



**THE CORAL TRIANGLE INITIATIVE ON CORAL REEFS,  
FISHERIES AND FOOD SECURITY**

**REGIONAL EXCHANGE ON AN ECOSYSTEM APPROACH  
TO SUSTAINABLE LIVE REEF FISH FOOD TRADE IN THE  
CORAL TRIANGLE**

**Kota Kinabalu, Malaysia October 10-15, 2011**



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# ACRONYMS

APEC	Asia Pacific Economic Forum
CCA	Climate Change Adaptation
CI	Conservation International
CITES	Convention for International Trade in Endangered Species
CMWG	Coordination Mechanism Working Group
CSIRO	Commonwealth Scientific and Industrial Research Organization, Australia
CT6	Coral Triangle Countries (Indonesia, Malaysia, Philippines, Papua New Guinea, Solomon Islands, Timor Leste)
CTI	Coral Triangle Initiative
CTNI	Coral Triangle Network Initiative
CTI-CFF	Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security
CTSP	Coral Triangle Support Partnership (USAID/Asia)
CRMP	Coastal Resource Management Project (USAID former project)
CRM	Coastal Resource Management
DA-BFAR	Department of Agriculture Bureau of Fisheries and Aquatic Resources of the Philippines
EAFM	Ecosystem Approach to Fisheries Management
EBFM	Ecosystem-based Fisheries Management
FSAS	Fish Spawning Aggregation Sites
FSPI	Foundation for the Peoples of the South Pacific International
FWG	APEC Fisheries Working Group
IEC	Information, education and communication
IUCN	International Union for the Conservation of Nature
IUU	Illegal, unreported, unregulated fishing
HHW	Humphead Wrasse
LMMA	Locally Managed Marine Area
LRFFT	Live Reef Fish Food Trade
LRFF	Live Reef Food Fish
M&E	Monitoring and Evaluation
MCS	Monitoring Control and Surveillance
MOSTI	Ministry of Science and Technology, Malaysia
MPA	Marine Protected Area
NCC	National Coordinating Committee
NCCC	National Climate Change Council (s)
NGO	Non-government organization
NOAA	National Oceanic and Atmospheric Administration, USA
NPOA	National Plan of Action
PEMSEA	Program for the Environmental Management of the Seas of East Asia
PCSD	Palawan Council for Sustainable Development
PI	Program Integrator (US CTI Support Program)
PNCI	People and Nature Consulting International
PNG	Papua New Guinea
PPP	Public-Private Partnerships
RDMA	Regional Development Mission for Asia (USAID)
RPOA	CTI Regional Plan of Action
RSPO	Roundtable on Sustainable Palm Oil
SPAG	Spawning aggregation sites
SPC	Secretariat of the Pacific Community
SOM	Senior Officials Meeting
SSME	Sulu-Sulawesi Seas Marine Eco-region
TNC	The Nature Conservancy

UNDP	United Nations Development Program
USG	US Government
USAID	United States Agency for International Development
US CTI	United States Coral Triangle Initiative Support Program
USG	United States Government
WWF	World Wildlife Fund

# EXECUTIVE SUMMARY

This Live Reef Fish Trade workshop (LRFT) regional exchange and workshop was convened to define regional-level collective actions for achieving more effective management and a more sustainable trade in live-reef food fish in the Coral Triangle. This workshop was the first time all six countries had convened to focus on achieving output(s) prescribed under the *CTI Regional Plan of Action* on the LRFT. Under Target 4 of achieving *more effective management and a more sustainable trade in Live Reef Fish and Reef-Based ornamentals* this workshop supported regional actions to i) *Develop a collaborative work program* and ii) *Establish an informal CTI Forum*.

The workshop was conducted from October 12 -15, 2010 in Kota Kinabalu, Sabah, Malaysia and was jointly organized by the Sabah State Ministry of Agriculture and Food Industry/Sabah Fisheries Department as host, the Malaysian CTI Focal Point in the Ministry of Science Technology and Innovation as co-coordinator, and WWF (technical support), in coordination with the CTI countries and the CTI Regional Secretariat. The workshop was supported by the partnership of the US CTI Support Program as event organizer.

The 21 participants from Coral Triangle countries were joined by 10 technical specialists. Running parallel to Day 2 of this workshop, a meeting of more than 10 LRFT Malaysian traders was held in Kota Kinabalu, with a delegation of three traders participating in Day 3 of the CTI LRFT workshop. Participants were also invited to join a field visit to grouper farming cages in Kampung Serusup.

The workshop resulted in:

1. An initial review of the existing region-wide policy framework for Ecosystem Approaches to Fisheries Management (EAFM) and the LRFT, and sharing of relevant case studies;
2. An identification of science needs among the CT6 countries for improving management of LRFT and practical applications around collecting that information at network pilot sites in selected countries;
3. a review of multi-stakeholder forums or roundtables that may be appropriate to the Coral Triangle countries and the LRFT;
4. an agreement on a common set of issues for presenting a coordinated CTI regional position at subsequent regional fora; and
5. the identification of next steps and collective efforts towards reforming the LRFT, including engagement beyond the CT6 countries

Building a consensus for the CTI on managing the LRFT requires agreement on a common set of issues for presenting a coordinated CTI regional position at subsequent regional fora and the identification of next steps and collective efforts towards reforming the LRFT, including engagement beyond the CT6 countries. These were defined for each of the three main workshop themes, the results of which are summarised below.

## **An EAFM Approach to the LRFT**

From an extensive list of needs identified by the workshop participants to successfully apply an EAFM approach, the following six were given the highest priority for meeting regional needs related to LRFT, the CTI and CT6 countries:

- The need to base national level fisheries management policies on EAFM principles, with LRFF fishery as a priority illustrative example, particularly in addressing the issue of balancing harvesting rates with production capacities of reef ecosystems;
- The need for CT6 countries to collaborate to encourage (now) and require (later) that Hong Kong/China governments work to ensure imported live reef fish are from responsibly managed and legal sources (i.e., not IUU);
- The need for complementary management standards to be developed, promoted, and enforced across CT6 countries for high risk LRFT species (e.g. Hump Head Wrasse);

- The need to encourage and facilitate Public-Private Partnerships for full-cycle aquaculture/mariculture of important LRFT species using better management practices;
- The need to standardize the management of LRFT across the CT6 countries – in terms of codes of practice; certification and traceability; and
- The need to standardize statistical data needs on LRFT species relevant to CT6 countries capacities to improve the management of the LRFT

## Science Needs for Management

The workshop recognized that science as a key component for EAFM is currently under-valued in the Coral Triangle countries. While some data is being collected, there are substantial gaps in knowledge relevant to LRFF fisheries as well as to all coastal and inshore finfish fisheries.

While specific science needs were prioritized, CT6 participants also acknowledged addressing some of these priorities will require external support and partnering amongst CT6 countries (NGOs, governments, academic institutions) and international agencies to achieve success in establishing data collection programs. Examples of support may include technical assistance, capacity bolstering, collaborations, sharing of lessons learned, and engaging additional technical partners such as NOAA.

Science needs from all six CT countries were compared to identify biological, ecological and socio-economic commonalities both for country-specific objectives and similar objectives across multiple countries. Priority science needs identified include:

- To determine the seasonality, location and behavior of Fish Spawning Aggregation Sites by spawning species;
- To improve knowledge of the status of stocks of coral fish and their habitats in order to inform management on exploitation rates, particularly in relation to stock recovery;
- To improve knowledge of basic life history characteristics of the main target species at geographically relevant scales;
- To support development of “viable” full-cycle mariculture production through improved knowledge and technology transfer, technical assistance and market intelligence; and
- To improve traceability (i.e. chain of custody) of LRFF coming from wild-caught and aquaculture production.

## Roundtables and Forums

Based on Goal #2, Target #4, Actions #1 and 2 of the RPOA, the Workshop participants (through their EAFM Focal Points), recommended that the SOM approve continued work towards the formation of an inclusive CTI multi-stakeholder initiative (also known as a Round Table) that seeks to ensure the sustainability of the Live Reef Food Fish Trade. The workshop participants recognized the issues and concerns around the ongoing over exploitation and unsustainable practices of the LRFT and an acknowledgement that all actors along the LRFF supply chain have an important role to play in the sustainable production of LRFF. The workshop participants agreed that platforms such as forums and roundtables would be an appropriate mechanism for involving multiple stakeholder including CT6 governments and private sector in improving the sustainability of the trade. The CTI Workshop recommended that any such initiative should address, but not be limited to, the following core issues:

1. The current high demand for wild LRFF, exotic species, small fries;
2. The current lack of regulations on fish size (i.e. size at maturity, juvenile);
3. Direct shipments of LRFF from producer to importers that bypass in-country exporters (i.e. IUU fishing);
4. Illegal/bad practices by stakeholders along the value chain (i.e. trading small or undersize fish, transporting other wildlife together with live fish to compensate for loss earnings)
5. Traceability of LRFF

6. The current poor state of collection of data on biology and socio-economic indicators;
7. Low level of awareness on the issues surrounding the sustainability of LRFF amongst stakeholders along the value chain;
8. Unfair pricing for fishers/collectors/buyers; and
9. The current high mortality of LRFF during transport.

Based on this common agreement the CT6 country delegates to the regional exchange proposed the establishment of a Technical Sub-Working Group under the EAFM Working Group to consider the appropriate model in which a multi-stakeholder initiative can be implemented to promote the sustainability of the LRFT. It was further agreed by the participants to request that the Senior Officials (during SOM 6) task the EAFM Focal Points and Regional Secretariat, as appropriate to:

- Formulate and endorse the composition of the aforementioned Working Group (involving the CT6 governments, the markets and the private sector),
- Formulate and endorse terms of reference of the aforementioned Working Group

### **Participation in APEC-supported LRFFT regional workshop session as CTI**

An APEC-supported LRFT Workshop (*Market-Based Improvements in the Live Reef Food Fish Trade*) is scheduled to be held in February 2011 in Indonesia. The participants of the CTI LRFT Workshop are invited to present the results of the October 12<sup>th</sup>–15<sup>th</sup>, 2010 Kota Kinabalu Regional Exchange Workshop (*Ecosystem Approaches to a Sustainable Live Reef Fish Trade in the Coral Triangle*) as part of an session on regional collaboration and coordination during the APEC-sponsored workshop. The CTI LRFT participants, through the EAFM Focal Points, recommend two speakers represent and present on behalf of the CTI and the LRFT Workshop (see TOR / Proposal for APEC Presentation):

- a) A Senior Official to present the following message on behalf of the CTI to APEC participants on the topic of LRFT
  - The CT 6 are working together as a block towards managing the LRFT in their waters,
  - The CT 6 are working toward more sustainable and ecosystem-based fisheries practices region-wide to protect our resources and food security,
  - The CT 6 seeks the cooperation of other nation states and LRFT stakeholders to move the LRFT towards sustainable and equitable practices.
- b) An EAFM Focal Point from one of the CT 6 countries, who was also a Participant from the CTI LRFT Regional Exchange workshop, to present the results of the workshop including the recommendations to SOM (from this Exec Summary and Final Report).

### **Road Map Forward**

This workshop has successfully contributed to the designated Regional Actions under Target 4 of Goal 2 of the RPOA. To this point the LRFT has been acknowledged as a demonstration fishery through which to achieve a component of the CTI's RPOA for GOAL 2.

As the work-stream for the developing a regional EAFM roadmap proceeds, the LRFT will continue to intersect with this overarching EAFM goal at a operational level, particularly with regard to having demonstration sites at national levels, to recruiting private sector “champions” and integrating them into these demonstration sites and in developing LRFT policies in support of EAFM principles (i.e. IUU). It is feasible that all three of the themes addressed during this workshop will be applied at varying levels in support of achieving regional EAFM goals. A plan for next steps in this work stream has been developed. The major milestones include:

November 2010: Report to NCCs and Agencies

- LRFT Workshop Team sends Executive Summary and Draft Decision Memo to PNG Focal Point for presentation to the SOM in Manado from 10<sup>th</sup>–12<sup>th</sup> November, 2010
- LRFT Workshop Team sends the Executive Summary, followed by Report to all participants and the CTI Regional Secretariat.



January 2011: APEC FWG LRFFT Workshop Representatives Identified

- The CTI LRFT participants, coordinate with EAFM Focal Points to identify and recommend two speakers for the APEC Workshop in February, 2011
- A Senior Official to present the CTI and a Message from CTI to APEC participants on the topic of LRFT, and
- An EAFM Focal Point and Participant from the CTI LRFT Regional Exchange to present the results of the workshop including the recommendations

January 2011: Establishment of a Technical Working Group (optional)

- The LRFT Team, consisting of CT6 representatives and partners begins to work with CTI Secretariat or EAFM Working Group to form a small sub-Working Group (involving the CT6 governments, the markets and the private sector) and to formulate and request endorsement of a Terms of Reference for this Working Group

Jan/Feb 2011: APEC FWG LRFFT Workshop preparation

- The LRFT Team works with nominated EAFM Focal Point to prepare presentation for the APEC Workshop in February, 2011

March 2011: APEC FWG LRFFT Workshop implementation

- CTI Representatives present at APEC, including recommendations from LRFT workshop and TOR for CTI Informal Working group
- Non-CT APEC member economies endorse CTI Informal Working group in Workshop Recommendations

May/ August 2011: Work with CT6 EAFM Focal Points to prepare for first CTI Forum on Management of and International Trade in Coral Reef-Based Organisms including developing national level networks

Sept/October 2011: First CTI Forum meeting held with support of CTI Secretariat or EAFM Working Group

# I. INTRODUCTION

## I.1 Background

In support of the CTI Regional Plan of Action target to achieve more effective management and more sustainable trade in live-reef fish, a regional exchange workshop on *Ecosystem Approaches to a Sustainable Live Reef Fish Trade in the Coral Triangle* was proposed. The four day workshop was held from October 12-15, 2010 in Kota Kinabalu, Sabah, Malaysia through the support and partnership of the US CTI Support Program as event organizer, the Sabah State Ministry of Agriculture and Food Industry/Sabah Fisheries Department (co-host), the Malaysian CTI Focal Point in the Ministry of Science Technology and Innovation (co-coordinator), and WWF (technical support), in coordination with the CTI countries and the CTI Regional Secretariat.

