both rational and legitimate. Thus, the goal of people working in conflict management is not to avoid conflict, but to develop the skills that can help people express their differences and solve their problems in a collaborative way.

  A first step in conflict management is conflict assessment. An analysis of a particular conflict can provide insights into the nature, scope and stage of conflict and the approach(es) for its management. There are four main factors that need to be analysed in determining the scope, nature and stage of a conflict:

  • *Characterization of conflict and stakeholders.* The type of conflict encountered, the number of stakeholders, and the relationships among them. The nature and origin of conflict, as well as the balance of power among the parties are analysed.

• *Stage in the project cycle.* Conflicts at the 'beginnings' stage are likely to be different than conflicts at the implementation stage. New stakeholders may arise as the project proceeds. This requires that the project be flexible and adaptive to changing circumstances.
• *Stage in the conflict process.* A determination of whether conflict is at a point at which interventions may be accepted.
• *Legal and institutional context.* The formal and informal institutions and the manner in which conflicts are resolved through these institutions and the formal legal doctrines may influence the appropriate approach.

The approaches to conflict management range from multistakeholder analysis and consensus building (with the objective of fostering productive communication and collaboration prior to the outbreak of conflict by employing tools such as conflict anticipation and collaborative planning, together with the cultivation of alliances and mobilization of support) to managing conflict through negotiation, mediation and arbitration where the objective is to address conflict after it has erupted.

Conflict is a dynamic process that generally progresses from initiation to escalation, controlled maintenance, abatement and termination/resolution. There are generally four stages to every conflict, with appropriate approaches to management:
• Potential or dormant conflicts (consensus building/relationship building);
• Erupting conflict, with positions being developed (range of options, depending on the nature of conflict and relationship among parties);
• Evolving conflict, evolving towards a stalemate (mediation or arbitration) or evolving towards resolution/abatement (no assistance or facilitation);
• Resolved conflicts (depends on situation).

Choosing the correct approach through which to address a particular conflict is in itself a strategic choice. Parties to a dispute must first decide whether to seek resolution to a conflict through a non-consensual process or through a more collaborative means. Once the decision has been made to use alternative conflict management processes, the parties must decide on which specific approach to employ. No single approach is effective in all cases. The circumstances of conflict and therefore the obstacles to agreement vary from one case to another. Disputes may involve many or few parties, the problem may be more or less urgent, emotional investment of the stakeholders may vary, the public interest may or may not be at stake, and the factors involved may be well understood or may be uncertain. Gaining expertise in conflict management includes learning about the specific advantages and disadvantages of the various approaches, and assessing which one is best in addressing a particular conflict situation.

It is important to recognize that, although there are considerable differences between approaches that can be employed, there are also significant overlaps. Most approaches will involve some element of relationship building, procedural assistance, and possibly substantive assistance or advice as well. The use of conflict prevention, or consensus building approaches on one side, does not imply that there have not yet been conflicts between the parties. Similarly, the use of arbitrage, on the other side, does not imply that it will be more effective if the arbitrator manages to get the parties to cooperate as much as possible.

Borrini-Feyerabend (1997) states that to avoid focusing on particular stakeholders or positions (either of which can increase conflict and/or result in a deadlock), the best approach to adopt is what is sometimes termed 'interest-based' or 'principled' negotiation/mediation. This approach requires the parties to acknowledge that, to be sustainable, an agreement must meet as many of their mutual and complimentary interests as possible. The focus should be on mutual cooperation rather than unwilling compromise. This approach encompasses four general principles:

• Focus on underlying interests. When all interests (people's needs and concerns) are all satisfied it will be much more likely to result in a lasting and satisfactory resolution than one where the interests of only one side are addressed. Compromise may best serve everyone's interests.
• Address both the procedural and substantive dimensions of the conflict. Both the need to be included in decision-making and have opinions heard and to have interests addressed are met.
• Include all significantly affected stakeholders in arriving at a solution. Failure to include all stakeholders may lead to unsustainable solutions and new conflicts.
• Understand the power that various stakeholders have, and take that into account in the process. Each party's approach to the conflict will depend on their view of the power they have in relation to the other stakeholders.

During the implementation phase:

- *Adaptive management* - Adaptive management takes the view that fisheries management can be treated as 'experiments' from which managers and fishers can learn (Parks 2011). Adaptive management differs from the conventional practice of fisheries management by emphasizing the importance of feedback from the fishery in shaping policy, followed by further systematic experimentation to shape subsequent policy, and so on. In other words, it is iterative, repeating a process of steps (monitoring, analysis of data, evaluation of change against the goals) to bring the manager and fisher closer to a desired result. Each iteration should involve making progress in reaching established goals and objectives. The important point is that effective learning occurs not only on the basis of management success but also failures. However, learning from failures presupposes that what is learned can also be remembered. Organizations and institutions can learn as individuals do, and adaptive management is based on social and institutional learning. The mechanism for institutional learning involves documenting decisions, evaluating results and responding to evaluation. Institutional learning must be embedded in both fisheries managers and the fishers, and the knowledge held by each must be respected and shared. 17. FIGURE OF ADAPTIVE MANAGEMENT

  AM is undertaken in four steps: (i) develop a plan; (ii) take action; (iii) evaluate progress; and (iv) adjust future action. Each of these four steps has a recommended set of tasks that should be completed before moving on to the next step. Upon completion of these four steps, one cycle of AM process has been achieved, returning to step one with the cycle beginning again. This iterative process continues through time, with the aim of achieving outcomes.

  The adaptive management framework involves first thinking about the situation in the fishery, collecting information about the fishery, and developing a specific assumption about how a given intervention will achieve a desired outcome. The intervention is implemented and the actual results are monitored to determine how they compare to the ones predicted by the assumptions. The key is to develop an understanding of not only which interventions work and which do not, but also why.

  Adaptation is about systematically using the results of the monitoring to improve the intervention. If the intervention did not achieve the expected results, it is because either the assumptions were wrong, the interventions were poorly executed, the conditions at the intervention site had changed, the monitoring was faulty, or some combination of these problems. Adaptation involves changing the assumptions and the interventions to respond to new information obtained through the monitoring efforts.

  Finally, learning is about systematically documenting the process that was followed and the results that were achieved. This documentation will help to avoid making mistakes in the future.

- *Monitoring and evaluation* - Managing fisheries resources is a continuous, iterative, adaptive and participatory process comprised of a set of related tasks that must be carried out to achieve a

desired set of objectives. Plans must be monitored if they are to be kept on track, and evaluated if there is to be learning from successes and failures. The planning cycle includes the process of assessment, monitoring and evaluation. Effective plan assessment and evaluation involves several steps: (i) preliminary appraisal; (ii) baseline assessment; (iii) monitoring; and (iv) valuation. Information for each of these steps is essential to maximize chances that the plan will be effective for the adaptive management process and to acquire lessons learned.

Evaluation consists of reviewing results of actions taken and assessing whether these actions have produced the desired outcomes – this helps to adapt and improve by learning. Evaluation is a routine part of the adaptive management process and is something that most fisheries managers already do where the link between actions and outcomes can be simply observed. However, the links between actions and outcomes is often not so obvious. Faced with the daily demands of their jobs, many fisheries managers are not able to monitor systematically and evaluate the results of their efforts. In the absence of such evaluations, resources can be wasted on activities that do not achieve the objectives.

Monitoring and evaluation are processes which assist in answering the questions: Are the activities working or not? And what actions are needed to make them work? Monitoring answers the question: How are we doing? Evaluation answers the question: How did we do? If the plan has measurable objectives and indicators to evaluate the plan, ongoing monitoring can provide information required to evaluate effectiveness and performance of the plan.
Instead of fisheries targets, the holistic EAFM approach is to develop indices of ecosystem health as targets for management. These indices will serve as reference points for long-term monitoring schemes and inputs to management planning process. For dominant fisheries, single species reference points are still relevant but will have to be modified in the context of the overall state of the system. Mean trophic level of catch has been adopted as an indicator for the ecological impacts of fishing and can serve as an indicator in monitoring the improvement of the managed fishery system.

8. How can existing fisheries management be scaled up to EAFM?

EAFM often involves "scaling up" management, for example, from single-species fisheries management to management of multi-species assemblages; from looking at isolated drivers of change to considering all environmental and human impacts; from design of individual protected areas to planning protected area networks; from conservation of a fragment of habitat to comprehensive spatial management. Issues of scale include what is the appropriate scale of the marine ecosystem for fisheries management purposes and "scaling-up" from other management arrangements such as community-based management to an ecosystem scale. Chua (2006) states that scaling up in integrated coastal management (ICM) refers to three different contexts: (1) geographical expansion, (2) functional expansion, and (3) temporal considerations. The same contexts may hold true for EAFM. Geographically, the expansion could be from a small coastal community operating in a nearshore area up to the entire bay. Functional expansion involves adding new program interventions, for example, if the current intervention relates largely to enforcement, functional expansion may involve adding new interventions such as livelihoods and education. Temporal considerations involve integrating fisheries management within the broader administrative programs of the local government units.