The first theme of the CTI workshop focussed on a *Common Understanding of and Support for EAFM to guide management of the LRFT* through sharing, reviewing and synthesizing EAFM policies in the context of the LRFT. This included CT6 country updates and reviews, expert and case study presentations with discussions on policy needs and capacity gaps. The second theme focussed on *Science Needs for Management of the LRFT* including defining relevant performance indicators for various levels of operators. This component aimed to develop a common vocabulary through scene-setting, expert presentations and discussion at the CT6 country level on what science was needed, what science was available and capacity needs through case studies.

The third theme of the workshop focussed on *Developing Forums and Roundtables*. Participants heard case studies through presentations from experts and practitioners who discussed their appropriateness and the feasibility of applying the concepts to building stakeholder consensus on a regional Coral Triangle platform for LRFT. Sessions included practical exercises to develop the specific purposes and recommendations for a CTI round table on reef fishes. The final workshop theme focussed on preparing a CT6 regional position on specific LRFT issues for a larger, multi-sectoral and broader geography meeting on LRFT being conducted in Indonesia in March 2011 under the auspices APEC Fisheries Working Group. Recommendations from this regional exchange will be submitted to the Senior Officials Meeting (SOM) of the CTI for consideration (Annex 4).

## I.2 Objectives

The purpose of the workshop was to support regional collective action of the CT6 countries to have EAFM applied through an illustrative fishery and a parallel activity that contributes to improved management of a Live Reef Food Fish (LRFF) Fishery, leading to a more sustainable trade. The emphasis was on actions that either could not be achieved by individual countries or could be enhanced via collective and consensus approaches and activities, including through engagement with countries beyond the borders of the Coral Triangle. The workshop was structured simply with a mix of plenary sessions to present policy reviews; updates, information, guiding principles, case studies and results of break-out sessions; and several break-out sessions by either country/region or by topic (See Appendix I). The workshop had three themes or topics and one synthesis session:

- The first theme focused on creating a *Common Understanding of and Support for EAFM to guide management of the LRFT* through sharing, reviewing and synthesizing EAFM policies in the context of the LRFT. This included CT6 country updates and reviews, expert and case study presentations with discussions on policy needs and capacity gaps.
- The second theme focused on identifying *Science Needs for Management of the LRFT* including defining relevant performance indicators for various levels of operators.
- The third theme of the workshop focused on developing *Forums and Roundtables* through case studies presentations from practitioners and discussion as to the appropriateness and feasibility of these fora towards building stakeholder consensus on a regional Coral Triangle LRFT platform.
- A final session focused on preparing a CTI regional position on specific LRFT issues for a larger, multi-sectoral meeting on LRFT being conducted under the auspices of the APEC

Fisheries Working Group; with these recommendations also being submitted for consideration by the Senior Officials Meeting (SOM) of the CTI.

### 1.3 Workshop References

The Coral Triangle Initiative's Regional Plan of Action (RPOA) second goal to have an *Ecosystem Approach to Management of Fisheries (EAFM) and other marine resources fully applied* includes the target of achieving *more effective management and a more sustainable trade in Live Reef Fish and Reef-Based ornamentals*. The US CTI Support Program Regional Activities for 2010 aim to support the regional collective action of having EAFM applied through an example fishery and a parallel activity that contributes to improved management of LRFF Fishery's leading to a more sustainable trade:

- RPOA Action 1 (*Develop a collaborative work program on management of and international trade in coral reef-based fish and ornamentals*) and
- RPOA Action 2 (*Establish an informal CTI Forum on Management of and International Trade in Coral Reef-Based Organisms*).

A CTI forum will be proposed and discussed, and will initially restrict itself to the trade in LRFF. This regional exchange workshop will also support development of a common CT6 position towards specific policy, management and science needs arising from the LRFFT.

### 1.4 Participants

A small group (approximately 20 persons) of managers, policy specialists and scientists from the six Coral Triangle countries participated, in addition to local and international technical subject matter experts from CTSP partners and others (NOAA Fisheries, Univ HK, WWF, CI, TNC) (Annex 2).

### 1.5 Workshop Process

The first half day of the workshop was used to provide an overview of LRFT previous and current initiatives, to highlight the need for regional and trans-boundary actions and to place the LRFT into its context as illustrative fishery to implement an EAFM strategy. This was followed by presentations by each of the CT6 countries on their status of the LRFT. The morning session wrapped up with a "visioning" session led by the countries on what a responsible and sustainable LRFF industry for the Coral Triangle region might look like.

The afternoon session of Day 1 and the morning of Day 2 of the workshop were dedicated to the first of the three (3) workshop themes – "*EAFM policy review and sharing of lessons learned*". This theme opened with a presentations by EAFM experts on i) the Practical Application of EAFM Policy to LRFT fisheries in the CT, including an overview of existing LRFT and EAFM policy in each country and an emphasis on control points along production and marketing chains; ii) the Governance Gap and an EAFM with an emphasis on scaling up EAFM locally to achieve provincial and or national-level outcomes and iii) Local Case Studies from the Pacific where EAFM had been incorporated into LRFF fisheries management plans. These presentations were followed by two breakout sessions. The first breakout asked each of three (3) mixed groups to answer a single thematic question, either on i) policy gaps and needs for managing the LRFF fishery within an EAFM framework, ii) specific policy and management options needed to achieve sustainability of the production system or iii) where or what were critical control points for which management actions will have the greatest effect. The second breakout had each country team identify the top three to five policy and management recommendations for the management of the LRFFT within and beyond the CTI region.

The second day of the workshop continued with the second theme – "*Science Needs for Management*". There were three presentations within this theme, i) an overview of "minimum" science needed to enable the LRFF fisheries in the CT to be managed under an EAFM; ii) results from a survey of CT6 countries on type and quality of existing data collection programs grouped according to biological, ecological and socio-economic data; and iii), a case study of a multi-stakeholder LRFFT project being undertaken in the Philippines, demonstrating how biological, ecological and socio-economic data are being used to improve management of the LRFF fishery. Break-out groups by country were used to prioritize country science needs according to main

objectives and identify assistance needed to enable countries to meet priorities, followed by a plenary session to synthesis commonalities

The third day of the workshop focused on the last of the workshop themes – *Forums and Roundtables*. The first session included presentations from experts introducing the roundtable approach, case studies on existing roundtable models and identifying benefits of using roundtables to challenge “business-as-usual” outcomes and scenarios. Iterative breakout sessions followed to first consider whether industry sector initiatives were appropriate to sustainability goals and what issues they could address, and second, to identify how to move forward with a regional CTI LRFT Forum.

The last day of the workshop focused on developing a common set of issues and how to present a coordinated CTI regional position on policy, management, science needs, and multi-stakeholder initiatives at the upcoming APEC-supported LRFT workshop in Indonesia. The sessions included preparing the content of a decision memo for consideration by the CTI Senior Officials at the SOM 6 meeting in Manado in November 2010. The workshop closed with agreements on next steps by theme beyond these regional fora including regional coordination mechanisms to improve management effectiveness for the LRFT.



Participants at the CTI Regional Exchange on LRFFT

# II. WORKSHOP SESSIONS

## Day I Overview

The first half day of the workshop was used to provide an overview of LRFT previous and current initiatives, to highlight the need for regional and trans-boundary actions and to place the LRFT into its context as illustrative fishery to implement an EAFM strategy. This was followed by presentations by each of the CT6 countries on their status of the LRFT.

### Session I.1: Opening Ceremony

#### **Workshop Overview and Process by Dr. Stacey Tighe, US CTI Support Program Integrator**

Dr. Stacey Tighe, representing the US CTI Support Program Integrator, opened the workshop session after the Opening Ceremony with introductions of the Resource Team and participants. She then walked the participants through an overview of the workshop structure, process, and logistics.

### Session I.2A: Where are we now? The status of LRFT in the Coral Triangle

#### **CTI and the LRFFT by Dr. Darmawan, CTI Regional Secretariat**

Dr. Darmawan (Coral Triangle Initiative Secretariat) presented an overview of the Coral Triangle region, including the history of the Coral Triangle Initiative. Dr. Darmawan walked the participants through Coral Triangle Initiative key dates, accomplishments, mechanisms, set-up and structure. Milestones that were underscored included the CTI Summit held in 2009, the Roadmap of the CTI 2010-2011, Regional Priority Actions, and the upcoming First Annual CTI Report, due at the end of the year. He tied this LRFF workshop effort to the Regional Plan of Action, highlighting the LRFFT mentioned in Target 4, and how this workshop particularly responds to Regional Action #1 and #2 under this target. In closing, he emphasized the importance of recognizing the cross boarder and regional nature of the LRFFT, and the related and inherent challenges that must therefore be tackled.

#### **US CTI Support Program Overview by Mr. Peter Collier, US CTI Support Program Integrator**

Mr. Peter Collier began his talk on the US Coral Triangle Support Program with a presentation of gifts. He then presented an overview of the US Coral Triangle Support Program, and how it functions mainly through regional, national, and local initiatives. The program structure was outlined, as well as the participating agencies and organizations, and their role. Members of the US Coral Triangle Support Program encompass the US Department of State, US Agency for International Development, US National Oceanic and Atmospheric Administration, the CTSP consortium of NGOs (WWF, TNC, CI), and the PI. The program has three main topical foci: MPAs, CCA, and EAFM. In addition, the program has identified priority geographies which are targeted through several types of program support such as small grants and Regional Exchange Programs. Mr. Collier underscored the program team's desire and efforts to help strengthen platforms across the Coral Triangle region.

#### **Priority Actions and the CTI Context by Dr. Geoffrey Muldoon, WWF Coral Triangle Network Initiative (CTNI)**

Dr. Geoffrey Muldoon (WWF) presented priority actions and the live reef food fish trade (LRFFT) context to the plenary. He began with an overview of the history of LRFFT and previous initiatives, highlighting the localized nature and discrete aspects of these past efforts. Dr. Muldoon also depicted the trade flows of LRFFT and stressed the need for more regional and trans-boundary actions. A synthesis of Coral Triangle Initiative Live Reef Food Fish (LRFF) Priority Actions was presented, comprised of the Regional Stakeholder Workshop held in Hong Kong in November 2009, the Regional Exchange Program on October 2010, and the upcoming APEC Fisheries Working Group

meeting proposed for March 2011. Dr. Muldoon described the foci and objectives of each workshop. He suggested that in the context of EAFM, LRFF can be seen as an illustrative fishery and a candidate fishery to implement an EAFM strategy. Dr. Muldoon then outlined the various activities WWF has been involved in within the region.

## **Indonesia**

The country team profiles and status reports began with Indonesia presenting the team members present at the workshop and the country's background statistics. A synopsis of the country's marine biodiversity followed, highlighting five species found in the LRFFT. It was mentioned that Indonesia does not specifically maintain statistics on exports of LRFF, but rather the data presented was extrapolated from Hong Kong "import" data collected by the Agriculture Fisheries and Conservation and Census and Statistics Departments. From this data, it was estimated that 2500-3000 tons of fish are harvested per year, with an estimated 2500 or more tons exported abroad per year. An overview of the legislation and/or regulations governing LRFT was presented, as well as enforcement issues which included IUU, lack of funding, human resources, facility, and a lack of commitment. While no NPOA Priorities have yet been developed, Indonesia has created 11 Fishery Management Areas and held meetings and public consultations regarding EAFM, including conducting some small pilot projects. Several challenges were mentioned, including destructive practices and IUU, poor enforcement, low public awareness, over-exploitation of CITES listed species such as Humphead wrasse (HHW), and lack of fishery sector integrated policy and programs, low fisherman education, and lack of data, among others. Indonesia has had no known successes in managing the LRFFT, as they have yet to make assessments. The presentation concluded with "needs to improve the LRFFT" and hopes for the workshop which discussed the possibility of an annual meeting of the CT6 within the region.

## **Malaysia**

Malaysia began their discussion of the indigenous LRFF issues by first commenting on the geographic and economic statistics at both the national and state (Sabah) level. The speaker stated there was MYR 6.3 million (USD 2.1 million) of fishing landed in the country. In 2008, ~90,642 Kg of Grouper were landed. Of that, 17,800 Kg was comprised HHW, exported by air. The value of the exported HHW was estimated at MYR 6 million (USD 2 million) and the main market Hong Kong. Considering the whole LRFF market, 70% is comprised of grouper and wrasses, including HHW. A concern to the speaker was the some of the HHW was coming into Malaysia from other countries as the price offered by Malaysian traders was higher than some of its neighboring countries. These fish are then re-exported to Hong Kong but the country of origin is Malaysia as opposed to the source country (e.g. Philippines). Sabah has recently stopped the issuance of export licenses for HHW. One of the positive developments the speaker cited was the multiple studies on LRFF conducted in the past few years that have provided the government with access to new biological and socio-economic data.

The Malaysian CTI Regional Program of Action makes specific mention of LRFF. Malaysia noted that they have made good progress in reducing the use of poisons in the LRFF industry. They hope to improve their efforts at tracking fish imported into Sabah from neighboring countries and then re-exported to Hong Kong/China. The speaker acknowledged many of those fish are coming from southern Palawan, Philippines. The speaker also mentioned that it is his belief that the laws that cover the LRFF fisheries are insufficient as they don't manage for individual species, such as minimum sizes for export. They are hoping to amend these laws to get more precise legislation that allows the government to target specifics.

## **Papua New Guinea**

The team from Papua New Guinea reported that major fishery exports were highlighted, which demonstrated that LRFFT is not a top fisheries export of PNG. The history of the LRFFT in PNG was presented, outlining the fact that this has been a non-continuous fishery due to distance from the market centers and the presence of less than 100 fishers in each management area at a time. An overview of the legal context governing the LRFFT was presented, focusing on regulations, licensing, enforcement (MCS, observers, and academe), and fishery management plans under the Fishery

Management Act 1998. Challenges highlighted included making EAFM work in a practical sense with LRFF fisheries, incorporating the management of HHW exports, and getting multi-stakeholder involvement. Successes highlighted included the completion of a review process for LRFF management using EAFM through a multi-stakeholder participation process, and the identification, with the help of TNC, of peak periods for nationwide fishery closures of spawning aggregation sites (SPAG) for species protection. The presentation concluded with the identification of needs (resources, technical expertise, financing, and a non-detrimental finding for (HHW) and hopes from the workshop, specifically to learn from other countries present and to both meaningfully and practically implement plans for the LRFF within the Coral Triangle.

## **Philippines**

In the Philippine team report, the size of the LRFF fishery was outlined, including the number of artisanal and commercial fishers engaged in the wild-capture, and aquaculture sectors at, municipal, and provincial level. The Philippines mentioned that while the LRFF are harvested nationally, they only have known export LRFF statistics compiled for the State of Palawan. For Palawan, an estimated 7801 tons of fish were exported in 2009, involving approximately 15,000 fishers and 60 traders. The presentation outlined the legal and regulatory framework relating to the trade in LRFF, which included the Republic Act No. 8550 and the current ban on HHW exports (e.g. no CITES listed species allowed for export regardless of their Appendix listing), although currently commercial culture of threatened species is allowed (including clams, corals, and others).

Laws specific to Palawan were also presented, which included outlawing cyanide use, the accreditation of industry players, and seasonal fishery closures. Enforcement remains challenging, with continued poaching, IUU, and an insufficient number of patrol vessels. While stronger actions are occurring in Palawan with the help of NGO and research partners, several challenges remain. These include a lack of political will and support, the issue of managing across multiple jurisdictions (i.e. municipal and national), the need for industry cooperation along the supply chain, climate change impacts and resilience needs, dealing with the perception of fisheries as a commons, and low disincentives to fishers not to commit illegal acts. Successes include engagement of stakeholders in targeted municipalities of Taytay, Araceli and Quezon (although there needs to be more) and establishing some local SPAG protection in these municipalities. The presentation concluded with a short list of needs, notably for more studies, more data collection along the supply chain, and the need for stakeholders to understand and buy into the EAFM concept.

## **Solomon Islands**

The Solomon Islands team outlined the history of the LRFF in the Solomon Islands, including the status of the fishery from 1994 to the present. The LRFF fishery in the Solomon Islands is small with sporadic activity since the first shipment of fish in 1994. A moratorium was imposed on the LRFF Fishery in the late 1990's, which was subsequently lifted and a licensing system put in place. The last licensed export of LRFF was in 2002 although according to data obtained from the Hong Kong governments import records, there were exports of LRFF to Hong Kong and China in 2007 and 2008. Currently, a management plan has been drafted, with assistance from TNC, and this should be ready for implementation by 2011. Within the legal context of the Solomon Islands, both the national and provincial levels have authority over the LRFF operation/sector.

## **Timor-Leste**

The Timor-Leste participants acknowledged that their country does not yet have a LRFF fishery, but that LRFF species are currently exported as fresh, frozen, and dry goods. They have been engaging in ongoing marketing, focused on the entire trade chain. It has been noted that their fish exports run through two similar but different paths: 1) producer – middlemen – restaurants, or 2) producer – middlemen – and then a split to both restaurants and/or directly to the consumer. The Timor Leste delegate also mentioned that they were focusing on the future development of a fish trade management plan, structured as: fisher – auction house – fish market – consumer. It was noted that although they do not yet have a LRFF as traditionally understood, the potential for trade in local fishery species is quite large. For example, seaweed aquaculture and the reef fish and ornamental fish

trade is poised to be a big export sector, particularly if investment in the aquaculture and mariculture industry is instituted as proposed.

## Session 1.2B Where do We Want to Go? Vision Session

The session on creating a vision statement was introduced by Dr. Geoffrey Muldoon who led the participants through a presentation on what a visioning process might look like using some examples of visions from other programs and organizations. Participants were then divided into breakout groups and instructed to identify elements for what a vision statement for a responsible and sustainable LRFF industry for the Coral Triangle region would look like. A summary of the Group Work on Refining Vision for a Responsible and sustainable LRFF industry for CTI from the first day of sessions are.

1. What SHOULD the LRFF look like in 10 years?
  - Informed
  - Industry involvement
  - Public private partnerships
  - Enforcement
  - Mariculture
  - Management plans with EAFM
  - Seamlessly integrated supply chain
  - Sustainable
  - Profitable
  - Socially responsible
  
2. What ACTIONS needed in next 5 years to achieve this?
  - Implement regulations (EAFM, size, export, industry self regulations, etc)
  - Standard Codes of Practice
  - Enforcement
  - Fishery management plans
  - Incentives
    - Traders participate in management
    - Platforms for encouraging involvement
    - Raise awareness along the supply chain
    - Better science – reef production capacity
  - National eco-labeling
  
3. Who will be CHANGE AGENTS that make this happen?
  - **INDUSTRY PLAYERS**
  - Fishers and farmers
  - Retailers/restaurateurs/traders
  - Exporters
  - **POLICY MAKERS**
  - Fisheries
  - Environment
  - Local Governments
  - **ACADEME**
  - NGOs/CBOs
  - Communities
  - Increase in price
  - Consumer advocacy (green fish)
  - Complicated supply chain vs vertically integrated producer (less influences from market forces)
  - Incentives and Technical assistance



While there were some differences between the groups, there were more similarities. With respect to change agents, a request was made for clarification on the point “complicated supply chain vs. vertically integrated producer”. The example provided was, in Sabah, where there are producers who also become traders, and control exports all the way to Hong Kong. Reference was made to a concurrent workshop being held for LRF producers and traders and it was noted that they would be joining our workshop on Day 3 and the opportunity should be taken to gain some in-depth views on this suggestion.

### **Session 1.3: EAFM and LRFF Basics**

Dr. Andrew Smith introduced the session. He stated that there were 4 objectives including: (1) understanding of the legal and political challenges of the LRFF within the context of EAFM, (2) the political gaps and needs, (3) what are the existing types of policies and how are they balanced for/not touching upon LRFF, and (4) what are the political and management options for production and marketing chains.

#### **EAFM approach to policy making for the LRFF trade by Dr. Peter Mous, People and Nature Consulting International (PNCI)**

Dr. Peter Mous started his presentation with a series of charts that were put together by the University of British Columbia that looked at EAFM performance based on a number of indicators. 3 of the six CTI countries were included so it offered a generally valid discussion point for the CTI. He noted that the CT countries were not doing particularly well but that this was the case for the most of the countries in the study.

His discussion of EAFM also included a proposed definition. He stated that EAFM, for him, is that the ecosystem approach is applied as a multi-species effort and one that can be defined as “healthy ecosystems that support fisheries.” Contrast this to the ‘classical’ definition of fisheries management in which only a few species are managed and where fish mortality is at a level where catch is optimal. The emphasis in the latter definition is on “targeted” species and not the ecosystem as a whole, especially non-targeted and bycatch species. He proposed several questions to the floor including the definitions of destructive fishing and overfishing. As a point of distinction, overfishing refers to using legal methods and gears He stated that, conceptually for many fisheries managers, overfishing is more difficult concept to deal with. Overfishing, as defined by Dr. Mous, is at the point where if you want to catch more (in the long term) you need to catch less (in the short term) in order to allow for stocks to replenish and recover. The LRFF is a niche fishery that is part of broader coral reef fisheries that target the same specie and this begs the question of whether LRFF fisheries need specific management plans or whether they can be addressed under general fisheries management plan(s) for demersal reef fisheries

A study of fisheries policies in the CT countries relevant to the LRFF was undertaken by Dr. Mous and a paper produced from that. A key issue identified in this was the potential mismatch between national government policies and how they are actually applied on the ground. Indonesia was used as an example, where it was stated that “countries have some more grandiose goals such as becoming the largest producer of marine fish in the world or increasing national access to new fisheries”, the point being to demonstrate the conflict between countries fishery production aspirations and need to implement EAFM . He noted that only PNG has specific legislation on LRFF which is grounded in an EAFM approach.

Given the diversity and nature of the LRFF fishery, the question was asked as to how to determine the limits of LRFF extraction without any detriment to fish stocks and the ecosystem generally? Furthermore, the question was raised as to how to ensure that quotas, where assigned, could be enforced? To achieve EAFM outcomes there is a need to identify control points – points along the supply chain where fish are consolidated and where the number of actors is fewer – through mapping trade routes and value chains and by the force of national laws. HHW is an example whereby the annual catch quota is based on a thorough, computer driver model which gives yearly catch allocation in #s of fish that can be exported within the CITES permit, that will not have a detrimental effect of fish populations. Indonesia is one country that has signed onto this process and despite setting a quota, experts question whether compliance with the quota is being followed. The

reality is that while the intent may be there, the implementation, including MCS, which can lead to a conservation outcome is not being followed. Somewhere in the implementation stage, the process ceases to have relevance in the field anymore and nobody follows it.

Another question he posited is how best to balance the harvest rate with the productivity of coral reefs. There is clearly a science component to that. Dr Mous also mentioned that all the statistics are for HHW being exported by air. He felt that two to three times that amount was being trans-shipped to Hong Kong and China by sea. Given his familiarity with Indonesia, another issue he highlighted was that Indonesia records its commercial fish exports, including HHW, in kilograms rather than in the numbers of fish, as is the unit used for recording of CITES.

### **The Governance Gap and EAFM by Dr. Nygiel Armada, USAID FISH Project**

Dr. Nygiel Armada, the next speaker, stressed that the governance gap, the gap between existing legislation and actual implementation of regulations across jurisdictions, is what is needed to be reduced. He used the FISH project in the Philippines as a case study to describe how that might be achieved. The FISH project chose 4 sites in which to engage with its constituents and the project goal was to change the exploitation habits of fishermen that would lead to increases in the overall fish stock biomass. As the Philippines is a highly decentralized country, the modes of delivery of the FISH program were capacity building, constituent building and other, local efforts. Firstly, he posited the question to the audience on what needs to be done to go about accomplishing that. .

EBFM was the concept the FISH program followed but they localized the concept – meaning they applied it locally. The project initially chose 12 recommended actions that would allow it to apply EBFM in their four sites. In order to better manage for success, they chose 4 of the 12 recommended actions that could be implemented during the life of the project, these being (1) defining the unit of management of the project (defining boundaries) that was adaptive, (2) development of indices of ecosystem health as targets, (3) fisheries interventions for measuring and showing gains and (4) developing a governance system.

Some specific examples of #3, fisheries interventions were creating a MPA network that began with developing the information as to their placement by carrying out studies to best determine siting. This served as a laboratory for community learning. In addition, they applied species and gear restrictions, implemented closed seasons, registered fishers through issuing of licenses. An information and education campaign was also integral to introducing fisheries interventions. Measuring the gains of their actions was accomplished by carrying out combined fisheries independent and dependent surveys. These “monitoring” efforts allowed the project to demonstrate the gains to the local communities which created further buy-in.

Establishing good governance was a challenge. There was a constant need to evaluate the management unit to reflect the ecosystem. In addition, due to the devolution of responsibility to manage fisheries and the ecosystem to the lower political levels, co-management between the national, provincial, municipal and local governments was required. In addition, collaborators – local and international NGOs - in the process also needed to be a part. Another governance challenge was the “equity issue.” Some of the winners under the FISH program were those that were using illegal or controversial gear. Some of the losers were using gear that was more selective and best for the fishery. Even as the biomass increased, those that played by the rules were not always rewarded.

Dr. Armada noted that the importance of law enforcement to the program’s success. In his view, the most successful projects were those that created political and enforcement alliances among the government units. In closing, he stated that governance needs to be at the “right-scale”, meaning that the scale of governance need to be consistent with the size or “unit” at which the ecosystem needs to be managed or the systems won’t work.

### **Local Case Studies: Incorporating EAFM into LRFF Fisheries Management Plans by Dr. Andrew Smith, The Nature Conservancy (TNC)**

Dr. Smith provided some context as to the efforts to manage the LRFF fisheries in the Pacific. In the Pacific, government agencies had adopted the FAO definition of an Ecosystem Approach to Fisheries (EAF) which he defined as a “set of principles and a framework to improve management (adaptively)

and to build upon what systems are currently in place (not starting over).. On a continuum of definitions, EAF is looking at applying the ecosystem approach to fisheries whereas EBFM can be described as managing fisheries within an ecosystem context. The take home message is that EAF and EBFM can deliver the same end result, which can also be considered very much akin to Integrated Coastal (Zone) Management.

In the Pacific, all 22 countries have agreed to implement EAF, a huge challenge given the diversity in geography and peoples. These countries have focused mainly on coastal fisheries, which are characterized by subsistence, small scale and artisanal fisheries (rather than the offshore tuna fisheries). A recent study found that (1) efforts should focus on trying to minimize the impact on target species, (2) maintaining healthy and resilient ecosystems is key, (3) increasing stakeholder participation will improve compliance and (4) recognizing alternative uses like tourism will be instrumental in moving forward on achieving an EAF approach.