There is a need to assure harmony between scales of management and linkages between and among the various scales. For example, there is often a disconnection between national planning and policy goals and the practical goals and implementation through local government decentralized units. There is also often a disconnect between the nearshore and offshore fisheries and their management; and similarly between how agencies deal with commercial fisheries versus artisanal/subsistence fisheries. One of the challenges of EAFM is to fashion ways to ensure that the actions of the coastal and fisheries institutions at each level of government are harmonized with one another and are consistent with agreed EAFM goals and policies. This calls for a consistent approach across the levels between national and local levels and reinforces the importance of having a legally authorized inclusive framework which allows for this harmonization of

policy and operational objectives. Management decisions that are matched to the spatial scale of the ecosystem, to the programs for monitoring all desired ecosystem attributes, and to the relevant management authorities are likely to be more successful in achieving ecosystem objectives. 18. FIGURE SHOWING HARMONIZED LEVELS OF GOVERNMENT (LOCAL/PROVINCE/NATIONAL)

9. What is involved in implementing an EAFM plan?

The implementation of an EAFM plan will involve the use of conventional fisheries management measures to address target species concerns, such as output (catch) (e.g. quotas, escapement controls) and input (effort) (e.g. limited entry, capacity limits, fishing location limits, territorial use rights) controls and technical measures to regulate fishing mortality (e.g. gear restrictions, size limits), but also should be aimed at maintaining or restoring the structure and functioning of the ecosystem (FAO 2003). Managers will need to understand not only the response of the target species to specific management measures, but also the response of different ecosystem components to specific management measures. Managers may increasingly use spatial and temporal controls (such as area closures, MPAs and no-take areas) and ecosystem manipulation (such as habitat modification and population manipulation (restocking, stock enhancement)) in their management toolbox.

Since many of the problems (water pollution, introduction of exotic species, destruction of fish habitat due to coastal development, climate change) facing fishery management fall outside the direct control of fisheries managers, the implementation of the EAFM plan will require fisheries managers to reach out and coordinate and integrate themselves within broader processes of integrated coastal management, integrated watershed management, conservation management, and integrated ocean governance.

The implementation of the EAFM plan will require managers to be aware of the combined biological and ecological uncertainty under EAFM and the need to improve knowledge about the interactions between the fishery, the fisher and the ecosystem. Especially in data-poor situations, managers will need to make increasing use of the precautionary approach and fisher's traditional knowledge and participatory approaches to data collection and analysis to overcome the constraint of insufficient knowledge and adaptive management.

10. How can MPAs and climate change adaptation be integrated with EAFM?

With the move of fisheries management towards EAFM, the use of spatial management tools will increase (FAO 2009). In line with the principles of EAFM, it is likely that it will become more common to designate and implement MPAs with multiple objectives, covering both fisheries management and conservation considerations. Some situations in which MPAs can prove to be particularly suitable in fisheries include:

(1) Controlling fishing mortality of sedentary species in data poor situations;
(2) Buffer against uncertainty;
(3) Management of multispecies fisheries;
(4) Minimization of by-catch;
(5) Protecting habitat and biodiversity; and
(6) Allocation/access to resources and reinforcement of user rights, e.g. LMMAs.

MPAs need to be seen in a wider perspective and be designed and implemented in a holistic and integrated resource management framework, not stand-alone. MPAs should not be considered to be exclusively no-take but also periodic or non-permanent closures. MPAs are not a "silver bullet" in terms of solving fishery management problems. They do not address some key elements of fisheries management, such as the assignment of fishing rights or overall management of an area beyond the boundary of an MPA. Neither do they address the major underlying problems with unsuccessful fisheries management stemming from improper institutional and incentives structures that in many cases has failed "to control the race for fish leading to overcapacity, overfishing and economic loss. Once overfishing becomes chronic, the socio-economic and political costs of the tough decisions needed for significant improvement represent a major impediment to change. Marine reserves are a tool for specifying the

location of fishing; they do not affect the incentives, nor the institutional structures responsible for over-fishing" (FAO 2011). MPAs also have quite different effects on different species. If MPAs are used as the sole mechanism for limiting the amount of fish that can be caught with a view to sustain fish populations, the extent of the area that will need to be protected may be unrealistically large, particularly for mobile fish species (Fernandes et al 2012). They are also, in many circumstances, inferior to other fishery management tools in terms of potential yield and economic performance. The best results will be achieved when an appropriate mix of fisheries and ecosystem management tools are applied. 19. FIGURE/PHOTO OF MPA