In practice, this study suggested that there was a need to (1) scale back production expectations, (2) apply the precautionary approach, (3) protect key areas for increased resiliency, (4) implement rights based methods of fisheries governance and (5) integrate sectors where it makes sense to do so on the ground. By way of demonstrating the slow pace at which efforts to implement this approach are proceeding, Dr Smith noted that while EAF compliant measures existed they were not necessarily couched within the EAF framework. Mostly, there wasn't a specific focus on policy in these compliance measures, however, these principles are in line with tradition/customary use. And while there is a lack of science and data that would usually accompany EAF decisions, this was partially offset by local knowledge. Dr Smith's core advice was that achieving EAF in these challenging geographies "is about evolution not revolution".

Managing the LRFFT in PNG and SI is the current focus of TNC and Dr. Smith's work. In PNG, TNC carried out a review of the existing fishing effort, although PNG hasn't had an operating LRFF export industry effort for several years. A principal motivation for this is that the government and some businesses within PNG are considering engaging once again in the LRFFT after some interest from businesses in Hong Kong. The current focus of effort is on completing stakeholder reviews. Solomon Islands, given its proximity to PNG, works with the latter on these efforts.

The management review process in PNG has adhered to the following processes: 1. all key stakeholders have been identified, 2. background and information has been provided to key stakeholders for discussion, 3. all issues identified through this process are considered in the broader context, 4. issues are prioritized on the basis of a 'risk assessment' model to target management efforts needed, 5. building upon existing management efforts to ensure implementation is possible, 6. highlighting the need for maintenance of the fish stocks to ensure that there is a fishery and 7. the application of adaptive management systems. Risk assessment, as mentioned in the context of management efforts, can be both qualitative and quantitative.

## Session 1.4: EAFM-LRFT SYNTHESIS DISCUSSIONS

Breakout sessions were then introduced. The group discussion was lead by Mr. Lindsay Chapman and zeroed in on the specific policy and management options needed to achieve greater sustainability of LRFF production systems.

### Breakout Questions

1. Based on your experience and knowledge, what are the legislative and/or policy issues, gaps and needs to be able to manage the LRFF fishery within an EAF management framework?
2. What are the specific policy and management options that are needed to achieve sustainability of the production system?
3. Where are the most critical control points (nationally, and within and beyond the CTI-region) along the production and marketing chains where specific policies and/or management actions will have the greatest effect?

## Discussion

The discussion began by going around the table of CT representatives, with each person suggesting one or two key ideas. Mr. Chapman led the group into a roundtable discussion where several issues were highlighted. The group emphasized the connection between fishery management plans and policies, and the effectiveness (or lack thereof) of enforcement and monitoring of such policies.

This raised the issue of governance, and what it takes for strong governance and policy enforcement to occur. It was suggested that strong governance requires three main elements: authority, autonomy, and an ecosystem approach. Once strong governance is established, then the tools for monitoring and the enforcement of policies can be successful in their application.

A core question raised by the group was on how to deal with or manage the end or consumer markets themselves? This included issues such as the Hong Kong factor, which encompassed consumer demand and control of the supply chain, the practicalities and realities of certification, how to increase consumer acceptance of cultured instead of wild caught fish, and the opportunity to communicate local policies to Hong Kong that could assist with enforcement. In general, the group explored how the Coral Triangle region countries as a whole, might be able to influence Hong Kong, particularly at a government to government level.

The group was in agreement of the need to move consumers away from a dependence on wild caught fish toward cultured fish, and what might be the possible mechanisms to facilitate that move? Suggestions included tax holidays for aqua-culturists and incentives for investment in culture research/technology. It was also suggested, that the focus should be on specific species, such as coral trout – in which to invest our efforts to achieve improved sustainability. By way of lessons learned, the Humphead Wrasse example was put forward whereby the initial disinterest in culture techniques for HHW has turned around on the back of bans on exports of wild-caught HHW coupled with increasing demand leading to extreme prices. It was pointed out that consideration must be given to the large investment that must be made up front in order to establish aquaculture as a viable option to wild caught fish – including financing mechanisms, controlling the increasing interest in the sector so as to manage environmental impacts, and the diffusion of technology necessary to perform full cycle aquaculture production of key species.

The group also discussed possible ways to address the trans-shipment and re-export issues, the former being shipments by sea to Hong Kong and China for which there are a paucity of reliable data and the latter being trans-boundary trade within the CT before exporting out of the region. Several aspects were highlighted and discussed with the key issues identified being: the possibilities for bi-lateral and multi-lateral discussions; how to improve tracking of fish from country to country (including where LRFF are re-exported); licensing and the related terms and conditions that would be required to better manage trade; and the possibility of establishing a Coral Triangle-wide regional effort with a system targeted at monitoring and controlling LRFF transport ships that come into ports through mechanisms such as taxes, port fees, or permit/licensing system for vessels. This latter point intersects with IUU and Port State Measures requirements.

Lastly, the group stressed the need for unified, clear definitions of terms. This is particularly important when discussing what a cultured/cultivated/farmed fish is. The reference here is to the difference between full-cycle culturing of LRFF from hatcheries compared to wild harvested fish being placed in cages (sometimes for very short time periods) for grow out—known as “ranching”—before being marketed as ‘farmed’ fish. Until these definitions are clearly defined and accepted within the industry, the gaps and possible loopholes regarding what are wild caught and aquacultured fish will remain a problem difficult to enforce.

## DAY 2 Overview

Mr. Michael Abbey recapped on the previous day's presentations and discussions with a brief update of the morning session on Day 1 that talked about LRFT and CTI Regional Action along with a summary of the CTI6 country presentations on LRFT status. He summarized the various principles of EAFM, as they applied LRFF that were presented along with examples of where EAFM had been implemented within the region that had been presented in the afternoon session.

### Session 2.1 EAFM-LRFT SYNTHESIS

Dr. Andrew Smith facilitated this break-out session. The participants were divided into 4 sub-regional groups, namely Indonesia, Malaysia & Timor-Leste, Philippines, and PNG & the Solomon Island. Each group was given 45 minutes to list down answers to each of the questions, after which a system of rotation occurred. Groups were asked to rotate in order to view other group's discussion points and to provide their feedback on these. The facilitators stayed with their original groups notes so as to be able to explain the key points to the in-coming groups. This rotation lasted for 30 minutes (10 minutes with each of the other groups) before the original members returned to their own discussion notes where they were given a further opportunity to revise these based on their observations of other groups notes.

#### Breakout Questions

1. What are the specific national and CTI-wide policy actions and management agreements that would be required to more effectively manage the LRFFT along the production and marketing chains?
2. What are the top three to five policy and management recommendations that could lead to the better management of the LRFFT within and beyond the CTI region?

## Discussion

### Indonesia

The Indonesian working mentioned first that they would like to make a small disclaimer, that the group didn't necessarily have the right capacity to decide policy activities, but that the following ideas were simply their suggestions.

Question 1 focused on priority actions that should be developed. The working group firstly noted that the NPOA was an important resource to answer this question. The working group suggested a first priority action is to develop government regulations that work under key existing fisheries laws and regulations, particularly law 31/2004 (recently revised in 2009), 27/2007 on coastal and small island management, and government decree 61/2007 on fish resources conservation. In addition, the group mentioned the need to harmonize or integrate any existing and potentially contradicting laws and regulations. A second priority action was to address IUU fishing within Indonesia. A third priority action was to develop indicators that inform adaptive management, ideally inspired by the recent Bogor Workshop in September 2010.

Question 2 inspired a lot of discussion amongst the working group members, but only one suggestion rose to the top. The working group suggested that Indonesia should try to establish government regulations to prohibit non-local vessels from direct shipments of fish. In other words, they wanted to target the issue of foreign vessels which can enter Indonesian waters and directly ship LRFF from Indonesia without proceeding through Customs, etc.

The group then visited other working groups and received feedback from the Solomon Islands, PNG, and the Philippines. PNG suggested the Indonesia working group might discuss more concrete regulations to inform management regulations to prevent overfishing of LRFF. The Philippines

suggested that the response to Question 1 regarding the development of new regulations and laws could be more specific to LRFF, rather than 'fisheries' in general.

Another point raised was the need for specific definitions of terms such as aquaculture – how to differentiate full scale aquaculture from wild caught or grow out facilities so that regulations may govern appropriately the resource as it is harvested and moved through the trade stream.

The returning Indonesia working group discussed responses from the other countries among the group. The working group discussed the possibility of developing specific species-based Fishery Management Plans (FMPs) in order to address and prevent overfishing. This type of FMP may also be able to address the issue of defining aquaculture and aquacultured fish (as opposed to wild harvest or grow out in cages). These actions are suggested to be done through KEPMEN as ministerial decrees.

### ***Malaysia & Timor-Leste***

The participants from Malaysia and one participant from Timor-Leste formed one group. They identified the following key national policy actions required to more effectively manage the LRFFT: a.) capability to regulate and sustain domestic trade; b.) capability to apply EAFM; c.) capability to monitor enforcement through monitoring control and surveillance d.) promote environmentally friendly fishing gear to protect habitat; and e.) establish a code of practice on LRFFT for both fishers and traders. For CTI-wide actions, the group proposed a.) an export monitoring mechanism for LRF to provide standard statistics; b.) a policy on trans-shipment of fish; c.) specific species management policies across borders; d.) certification and traceability of LRFF; and e.) the establishment of a unified front as LRFF producer countries.

### ***PNG and Solomon Islands***

The participants from the PNG and Solomon Islands identified the following national policy actions to more effectively manage LRFFT: a.) finalise and gazette revision of LRFF fishery management plans; b.) finalise revision of national fisheries acts – already incorporate EAFM principles; and c.) review HHW management both nationally and across the CTI 6 countries. Specifically, PNG participants said their country can use licensing conditions to strengthen LRFFT management so that people can be charged with multiple offences when these occur. On the other hand, participants from the Solomon Islands said the government should increase penalties and fees to deter LRFFT. Throughout the CTI, the group said the Coral Triangle countries should standardize management of LRFFT across all six countries; management policies concerning HHW should also be consistent across all countries; collaboration among CT6 countries should be enhanced to address demand pull coming from Hong Kong and China; and lastly encourage public-private partnership for aquaculture and mariculture of threatened fish species that are involved in LRFFT.

### ***Philippines***

The participants from the Philippines proposed the following policy actions at the national level: a.) propose legislation / management plans specific to LRFF/reef fish; b.) embed LRFFT standards into national legislation; c.) provide tax incentives for business to do research / improve practices; d.) investigate opportunities for moratoriums on fisheries – offsetting requirements needed to acknowledge livelihoods such as different species as caging alternatives; e.) increase efforts to reduce LRFFT by rotating of closed areas; and d.) resolve the disconnect between local/municipal and national legislation with regard to only permitting exporting of LRFF from full-cycle hatchery-sources.

On a regional scale, the participants proposed the following Coral Triangle -wide policy actions: a.) establishment of trans-boundary legislation to deter poaching of LRFF from neighboring countries; b.) address undocumented exports through bi-lateral negotiations; c.) consider transitional periods for affected fishing communities when implementing new policies; d.) embed standards and Codes of Conduct / Best Practice for LRFT into CTI policy statements; and e.) provide livelihood and financial assistance for small-scale fishers who will be affected by the policy changes aimed at reducing LRFFT.

## **Marine Ornamental Mariculture Workshop by Dr. Glynnis Roberts, National Oceanic and Atmospheric Administration (NOAA)**

Dr. Roberts presented the upcoming NOAA Coral Mariculture workshop to develop international standards for coral mariculture. The workshop will help identify possible reporting codes for permits and annual reports to distinguish maricultured coral from wild-harvested corals as required by CITES Appendix II listed corals. The workshop is a follow up to the NOAA organized workshop for coral exporting countries in 2001. The rationale for this proposed workshop is because since 2002 there has been an increase in production of coral through fragmentation such as in situ, open aquarium systems and inland aquarium facilities. The workshop is proposed to be held in Indonesia and to target industry, scientists, exporters, resource managers and CITES officials and proposed to be held in early 2011. The workshop is proposed to:

- Develop guidelines on in situ culturing of corals including optimal harvest of wild corals, maintenance of “brood stock” and strategies to fragment, attach and grow out corals
- Recommendations on methods to reduce wild harvest and ultimately replace wild harvest with corals produced through mariculture
- Reporting codes for the CITES Appendix II listing to differentiate maricultured corals from wild harvested corals
- Training in propagation of corals

There was general agreement by the participants and countries that this workshop is needed to build their capacity in mariculture.