Climate change will affect fisheries and marine ecosystems through changes in sea surface temperature, El Nino-Southern Oscillation, rising sea level, changes in precipitation and water availability, increase in frequency and/or intensity of storms, and drought (Daw et al. 2009; Bell et al. 2011). In addition, these ecosystems and fisheries will be affected by ocean acidification. There is great uncertainty in the nature and direction of changes and shocks to fisheries as a result of climate change and ocean acidification. Impacts on fisheries are uncertain as the abilities of marine ecosystems and fisheries to adapt to climate change are poorly known (Bell et al. 2011). However, general impacts may include changes in species ranges, reduced productivity, reduced ecosystem resilience, and increased stress to marine and coastal habitats. As climatic change increases environmental variation, more fisheries managers will have to explicitly consider such variations and move beyond static management parameters for particular stocks. Investments in adaptive capacity and resilient fisheries systems are a good strategy to support future adaptations which are not currently foreseen. Such uncertainty and changes create an additional imperative to implement EAFM, which embeds precautionary approaches within integrated management across all sectors. EAFM plans can include an assessment (even a very general assessment) of the expected impacts of climate change and ocean acidification on fisheries and marine ecosystems in the fisheries management unit over time and allow for additional management measures to be considered to address these impacts. 20. FIGURE/PHOTO OF CLIMATE CHANGE AND FISH OR COAST

References

Bell, JD, JE Johnson and AJ Hobday. 2011. Vulnerability of tropical Pacific fisheries and aquaculture to climate change. Secretariat of the Pacific Community, Noumea, New Caledonia

Daw, T., W. Adger, K. Brown and M-C Badjeck. 2009. Climate change and capture fisheries: potential impacts, adaptation and mitigation. In Cochrane, K., C. De Young and T. Bahri (Eds). Climate change implications for fisheries and aquaculture: overview of current scientific knowledge, FAO Fisheries and Aquaculture Technical Paper No. 530. FAO, Rome.

FAO. 2003. Fisheries management. 2. The ecosystem approach to fisheries. FAO Technical Guidelines for Responsible Fisheries 4, Suppl. 2. UN Food and Agriculture Organization, Rome

FAO. 2011. Fisheries management. 4. Marine protected areas and fisheries. FAO Technical Guidelines for Responsible Fisheries. No.4, Suppl. 4. UN Food and Agriculture Organization, Rome.198p.

Fernandes, L, Green, A., Tanzer, J., White, A., Alino, P.M., Jompa, J., Lokani, P., Soemodinoto, A., Knight, M., Pomeroy, B., Possingham, H., Pressey, B. 2012. Biophysical principles for designing resilient networks of marine protected areas to integrate fisheries, biodiversity and climate change objectives in the Coral Triangle. Report prepared by The Nature Conservancy for the Coral Triangle Support Partnership, 152 pp.

Secretariat of the Pacific Community (SPC). 2010. A community-based ecosystem approach to fisheries management: Guidelines for Pacific Island Countries. Noumea, New Caledonia.

Staples, D and S. Funge-Smith. 2009. Ecosystem approach to fisheries and aquaculture: Implementing the FAO Code of Conduct for Responsible Fisheries. FAO Regional Office for Asia and the Pacific, Bangkok, RAP Publication 2009/11.

A13: PARTICIPANTS EVALUATION

CTI Regional Exchange and Policy Workshop on an Eco-system Approach to Fisheries Management Evaluation
22-25 May 2012, Putrajaya, Malaysia

A total of 33 evaluation questionnaires were collected from the participants in the afternoon of Day 4.

Please rate 1 to 5, with 5 being very much/high and 1 very little/low, and note your reason for the rating

1. To what extent did this regional exchange meets its four objectives?

Finalize a "common regional framework for legislation and policy" that would support EAFM	1 2(2) 3(5) 4(12) 5(10)
Comment why you gave this rating - Provide clear mechanism on how to incorporate EAFM into policy	
Develop a roadmap for 2012-2020 to implement a "common regional framework for legislation and policy" that would support EAFM	1 2 3(4) 4(17) 5(8)
Comment why you gave this rating - Need country confirmation - Needs to be fully reviewed - Some activities difficult to implement - Some dates not realistic	
Discuss national legislation and policy needs to support EAFM	1 2 3(9) 4(15) 5(5)
Comment why you gave this rating - It should be priority to country policy and budget - Need a generic framework for countries - Support countries to develop their own policy	
Revise and refine work plan and activities of the EAFM Technical Working Group to incorporate recent developments	1 2(1) 3(6) 4(14) 5(7)
Comment why you gave this rating - *Great* - *TWG doing well on their own* - *Work in progress* - *Need explicit activities to be undertaken in workplan*	
Present state of knowledge of impacts of climate change and ocean acidification to fisheries and how it can be incorporated into the ecosystem approaches to fisheries management in the Coral Triangle	1 2 3(8) 4(13) 5(6)
Comment why you gave this rating - More awareness programs for stakeholders - Need to encourage governments to implement - Process needs further articulation - Good start - What are causes and what should be done - Nothing on coastal aquaculture	