## **Session 2.2 Science for Management, EAFM LRFT Synthesis by Mr. Michael Abbey, NOAA**

Mr. Abbey extended regrets from Dr. Robert Schroeder who was originally scheduled to convene this session. This presentation provided an overview of the NOAA agencies marine activities in the US including weather, climate, coastal zone management, coral reefs, ocean research and fisheries. NOAA's Fisheries Service, with ~2000 employees has responsibility for managing fish stocks in the US through implementing a maximum sustainable economic yield approach, which it achieves through a combination of protection of marine life under the Endangered Species and Marine Mammal Protection Acts, through permitting and licensing activities, and carrying out of stock assessments and social impact assessments. The focus of NOAA on marine fisheries is due to this industry contributing \$60 Billion to the US economy annually. He noted reasons why we must seek to succeed in address the issues posed by LRFFT including that:

1. The Life-history of target species makes them particularly vulnerable to depletion by fisheries because:
  - Carnivorous predators such as grouper sit atop the trophic food web
  - These top predators are often naturally low in abundance, compared to fish lower down the food web – that is they have low recruitment
  - Typically these fish are long-lived and mature late in life
  - Many species aggregate to spawn making them vulnerable to overfishing; and
  - A increasing proportion (sometimes more than 50%) of all species targeted by the LRFFT, are being taken while still undersized and immature (i.e. juveniles).
2. This value of these species in the LRFFT has led to localized depletion of targeted fish stocks because of competition for resources has reduced food and livelihoods security for coastal residents, most of whom are subsistence fishers. The LRFFT is boom & bust industry and is largely unregulated resulting in unsustainable fishing practices. The social, economic, and ecological cost to coastal communities is high and this is exacerbated by buyers from demand countries who dominate and capitalize on poor economic conditions and policy gaps in CT6 supply countries. ‘Sustainability’ is the focus of the US assistance for LRFFT in the Asia-Pacific (e.g., GBR may already be sustainably managing their grouper stocks).

3. Endangered (IUCN Red List) status of the Humphead or Napoleon Wrasse: As a CITES Appendix II listed species, capture and export of HHW requires the source country (e.g. Indonesia) conduct a 'non-detriment finding' that fixes a quota on the number of individual fish that can be exported without having a detrimental effect on the environment. Mr. Abbey posed the question that IF the science was available to enable countries to determine that extracting a certain number of fish will be 'non-detrimental' then could that scientific capability be applied to other LRFF species, to create rights or quota-based management schemes? If not, how are countries determining what is the sustainable quantity of other LRFF species for export? How do countries respond if someone asks for the documents?
4. Demand for these LRFF resources is increasing at the same times as these species are becoming more scarce, further increasing their value leading to a perverse incentive to continue fishing for LRFF—even juveniles.
5. Fishing for these top predators destabilizes the coral reef ecosystem. The loss of top predator disrupts natural reef functions and their removal allows for lower trophic-level, less desired fish to become more abundant while the ecosystem functions of these top order predators are lost.
6. The LRFFT is reducing reef biodiversity; which helps provide 'ecological insurance' for reef ecosystems (i.e. in a "natural" ecosystem loss of certain species can be compensated for by a similar species of the same trophic level that can occupy its place and help maintain resilience and ecosystem integrity. Where overfishing occurs, this resilience is compromised.

Mr. Abbey pointed out the need for systematic data to be collected on status of marine ecosystems, including data on key indicators of pressures such as (i) linking human activities (fishing, non-fishing) to changes in ecosystem indicators, (ii) use of models to support adaptive management strategies for sustainable use. As noted above LRFF life-history characteristics make many fish populations vulnerable to overexploitation. e. Habitat loss and/or degradation through destructive fishing (e.g. poisons) can compound these.

His presentation outlined the following as objectives for consideration when exploring means to mitigate some of the negative impacts of current LRFF practices. These include:

- Establishing a current 'baseline' of stock status for LRFF species
- Monitoring change over time in stock status
- Monitoring fishing patterns (e.g., traveling farther/ fishing deeper to maintain catches)
- Establishing a network of MPAs (no-take or limited use) in the rights sites and of an appropriate size, to ensure their effectiveness
- Preventing associated impacts to non-target species (bycatch), protected species, reef habitat, and ecosystem functions
- Minimizing illegal, unreported and unrecorded (IUU) fishing or poaching

His presentation also recommended several management options for consideration including:

- Zoning/MPAs (no-take) - setting areas aside for subsistence only fishing and others areas for LRFF commercial take
- Instating spatial and temporal closures (species-specific spawning seasons, permanent closures such as MPAs)
- Gear restrictions- banning certain gear types (cyanide, mor0-ami, dynamite), restricting gear modifications (e.g. minimum mesh-sizes)
- Species restrictions (e.g., ban taking of IUCN red-listed species such as HHW, not permitting fishing on spawning aggregation sites, not allowing the taking of juvenile/ immature fish through species size restrictions on wild-caught product.
- Licensing and permits at dedicated control points along the supply chain that come with specific reporting requirements
- Limited entry and catch quotas



Lastly NOAA/USAID CTI proposed a 5 step approach to improving sustainability in the LRFT, this being:

1. Re-engagement on more comprehensive scale
2. Collaboration and Technical Assistance
3. Scientific Management and Policy Advice
4. Training and Capacity Building and
5. Assistance with alternative approaches.

The NOAA-USAID partnership with NGOs and CT6 host countries should help improve sustainability and allow for more equitable value distribution along the LRFFT chain, within an EAFM context. Even the best fishery biology and management will have little benefit if enforcement is lacking or inadequate. CT6 countries need to develop locally supported and effective enforcement measures to ensure critical to success. Mr. Abbey stressed NOAA was willing to collaborate with the participants based on requests and the outcome of the workshop.

### **Science for LRFF Sustainability - The Taytay Bay, Palawan, Philippines Initiative by Mr. Raul Maximo, Palawan Council for Sustainable Development (PCSD)**

The case study outlined a partnership between the Municipal government of Taytay, Municipal Fisheries and Aquatic Resources, WWF-Philippines and PCSD to improve the sustainability of the Live Reef Food Fish Trade in the Taytay Municipal in northern Palawan in the Philippines. The partnership also included other stakeholders such as DA-BFAR in the Philippines, USAID, Danish Development Agency, NOAA and the Western Philippines University. The project objectives included the development of management policies, incorporating a sustainability plan for the LRFFT in Taytay and providing technical assistance to build Local Government Unit capacity. Taytay accounts for 60% of Northern Palawan's LRFFT fisherman whose inventory includes around 2,586 cages (including submerged, hanging and floating fish cages) covering 23,480 HA (lease and concessions), for consolidation and grow-out of LRFF. The study included a survey of income (from the LRFFT and other sources), an inventory of resource users, estimates of catch per unit effort (CPUE) for target species, reef fish and benthic underwater visual surveys, monitoring of differences in growth rates and discolorations of *P. leopardus* in captivity in floating and hanging fish cages, catch composition for commercial LRFF species in the fishery and policy reviews. A scoping study on LRFF industry demonstrated that due to depletion of inshore stocks fishers are travelling farther to fishing grounds to maintain catches. The study also assessed: the impacts from the use of hookah and cyanide, the extent of unregulated resource-use (i.e. unlicensed fishers), the continued increased catch of LRFT from the wild and use of low value "trash fish" as feeds for grow-out of LRFF.

The key outcomes of the projects included implementation of an ordinance incorporating LRFFT regulations, the establishment of fish sanctuaries in three sites, the introduction of closed and open seasons and the identification of SPAGs. There was also the adoption of a voluntary fisheries code of practice. Other outcomes included consideration for the introduction of quotas systems and the installation of fish warden station at on one of the fish spawning aggregation sites in Tayaty Bay. Future efforts in Palawan will include: ongoing inventory and monitoring of LRFF cages and fishers , which will be expanded beyond Taytay to include a further seven municipalities, documenting the distribution and evolution of caging practices and fishing gears used, and the application of grassroots stakeholder initiatives to user conflicts. During the Municipal and Provincial LRFF summit, a sustainability plan and LRFF action plans were adopted. Future activities will include MPA management plan development, resource monitoring, environmental law enforcement, production of low cost feed, study on seasonality of fecundity and spawning of *P. leopardus* in southwest (South China Sea) and northeast (Sulu Sea) of Palawan.

### **Session 2.3. Break Out by Sub-Regions**

A break out session followed wherein participants discussed questions on the scientific needs of each CT6 country in tackling LRFFT. The participants were asked to identify the gaps in each country and what management measures are needed to address these. The small groups were then asked to report back to the plenary with results summarized by country grouping in the table below

Objectives	Management Measures (Options)	Parameters to Measure/Monitor	Measurement Frequency / Resolution
<b>Indonesia and Timor-Leste</b>			
Understand status of fish stocks to inform management	Stock assessments	<ul style="list-style-type: none"> <li>- Species composition</li> <li>- Biomass</li> <li>- Size distribution</li> <li>- Geographic distribution</li> </ul>	Once per two years, data aggregated by fishery management area (WPP, <i>Wilaya Pengelolaan Perikanan</i> )
Understand status of habitats and ecosystems to esp. in respect to impacts of fisheries and other sectors.	Habitat and ecosystems assessments	Geographic distribution and quality of ecosystems and habitats (e.g. location and coverage of reefs and mangroves, live coral cover)	Once per five or ten years
Support development of mariculture	Conduct research on new culture technologies (e.g. Napoleon wrasse larvae, disease control)	-	-
Encourage fishers and traders to exploit resources in sustainable and responsible ways.	Socio/economic and governance study how to provide incentives for adherence to sustainable and responsible practices	-	-
<b>Malaysia</b>			
To determine the seasonality and location of SPAGS to protect species	Focus on Key species (e.g. <i>P. Leopardus</i> ) Delineate boundaries as potential MPA; Close and opens season	<ul style="list-style-type: none"> <li>- Location and extent</li> <li>- Number of Individuals</li> </ul>	Monthly verification at sites
Knowledge of Status of Stocks to inform management on biomass and rates of exploitation	Focus on Key species (e.g. <i>P. Leopardus</i> ) Through creel surveys, UVS, Market Samples	<ul style="list-style-type: none"> <li>- Density</li> <li>- Population Structure</li> <li>- Location caught</li> <li>- Volume</li> <li>- Fish size, length</li> </ul>	Weekly (twice weekly) UVS – 2 to 3 years Market – Daily Morphology - weekly
Use habitat condition as proxy to inform LRFF stock status and exploitation	Use habitat status as one proxy to determine carrying capacity where data on stock status limited – Use Rough Rules of Thumb to establish exploitation limits	<ul style="list-style-type: none"> <li>- Coral cover,</li> <li>- Coral diversity</li> <li>- Water quality</li> </ul>	Baseline assessment Assess every 2-3 years
Biological / Life History Information to inform regulation	Focus on Key species (e.g. <i>P. Leopardus</i> ) Determine length at maturity and size limits for exploitation	<ul style="list-style-type: none"> <li>- Length, weight</li> <li>- Gonad weight</li> <li>- Otoliths aging</li> </ul>	Year long survey Market
Traceability of LRFF coming from wild-caught and aquaculture production, including trans-boundary	Distinguish between wild-caught juveniles for grow-out and full cycle culture fish	<ul style="list-style-type: none"> <li>- Chain of custody of fish</li> <li>- Location and production source</li> </ul>	Ongoing Logbooks/documents

<b>Philippines</b>			
To determine the seasonality and location of SPAGS per species	Delineate boundaries as potential MPA; Close and opens season	Location and extent Seasonality by key target species	1. Key informant 2. Field verification monthly initially 3. Narrow down the F based on 2
To undertake stock assessment	Determine exploitation limits; Determine whether single/multiple stocks	Number of fish, sizes Genetics	After baseline, assess every 3 years unless major event (e.g. Bleaching); Correlate with SPAGS
To determine the status of habitats LFF overtime	Use habitat status as a proxy to determine carrying capacity – exploitation limits in correlation with stock assessment	Coral cover, other resident species	After baseline, assess every 3 years unless major event (e.g. Bleaching)
To determine length at maturity	Determine size limits for exploitation	Length, weight, gonad weight /length and otoliths aging	Annual
To determine the pharmaco-kinetics of cyanide	Strengthen the CDT as accepted method	Cytokinetics of cyanide	
To establish carrying capacity of livefish caging	Determine carrying capacity of marine waters for livefish caging	Physical parameters of water quality	Annual
To determine the biology and technology for the full cycle culture of key species	Establish technology for the full cycle culture of key species	Full biology of key species	One time
To determine the chain of custody for the LRFFT	Establish traceability of the fish for identification of key monitoring points for effectiveness	actors , entities, procedures, documents to secure, fees for each stage of the trade	One time
<b>PNG and Solomon Islands</b>			
Seasonality of SPAGs: Protect SPAGs in order to maintain spawning stock biomass	Closed areas (seasonally) Gear restrictions	UVC (species length and numbers) Traditional knowledge CPUE through logbooks (including location of catch) Size data, sex and fecundity Observers; Market surveys	Annual Ongoing Ongoing  100% coverage Seasonally
Stock Assessment: Understand stocks to maintain healthy resources	Quotas Gear restrictions Limited licenses Effort controls	CPUE through logbooks (including location of catch) Size data, sex and fecundity Observers; Market surveys	Ongoing  100% coverage As necessary
Lifecycle in nature: Protect critical habitat used by LRFFT target species during their lifecycle	MPAs/MMAs	Biological sampling DNA/tissue analysis Tagging and recapture	Seasonally every 2 yrs Ongoing Tagging over 2 years, tag recovery ongoing
Habitat Assessment: Assess connectivity of the different habitats and their health			

Following the breakout sessions, there were two poster presentations. Chitra Devi from WWF-Malaysia presented three posters. First was the *Kawasan Lindungan Marin membantu meningkatkan sumber perikanan* which gave a short overview of the status of demersal fish stock in Peninsular Malaysia and two posters from the Save Our Seafood campaign. The last two posters are campaign materials used in the SOS campaign to educate the public on the status of Malaysia's fisheries resource and the role that consumers play in contributing to unsustainable consumption and what they can do to help stop this pattern.

Michael Abbey presented a poster on the Comparative Analysis of Marine Ecosystems Organization - a NOAA and US National Science Foundation effort to provide science based information on ecosystems for policy makers and managers. The goal of CAMEO is to provide the fundamental understanding of and predict marine ecosystem organization and production, particularly in response to climate and fishing, required for ecosystem-based management.

## Day 3 Overview

The third day of the workshop focused on *Forums and Roundtables*. The first session included presentations from experts introducing the roundtable approach, case studies on existing roundtable models and identifying benefits of using roundtables to challenge “business-as-usual” outcomes and scenarios. Iterative breakout sessions followed to first consider whether industry sector initiatives were appropriate to sustainability goals and what issues they could address, and second, to identify how to move forward with a regional CTI LRFFT Forum.

### Session 3.1. Business-as-Usual” by Ken Kassem, WWF-Malaysia

Global fisheries are in decline, and the LRFF fisheries are no exception to this trend. LRFF fisheries have expanded from the seas near Hong Kong and the Philippines in the eighties to countries throughout the Asia-Pacific today, leaving behind depleted reefs that are much less productive than they good have been if the fishery would have been better regulated.

Mr. Kassem said the demand for live reef food fish has been significantly increasing in recent years and is predicted to dramatically increase as personal income rises in southern China. The supply of wild-caught fish will not be able to meet this demand. The question is whether or not aquaculture can do so. Based on the experiences of the farming of salmon, aquaculture is not without its issues. The presentation highlighted the considerable challenges posed by the live reef food fish trade and asked the question, “Is there hope?” The elements of the vision statement and change agents from day 1 were used to suggest that there is hope.

Nevertheless, there is hope for improvement, with governments, communities, LRFF fishers and traders, and universities taking action to address over-fishing and destructive fishing practices. Such action is badly needed, as a business-as-usual scenario will have severe repercussions (e.g. people along the production chain will lose jobs, restaurants will go out of business, and the flourishing food tourism of Sabah will decline, and these effects will ripple through national economies).

### Session 3.2. Priority Issues and Cooperation

#### Presentation on Models of Cooperation by Mr. Darryl Webber

Mr. Webber introduced roundtables or initiatives that cover the entire value chain where participants have equal rights, and operate on the basis of consensus. Consumers have become more critical, they now check for “do no harm” labels when buying products. Along with increasing consumer awareness, importance of “do-no-harm” investment funds increased: The volume of sustainable investment funds increased from 2.5 to 14.8 billion Euro over the period 2002-2006. He noted as an example the Roundtable on Sustainable Palm Oil (RSPO), an initiative that was started in 2003, and that led to a first shipment of certified sustainable palm oil in 2008. Options for roundtable approaches in the LRFFT are: a. use existing initiatives (e.g. MSC); b. use regional initiatives, and c. create a new initiative. To be even more successful than RSPO, Mr. Webber recommends the following actions: a. introduce incentives, b. design a monitoring and evaluation program, c. establish a secretariat for the initiative, and d. use professional facilitators.

#### Case study: The Pacific Round Table by Mr. Etika Rupeni, Foundation of the Peoples of the South Pacific International

Mr. Rupeni presented the Pacific Islands Roundtable for Nature Conservation, which was started by conservation NGOs 1997 with the objective to increase effective conservation action. Its main instruments are annual conferences and an Action Strategy and Code of Conduct. The Roundtable is structured around issue working groups (threatened species, protected areas, climate change, offshore fisheries, etc.), and the roundtable is supported by a coordinator, a monitoring working group, and a roundtable management group. Mr. Rupeni gave five ways how this Roundtable helped to achieve more effective conservation. The Round Table designed a “code of conduct” comprising 8 principles for conservation programs in the Pacific. He closed noting six processes - stakeholder

involvement, collaboration, adding value to other networks, monitoring & evaluation, inclusiveness, and efficient channeling of effort - that were critical to the success of this Roundtable.

### **Case study: Sabah LRFF Traders Association by Mr. Irwin Wong, WWF-Malaysia**

Mr. Wong of WWF- Malaysia introduced two LRFF traders, Mr. Choong of O.S. Akurternak Sdn Bhd and Mr. Yong of Usahajaya Akuakultur Sdn Bhd. What are the threats to their businesses? The most important threat is illegal trade, which has made it almost impossible for legal traders to run their businesses. In Malaysia, export of HHW is illegal, but keeping HHW is not.

Outlawing the keeping of HHW in the Philippines and Indonesia, as well as the confused regulatory framework there, resulted in a shift of HHW keeping to Sabah. Because the profits for HHW are high with HHW now selling at 700-1000 MYR (USD 235 – USD 336) per kg in China, one ton of illegal shipment already makes it profitable. After which, the profit margin on the nine tons of other species will not matter much. Traders who illegally ship HHW also pay high prices for the other species just to quickly fill up the hold. This also increases prices for other species and consequently it has become very difficult for legal traders who do not export HHW to run a business. Collecting vessels have increased shipments from twice to three times a month. The traders recommend that the government improve and enforce regulations. The traders of Sabah will form a consultative group, a process where WWF-Malaysia's help is appreciated. The traders welcome dialogue with the representatives of each of the countries, and the traders also

### **Plenary Discussion**

Mr. Webber facilitated the discussion and explained that the private sector can play a role in providing solutions to some of the problems that the LRFF sector faces. This session aimed to get agreement among participants whether an industry sector initiative is necessary to achieve sustainability in the LRFF trade. The session also aimed to identify issues that a forum with private sector participation should address in order to avoid the business-as-usual scenario.

#### **Breakout Questions**

1. Do you agree that an industry sector initiative, regardless of the mechanism, is imperative in order to achieve sustainable LRFF trade?
2. What are the key issues that a private sector multi-stakeholder forum/roundtable initiative can do or should address to avoid the "Business-as-Usual" scenario?

The first group tackled the question by discussing the perspectives of the different players (fishermen, buyers, traders, distributor, retailers and consumers) in the LRFF trade. The group noted that the fishermen will be more concerned about sustainability issues and fishing practices as these could directly affect their income. The traders and exporters on the other hand will be more concerned about transportation issues while the retailer and the consumer usually lacks awareness on sustainability issues. All sectors, however, have to address the issue of the unsustainable and illegal fishing practices related to the trade.

The second group suggested an industry or sector initiative was necessary to achieve sustainable LRFF trade. The key issues that a multi-stakeholder roundtable could address should include:

1. High demand and preference for wild, exotic species and small fries;
2. Lack of regulations on size of fish preferred by the LRFF;
3. Direct shipment between producers and importers;
4. Lack of awareness among players regarding environmental impacts of the trade; (5) bad or unsustainable fishing practices used; and
5. Traceability of a fish when it reaches the market.

The group also identified the following LRFF trade players that need to be involved in the initiative (a) consumers, (b) producers/farmers, (c) exporters/traders, (d) restaurants, (e) retailers, (f) transporters and (g) fishermen.

### Session 3.3. Round Table Feasibility Session

The Round Table feasibility session aimed for participants to agree on a common set of sustainability issues that could be addressed through multi-country, multi-stakeholder forums. It also intended to review and recommend models for establishing multi-country, multi-stakeholder forums or roundtables that may be appropriate and or feasible to the Coral Triangle countries and the LRFT. At the same time, the session aimed to build a clearly-defined stakeholder consensus on a common position to present a coordinated CTI *regional position* at the upcoming Asia Pacific Economic Conference (APEC) LRFFT workshop in November 2010. Moving forward, the session also tackled concrete steps on how to address the issues of market based, multi-stakeholder interventions on LRFT at the APEC Fisheries Meeting scheduled on February/March 2011.

#### Breakout Questions

1. Is there value in pursuing any of the mechanisms in the previous presentation? Could a specific model or a blend of models be the way to address the issues identified in the earlier breakout session?
2. If yes, should a specific working group be assigned to identify the shape of the appropriate mechanism? Who will decide the composition and the terms of reference of such a working group? If no, what model would the participants resolve to have?
3. What would be a feasible timeframe in which to identify the appropriate model and provide a concept?

### Discussion

The two groups agreed that a guiding body or Round Table for LRFT would be of value for the Coral Triangle region. The first group suggested that it should be multi-stakeholder and consensus-based and should be set up by either the CTI SOM, the CT6 governments or APEC. The group suggested that the ideas formed during the workshop should be submitted through a concept paper at the upcoming CTI SOM meeting in November. The second group supported a “blend of models” that could work for the Coral Triangle region. The body should be multi-stakeholder and include buyers – such as those in Hong Kong and peninsular China – to be more effective. In the plenary discussion, Mr. Wong of WWF-Malaysia noted that a multi-stakeholder initiative is important but will only be effective if includes buying countries and traders who can influence government policies.

The participants agreed that the composition of the working group is to be decided by the governments of the six Coral Triangle countries and should include stakeholders within the supply chain including those in the buying countries. It was also suggested that once a working group is created, it would take at least six to 12 months before that group could be approved.

### Session 3.4: Workshop Review by Theme

Ms. Tighe opened the session with an outline of what would be covered in the session. She presented the summaries of the two themes covered over the first two days of the workshop. Darrel covered the third theme discussed earlier in the day.

## **Role of EAFM at the National and Regional Level**

Three main points were presented that had been agreed by most groups during the earlier discussions, plus three additional points that some groups had raised. There was good discussion between the 6 countries with some changes made to the wording and agreement reached on the three main points. The other points were left for people to consider overnight and there was still scope to add new points or make changes to the three agreed in principle so far.

All countries agreed that EAFM should be incorporated wherever possible in future approaches in line with the CTI Regional Plan of Action (RPOA). During the discussions, Indonesia raised several points that had been raised through the Indonesian High Commission in Hong Kong. The Hong Kong Government proposed to regulate imported aquatic product that are used for human consumption. The requirement is the certification from a competent authority in health. In addition the government requires a signed statement from fishing vessels skipper to say the fish onboard have been caught by sustainable fishing practices. This proposal only covers LRFF imported into Hong Kong. Fresh and frozen products are not covered by this proposal. The proposal comes from the Director of Food and Environmental Hygiene Hong Kong SAR.

It was agreed that these were new issues that had not been discussed by the group, and that these would be considered as future issues for discussion by the CTI 6 countries.

## **Science for management**

Again, Ms. Tighe presented the main points that had been synthesized from discussions on day two of the workshop. There was some discussion and some small changes made to the proposed text, with all 6 countries agreeing in principle to these for further consideration on the final day. During the discussions it was agreed to change the term SPAG to Fish Spawning Aggregations (FSAs).

## **Roundtable /Coordination Mechanism**

Mr. Webber facilitated a summary of the points raised from discussions earlier in the day. There was considerable discussion to come up with some agreed text. However, some of the discussion was deferred to the next day so a small group could refine some of the text. It was decided that the initial draft text needed to be cut back and tailored for presentation to the SOM6 meeting.



## Day 4 Overview

The last day focused on developing a common set of issues and how to present a coordinated CTI regional position on policy, management, science needs, and multi-stakeholder initiatives at the upcoming APEC-supported LRFT workshop in Indonesia. The sessions included preparing the content of a decision memo for consideration by the CTI Senior Officials at the SOM 6 meeting in Manado in November 2010 (Annex 4). The workshop closed with agreements on next steps by theme beyond these regional fora including regional coordination mechanisms to improve management effectiveness for the LRFT.

### Session 4.1: APEC Preparation

#### **Introduction to APEC Fisheries LRFFT workshop by Dr. Geoffrey Muldoon, WWF CTNI**

The Coral Triangle, a marine region bounded by Indonesia, Malaysia, Papua New Guinea and the Philippines is a major source of reef fish destined for the LRFFT markets mainly in Hong Kong and China. Reef fisheries, including LRFF, provide livelihoods and food for hundreds of millions of people. Despite ongoing efforts to reduce impacts of the LRFFT, it continues to pose major challenges to the future sustainable use of this marine resource and there remains a need for a whole chain-of-custody approach and innovative programs supporting responsible fisheries capture and aquaculture through mechanisms such as best practices and other trade and market-based initiatives.

With support from the APEC Fisheries Working Group and the WWF Coral Triangle Program an international workshop is being held in Bali, Indonesia in March-2011 bringing together regional participants from government, industry, NGOs and the scientific community. The workshop is focussed on (i) building agreement on mechanisms or frameworks that can provide the platform for cooperative engagement on sustainability outcomes and (ii) designing a roadmap for implementing policy initiatives and market-based LRFFT conservation reforms consistent with an Ecosystem Approach to Fisheries Management (EAFM)

Participants were advised that the APEC workshop, agenda would contain a session on Regional Collaboration and Cooperation, with the former being focused on public-private partnerships and the latter on bi- or multi-lateral efforts between governments. Within this context it was proposed to report to this APEC meeting on the outcomes from the USCTI Regional Exchange Workshop (*Ecosystem Approaches to a Sustainable Live Reef Fish Trade in the Coral Triangle*). As such the Workshop participants, through their EAFM Focal Points, will ask the SOM6 delegates to agree to the following proposal to have two speakers representing the CTI at this meeting:

1. An EAFM Focal Point and participant from the CTI LRFT Regional Exchange LRFT Workshop present the results of the workshop including the recommendations; and
2. A Senior Official to present on behalf of the CTI to a) acknowledge that the CT6 countries are working together towards improved management of the LRFT under an EAFM and b) seek cooperation from other nations and stakeholders who are part of the APEC community to support the efforts of the CT6

The group also developed a draft recommendation (see the box below to be presented at the CTI Senior Officials Meeting in Manado outlining the proposal to establish a CTI multi-stakeholder forum, involving the private sector and establishing a technical working group to consider the appropriate forum model.

**Draft Recommendation to the CTI Senior Officials Meeting  
Presented by the CT6 Delegates at the  
Regional Exchange workshop on Ecosystem Approaches  
to a Sustainable Live Reef Fish Trade in the Coral Triangle**

**ISSUES:**

The health of reef fish stocks throughout the Coral Triangle are under threat as result of over exploitation.