Increase capacity to incorporate IUU concerns into the EAFM process and framework	1 2(1) 3(15) 4(8) 5
Comment why you gave this rating - Not good. Could not follow - Countries doing fine on their own, not need to tell them the basics of IUU - Still need to address at a community level - Lack of IUU specialists in region - Top down approach presented - Still difficult to integrate IUU	
Consultation on a CTI Live Reef Fish Trade (LRFT) Regional Forum and develop LRFFT strategies and direction for the Coral Triangle	1(2) 2(3) 3(7) 4(14) 5(6)
Comment why you gave this rating - Develop bilateral or trilateral arrangement in trading - Provide mechanism for win-win trading - Timely - Need further consultation especially with people in industry - Financial mechanism - No clear direction	

2. To what extent did the course meet *your* expectations, and why?

1 2 3(3) 4(21) 5(6)

3. How useful was the overview of the EAFM REX3 in relation to achieving the EAFM REX objectives? What would you do different?

1 2 3(2) 4(24) 5(3)

4. How useful was the review of the EAFM Framework in relation to achieving the EAFM REX objectives? What would you want different?

1 2(1) 3(2) 4(24) 5(2)

5. How useful were the presentations on status of EAFM by the countries in relation to achieving the EAFM REX objectives? What would you want different?

1 2(1) 3(5) 4(21) 5(2)

6. How useful was the session on Illegal Unreported and Unregulated (IUU) Fishing in relation to achieving the EAFM REX objectives? What would you want different?

1 2(1) 3(3) 4(21) 5(4)

7. How useful was the session on Live Reef Food Fish Trade in relation to achieving the EAFM REX objectives? What would you want different?

1 2(6) 3(15) 4(7) 5(1)

8. How useful was the session on climate change, ocean acidification and fisheries in relation to achieving the EAFM REX objectives? What would you want different?

1 2 3(3) 4(20) 5(5)

9. How useful was the session on SSME updates and lessons learned in relation to achieving the EAFM REX objectives? What would you want different?

1	2	3(8)	4(19)	5(2)

10. How useful was the session on EAFM regional framework and roadmap formulation in relation to achieving the EAFM REX objectives? What would you want different?

11. How useful was the session on national legislation and policy needs to support EAFM in relation to achieving the EAFM REX objectives? What would you want different?

1	2	3(3)	4(21)	5(3)

12. How useful was the session on EAFM regional guidelines and best practices including climate change in relation to achieving the EAFM REX objectives? What would you want different?

1	2	3(3)	4(20)	5(4)

13. How useful was the EAFM TWG meeting in relation to achieving the EAFM REX objectives? What would you want different?

1	2	3(6)	4(19)	5(5)

14. How effective was the facilitation and management of the workshop? What would you want different?

1	2	3(6)	4(23)	5(4)

15. How appropriate was the length of the workshop—too long, too short or just right?

1	2	3(4)	4(16)	5(10)

16. How appropriate was the amount and relevance of information provided? (Binder, Presentations, E-Files)

1	2	3(4)	4(18)	5(9)

17. Did we provide enough opportunity for participant discussion, questions and participation (use of time)?

1	2(1)	3(3)	4(19)	5(8)

18. How well were the travel and logistics arrangements managed?

1	2(1)	3(4)	4(19)	5(7)

19. What did we do well and should repeat in future regional exchange programs?

- Ability to engage with other CT6 people
- Broad participation
- CT session chairs
- Allowed each country to contribute
- Breakout sessions
- Amount and relevance of information
- Facilitation has improved
- Ability to engage on issues

20. Please provide any further comments, suggestions or ideas you may have.
    - More participants from pacific
    - Be more prepared for focused discussion
    - More people from SI
    - More clarity on sessions
    - Doing too much???
    - More time to explore the area, field trip

- Be more aware of multicultural aspects of CT
- Invite NOAA to next REX
- When delegates quiet, facilitators could provide examples to help discussion
- Allow resource experts to engage more with background knowledge
- Translation
- Need facilitators from CT6 countries
- No banner about event at hotel
- More capacity building
- Different delegates all the time makes for problems