That the significant live reef food fish trade is a key contributor to the current and alarming downward trends in stocks of reef fish.

All actors along the live reef food fish trade supply chain have an important role to play in the sustainable production of live reef food fish.

The Regional Plan of Action and some National Plans of Action identify the need for practical solutions for a more sustainable live reef food fish trade including those from the private sector

Platforms such as forums and roundtables could be an appropriate mechanism for involving multi-stakeholder including CT6 governments, intergovernmental agencies; non-CT national governments, NGOs and scientific / academic institutions and the private sector in improving the sustainability of the trade

**RECOMMENDATIONS**

1. Consideration be given to the formation of a CTI multi-stakeholder forum, involving the markets and the private sector that seeks to ensure the sustainability of the Live Reef Food Fish Trade.
2. Establishing a technical working group which will consider the appropriate model in which a multi-stakeholder initiative can be implemented to promote the sustainability of the Live Reef Food Fish Trade.

The delegates request this recommendation be included for consideration in the agenda of the upcoming CTI Senior Officials Meeting to be held in Manado from the x to y of November, 2010 to:

- a. Formulate and endorse the term of reference of the aforementioned Working Group
- b. Formulate and endorse the composition of the aforementioned Working Group

#### **SESSION 4.2: Workshop Closing Plenary**

Overall the discussions in closing and evaluation forms were quite positive with most participants feeling the workshop had met or exceeded its objectives and their expectations. The workshop organization and materials and the range and quality of the experts were noted with appreciation. Participants noted that outputs and recommendations from all three themes were excellent given the limited time; and most commended the overall good organization of the workshop, facilitator support and guidance. Participants were comfortable with next steps and enthusiastic about the opportunities to take the recommendations forward to other CTI and regional forums.

The CT6 participants agreed that it would be critical to follow up on this workshop and to build on the momentum it has created to begin to put in place recommendations and priorities identified in relation to collection, collation and application of biological, ecological and socio-economic data as this continues to be one of the key stumbling blocks to improved management of the LRFT

# III. RECOMMENDATIONS

The CT6 participants agreed that it would be critical to follow up on this workshop and to build on the momentum it has created to begin to put in place recommendations and priorities identified in relation to collection, collation and application of biological, ecological and socio-economic data as this continues to be one of the key stumbling blocks to improved management of the LRFT

## **An EAFM Approach to the LRFT**

From an extensive list of needs identified by the workshop participants to successfully apply an EAFM approach, the following six were given the highest priority for meeting regional needs related to LRFT, the CTI and CT6 countries:

- The need to base national level fisheries management policies on EAFM principles, with LRFF fishery as a priority illustrative example, particularly in addressing the issue of balancing harvesting rates with production capacities of reef ecosystems;
- The need for CT6 countries to collaborate to encourage (now) and require (later) that Hong Kong/China governments work to ensure imported LRFF are from responsibly managed and legal sources (i.e., not IUU);
- The need for complementary management standards to be developed, promoted, and enforced across CT6 countries for high risk LRFT species (e.g. Hump Head Wrasse);
- The need to encourage and facilitate Public-Private Partnerships for full-cycle aquaculture/mariculture of important LRFT species using better management practices;
- The need to standardize the management of LRFT across the CT6 countries – in terms of codes of practice; certification and traceability; and
- The need to standardize statistical data needs on LRFT species relevant to CT6 countries capacities to improve the management of the LRFT

## **Science Needs for Management**

The workshop recognized that science as a key component for EAFM is currently under-valued in the Coral Triangle countries. While some data is being collected, there are substantial gaps in knowledge relevant to LRFF fisheries as well as to all coastal and inshore finfish fisheries.

While specific science needs were prioritized, the CT6 participants also identified addressing some of these priorities will require external support and partnering amongst CT6 countries (government, NGOs, academic institutions) and international agencies to achieve success in establishing data collection programs. Examples of support may include technical assistance, capacity bolstering, collaborations, sharing of lessons learned, and engaging additional technical partners such as NOAA.

Science needs from all six CT countries were compared to identify biological, ecological and socio-economic commonalities both for country-specific objectives and similar objectives across multiple countries. Priority science needs identified include:

- To determine the seasonality, location and behavior of Fish Spawning Aggregation Sites (FSAS) by spawning species;
- To improve knowledge of the status of stocks of coral fish and their habitats in order to inform management on exploitation rates, particularly in relation to stock recovery;
- To improve knowledge of basic life history characteristics of the main target species at geographically relevant scales;
- To support development of “viable” full-cycle mariculture production through improved knowledge and technology transfer, technical assistance and market intelligence; and
- To improve traceability (i.e. chain of custody) of LRFF coming from wild-caught and aquaculture production.

## Roundtables and Forums

Based on Goal #2, Target #4, Actions #1 and 2 of the RPOA, the Workshop participants (through their EAFM Focal Points), recommended the SOM approve continued work towards the formation of an inclusive CTI multi-stakeholder initiative (also known as a Round Table) that seeks to ensure the sustainability of the Live Reef Food Fish Trade. The workshop participants recognized the issues and concerns around the ongoing over-exploitation and unsustainable practices of the LRFT and an acknowledgement that all actors along the LRFF supply chain have an important role to play in the sustainable production of LRFF. The workshop participants agreed that platforms such as forums and roundtables would be an appropriate mechanism for involving multiple stakeholders including CT6 governments and private sector in improving the sustainability of the trade. The CTI Workshop recommended that any such initiative should address, but not be limited to, the following core issues:

- a. The current high demand for wild LRFF, exotic species, small fries;
- b. The current lack of regulations on fish size (i.e. size at maturity, juvenile);
- c. Direct shipments of LRFF from producer to importers that bypass in-country exporters (i.e. IUU fishing);
- d. Traceability of LRFF;
- e. Illegal/bad practices by stakeholders along the value chain (i.e. trade small or undersize fish, transport other wildlife commodities together with live fish to compensate for loss earnings);
- f. The current poor state of collection of data on biology and socio-economic indicators;
- g. Low level of awareness on the issues surrounding the sustainability of LRFF amongst stakeholders along the value chain;
- h. Unfair pricing for fishers/collectors/buyers; and
- i. The current high mortality of LRFF during transport.

Based on this common agreement the CT6 country delegates to the regional exchange proposed the establishment of a Technical Sub-Working Group under the EAFM Working Group to consider the appropriate model in which a multi-stakeholder initiative can be implemented to promote the sustainability of the LRFT. It was further agreed by the participants to request that the Senior Officials (during SOM 6) task the EAFM Focal Points and Regional Secretariat, as appropriate to:

- Formulate and endorse the composition of the aforementioned Working Group (involving the CT6 governments, the markets and the private sector),
- Formulate and endorse terms of reference of the aforementioned Working Group

## Participation in APEC-supported LRFF regional workshop session as CTI

An APEC-supported LRFT Workshop (*Market-Based Improvements in the Live Reef Food Fish Trade*) is scheduled to be held in February 2011 in Indonesia. The participants of the CTI LRFT Workshop are invited to present the results of the October 12<sup>th</sup>–15<sup>th</sup>, 2010 Kota Kinabalu Regional Exchange Workshop (*Ecosystem Approaches to a Sustainable Live Reef Fish Trade in the Coral Triangle*) as part of an session on regional collaboration and coordination during the APEC-sponsored workshop. The CTI LRFT participants, through the EAFM Focal Points, recommend two speakers represent and present on behalf of the CTI and the LRFT Workshop (see TOR / Proposal for APEC Presentation):

- a) A Senior Official to present the following message on behalf of the CTI to APEC participants on the topic of LRFT
  - The CT 6 are working together as a block towards managing the LRFT in their waters,
  - The CT 6 are working toward more sustainable and ecosystem-based fisheries practices region-wide to protect our resources and food security,
  - The CT 6 seeks the cooperation of other nation states and LRFT stakeholders to move the LRFT towards sustainable and equitable practices.

- b) An EAFM Focal Point from one of the CT 6 countries, who was also a Participant from the CTI LRFT Regional Exchange workshop, to present the results of the workshop including the recommendations to SOM (from this Exec Summary and Final Report).

## Road Map forward

This workshop has successfully contributed to the designated Regional Actions under Target 4 of Goal 2 of the RPOA. To this point the LRFT has been acknowledged as a demonstration fishery through which to achieve a component of the CTI's RPOA for GOAL 2.

As the work-stream for the developing a regional EAFM roadmap proceeds, the LRFT will continue to intersect with this overarching EAFM goal at a operational level, particularly with regard to having demonstration sites at national levels, to recruiting private sector "champions" and integrating them into these demonstration sites and in developing LRFT policies in support of EAFM principles (i.e. IUU). It is feasible that all three of the themes addressed during this workshop will be applied at varying levels in support of achieving regional EAFM goals. A plan for next steps in this work stream has been developed. The major milestones include:

November 2010: Report to NCCs and Agencies

- LRFT Workshop Team sends the Executive Summary and Draft Decision Memo to PNG Focal Point for presentation to the SOM in Manado from 10<sup>th</sup> – 12<sup>th</sup> November, 2010
- LRFT Workshop Team sends the Executive Summary, followed by Report to all participants and the CTI Regional Secretariat.

January 2011: APEC FWG LRFFT Workshop Representatives Identified

- The CTI LRFT participants, coordinate with EAFM Focal Points to identify and recommend two speakers for the APEC Workshop in February, 2011
- A Senior Official to present the CTI and a Message from CTI to APEC participants on the topic of LRFT, and
- An EAFM Focal Point and Participant from the CTI LRFT Regional Exchange to present the results of the workshop including the recommendations

January 2011: Establishment of a Technical Working Group (optional)

- The LRFT Team, consisting of CT6 representatives and partners begins to work with CTI Secretariat or EAFM Working Group to form a small sub-Working Group (involving the CT6 governments, the markets and the private sector) and to formulate and request endorsement of a Terms of Reference for this Working Group

Jan/Feb 2011: APEC FWG LRFFT Workshop preparation

- The LRFT Team works with nominated EAFM Focal Point to prepare presentation for the APEC Workshop in February, 2011

March 2011: APEC FWG LRFFT Workshop implementation

- CTI Representatives present at APEC, including recommendations from LRFT workshop and TOR for CTI Informal Working group
- Non-CT APEC member economies endorse CTI Informal Working group in Workshop Recommendations

May/ August 2011:

- Work with CT6 EAFM Focal Points to prepare for the establishment of the CTI Forum on Management of and International Trade in Coral Reef-Based Organisms including developing national level networks

Sept/October 2011:

- With support of CTI Secretariat or EAFM Working Group, present the Terms of Reference to establish the CTI Forum to the SOM7 meeting held in Jakarta.

# IV. ANNEXES

## Annex I: Agenda

DAY I: Tuesday 12 <sup>th</sup> October, 2010		
Time	Activity	Speaker/Moderator
08:00-08:30	REGISTRATION	
08:30-09:30	<p><u>SESSION 1.1: OPENING CEREMONY</u></p> <p>Welcoming speech by Datuk Ujang Hj. Sulani <i>Permanent Secretary of Ministry of Agriculture Food Industry, Sabah</i></p> <p>Opening Speech by His Honourable, Datuk Seri Panglima Hj. Yahya Haji Husin <i>Deputy Chief Minister cum Minister of Agriculture and Food Industry Sabah</i></p>	Government of Sabah
09:30-10:00	BREAK – MORNING TEA (Concurrent Press Conference)	
10:00-11:40	<p><u>SESSION 1.2a: WHERE ARE WE NOW?</u></p> <p>Workshop Overview and Process (15 min)</p> <p>CTI and the LRFT (10 min)</p> <p>Priority Actions and LRFT Context (15 min)</p> <p>What is the Status of LRFT in the Coral Triangle? (60min)</p>	<p>Dr. Stacey Tighe,</p> <p>Dr. Darmawan CTI Reg Secretariat</p> <p>Dr. Geoffrey Muldoon, WWF</p> <p>CT6 Representatives</p>
11:40-12:30	<p><u>SESSION 1.2b: WHERE DO WE WANT TO GO?</u></p> <p>Presentation on Vision Statements from other LRFT Fora</p> <p>Break Outs: Refining a Vision for a responsible and sustainable LRFF industry for the Coral Triangle</p>	LRFFT Core Team
12:30-13:30	BREAK – LUNCH	
13:30-15:15	<p>THEME 1: EAFM POLICY REVIEW AND SHARING</p> <p><u>SESSION 1.3 PLENARY: EAFM and LRFT Basics</u></p> <p>Practical Application of EAFM Policy to LRFT fisheries in the CT (20mins)</p> <p>The Governance Gap and an Ecosystem Approach to Fisheries Management (20mins)</p> <p>Local Case Studies: Incorporating EAFM into LRFF fisheries management plans (20mins)</p> <p>Discussion from the Plenary (45mins)</p>	<p>Dr. Peter Mous PNCII</p> <p>Dr. Nygiel Armada USAID FISH Project</p> <p>Dr. Andrew Smith, The Nature Conservancy</p> <p>Dr. Andrew Smith</p>

Time	Activity	Speaker/Moderator
15:15-15:30	BREAK-AFTERNOON TEA	
15:30-17:45	<u>SESSION 1.4: EAFM-LRFT SYNTHESIS</u> Break Out Groups by Topics and Report Back to Plenary with Discussion	Facilitators: Dr. Andrew Smith Dr. Peter Mous Dr. Nygiel Armada
	DINNER ON YOUR OWN	

DAY 2: Wednesday, 13<sup>th</sup> October, 2010

Time	Activity	Notes
7:00-8:00	Breakfast and side meetings	
8:30-9:00	Workshop Overview and Context	Mr. Michael Abbey NOAA
9:00-10:30	<u>SESSION 2.1: EAFM-LRFT SYNTHESIS</u> Break Out Groups by Sub-Region and Report Back to Plenary with Discussion with Recommendations	Facilitators: Dr. A Smith Dr. P. Mous Dr. N. Armada
10:30-11:00	BREAK – MORNING TEA Presentation on “Marine Ornamental Mariculture”	Dr. Glynnis Roberts NOAA
11:00-12:30	THEME 2: SCIENCE FOR MANAGEMENT <u>SESSION 2.2: PLENARY</u> What science does management need? What science does management have? Discussion from the Plenary	Mr Mike Abbey NOAA  Science Mgt Team  Mr. Raul Maximo Palawan Center for Sustainable Dev.
12:30-13:30	BREAK – LUNCH	
13:30-15:00	<u>SESSION 2.3 BREAK OUTS by SUB REGION</u>	Facilitators: Dr. R. Schroeder, Mr. M. Abbey, Dr. G. Roberts
15:00-16:00	TEA BREAK & POSTER GALLERY WALK	
16:00-17:00	<u>SESSION 2.4: COMMON GROUND FOR CTI SCIENCE FOR MANAGEMENT-Road Ahead</u> Report Out, Plenary Discussion and Recommendations	LRFT Core Team
	DINNER On Your OWN	

**DAY 3: THURSDAY, 14<sup>th</sup> October, 2010**

Time	Activity	Notes
7:00-8:00	Breakfast and side meetings	
8:30-9:00	Workshop Overview and Context	LRFT Core Team
9:00-10:30	<p align="center"><b>THEME 3: FORUMS AND ROUNDTABLES</b></p> <p><u>SESSION 3.1: BUSINESS AS USUAL (BAU)</u> Current Situation and Look into the Future if Business As Usual</p> <p>Break-out Groups: Consensus on implications of BAU</p>	<p>Mr. Ken Kassem</p> <p>Mr. D. Webber</p> <p>Mr. E. Rupini</p> <p>Dr. G. Muldoon</p>
10:30-11:00	<b>BREAK – MORNING TEA</b>	
11:00-12:30	<p><u>SESSION 3.2 PRIORITY ISSUES &amp; COOPERATION</u></p> <p>Report out to Plenary (20 min)</p> <p>Presentation on Models of Cooperation (20 min)</p> <p>Case study: The Pacific Round Table (20 min)</p> <p>Discussion from the Plenary (30 Min)</p>	<p>Facilitator: Dr. S. Tighe</p> <p>Break Out Groups</p> <p>Mr. D. Webber</p> <p>Mr. Etika Rupeni Secretariat of the South Pacific</p>
12:30-13:30	<b>LUNCH</b>	
13:30-15:30	<p><u>SESSION 3.3: ROUND TABLE FEASIBILITY</u></p> <p>Break-outs into 3 Groups</p> <p>Plenary, Discussion session &amp; Recommendations</p>	<p>Facilitators: Mr. D. Webber</p> <p>Mr. E. Rupini</p> <p>Dr. G. Muldoon</p>
15:30-16:00	<b>AFTERNOON TEA BREAK</b>	
16:00-17:30	<u>SESSION 3.4: WORKSHOP REVIEW BY THEME:</u>	Facilitator: Dr. S. Tighe
19:00-21:00	<b>DINNER HOSTED BY Sabah Dept of Fisheries</b>	

**DAY 4: FRIDAY, 15<sup>th</sup> October, 2010**

Time	Activity	Notes
7:00-8:00	Breakfast and side meetings	
8:30-8:45	Workshop Overview and Context	LRFT Team
8:45-10:30	<p align="center"><b>THEME 4: RECOMMENDATIONS AND PREPARING FOR APEC &amp; CTI SOM</b></p> <p><u>SESSION 4.1: APEC PREPARATION</u></p> <p>Introduction to APEC Fisheries LRFFT workshop</p> <p>Plenary Discussion on Issues and Steps for APEC LRFF Forum</p>	<p>Dr G Muldoon</p> <p>LRFFT Core Team</p>
10:30-10:45	<b>MORNING TEA BREAK</b>	



Time	Activity	Notes
10:45-11:30	<p><u>SESSION 4.2: SOM Preparation</u></p> <p><u>Plenary session (Round table Panel)</u> –Recommendations for the Senior Officials Meeting (SOM) of the CTI drafted</p> <p>Group Work: What is the ultimate outcome for LRFF/EAFM by the end of CTI in 2014. 2014 and beyond? (This can help us look forward to ensuring we are addressing their short, middle and long term needs).</p>	<p>Dr. G. Muldoon</p> <p>LRFFT Core Team</p>
11:30-11:45	CLOSING	Host Country
11:45-13:30	FRIDAY PRAYERS and LUNCH	
2:30	<p><u>OPTIONAL Field Trip to fish cage operations</u> - Departure from Hotel / Meeting point - Take a scenic drive Tuaran and visit cage culture operation in Kampung Serusup</p> <p>Arrival at Kg Serusup, Meet with cage operator for a brief explanation of the cage operations and tour of the cage operations.</p> <p>Depart to KK</p>	<p>WWF Malaysia to Coordinate</p>
4:00		
5:30		

## Annex 2: Participant List

A Regional Exchange in Support of the Coral Triangle Initiative on  
Ecosystem Approaches to a Sustainable Live Reef Fish Trade in the Coral Triangle  
October 12<sup>th</sup>-15<sup>th</sup>, 2010 Kota Kinabalu, Malaysia

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## Participant Breakdown

### A. Gender

Participants		
Male	17	81%
Female	4	19%
TOTAL	21	100
Resource Persons		
Male	11	73%
Female	5	33%
TOTAL	16	100%
Observers/Facilitators		
Male	2	67%
Female	1	33%
TOTAL	3	100%
OVERALL TOTAL		
Male	30	
Female	10	
TOTAL	40	100

### B. Participant's Institutions

Government	16	76%
Private Sector	2	10%
Academe, NGOs and CBOs	3	14%
TOTAL	21	100

### Annex 3. List of References

#### LIST OF REFERENCES

(NOTE: This is a partial list of the references included in the CD Rom from the workshop. Those in BOLD are noted as key LRFT documents, and are noted in the Directory of Docs on the CD Rom by one or more “I”s before the name. )

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## Annex 4. SOM 4 RECOMMENDATIONS



### RECOMMENDATIONS/DECISION MEMO/REPORT TO CTI SOM

- I. EXECUTIVE SUMMARY: (ATTACHMENT 1)
- II. PROPOSAL FOR APEC PRESENTATION: (ATTACHMENT 2)
- III. DECISION MEMO

The delegates request the CTI Secretariat include these recommendations in the agenda of the upcoming CTI Senior Officials Meeting to be held in Manado from 10<sup>th</sup> – 12<sup>th</sup> November, 2010.

1. Participation in APEC Session as CTI:
  - a. An APEC-supported LRFT Workshop (*Market-Based Improvements in the Live Reef Food Fish Trade*) is scheduled to be held in February 2011 in Indonesia. The participants of the CTI LRFT Workshop are invited to present the results of the October 12<sup>th</sup>–15<sup>th</sup>, 2010 Kota Kinabalu Regional Exchange Workshop (*Ecosystem Approaches to a Sustainable Live Reef Fish Trade in the Coral Triangle*) as part of an session on regional collaboration and coordination with that workshop. The CTI LRFT participants, through the EAFM Focal Points recommend two speakers (see TOR / Proposal for APEC Presentation) for the APEC Workshop:
    - i. A Senior Official to present on behalf of the CTI a message from CTI to APEC participants on the topic of LRFT, and
    - ii. An EAFM Focal Point and Participant from the CTI LRFT Regional Exchange workshop to present the results of the workshop including the recommendations.

#### DECISION:

- A) YES WE AGREE
  - B) NO WE DO NOT AGREE
  - C) WE AGREE WITH THESE CHANGES:
    - b. Message to APEC: (To be developed with consultation between USCTI LRFT Team, CTI Secretariat and NCC EAFM Focal Points)
2. EAFM APPROACH to LRFT: In considering the EAFM approach to LRFT, we recommend the SOM requests the EAFM Working Group to consider the following priority needs related to LRFT, the CTI and CT6 countries. These are the need:
    - To base national level fisheries management policies on EAFM principles, with LRFF fishery as a priority illustrative example, particularly in addressing the issue of balancing harvesting rates with production capacities of reef ecosystems;

- For CT6 countries to collaborate to (encourage now) and require (later) Hong Kong/China governments work to ensure that imported live reef fish are from responsibly managed and legal sources (i.e. IUU);
- For complementary management standards to be developed, promoted, and enforced across CT6 countries for high risk LRFF species (e.g. Hump Head Wrasse);
- To encourage and facilitate Public-Private Partnerships for full-cycle aquaculture/mariculture of important LRFT species using Better Management Practices;
- To standardize the management of LRFT across the CT6 countries – in terms of codes of practice; certification and traceability; and
- To standardize statistical data needs on LRFF species relevant to CT6 countries capacities to improve the management of the LRFT

DECISION:

- A) YES WE AGREE
- B) NO WE DO NOT AGREE
- C) WE AGREE WITH THESE CHANGES:

3. SCIENCE NEEDS FOR MANAGEMENT of the LRFT: Recognizing that science as a key component for EAFM is currently “under-valued” in the Coral Triangle countries and that substantial gaps in knowledge persist in coastal and inshore finfish fisheries, including LRFF fisheries AND acknowledging the need for CT6 countries to collaborate with CTI and other external partners to establish data collection programs, we recommend the SOM endorse the EAFM Working Group to following priority science needs as identified collectively by CT6 countries:

- To determine the seasonality, location and behavior of Fish Spawning Aggregation Sites (FSAS) by spawning species;
- To improve knowledge of the status of stocks of coral fish and their habitats to inform management on exploitation rates, particularly in relation to stock recovery;
- To improve knowledge of basic life history characteristics of the main target species at geographically relevant scales;
- To support development of “viable” full cycle mariculture production thru improved knowledge and technology transfer, technical assistance and market intelligence; and
- To improve traceability (i.e. chain of custody) of LRFF coming from wild-caught and aquaculture production

DECISION:

- A) YES WE AGREE
- B) NO WE DO NOT AGREE
- C) WE AGREE WITH THESE CHANGES:

4. FORMATION of a MULTI STAKHOLDER INITIATIVE for LRFT:

- a. In recognition of the issues and concerns around the ongoing over exploitation and unsustainable practices of the LRFT and an acknowledgement that all actors along the LRFF supply chain have an important role to play in the sustainable production

of LRFF. In order to develop this initiative further, the Workshop participants (through their EAFM Focal Points), asks the SOM to acknowledge the following issues and concerns:

- That LRFF species, and their trade, throughout the Coral Triangle are under threat as a result of over exploitation and unsustainable practices of the LRFT.
- All actors along the LRFT supply chain have an important role to play in the sustainable production of live reef food fish.
- The Regional Plan of Action and some National Plans of Action identify the need for practical solutions for a more sustainable LRFT including those from the private sector
- That a multi-stakeholder initiative (platform such as Forums or Roundtables) may be an appropriate mechanism for involving stakeholders including CT6 governments, intergovernmental agencies; non-CT national governments, NGOs and scientific/ academic institutions and private sector in improving the sustainability of the trade.

DECISION:

- A) YES WE AGREE
- B) NO WE DO NOT AGREE
- C) WE AGREE WITH THESE CHANGES:

- b. Based on Goal #2, Target #4, Actions #1 and 2 of the RPOA, the Workshop participants (through their EAFM Focal Points), recommends the SOM acknowledges that the formation of an inclusive CTI multi-stakeholder initiative such as a forum or roundtable can aid in ensuring the sustainability of the Live Reef Food Fish Trade. This initiative could address, but not be limited to, the following core issues:
  - i. The current high demand for wild LRFF, exotic species, small fry's;
  - ii. The current lack of regulations on size (i.e. size at maturity, juvenile);
  - iii. Direct shipments of LRFF from producer to importers that bypass in-country exporters (i.e. IUU fishing);
  - iv. Traceability of LRFF
  - v. Illegal/bad practices by stakeholders along the value chain (i.e. trade small or undersize fish, transport other wildlife commodities together with live fish to compensate for loss earnings)
  - vi. The current state of poor collection of statistical data on biology and socio-economic indicators;
  - vii. Low level of awareness on the issues surrounding the sustainability of LRFFT amongst stakeholders along the value chain;
  - viii. Unfair pricing for fishers/collectors/buyers; and
  - ix. The current high mortality of LRFF during transport.

DECISION:

- A) YES WE AGREE
- B) NO WE DO NOT AGREE

C) WE AGREE WITH THESE CHANGES:

- c. Establish CTI LRFT team to initiate Design of a Round Table or Multi-Stakeholder Initiative on LRFT: In order to develop this initiative further, the Workshop participants (through their EAFM Focal Points) requests the SOM recommend the establishment of a Technical Working Group and tasks the CTI Secretariat and EAFM Focal Points to:
  - i. Formulate and endorse Terms of Reference to establish a LRFT multi-stakeholder Technical Working Group (including CT6 members and external stakeholders) to consider the appropriate model in which a multi-stakeholder initiative can be implemented to promote the sustainability of the Live Reef Food Fish Trade; and
  - ii. Formulate and endorse the composition of the aforementioned Working Group (i.e. a balanced representation of CTI representatives and others in the LRFT value chain involving the markets and the private sector)

DECISION:

A) YES WE AGREE

B) NO WE DO NOT AGREE

C) WE AGREE WITH THESE CHANGES: