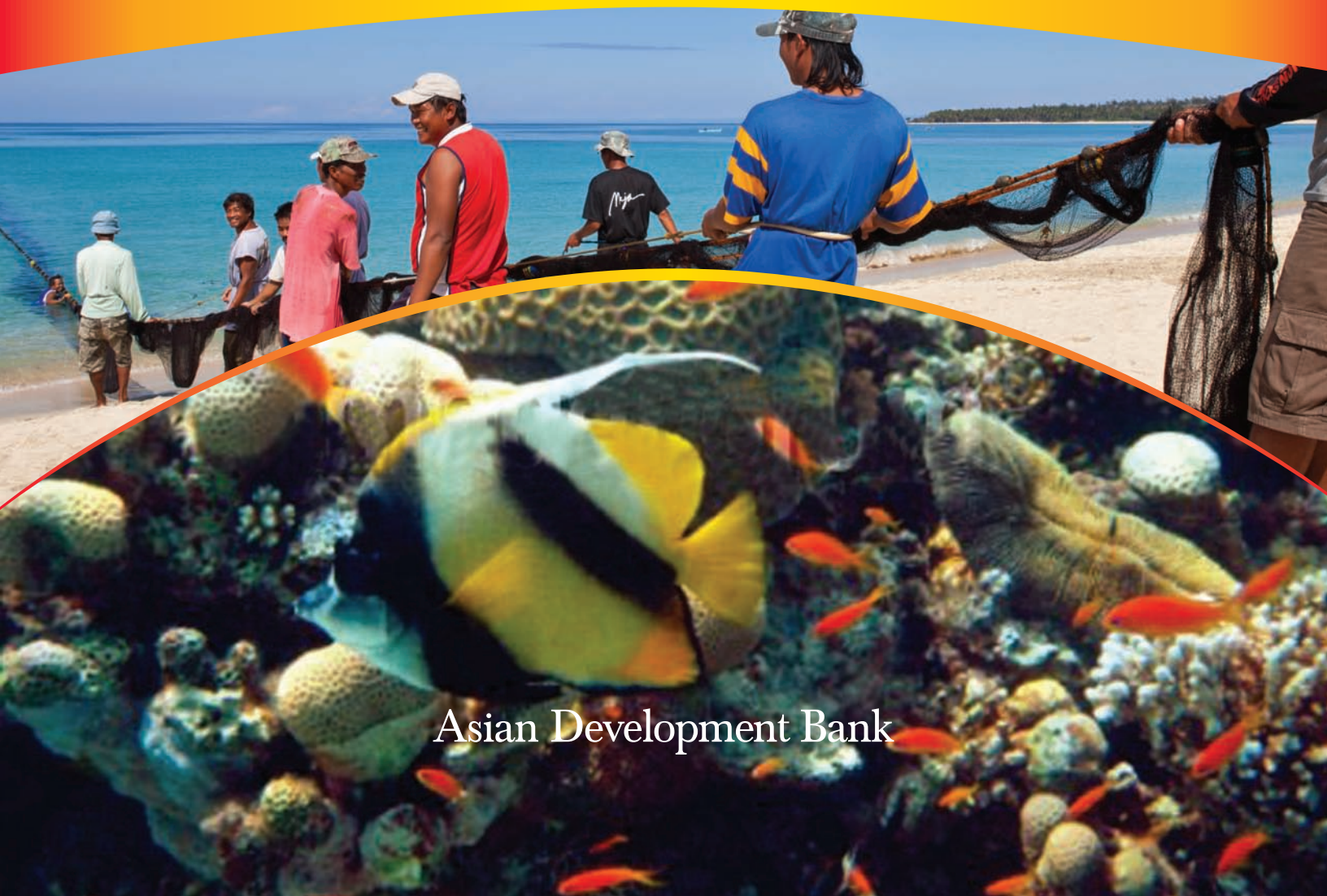




ADB

COMPREHENSIVE ACTION PLANS OF THE SULU-SULAWESI MARINE ECOREGION

A Priority Seascape of the Coral Triangle Initiative



Asian Development Bank



COMPREHENSIVE ACTION PLANS OF
THE SULU–SULAWESI MARINE ECOREGION
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Printed in the Philippines.

ISBN 978-92-9092-465-4
Publication Stock No. RPT114043

Cataloging-In-Publication Data

Asian Development Bank.

Comprehensive action plans of the Sulu–Sulawesi Marine Ecoregion: A priority seascape of the Coral Triangle Initiative.
Mandaluyong City, Philippines: Asian Development Bank, 2011.

1. Ecology. 2. Southeast Asia. I. Asian Development Bank.

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 Printed on recycled paper.

Contents

Foreword	iv
Message from Indonesia, Chair of the Subcommittee on Threatened, Charismatic, and Migratory Species	vi
Message from Malaysia, Chair of the Subcommittee on Sustainable Fisheries	vii
Message from the Philippines, Chair of the Subcommittee on Marine Protected Areas and Networks	viii
Acknowledgment	ix
Abbreviations	x
Introduction	1
Methods	4
Key Issues and Concerns	7
Outputs	8
Comprehensive Action Plans of the Sulu–Sulawesi Marine Ecoregion	
Volume 1: Subcommittee on Threatened, Charismatic, and Migratory Species	9
Volume 2: Subcommittee on Marine Protected Areas and Networks	53
Volume 3: Subcommittee on Sustainable Fisheries	99

Foreword

To ensure the effective protection and sustainable development of the Sulu–Sulawesi Marine Ecoregion (SSME), the governments of Indonesia, Malaysia, and the Philippines entered into a memorandum of understanding (MOU) on 13 February 2004. The signing of the MOU was one of the highlights in the side events of the seventh meeting of the Conference of the Parties to the Convention on Biological Diversity held in Kuala Lumpur, Malaysia. The three countries agreed to adopt the ecoregion approach to conservation embodied in the Ecoregion Conservation Plan (ECP) that will facilitate the realization of the four fundamental goals of biodiversity conservation: representation, sustainability of ecological and evolutionary processes, viability of species and populations, and resiliency.

The ECP for the SSME is a product of region-wide consultations across the three countries involving stakeholders and various experts—from resource users, managers, and academe to policy makers. The ECP calls for the conservation of the coastal and marine resources of the region without sacrificing the livelihoods of the people. This involves 10 objectives that the ECP hopes to attain in alignment with its 50-year vision.

The signing of the MOU led to the creation of the Tri-National Committee for the SSME. The committee had its first meeting on 1 March 2006 in East Kalimantan, Indonesia and created three subcommittees: the Threatened, Charismatic, and Migratory Species Subcommittee; the Sustainable Fisheries Subcommittee; and the Marine Protected Areas and Networks Subcommittee. The subcommittees met in 2007 and elected their respective chairs, and developed their terms of reference and work plans for the implementation of the ECP.

The publication and launching of the first set of work plans of the subcommittees was approved by the SSME Tri-National Committee during its fourth meeting in Batam, Indonesia in July 2009. The action plans of the three subcommittees were launched at the East Asian Seas Congress that was organized by the Partnerships in Environmental Management for the Seas of East Asia and held in Manila, Philippines in November 2009. The action plans were published by Conservation International under the United States Agency for International Development Coral Triangle Support Partnership.

This publication contains the Comprehensive Action Plan of the Subcommittee on Sustainable Fisheries. It builds on the previous action plans, adopting the relevant portions on achievements and lessons learned in its implementation in the past years. It estimates the costs of implementing the activities necessary to achieve the target conservation outcomes of the SSME and lists potential mechanisms that will allow the SSME to generate funds to support the plan. This comprehensive action plan not only deals with activities at the country level but also embodies the need for transboundary actions to be pursued if the SSME governments are to remain faithful to the essence of ecoregion management

as well as the Coral Triangle Initiative. Finally, this publication attempts to provide more details for the donor community and SSME governments to increase their support of SSME activities and programs, which are relevant to the global community as a whole.

Kunio Senga

Director General

Southeast Asia Department

Asian Development Bank



Message from Indonesia, Chair of the Subcommittee on Threatened, Charismatic, and Migratory Species

The protection of marine lives, especially for threatened, charismatic, and migratory species in the region of Sulu–Sulawesi will not only contribute to marine biodiversity resources conservation, but will also significantly strengthen the cooperation among Indonesia, Malaysia, and the Philippines. The success of the protection and management of migratory species, such as turtle, in this region has been shown as a good example or a lesson learned for regional cooperation and commitment on marine biodiversity conservation.

This Comprehensive Action Plan that was developed through a series of consultations and meetings among Sulu–Sulawesi Marine Ecoregion member countries and relevant stakeholders covers the agreed programs and activities to protect and manage threatened, charismatic, and migratory species, both in each country and in a regional context. This plan should serve as our guideline on how to manage marine resources in a sustainable way for our welfare and for current and future generations.

We are very optimistic that with our present achievements, we will be moving forward to better implement this plan.

Toni Ruchimat

Director

Directorate of Marine and Aquatic Resources Conservation

Directorate General of Marine, Coasts and Small Islands

Ministry of Marine Affairs and Fisheries, Republic of Indonesia

Message from Malaysia, Chair of the Subcommittee on Sustainable Fisheries

The new Malaysian National Agrofood Policy places high importance on the sustainable development of its agriculture sector, including fisheries and aquaculture. We realized that in order to do so, much care must be taken so that its very foundations—the natural resources, biodiversity, and environment—are well protected. We also are active in the international and regional levels, where we collaborate and work closely with countries to ensure that our natural assets are conserved and protected for the well-being of the community and future generations. This cooperation is well exemplified through Malaysia’s close participation in the Sulu–Sulawesi Marine Ecoregion (SSME) Program—the tri-national regional conservation for the Sulu and Sulawesi Seas, involving three countries (i.e., Indonesia, Malaysia, and the Philippines). Among others, our goals include implementing sustainable fisheries management activities, efforts toward the adoption of the ecosystem-based fisheries management approach and community participation, and collaborative programs with development partners; and combating illegal, unreported, and unregulated fishing.

The vision for the SSME, in part reads, “a marine ecoregion that remains to be globally unique and a center of diversity with vibrant ecological integrity, harboring representative species assemblages, communities, habitats, and ecological processes.” The action plans are the ways and means to achieve the noble and lofty ambition for the SSME. These are the plans that we crafted together with all stakeholders, Malaysian and international colleagues alike. These are also the guides in ensuring that conservation needs and sustainable development are reconciled at all levels. Ultimately, these are the plans against which future generations will measure our hard work and contributions, and our legacy in the Sulu and Sulawesi Seas.

I have no doubt that we will achieve most of these goals.

Rayner Stuel Galid
Director
Sabah Fisheries Department
Malaysia

Message from the Philippines, Chair of the Subcommittee on Marine Protected Areas and Networks

The establishment of an ecological network of Marine Protected Areas (MPAs) is a strategy to conserve the full range of biodiversity in the Sulu–Sulawesi Marine Ecoregion (SSME) and maintain ecological integrity to ensure continuous flow of goods and services to human communities represented by over 50 indigenous groups. It provides legal basis for law enforcement and zoning for various activities such as fishing. It has been proven to be one of the most effective ways in the protection of our coastal and marine environment taking into account scientific, traditional, and cultural procedures for its management. Moreover, it draws more participation from the local government and promotes public awareness.

The implementation of country activities have contributed to the achievement of the objectives of the Action Plan of the Subcommittee on MPAs and Networks and the SSME Ecoregion Conservation Plan. Experiences from Indonesia, Malaysia, and the Philippines highlight the benefits of co-management between government and local communities, and networking for the protection of the ecosystems, to sustain the human well-being derived from them. Such collaboration provides incentives to effectively managed MPAs demonstrating the further need to pursue transboundary actions by the SSME governments. These provide leverage to our actions and intensifies the ties and bonds with our neighbor countries as well.

The Subcommittee on MPAs and Networks has developed a Comprehensive Action Plan that is consistent with Goal #3 of the Regional Action Plan of the Coral Triangle Initiative (CTI), which is “marine protected areas established and effectively managed.” This plan contributes to meeting the target of establishing a fully functional region-wide Coral Triangle MPA System. As a priority seascape of the CTI, we in the SSME should continue heading toward the achievement of the CTI vision.

With the use of the comprehensive action plan, we will have a detailed grasp on how we can implement the activities of the subcommittee. It is important that we realize the significance of this milestone and to be able to maximize the availability of the comprehensive action plan.

Theresa Mundita S. Lim
Director
Protected Areas and Wildlife Bureau
Department of Environment and Natural Resources

Acknowledgment

This Comprehensive Action Plan is the one of the outcomes of an Asian Development Bank (ADB) technical assistance project, Strengthening Sound Environmental Management in the Brunei Darussalam, Indonesia, Malaysia, and Philippines East ASEAN Growth Area, led by Maria Lourdes Drilon, natural resources and agricultural economist of the Environment, Natural Resources, and Agriculture Division, Southeast Asia Department. It builds on the work plans developed by the three subcommittees in 2009 and published as *Action Plans of the Sulu–Sulawesi Marine Ecoregion* (SSME) with the assistance of the Coral Triangle Support Partnership, a project funded by the United States Agency for International Development and implemented by Conservation International, the Nature Conservancy, and the World Wide Fund for Nature (WWF).

The Tri-National Committee of the SSME acknowledges the Department of Environment and Natural Resources, chair of the Tri-National Committee for the SSME from 2009 to 2011, for the strategic direction provided to the report. The Tri-National Committee would like to express its deepest appreciation and thanks to all those who have taken part in this endeavor without whose valuable inputs, this study would not have been possible. They include the following:

- All participants in the workshops and focus group discussions—for their valuable contributions to this report;
- From Indonesia: the Ministry of Marine Affairs and Fisheries, Ministry of Forestry, National Development Planning Agency, Conservation International–Indonesia, Coral Triangle Support Partnership, The Nature Conservancy–Indonesia, Wildlife Conservation Society–Indonesia, WWF–Indonesia, and Yayasan Kehati;
- From Malaysia: the Sabah Department of Fisheries, Sabah Parks, Sabah State Economic Planning Unit, WWF–Malaysia, Borneo Marine Research Institute, Schools of Sustainable Agriculture and Business Economics at the Universiti Malaysia Sabah, and Sabah Biodiversity Centre;
- From the Philippines: the Department of Environment and Natural Resources, Protected Areas and Wildlife Bureau, Department of Agriculture, Bureau of Fisheries and Aquatic Resources, WWF–Philippines, and Conservation International–Philippines, which assisted the Tri-National Committee in securing funding support from ADB to conduct the tri-national workshops, research, and coordination to develop the comprehensive action plans;
- Members of the subcommittees for their contribution to the work plan;
- Members of the Conservation International’s Sulu–Sulawesi Seascape team for their contribution to project preparation, implementation, and in leading the first workshop in Indonesia; and
- Members of the project consulting team for facilitating the workshops, integrating the workshop outputs, and drafting the comprehensive action plans.

Abbreviations

ADB	Asian Development Bank
BFAR	Bureau of Fisheries and Aquatic Resources
CBD	Convention on Biological Diversity
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COP	Conference of the Parties
CRM	coastal resource management
CSR	corporate social responsibility
CTI	Coral Triangle Initiative
DENR	Department of Environment and Natural Resources
DOF–Sabah	Department of Fisheries–Sabah
EBI	Energy and Biodiversity Initiative
FPE	Foundation for the Philippine Environment
GEF	Global Environment Facility
ICM	integrated coastal management
IPAP	Initial Protected Area Plan
IUCN	International Union for the Conservation of Nature and Natural Resources
KRA	key result area
LGU	local government unit
LRFT	live reef fish trade
MOU	memorandum of understanding
MPA	marine protected area
NDF	Non-Detrimental Finding (Study)
NGO	nongovernment organization
NIPAS	National Integrated Protected Area System
P	peso
PES	payment for ecosystems services
PPP	public–private partnership
RM	ringgit
SCS SFM	Sulu–Celebes Sea Sustainable Fisheries Management
SSME	Sulu–Sulawesi Marine Ecoregion
TED	turtle excluder device
TIWS	Turtle Islands Wildlife Sanctuary
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WWF	World Wide Fund for Nature

Introduction

The Sulu–Sulawesi Marine Ecoregion (SSME) is a highly biodiverse, globally significant biogeographic unit in the heart of the Coral Triangle—the center of the world’s highest concentration of marine biodiversity. The SSME covers an area of about 1 million square kilometers and straddles three countries: Indonesia, Malaysia, and the Philippines. Its global significance in terms of marine biodiversity and contribution to the economies of the three countries, and to the global economy, has been well documented. Overexploitation of the shared resources of the SSME has prompted the three countries to establish a mechanism for tri-national cooperation with the ultimate goals of conserving marine biodiversity and pursuing sustainable development. The purpose of this project is to strengthen this mechanism—the Tri-National Committee—through its secretariat to create and take advantage of opportunities to implement the action plans on species and critical habitat protection, networks of marine protected areas (MPAs), and sustainable fisheries.

In 2001, the three countries formulated a biodiversity conservation vision for the SSME, involving a network of 58 priority conservation areas under various forms of management and/or protection to be established over a period of 50 years. To articulate the vision, the three governments developed the SSME Ecoregion Conservation Plan (ECP) in 2003. The ECP was a product of 12 stakeholder workshops at the local, national, and tri-national levels conducted over the course of 2 years. The ECP has 10 objectives, which are linked to the SSME vision, and contains three country action plans and a fourth ecoregion-level action plan for joint tri-national activities. Each action plan identifies broad activities under the 10 ECP objectives addressing (i) governance

and management strategies; (ii) functional networks of conservation and protected areas; (iii) sustainable livelihood systems; (iv) sustainable economic development; (v) research for science-based and informed management decisions; (vi) communication, education, and outreach programs; (vii) sustainable financing for conservation and resource management; (viii) capacity building for stakeholders; (ix) protection of threatened marine species and their habitats; and (x) fisheries management.

The governments demonstrated their commitment to implementing the ECP and establishing a governance structure for the SSME by signing a tri-national memorandum of understanding at a side event at the seventh Conference of Parties to the Convention on Biological Diversity (CBD) in Kuala Lumpur in February 2004. The complete ratification of the memorandum of understanding by the governments in February 2006 provided the basis for the creation of the Tri-National Committee for SSME the following month. The Tri-National Committee established three subcommittees to implement activities under three priority themes: the Subcommittee on Threatened, Charismatic, and Migratory Species led by the Government of Indonesia; the Subcommittee on MPAs and Networks led by the Government of the Philippines; and the Subcommittee on Sustainable Fisheries led by the Government of Malaysia. Each subcommittee prepared a work plan aligned with ECP implementation.

Through the Coral Triangle Support Partnership—a project supported by the United States Agency for International Development and implemented by Conservation International, the World Wide Fund for Nature (WWF), and The

Nature Conservancy—the Tri-National Committee for the SSME and Conservation International collaborated to publish the work plans of the SSME subcommittees in a three-volume thematic set of action plans of the SSME. These thematic action plans articulate the broad areas of activity under the ECP that the Tri-National Committee has decided to implement during 2009–2012. The publications, which were launched at a side event at the East Asian Seas (EAS) Congress held in Manila in November 2009, were intended to inform the international community of the SSME work plans for 2009–2012, the status of their implementation, and the lessons learned in implementing collaborative work. In addition, the publications are intended to guide the development of new partnerships and generate additional support to complement existing conservation initiatives in the SSME.

The EAS Congress particularly acknowledged the positive model of tri-national cooperation in the SSME in mobilizing internal resources to implement its plans through genuine partnerships within and across countries. The SSME figured prominently in the congress, not only for its advances in ocean governance but also because it provides the region’s only examples of networking MPAs based on connectivity (e.g., in the Verde Island Passage Corridor in the Philippines and in the tri-national Sea Turtle Corridor), in accordance with the ECP and the SSME action plans.

The SSME is one of two seascapes highlighted in the Coral Triangle Initiative (CTI) framework, and its best practices have been adopted and fully articulated in the CTI Regional Plan of Action to guide future seascape work. The chair’s summary from the Fourth Senior Officials’ Meeting of the CTI held on 22 October 2009 in Kota Kinabalu, Malaysia lists the agreement of the six CTI countries to recognize the SSME as one of the priority seascapes of the CTI. This recognition was affirmed by the ministers of the six countries during the ministerial meeting in Honiara, Solomon Islands, in November 2009.

The SSME thus became the first priority seascape under Goal 1 of the CTI Regional Plan of Action.

Concerns have nevertheless been raised about the sustainability of the Tri-National Committee and its three subcommittees as a management body for the SSME. While the institutional mechanism currently in place provides a forum for discussion, there is a perceived need for the governance structure to evolve into a more robust and stable institution to fully carry out the tasks of implementing the ECP, and update it to accommodate new developments. Like other fledgling regional institutions, those of the SSME institutions are plagued by weaknesses, such as limited funding and manpower; lack of an effective and permanent secretariat for the Tri-National Committee; limited knowledge and training of members to manage a regional program; limited electronic information and communication mechanisms between the regional, national, and local stakeholders; limited exposure to and networking with regional and international forums and organizations; lack of monitoring, surveillance, and control activities; and the lack of a process to evaluate the performance of the SSME program and its regional management organizations.

One approach to strengthening the SSME institutions is to encourage project development and implementation at a tri-national scale. This mode necessitates technical collaboration in the areas of project conceptualization, planning, and implementation. To advance project development and make significant headway in sustaining conservation and environmental management in the SSME, it is imperative that action plans and progress in implementation are communicated in the form of knowledge management products intended to generate interest and support from a wider range of partners and donors. The SSME action plans launched at the EAS Congress in November 2009 must be transformed into comprehensive action plans, which will be more useful for project development and to stimulate donor interest. They will also include costing

of priority activities and will propose possible sources of revenue.

The SSME is in a good position to embark on further institutional strengthening due to the opportunities presented by existing programs. The CTI, for example, recognized the SSME as the first priority seascape worthy of emulation by other seascapes, while the Brunei Darussalam–Indonesia–Malaysia–Philippines East ASEAN (Association of Southeast Asian Nations) Growth Area (BIMP-EAGA) umbrella is anchored on robust cooperation among the three SSME countries and capitalizes on strong economic collaboration. International nongovernment organizations maintain a keen interest in the SSME and continue to provide various forms of financial and technical support, while the national governments of the three SSME countries have started—albeit still modestly—to fund activities from their own national budgets.

This final report outlines the methods used and outputs produced by this project in achieving the overall goal of strengthening the Tri-National Committee of the SSME. The final outputs are the accompanying comprehensive action plans of the three subcommittees of the SSME: the Threatened, Charismatic, and Migratory Species Subcommittee; the MPAs and Networks Subcommittee; and the Sustainable Fisheries Subcommittee. Issues raised during the workshops and focus group discussions are outlined where relevant, as well as recommendations on how to move the SSME comprehensive action plans forward. It is hoped that donor interest will be stimulated by the level of detail now contained in the plans. The SSME Tri-National Committee approved the comprehensive action plans on 26–27 July 2011 at the Crowne Plaza Hotel, Manila.

Methods

Country Workshops

Three country workshops were held in Indonesia, Malaysia, and the Philippines to generate the inputs necessary to transform the existing work plans into comprehensive action plans, according to the following schedule: the Philippines: 17–18 September 2010, Malaysia: 22–23 September 2010, and Indonesia: 5–6 October 2010.

The results of the workshops are as follows:

Logical Framework

The proposal to create a logical framework (logframe) to guide all Sulu–Sulawesi Marine Ecoregion (SSME) action plans was approved by the three country workshops. The logframe made use of the identified objectives, outputs, and activities in the existing documents. However, the logframes standardized each statement level, so that there is consistency in the way the plans evolve into their common long-term goals and objectives.

Each logframe now starts with the following long-term goals taken from the biodiversity conservation vision of the three subcommittee work plans as follows:

- A marine ecoregion that remains globally unique and a center of diversity with vibrant ecological integrity, including all species assemblages, communities, habitats, and ecological processes.
- A highly productive ecoregion that sustainably and equitably provides for the socioeconomic and cultural needs of the human communities dependent on it.

- An ecoregion where biodiversity and productivity are sustained through the generations by participatory and collaborative management across all political and cultural boundaries.

The long-term goals were then translated into target conservation outcomes. The first three outcomes refer to the overall outcomes of the three subcommittee work plans, while the next two outcomes reflect updates on recent events that are highly relevant to the SSME, i.e., the urgent need to address climate change, and contribute to the goals of the CTI, which includes the three SSME countries along with three other neighbors: Papua New Guinea, Solomon Islands, and Timor-Leste.

The target conservation outcomes were then translated into shorter-term purpose or process statements. These varied across the three subcommittees, and reflected the particular objectives of each of the work plans.

The purpose or process statements were then translated into strategies, which were further broken down into a set of activities for each strategy. Most of the activities were taken from the existing work plans and additions were made during the workshops. The approved and integrated logframes may guide individual countries or subcommittees as they develop comprehensive logframes to cater to their specific project development and fund-raising needs.

Activities and Corresponding Costs

The participants were grouped according to subcommittee and were asked to fill out worksheets for each activity. Each worksheet contained the expected sub-activities or tasks

necessary to perform the activities listed in the logframe. Timeframes were specified, particularly the number of years each activity will be implemented over a 4-year planning period.

The sub-activities will have corresponding budget requirements, and participants were requested to give details to compute for the total budget requirement of each activity. Details are in the form of the number of units required for each budget item.

To the extent possible, unit costs were requested from the participants. However, most of the time, best available information and/or acceptable benchmark figures were used to compute the total cost of each activity.

Existing activities or projects in each country were taken into account, based on inputs provided during the workshops, in estimating the total budget required to implement the subcommittee comprehensive action plans.

Monitoring Indicators

Two sets of monitoring indicators were developed as follows:

- Monitoring indicators were formulated for each of the strategies outlined in the logframes; these will be process or input indicators, and will assess the extent of implementation of the activities to be conducted in pursuit of each strategy.
- Outcome indicators were developed to gauge the extent to which the conservation outcomes have been achieved.

Launching of Comprehensive Action Plans at the Conference of the Parties in Nagoya, Japan

The original plan of launching the comprehensive action plans during COP 10 in Nagoya was not feasible due to delays in the approval of the

proposal. Instead, the comprehensive action plans were presented at the event “Making Transboundary Conservation Work in the Coral Triangle: A Report from Indonesia, Malaysia, and the Philippines on the Sulu–Sulawesi Marine Ecoregion,” held on the sidelines of COP 10 on 22 October 2010. The event highlighted the results of the transboundary efforts to protect marine biodiversity in the SSME and presented an overview of the Comprehensive Action Plans. It was attended by SSME members, donors, and partners.

During the COP 10 deliberations, SSME partners also reported on achievements related to the work being done by the Tri-National Committee, specifically on those pertaining to marine protected areas (MPAs), as part of efforts addressing targets of the convention on biological diversity (CBD). The Philippines, in particular, reported the success achieved through a large-scale, transboundary coastal and marine biodiversity conservation initiative within the context of the Coral Triangle Regional Plan of Action.

The Philippines also called on donor institutions to sustain support to the SSME as a “model transboundary multi-country seascape that can be replicated in other seascapes within the Coral Triangle and beyond,” and urged the strengthening of enforcement and financial mechanisms addressing illegal, unreported, and unregulated fishing at the national and transboundary scale.

In its report to the CBD, the Global Environment Facility also cited the Sulu–Celebes Sea Sustainable Fisheries Management Project as part of work being done under its international waters portfolio that complements CBD goals on marine biodiversity conservation.

Media articles developed on the three subcommittees were featured on the online portal of the *Philippine Daily Inquirer*, the country’s top broadsheet. SSME information materials were also distributed during the event.

Focus Group Discussions

Focus group discussions were held in each of the three countries to discuss existing and potential financing schemes that may be proposed to finance the activities of the SSME comprehensive action plans. Participants included major players in the sustainable financing sector: representatives from the Department of Forestry, Department of Fisheries, National Park authorities, planning and development agencies, nongovernment organizations, trust funds, sustainable financing consultants, and the academe.

The list of potential sustainable financing schemes was validated by the participants based on their own country experiences, and there was a consensus to include the list in the comprehensive action plans.

Key Issues and Concerns

There was not much difficulty in standardizing unit costs for the budget items across the three countries. It was more difficult for the participants to break down the activities into the sub-activities that were needed for budgeting. The use of budget templates proved highly useful for the costing exercise, particularly in summing up and integrating the workshop outputs.

It is important to note that the costs considered for the implementation of the action plans are incremental, i.e., regular and current expenses for the operations of the Tri-National Committee and its subcommittees, and those being incurred by the three governments of Sulu–Sulawesi Marine Ecoregion (SSME), have not yet been factored in. The comprehensive action plans therefore represent actions and costs that are needed over and above those that are currently being implemented through the regular functions of the governments, and through existing projects in the region.

On sustainable financing mechanisms, indications on which schemes are feasible were

provided during the discussions. All countries have had experiences in implementing innovative financing schemes at varying levels or degrees. It is noteworthy that most of these schemes are feasible, except probably in Indonesia where current laws on budgeting require all public or government funds to be centralized. Not all of the proposed schemes may be feasible in Indonesia while their current budget laws are in effect. In Malaysia, due to the relatively larger budget allocated to conservation at both the state and federal levels, the need for innovative financing schemes is less pronounced. The opposite is true in the Philippines, where the large funding gap for marine conservation has had to be filled by nontraditional sources of funding.

The total amount needed to implement the SSME comprehensive action plans is almost \$155 million. This sum seems overwhelming and extremely difficult to attain over the next 4 years. Nevertheless, it is crucial to demonstrate the scale of the resources needed for total implementation, if only to show how much work needs to be done to conserve this extremely important resource of the planet.



Outputs

The main outputs of the project are the three Sulu–Sulawesi Marine Ecoregion (SSME) comprehensive action plans, which now contain the logframe that ties together all the activities and strategies across subcommittees. The action plans also contain the estimated costs of implementing all the strategies and activities across the three countries of the SSME. Costs are broken down by outcome, country, and budget item. Budget items are defined in an appendix, while detailed costs broken down by country and key result areas are in a separate appendix. Each action plan lists potential sustainable financing mechanisms that may be explored during the 4-year implementation period of the plans. Individual country experiences in establishing these mechanisms are briefly discussed in a separate appendix to the action plans.

Volume 1

Subcommittee on
Threatened, Charismatic,
and Migratory Species

The Sulu–Sulawesi Marine Ecoregion

The Sulu Sea and Sulawesi Sea are twin seas formed by the movement of submarine plates from the northern and southern hemispheres of the earth. The plates brought with them numerous species. Some of these species thrived in the warm seas and survived, while others evolved with the lowering and rising of the marine waters (Carpenter and Springer 2005).

The Sulu–Sulawesi Seas cover about 1 million square kilometers. The area is considered as the global center of tropical marine diversity, supporting the highest number of species of coral reef fishes, demersal fishes, turtles, and algae (DeVantier et al. 2004). The mangrove forests, seagrass beds, coral reefs, and coastal and offshore waters are the most species-rich in the tropics.

The bounty of these seas provides food and livelihood to about 40 million people living along the coastline of Sulu–Sulawesi Marine Ecoregion. There are many threats, however, that undermine the food security and livelihoods of these people. Overfishing reduces the populations of fishes, mollusks, and sea cucumbers to unproductive levels. Destructive fishing practices destroy coral reefs as habitats and kill all fishes, young and old. Organic pollution and sediment runoff from land slowly cover seagrass beds and coral reefs. More frequent and intense storms bring more freshwater to coastal waters, drastically lowering their salinity and killing organisms with low tolerance to changes in salinity. These storms also cause rivers to swell and carry organic substances and sediments to sea, increasing the stress to seagrass beds and coral reefs.

The Sulu–Sulawesi Marine Ecoregion Comprehensive Action Plan

The governments of Indonesia, Malaysia, and the Philippines signed a memorandum of understanding to conserve the Sulu–Sulawesi Marine Ecoregion (SSME) during the Seventh Conference of the Parties to the Convention on Biological Diversity held in Kuala Lumpur in 2004. The Ecoregion Conservation Plan was ratified by the three countries in 2006. The countries subsequently established the Tri-National Committee and three subcommittees to implement the three programs of work as follows:

- Threatened, Charismatic, and Endangered Species;
- Sustainable Fisheries; and
- Marine Protected Areas (MPAs) and Networks.

In 2009, the Action Plan of the Subcommittee on MPAs and Networks was published, which contained its goals, objectives, strategies and actions, the achievements and lessons learned in the past 3 years of country-wide implementation, and a historical account of its drafting. This version transforms the previous action plan into a comprehensive action plan with the following features:

1. The vision, mission, goals, objectives, and actions are summarized in a **logical framework** for the three subcommittees of the SSME. The vision of each subcommittee action plan remains the same, and is also termed as the set of long-

term goals of the SSME. These are then translated into five target conservation outcomes. Three of these represent the overall outcomes of the three subcommittee action plans while the two additional cross-cutting outcomes refer to SSME's contribution to the Coral Triangle Initiative and climate change adaptation. The last two outcomes reflect updates on recent events that are highly relevant to SSME conservation and management.

2. The conservation outcomes are then translated into shorter-term **purpose statements**, which reflect the objectives of the previous action plans. These purpose statements are then broken down into **strategies or key result areas**, which are further broken down into a set of **activities**. The previous list of objectives, strategies, programs, and activities were harmonized across the three subcommittee action plans, so that each level is consistent across subcommittees. In some cases, purpose statements and strategies were added to complete the logical framework, while some of the objectives were merged for consistency. All previous activities were included in the comprehensive action plans, while new ones were added to serve the two new conservation outcomes.
3. **Indicators** are provided at the level of short-term purpose statements. These can serve as the basis for developing a

- monitoring and evaluation framework for the Comprehensive Action Plan.
4. Estimated **costs** are provided for the implementation of the strategies or key result areas. Cost estimates resulted from a series of workshops held in each of the three SSME countries during the third quarter of 2010.
 5. A list of **potential revenue-generating mechanisms** is provided, along with an overview of how each country has implemented or sees the potential of implementing these mechanisms (Appendix 1).
 6. The brief description of the Tri-National Committee of the SSME was taken from the previous action plan. There were no changes in the structure of the Tri-National Committee and its subcommittees, and the functions and responsibilities in implementing the SSME comprehensive action plans remain the same.
 7. **Lessons learned** in the previous action plans are adopted for the implementation of the comprehensive action plans as they remain highly relevant in achieving this document's objectives.

Logical Framework of the Sulu–Sulawesi Marine Ecoregion Comprehensive Action Plan

Table 1.1 Logical Framework of the Sulu–Sulawesi Marine Ecoregion Comprehensive Action Plan

Logical Framework		
Long-Term Goal Statement	Targeted Conservation Outcomes	
A marine ecoregion that remains globally unique and a center of diversity with vibrant ecological integrity, including all species assemblages, communities, habitats, and ecological processes A highly productive ecoregion that sustainably and equitably provides for the socioeconomic and cultural needs of the human communities dependent on it An ecoregion where biodiversity and productivity are sustained through generations by participatory and collaborative management across all political and cultural boundaries	1	Sustainable fisheries, aquaculture, living aquatic resources use and livelihood systems in the SSME
	2	Conserved and sustainably managed biodiversity in the SSME
	3	Protected and managed threatened, charismatic, and migratory species and their habitats in order to maintain the full range of biodiversity and provide for the long-term socioeconomic and cultural needs of human communities in the SSME
	4	A model in seascape planning and implementation contributing to the Coral Triangle Initiative.
	5	Resilient habitats and communities adapting to the adverse effects of climate change

SSME = Sulu–Sulawesi Marine Ecoregion.

Source: Tri-National Committee of the Sulu–Sulawesi Marine Ecoregion.

**Table 1.2 Logical Framework of the Sulu–Sulawesi Marine Ecoregion
Comprehensive Action Plan: Marine Turtles**

Purpose (Short-Term Goal)		Indicators	
Facilitate effective management of feeding grounds, migratory routes, and protection of target species from overfishing and as bycatch; design MPAs and MPA networks in relation to the protection and management of target species and their habitat; and promote implementation of best practices in habitat conservation and management.	1	Marine turtles and their habitats are managed and protected through reduction of overfishing and bycatch, criteria are developed on MPA and MPA network design in relation to marine turtle protection and management, and information is disseminated on best practices on marine turtle population and habitat conservation and management in the SSME.	
	2	Napoleon wrasse are conserved and managed in the SSME.	
	3	Marine mammals are managed and protected from bycatch, entanglement in specific fisheries and fishing gear or gear types, and ship strikes.	
	4	Whale sharks and other endemic and CITES-listed cartilaginous fishes (sharks and rays) are conserved and managed particularly from overfishing or as bycatch in specific fisheries and fishing gear.	
Strategies or Key Result Areas		Activities	
1	Identify best practices in minimizing threats to marine turtle populations and their habitats (i.e., nesting, feeding, and developmental habitats).	1.1	Produce country status on marine turtle populations and habitat in SSME.
		1.2	Review previous and existing legislation on turtle management including but not limited to harvest and trade.
		1.3	Formulate economic incentives to reduce threats and mortality as well as management measures and protocols for the protection and management of marine turtle populations and their habitats.
2	Develop and implement nesting habitats and management programs to maximize hatchling production and survival.	2.1	Quantify threats and evaluate the effectiveness of threats and their mitigation measures (nest and beach management).
		2.2	Develop guidelines on threats and mitigation measures.
3	Provide recommendations on specific features or criteria in MPA design and MPA network design in relation to the protection and management of marine turtles in SSME waters.	3.1	Identify areas of critical habitats, such as migratory corridors, nesting beaches, and inter-nesting and feeding areas.
		3.2	Identify and design best formats for incentives and disincentives for the adequate protection of critical habitats outside protected areas.
		3.3	Review and develop practical guidelines on management and regulation on the use of beaches on coastal dunes, including but not limited to revegetation of frontal dunes at nesting beaches with indigenous flora as far as possible, and removal of debris that impedes turtle nesting and hatchling production; enhancement of recovery of degraded marine

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Table 1.2 *continued*

Strategies or Key Result Areas		Activities	
			habitats, e.g., coral reefs, mangrove forests, seagrass beds; and evaluation of disposal of shipborne wastes.
4	Undertake initiatives to promote reduction of incidental capture and mortality of marine turtles.	4.1	Collate information on in-water threats and potential interaction of turtles with fisheries.
		4.2	Develop guidelines on incidental capture mitigation mechanisms, including (i) modification and use of fishing gear, devices, and techniques to minimize incidental capture of marine turtles in fisheries; (ii) reduction of fishing gear and vessel disturbance to sea turtle habitats; (iii) vessel monitoring systems and inspections at sea, in port, and at landing sites; (iv) national on-board observer program coordination arrangement with fisheries industries and fisheries management organization; and (v) net retention and recycling schemes to minimize the disposal of fishing gear at sea and on beaches.
5	Conduct turtle population habitat research and monitoring protocols.	5.1	Review existing research methods and monitoring protocols and develop standard guidelines on genetic identity, population status, migration routes, and other biological and ecological aspects of marine turtles (life history).
6	Develop guidelines for MPA network design for marine turtles.	6.1	Develop criteria and indicators for the designation of protected or conservation areas and sanctuaries or seasonal exclusion zones within critical habitats of marine turtles.
		6.2	Identify candidate areas for MPA networks important for marine turtles.
7	Publish information to promote best practices and successes for marine turtle conservation.	7.1	Prepare country reports based on the following steps: form a publication task group, prepare proposal for book publication, prepare format for publication of country reports, write country reports, compile country reports, and identify common recommendations for best practices in the SSME.
		7.2	Finalize and distribute documents for publication in electronic and hard-copy formats.
		7.3	Popularize the technical advice and recommendations for marine turtle management.

CITES = Convention on International Trade in Endangered Species of Wild Fauna and Flora, MPAs = marine protected areas, SSME = Sulu–Sulawesi Marine Ecoregion.

Source: Subcommittee on Threatened, Charismatic, and Migratory Species of the Sulu–Sulawesi Marine Ecoregion.

**Table 1.3 Logical Framework of the Sulu–Sulawesi Marine Ecoregion
Comprehensive Action Plan: Napoleon Wrasse**

Purpose (Short-Term Goal)		Indicators	
Facilitate effective management of feeding grounds, migratory routes, and protection of target species from overfishing and as bycatch; design MPAs and MPA networks in relation to the protection and management of target species and its habitat; and promote implementation of best practices in habitat conservation and management.		1	Marine turtles and their habitats are managed and protected through reduction of overfishing and bycatch, criteria are developed on MPA and MPA network design in relation to marine turtle protection and management, and information is disseminated on best practices on marine turtle population and habitat conservation and management in the SSME.
		2	Napoleon wrasse is conserved and managed in the SSME.
		3	Marine mammals are managed and protected from bycatch, entanglements in specific fisheries and fishing gear or gear types, and ship strikes.
		4	Whale sharks and other endemic and CITES-listed cartilaginous fishes (sharks and rays) are conserved and managed, particularly from overfishing or as bycatch in specific fisheries and fishing gear.
Strategies or Key Result Areas		Activities	
1	Promote conservation and management of Napoleon wrasse in the SSME.	1.1	Complete a non-detrimental finding study of Napoleon wrasse at the country level.
		1.2	Identify critical sites for protection and management of Napoleon wrasse (e.g., MPAs).
		1.3	Identify gaps in management (e.g., illegal, unregulated, and unreported fishing) and develop recommendations to promote conservation of Napoleon wrasse (e.g., banning export by sea and quota on domestic trade).
		1.4	Establish alternative livelihoods that are capable of weaning people away from unsustainable resource extraction and ensuring ecosystem integrity.

CITES = Convention on International Trade in Endangered Species of Wild Fauna and Flora, MPAs = marine protected areas, SSME = Sulu–Sulawesi Marine Ecoregion.

Source: Subcommittee on Threatened, Charismatic, and Migratory Species of the Sulu–Sulawesi Marine Ecoregion.

**Table 1.4 Logical Framework of the Sulu–Sulawesi Marine Ecoregion
Comprehensive Action Plan: Marine Mammals**

Purpose (Short-Term Goal)		Indicators	
Facilitate effective management of feeding grounds, migratory routes, and protection of target species from overfishing and as bycatch; design MPAs and MPA networks in relation to the protection and management of target species and their habitat; and promote implementation of best practices in habitat conservation and management.		1	Marine turtles and their habitats are managed and protected through reduction of overfishing and bycatch, criteria are developed on MPA and MPA network design in relation to marine turtle protection and management, and information is disseminated on best practices in marine turtle population and habitat conservation and management in the SSME.
		2	Napoleon wrasse is conserved and managed in the SSME.
		3	Marine mammals are managed and protected from bycatch, entanglement in specific fisheries and fishing gear or gear types, and ship strikes.
		4	Whale sharks and other endemic and CITES-listed cartilaginous fishes (sharks and rays) are conserved and managed, particularly from overfishing or as bycatch in specific fisheries and fishing gear.
Strategies or Key Result Areas		Activities	
1	Minimize threats to marine mammal populations and their habitats.	1.1	Complete a non-detrimental finding study of Napoleon wrasse at the country level.
		1.2	Identify critical sites for protection and management of Napoleon wrasse (e.g., MPAs).
		1.3	Identify gaps in management (e.g., illegal, unregulated, and unreported fishing) and develop recommendations to promote conservation of Napoleon wrasse (e.g., banning export by sea and quota on domestic trade).
2	Promote initiatives on the protection and management of marine mammal habitats and migratory routes.	2.1	Identify critical habitats, such as migratory corridors and breeding and feeding grounds.
		2.2	Review and develop practical guidelines on the use of bays, migratory channels, and coastal areas, including but not limited to regulation of ship and boat traffic; sustainable whale and dolphin watching tours; and enhanced recovery of degraded marine habitats (e.g., coral reefs and seagrass beds).
3	Facilitate reduction of incidental capture and mortality of marine mammals in fisheries.	3.1	Collate information on entanglements, bycatch, and potential interactions with fisheries.
		3.2	Develop guidelines on incidental capture mitigation mechanisms that include but are not limited to gear modification, reduction of fishing gear and vessel disturbance, vessel monitoring and inspection system, on-board observer program, and coordination with fisheries industries.

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Table 1.4 *continued*

Strategies or Key Result Areas		Activities	
		3.3	Facilitate information sharing about entanglement events to better understand the nature, source, and extent of the problem in the SSME.
4	Provide recommendations on marine mammal stranding responses to minimize mortality in stranding events and maximize data collection.	4.1	Collate and organize data on marine mammal strandings in the SSME.
		4.2	Develop practical guidelines and build regional capacity on marine mammal stranding responses.

CITES = Convention on International Trade in Endangered Species of Wild Fauna and Flora, MPAs = marine protected areas, SSME = Sulu–Sulawesi Marine Ecoregion.

Source: Subcommittee on Threatened, Charismatic, and Migratory Species of the Sulu–Sulawesi Marine Ecoregion.

**Table 1.5 Logical Framework of the Sulu–Sulawesi Marine Ecoregion
Comprehensive Action Plan: Sharks**

Purpose (Short-Term Goal)		Indicators	
Facilitate effective management of feeding grounds, migratory routes, and protection of target species from overfishing and as bycatch; design MPAs and MPA networks in relation to the protection and management of target species and its habitat; and promote implementation of best practices in habitat conservation and management.		1	Marine turtles and their habitats are managed and protected through reduction of overfishing and bycatch, criteria are developed on MPA and MPA network design in relation to marine turtle protection and management, and information is disseminated on best practices on marine turtle population and habitat conservation and management in the SSME.
		2	Napoleon wrasse is conserved and managed in the SSME.
		3	Marine mammals are managed and protected from bycatch, entanglements in specific fisheries and fishing gear or gear types, and ship strikes.
		4	Whale sharks and other endemic and CITES-listed cartilaginous fishes (sharks and rays) are conserved and managed particularly from overfishing or as bycatch in specific fisheries and fishing gear.
Strategies or Key Result Areas		Activities	
1	Develop and promote options and new conservation and management agreements for whale sharks and other CITES-listed species in the SSME.	1.1	Produce the status of whale sharks and other CITES-listed sharks and rays in the SSME that includes, but is not limited to (i) existing data on population, distribution, habitat, utilization; (ii) information on the trade in specimens; (ii) previous and existing legislation on the conservation and management of the species; (iv) gap identification and technical recommendations for adaptation and adoption of the best conservation and management practices; and (v) collaborative research in aid of policy development for conservation and management.

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Table 1.5 *continued*

Strategies or Key Result Areas		Activities	
2	Provide recommendations on the management of threatened pelagic migratory sharks and rays in overfishing or as bycatch in specific fisheries and fishing gear.	2.1	Produce country status report on threatened pelagic migratory sharks and rays.
		2.2	Draft SSME plan of action pursuant to the <i>The Conservation Status of Pelagic Sharks and Rays</i> (Camhi et al. 2009) and the <i>International Plan of Action for Conservation and Management of Sharks</i> (FAO 2010–2011), including national on-board observer program to monitor and report bycatch, coordination arrangements with fisheries management organizations, and precautionary catch limits for sharks and rays.
		2.3	Establish alternative livelihoods that are capable of weaning people away from unsustainable resource extraction and ensuring ecosystem integrity.
3	Promote conservation and management of endemic cartilaginous species (sharks and rays).	3.1	Collate and review existing information on endemic sharks and rays.
		3.2	Identify and quantify threats to the populations of endemic sharks and rays.
		3.3	Identify gaps in conservation and management, develop recommendations to fill gaps, and promote conservation of endemic sharks and rays.

CITES = Convention on International Trade in Endangered Species of Wild Fauna and Flora, MPAs = marine protected areas, SSME = Sulu–Sulawesi Marine Ecoregion.

Source: Subcommittee on Threatened, Charismatic, and Migratory Species of the Sulu–Sulawesi Marine Ecoregion.

**Table 1.6 Logical Framework of the Sulu–Sulawesi Marine Ecoregion
Comprehensive Action Plan: Model Seascape**

Purpose (Short-Term Goal)		Indicators	
The SSME is officially designated as a priority seascape in the Coral Triangle and serves as a geographic focus of investments and actions for the CTI based on a comprehensive action plan agreed upon by Indonesia, Malaysia, and the Philippines.		1	Six Coral Triangle countries at the ministerial level officially recognize SSME as a priority seascape for delivering conservation results under the CTI Regional Plan of Action; and a comprehensive action plan with clear strategies, activities, budgets, and indicators is published and disseminated.
		2	The SSME is adopted as a general model for planning, implementation, and sustainable management of seascapes across the Coral Triangle and beyond.
Strategies or Key Result Areas		Activities	
1	Secure political, stakeholder, and donor community acceptance to strengthen the position of the SSME as a working priority model seascape in the Coral Triangle.	1.1	Advocate for the recognition of the SSME as a priority seascape within the CTI political and decision making processes.
		1.2	Formulate and implement a fundraising strategy and aggressive engagements with donors and the private sector.

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Table 1.6 *continued*

Strategies or Key Result Areas		Activities	
2	Build the capacity for seascapes at various levels.	2.1	Publish and disseminate information and educational materials promoting the SSME as a model seascape in the Coral Triangle.
		2.2	Support the development of capacity on seascape planning, implementation, and sustainable management for other seascapes within the Coral Triangle and beyond.

CTI = Coral Triangle Initiative, SSME = Sulu–Sulawesi Marine Ecoregion.
Source: Tri-National Committee of the Sulu–Sulawesi Marine Ecoregion.

**Table 1.7 Logical Framework of the Sulu–Sulawesi Marine Ecoregion
Comprehensive Action Plan: Climate Change**

Purpose (Short-Term Goal)		Indicators	
Climate change mitigation and adaptation strategies are considered in the implementation of plans and programs at all levels.		Baseline information and policies are in place to ensure that habitats and communities are safeguarded from the adverse effects of climate change.	
Strategies or Key Result Areas		Activities	
1	Build the capacity of relevant institutions and stakeholders on climate change adaptation strategies.	1.1	Capacitate the respective secretariats with facilities, manpower, logistics, and expertise by linking with potential centers of excellence on climate change adaptation.
2	Coordinate and implement research programs on climate change adaptation and mitigation to enhance the understanding of the adverse effects of climate change in the Sulu–Sulawesi Marine Ecoregion as basis for technical advice and recommendations for management and policy development.	2.1	Conduct research and studies on climate change adaptation and mitigation (e.g., reef resilience against global climate change).
3	Ensure the resiliency of fisheries and coastal communities to climate change.	3.1	Promote ecosystem-based climate change adaptation strategies for sustainable fisheries.

Source: Tri-National Committee of the Sulu–Sulawesi Marine Ecoregion.

Estimated Costs of Implementing the Strategies for the Subcommittee on Threatened, Charismatic, and Migratory Species

Each key result area or strategy has an estimated implementation cost over a period of 4 years. The total cost of implementing the strategies for the Subcommittee on Threatened, Charismatic, and Migratory Species is \$53.72 million, while the total cost of

implementing all the strategies for the SSME over 4 years is \$154.39 million. Budget items are defined in Appendix 2, while Appendix 3 contains the detailed budget items broken down for each key result area under the Subcommittee on Threatened, Charismatic, and Migratory Species.

Table 2 Estimated Cost of Implementation, by Budget Item and Outcome (\$)

Budget Line Item	Outcome 1: Fisheries	Outcome 2: MPAs and Networks	Outcome 3: Species	Outcome 4: Model Seascape	Outcome 5: Climate Change	Total
Personnel and staff	3,681,000	2,455,800	12,446,400	1,584,000	417,600	20,584,800
Professional services and consultants	7,391,000	2,111,000	8,598,330	2,916,000	846,000	21,862,330
Travel	3,597,135	3,725,300	3,729,285	135,000	688,450	11,875,170
Meetings and special events	11,742,225	4,726,100	20,266,505	461,250	5,463,775	42,659,855
Equipment and furniture	18,161,950	223,500	517,500	30,000	16,000	18,948,950
Printing and publications	2,189,000	272,000	2,231,500	78,000	107,250	4,877,750
Supplies	1,336,550	84,080	2,911,600	28,800	40,800	4,401,830
Seed capital and sub-grant	16,896,000	3,665,000	2,529,400	450,000	4,648,000	28,188,400
Miscellaneous	201,600	151,200	493,800	57,600	86,400	990,600
Total	65,196,460	17,413,980	53,724,320	5,740,650	12,314,275	154,389,685

MPAs = marine protected areas.

Source: Subcommittee on Threatened, Charismatic, and Migratory Species of the Sulu-Sulawesi Marine Ecoregion.

Table 3 Estimated Cost of Implementation, by Outcome and Country (\$)

Outcome		Indonesia	Malaysia	Philippines	Total
1	A harmonized fisheries management regime is developed through the conduct of research, policy development, habitat restoration, and sustainable livelihoods to communities primarily dependent on fisheries are provided.	9,784,975	24,663,500	30,747,985	65,196,460
2	Effective management of existing and new MPAs and networks is supported, the full range of sustainable marine resources is maintained, and the long-term socioeconomic and cultural needs of human communities in the SSME are provided.	8,110,425	487,630	8,815,925	17,413,980
3	Effective management of feeding grounds, migratory routes, and protection of target species from overfishing and as bycatch is facilitated; MPAs and MPA networks in relation to the protection and management of target species and its habitat are designed; and implementation of best practices in habitat conservation and management is promoted.	13,575,050	16,838,745	23,310,525	53,724,320
4	The SSME is officially designated as a priority seascape in the Coral Triangle and serves as a geographic focus of investments and actions for the Coral Triangle Initiative based on a comprehensive action plan agreed on by Indonesia, Malaysia, and the Philippines.	1,913,550	1,913,550	1,913,550	5,740,650
5	Climate change mitigation and adaptation strategies are considered in the implementation of plans and programs at all levels.	3,186,850	5,038,275	4,089,150	12,314,275
Total		36,570,850	48,941,700	68,877,135	154,389,685

MPAs = marine protected areas, SSME = Sulu–Sulawesi Marine Ecoregion.

Source: Subcommittee on Threatened, Charismatic, and Migratory Species of the Sulu–Sulawesi Marine Ecoregion.

Table 4 Estimated Cost of Implementing Outcome 3, by Budget Item and Country (\$)

Budget Line Item	Indonesia	Malaysia	Philippines	Total
Personnel and staff	5,528,800	2,636,000	4,281,600	12,446,400
Professional services and consultants	1,911,350	2,575,490	4,111,490	8,598,330
Travel	1,317,600	995,405	1,416,280	3,729,285
Meetings and special events	2,291,600	8,095,675	9,879,230	20,266,505
Equipment and furniture	209,500	127,875	180,125	517,500
Printing and publications	174,800	955,100	1,101,600	2,231,500
Supplies	148,600	995,400	1,767,600	2,911,600
Seed capital and sub-grant	1,839,800	304,800	384,800	2,529,400
Miscellaneous	153,000	153,000	187,800	493,800
Total	36,570,850	48,941,700	68,877,135	154,389,685

Source: Subcommittee on Threatened, Charismatic, and Migratory Species of the Sulu–Sulawesi Marine Ecoregion.

Table 5 Estimated Cost of Implementing Outcome 4, by Budget Item and Country (\$)

Budget Line Item	Indonesia	Malaysia	Philippines	Total
Personnel and staff	528,000	528,000	528,000	1,584,000
Professional services and consultants	972,000	972,000	972,000	2,916,000
Travel	45,000	45,000	45,000	135,000
Meetings and special events	153,750	153,750	153,750	461,250
Equipment and furniture	10,000	10,000	10,000	30,000
Printing and publications	26,000	26,000	26,000	78,000
Supplies	9,600	9,600	9,600	28,800
Seed capital and sub-grant	150,000	150,000	150,000	450,000
Miscellaneous	19,200	19,200	19,200	57,600
Total	1,913,550	1,913,550	1,913,550	5,740,650

Source: Subcommittee on Threatened, Charismatic, and Migratory Species of the Sulu–Sulawesi Marine Ecoregion.

Table 6 Estimated Cost of Implementing Outcome 5, by Budget Item and Country (\$)

Budget Line Item	Indonesia	Malaysia	Philippines	Total
Personnel and staff	417,600	0	0	417,600
Professional services and consultants	148,000	349,000	349,000	846,000
Travel	62,950	312,750	312,750	688,450
Meetings and special events	1,446,150	1,679,375	2,338,250	5,463,775
Equipment and furniture	16,000	0	0	16,000
Printing and publications	41,750	36,750	28,750	107,250
Supplies	9,600	15,600	15,600	40,800
Seed capital and sub-grant	1,016,000	2,616,000	1,016,000	4,648,000
Miscellaneous	28,800	28,800	28,800	86,400
Total	3,186,850	5,038,275	4,089,150	12,314,275

Source: Subcommittee on Threatened, Charismatic, and Migratory Species of the Sulu–Sulawesi Marine Ecoregion.

Sustainable Financing Options

Financing for the conservation of natural resources in the three countries of the Sulu–Sulawesi Marine Ecoregion (SSME) has historically relied mostly on government budgets and foreign donor funding. As such, decisions on disbursement for environmental conservation have mostly been made by government authorities and are often subject to the donors' own priorities and biases. Conservation often competes with other government programs that are characterized as directly contributing to economic development in the immediate term. The latter are naturally given priority more often than not, given these countries' developing status. But with recent trends showing a fast-declining natural resource stock and increasing environmental degradation, now exacerbated by climate change and burgeoning population levels in these countries' coastal communities, responsible environmental management has never demanded higher priority than today. If biodiversity is to continue to exist in this part of the globe and provide ecosystem services to the people, it is imperative that the SSME partners start to rely more on their own local resources and initiatives to finance programs and projects that will support environmental management and biodiversity conservation over the long term.

The following is a list of potential sustainable financing instruments that can be employed in the SSME countries. It is by no means all-inclusive of every possible instrument that can finance coastal resource management (CRM) in the global setting. Rather, it is based on mechanisms that exist in the SSME region and are being used for environmental conservation purposes. The applicability of each instrument will depend on the situation at hand, such as the intensity of resource use conflict, the

existing tenure and other legal arrangements, the level of complexity of the instrument itself, local capacities in management, and the level of environmental degradation in the subject area. In most cases, total funding for environment programs will be sourced from a combination of some of these instruments, as experience has shown that relying on just one source is never enough. It thus follows that funding the whole SSME Comprehensive Action Plan will necessitate pooling of funds sourced from a combination of these instruments. Determining the appropriate mix of instruments will have to be based on the level of maturity and capacity of the players involved in each particular instrument.

User Fees

User fees are probably one of the most popular ways of raising funds for marine conservation. The generic definition of user fees is a payment scheme for the use of a certain area, and/or certain resources found in the area, for a specific activity. For instance, in some marine protected areas (MPAs) within the SSME, scuba diving fees are imposed on scuba divers who choose to dive in those MPAs. The payment is made by the diver for the use of the MPA for recreational purposes. On the other hand, there are some local governments that charge environment or green fees to certain users in an area. In this sense, green fees are different from user fees because they do not refer to any specific resource or service being used by the payer; rather they are usually applied in a general sense and are meant to fund resource or environmental management in general. It is assumed though that the funds generated from this scheme are earmarked specifically for environment and natural resource or CRM.

User fee systems work as sustainable financing schemes if the following important conditions are met. First, there has to be a significant number of users against whom the fee will be imposed if the unit amounts are typically low, e.g., entrance or scuba diving fees. The number of users will determine the volume of revenues that can be realized from the scheme. Second, the users should further be consulted on the appropriate level of fees to be set. The amount should be based on their willingness to pay for the environmental good or service being protected or managed. Finally, collection and disbursement schemes should be simple and transparent. Complicated collection schemes will only result in high transaction costs, and sometimes low collection rates. On the other hand, if revenues collected are not perceived as being spent on the very intent of the fee, users may eventually protest against the scheme, creating lower collection rates and possible boycotts of the area. If any of these conditions are not met, the user fee scheme may not be able to raise the needed funds to continue CRM or MPA management in the area.

Registration and Licensing Fees

In the fisheries sector, the most common form of revenue-generating mechanism employed for CRM is the imposition of registration and licensing fees. Fishing is usually not allowed within MPA boundaries, although there are some management bodies that allow hook and line fishing within the outer portion of their MPAs, or even spear fishing outside of the core zone but still within the MPA boundaries. Registration and licensing of fishers has been practiced in the commercial sector for quite some time now, and is being implemented by state or national government agencies. Ideally, revenues generated should be used to partly fund enforcement activities of teams that monitor MPAs, or in the absence of MPAs, to patrol waters to guard against fishing violations.

Registration fees are usually set at low levels, as they are used more for information purposes

than for regulation. License fees are usually set higher, ideally at levels that estimate the economic rent captured from the activity. In countries where fishing regulations are more advanced, licensing schemes come with limits to entry; hence a maximum number of licenses are awarded to fishers. In the absence of entry limits, license fees can be set at higher levels if the objective is to regulate the fishing activity in the area. These amounts, however, have to be balanced against equity and poverty alleviation objectives, especially in most coastal areas in the country where fishers comprise the poorest sector of the community.

Taxes

The biggest revenue source of government is the tax system. In some areas where CRM is practiced, taxes specific to products that are associated with CRM are being imposed. Examples of these are taxes on fish vendors, auxiliary invoices, and land use taxes for aquaculture production. In some areas that have improved their coastal resources through proper management, the improvements have translated into business opportunities for the local population, which in turn have allowed governments to collect bigger taxes from them. The main criticism against using taxes as a financing mechanism is that there is no assurance that taxes collected for CRM purposes are automatically allocated toward CRM disbursements since all tax revenues accrue to the general fund of the government. Nevertheless, they can serve as a major funding mechanism if larger budgets are allocated toward CRM as a consequence of increased tax collections.

A related instrument is the use of the tax system as an incentive for private sector entities to invest more in natural resource management projects. Such investments can sometimes be used as tax incentive schemes, whereby payments made by private entities for CRM can be claimed against their outstanding tax payments to the government. These arrangements are

usually formalized through a memorandum of agreement or similar instruments involving the government and the private entity, along with a broker that ensures the funds are used for CRM purposes.

Penalties and Fines

Some governments that have long been practicing CRM have formulated laws or regulations that include a set of fines and penalties for violators of fishing or CRM rules and regulations. The amounts of fines and penalties should ideally be set at levels that approximate the economic and environmental damages caused by the violation, if not higher, to serve as a disincentive to violate. In cases where enforcement has been vigorously pursued and where administrative fines have been set at levels that are enough to deter violations, revenues have been raised from this source. However, caution should be applied in using fines as a sustainable source of finance. Once enforcement efforts become effective, violations decrease drastically. This bodes well for CRM in general, but it also means that there is a smaller source of revenues generated from fines and penalties. When fishers realize that enforcement of fishing rules in the area is being conducted seriously, the number of violators declines over time, until there are hardly any violators caught despite the same level of patrolling. Hence, fines and penalties may become revenue sources in the short term, but should not be treated as a sustainable source of financing in the medium and long term.

Pollution Charges

Similar to user fees is the system of charging a fee to polluters in a certain area. The concept of a pollution charge is premised on the instrument acting as an economic incentive to “force” polluters to internalize the true cost of their polluting activities, i.e., the damage to society caused by their activities. The underlying principle here is that the charge should have a

sound economic basis, and the environmental damages are actually measured and reflected in the price or the charge.

Pollution charges, just like user fees, will work only if there is a critical mass of polluters that can potentially join the system. More importantly, the technical capability of public institutions for regulating, monitoring, and enforcing water quality standards is a difficult requirement that must be met. If governments are willing to invest in capacity building in this regard, then pollution charges can work not only as regulatory instruments but also as revenue-generating mechanisms.

Government Budgetary Allocation for Coastal Resource Management

The traditional source of funding for CRM has always been allocations from the general budget of the local or national government. Some governments have set aside funds for financing enforcement and other management activities on a regular basis. In the absence of alternative revenue sources, some governments have proposed the increase of revenue allocations for coastal government units. In areas where MPA establishment and CRM have been institutionalized, MPA networks have been formed. These alliances are sustained by annual contributions of member municipalities and enforcement efforts are coordinated among the member municipalities, thus creating more impact and synergy.

Donor Funding

Although not really falling within the realm of sustainable financing, funds from foreign and local donors have played a significant role in promoting best CRM practices and establishing MPAs throughout the region. Donors may include aid agencies of developed country governments, international development banks, and private

foundations of large private corporations that allocate specific amounts for donation largely toward environmental conservation. Funds come in the form of either grants or loans, although in the biodiversity conservation sector, grants are the dominant form of foreign funding. Foreign-funded CRM projects have provided the necessary trailblazing activities for the countries to learn conservation lessons and build on them. Through many of these projects mentioned in earlier sections, sustainable financing activities and lessons have been studied, researched, and implemented to sustain conservation activities in the coastal and marine sector. Success stories in some of these project sites have created windows for more foreign-funded projects to come in and build on what has been initiated.

At the global level, the Scientific and Technical Advisory Panel of the Global Environment Facility has determined that “15 to 20 percent of all biodiversity funding should go to coastal and marine biodiversity conservation. Thus far, investment in marine biodiversity has lagged far behind terrestrial biodiversity projects. This is not surprising, because in the terrestrial realm there were numerous projects ‘ready to go,’ and there was considerable consensus on where the most important areas lie” (Hooten and Hatzios 1995). Much work still needs to be done for the world’s oceans and seas to achieve this target.

Trust Funds

In some cases, revenue-generating mechanisms are difficult to establish due to the lack of a critical mass of resource or environmental service users who are willing and able to pay for user fees. Still, this does not negate the need for funds to manage certain areas due to the large total economic value they possess. In these instances, the next best alternative would be to tap global beneficiaries who are willing to pay for protecting environmental services, such as biodiversity conservation and carbon sequestration. To make these payments last over the long run, they are often invested in trust funds. Some

of these trust funds, called endowment funds, are invested in financial instruments to earn interest perpetually, which in turn is used to fund management expenses (or other types of expenses approved by the fund’s management board). On the other hand, some (known as sinking funds) are designed to be used up after a fixed period of time through the disbursement of both the principal amount and whatever interest it earns. Globally, approximately 75% of the funding for conservation trust funds comes from multilateral and bilateral aid, with the United States contributing 45%; the Global Environment Facility, 19%; and Germany, 7% (Spergel and Taieb 2009). This money, amounting to around \$810 million, was contributed to 55 funds—74% to Latin America and the Caribbean, and 10% to Asia (Blundell et al. 2009).

One source of seed capital for establishing trust funds is debt-for-nature swaps. These instruments have been used extensively since the 1980s, mostly in Latin America. A portion of a government’s external debt is redeemed in exchange for the developing country’s government using an equivalent amount to finance natural resource management projects (Gutman 2003).

Public–Private Partnerships

Government and nongovernment actors in the conservation world have long recognized the importance of partnerships with the private sector in achieving conservation targets and outcomes. The objectives of these partnerships are varied and may range from simple corporate social responsibility targets to the convergence of values between conservation groups and profit-based organizations. On the part of the private sector, industries are already implementing various initiatives in their effort to improve their business operations and environmental performance. A major factor underlying these instances is the increasing level of environmental awareness among top management of concerned firms, prompting them to make efforts to pay back to the environment and to society. This

growing consciousness is also a reflection of the companies' compliance with global standards and various national and local regulatory instruments and their aspiration to improve their corporate reputation (Ancog and Vergara 2009).

Whatever the objective, the results have proven favorable, such that additional resources are being devoted to conservation. Some partnerships are short-term in nature and, hence, have short-term impacts in fund provision. Others are premised on more lasting mechanisms, and have formed part of the literature on sources of sustainable financing for natural resources management. Case studies abound in the marine sector, with private companies adopting MPAs, housing offices or administrative functions of integrated coastal management (ICM)-related groups, sponsoring projects that usually fall within the mandate of the government, entering memorandums of agreement with government agencies or and/or nongovernment organizations (NGOs), and becoming permanent members in ICM-related groups along with government and NGOs.

Payment for Ecosystem Services

Schemes involving payment for ecosystem services (PES) are relatively new financing instruments that address the twin goals of environmental conservation and poverty alleviation. They “represent a new paradigm of ‘conditional conservation’ that promises to be more efficient and equitable, and which can also help raise additional environmental funding” (Wunder and Wertz-Kanounnikoff 2009). PES is defined as “voluntary, contingent transactions between at least one seller and one buyer over

a well-defined ecosystem service, or a land (or water) use likely to secure that service” (Wunder and Wertz-Kanounnikoff 2009).

The concept of PES has evolved as traditional sources of funding for protected areas (such as government and foreign donors) have been drying up. The development of PES is occurring in many parts of the world. Some of the major terrestrial environmental services that are already being marketed include biodiversity conservation, carbon sequestration, watershed protection, and preservation of landscape beauty. Among these, markets for watershed protection services are the most common. In the marine environment, PES is slowly evolving in integrated ecosystem management, such as in the areas of ecotourism including coral reefs and mangrove forests, linking freshwater quality markets with coastal water quality, innovative market strategies in fisheries, and sustainable offshore energy development (Katoomba Group 2010).

The generic definition of PES schemes already subsumes some of the case studies mentioned above, such as the establishment of user fee systems in MPAs, the creation of various CRM funds, and the formation of public–private partnerships through some of the conservation projects they initiate or support. There is still great hope that PES could substantially solve the perennial problem of sustainable financing for ICM. For instance, mangroves are being studied in the hope of generating enough scientific evidence for this ecosystem to be eligible for carbon trading in the future. It is hoped that PES case studies can multiply, so the scheme can show itself to be a sustainable financing mechanism for ICM.

Estimated Costs of Implementing Sustainable Financing Options for the Subcommittee on Threatened, Charismatic, and Migratory Species

Based on the identified activities and strategies in the logical framework of the Subcommittee on Threatened, Charismatic, and Migratory Species, the estimated budget

needed to implement sustainable financing options to support the key result areas of the subcommittee over 4 years amounts to \$67,550.

Table 7 Estimated Cost of Implementing Sustainable Financing Options (\$)

Budget Line Item	Indonesia	Malaysia	Philippines	Total
Personnel and staff	0	0	0	0
Professional services and consultants	0	0	20,000	20,000
Travel	0	0	38,400	38,400
Meetings and special events	0	0	9,150	9,150
Equipment and furniture	0	0	0	0
Printing and publications	0	0	0	0
Supplies	0	0	0	0
Seed capital and sub-grant	0	0	0	0
Miscellaneous	0	0	0	0
Total	0	0	67,550	67,550

Source: Subcommittee on Threatened, Charismatic, and Migratory Species of the Sulu–Sulawesi Marine Ecoregion.

The Subcommittees of the Sulu–Sulawesi Marine Ecoregion: The Driving Forces for Marine Conservation

The Tri-National Committee of the Sulu–Sulawesi Marine Ecoregion (SSME) was formed in 2006 immediately after the ratification of the memorandum of understanding by Indonesia, Malaysia, and the Philippines. The Tri-National Committee then formed the Subcommittee on Threatened, Charismatic, and Migratory Species; the Subcommittee on Sustainable Fisheries; and the Subcommittee on Marine Protected Areas and Networks.

Each subcommittee is led by a country and guided by its own terms of reference (Appendix 4). The Subcommittee on Threatened, Charismatic,

and Migratory Species is led by Indonesia; the Subcommittee on Sustainable Fisheries by Malaysia; and the Subcommittee on Marine Protected Areas and Networks, by the Philippines.

The subcommittees implement an action plan to meet the objectives and vision of the Ecoregion Conservation Plan. The subcommittees report on achievements of the three countries in meeting their respective action plans. The subcommittees are in turn assisted by the technical working groups that are formed in each country. The governance structure of the Tri-National Committee and its subcommittees is illustrated below.

Figure 1 Governance Structure of the Tri-National Committee of the Sulu–Sulawesi Marine Ecoregion



Source: Tri-National Committee of the Sulu–Sulawesi Marine Ecoregion.

Lessons Learned from Conserving Major Population of Green Turtles in Sulu–Sulawesi Marine Ecoregion Through the Establishment and Management of Berau Marine Protected Areas¹

Berau Islands in East Kalimantan host the largest recorded green turtle rookery in Southeast Asia. Satellite tracking data and tracing records of flipper tags indicate that these green turtles migrate very large distances over open water from their nesting grounds to reach their feeding grounds.

The Berau Regency in East Kalimantan, Indonesia started a local conservation initiative driven by National Law No. 27/2007 to develop Berau Marine Protected Area (MPA). To ensure the protection of critical habitat of green turtle at Berau MPA, a zoning plan of the coastal area and small islands of Berau was developed through a holistic approach, taking into account its environmental carrying capacity. The zoning plan process in Berau showed that a spatial approach to coastal and small islands management is possible despite the lack of a legal zoning framework. However, it concluded that establishing a legal basis for a future zoning plan would provide a more strategic and integrated framework for an

ecosystems approach for fisheries, turtle habitat conservation, and coastal and small islands management.

Berau MPA was developed to manage the coastal and marine area of Berau. It applies multi-stakeholders' or users' involvement and partnership in the management of the MPA to ensure sustainable use of resources while maintaining its marine ecosystem. An example of this approach is the development of a marine ecotourism program on turtle conservation for the benefit of local communities. These objectives may be achieved by establishing a large, co-managed MPA that includes extractive use zones, non-extractive use zones, and fully protected (no-take) zones. In May 2004, a forum called Berau Joint Marine Secretariat was established through a memorandum of understanding between the local government of Berau and nongovernment organizations, such as the The Nature Conservancy, the World Wide Fund for Nature, Mitra Pesisir/CRMP II, Kehati, Bestari,

¹ Prepared by Matheus Halim of the World Wide Fund for Nature (WWF); Budy Wiryawan of Bogor Agricultural University; Ahsanal Kasasiah of the Ministry of Marine Affairs and Fisheries–Indonesia; and Wawan Ridwan of WWF–Indonesia.

and Kalbu. The forum aims to coordinate marine conservation activities in Berau by bringing the nongovernment organizations together as a team and networking to achieve more integrated outputs, instead of leaving each organization to work individually. In addition, the area of coverage is large.

One of the lessons learned from establishing the Berau MPA is the importance of building a constituency among stakeholders. The role of the facilitator or the working team of Berau MPA that was legalized by the local authority (Bupati Berau) is extremely significant in this regard. The working team should have the skills to develop a communication mechanism, timeline, and coordination mechanism among the stakeholders. The team should also understand the status, function, and role of each institution or stakeholder involved in implementing the zoning and management plans of the MPA, taking into

consideration their levels of understanding and the availability and capability of their human resources.

Another lesson learned, which may be considered as one of the significant achievements in developing Berau MPA, is the policy intervention to ensure habitat protection through Bupati Decree No. 60/2346-Um/XII/2001 on the Establishment of Derawan and Sangalaki as full protected areas from egg turtle concessions, and Bupati Decree No. 36 of 2002 on the establishment of a monitoring and surveillance team in Derawan and Sangalaki. Field work interventions to protect nesting habitat, through monitoring and surveillance, were conducted from 2002 to 2008. Reports showed that although the nesting population of green turtles was decreasing, the interventions were successful in increasing the hatchling success rate and the number of baby turtles.

Subcommittee on Threatened, Charismatic, and Migratory Species in the Sulu–Sulawesi Marine Ecoregion

The Subcommittee on Threatened, Charismatic, and Migratory Species has an action plan that is consistent with Goal 5 (threatened species status improving) of the Regional Plan of Action of the Coral Triangle Initiative. The implementation of activities in this action plan contributes to meeting the Coral Triangle Initiative target of “improved status of sharks, sea turtles, ...marine mammals, ... and other identified threatened species.” The subcommittee can provide technical advice and recommendations in designing a science-based network of marine protected areas (MPAs) for the conservation of species. The Tri-National Committee for Sulu–Sulawesi Marine Ecoregion (SSME) adopted, in July 2009, the Action Plan for Conservation of Sea Turtles in Sulu–Sulawesi and the Design of Network of MPAs that encompass critical sites in the transboundary Sea Turtle Corridor (Pilcher 2008). The network builds on the world’s first transborder protected area for marine turtles: Turtle Islands Heritage Protected Area of Malaysia and the Philippines.

The Subcommittee on Threatened, Charismatic, and Migratory Species aims to conserve species for sustainable use. The action plan can be viewed as part of the measures by the governments of Indonesia, Malaysia, and the Philippines to honor their commitments to international agreements. The subcommittee will engage with the Association of Southeast Asian Nations Wildlife Enforcement Network. It will also be beneficial for the subcommittee to work closely with the Species Survival Commission of the International Union for the Conservation of Nature and Natural Resources in assessing the conservation status of species in the region and to design conservation activities to improve population levels of endangered species.

Appendix 5 shows the highlights of the achievements of the SSME countries in implementing the Action Plan of the Subcommittee on MPAs and Networks.

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Appendix 1

Country Experiences in Implementing Sustainable Financing Mechanisms for Marine Conservation

Indonesia

The Government of Indonesia practices a highly centralized form of budgeting for all of its public offices, including those that are involved in environmental and natural resources management. The issue of generating more sustainable financing mechanisms for conservation has been discussed in a number of broad stakeholder workshops throughout the country. However, current laws have limited the country's options because of a specific requirement to deposit all government revenues in a centralized fund managed by the national government. Local authorities have no fiscal autonomy and are not in a position to directly disburse the revenues they generate. Budget plans are submitted to the national government, which in turn determines how to allocate all public funds. Even existing user fee systems in national parks are now being subjected to the same budgeting process. Because of this, there is little incentive for public officials and environmental managers to devise creative mechanisms to increase their revenues. Moreover, fund releases conform strictly to the annual budgeting process. If fresh funds come in the middle of the fiscal year, disbursement has to wait for the next budgeting process before they are allocated and released.

Of the 10 potential sustainable financing mechanisms for the comprehensive Sulu–Sulawesi Marine Ecoregion (SSME) action plans, four are deemed to be most feasible for Indonesian SSME activities: government budgetary allocation, donor funding, trust funds, and public–private partnerships (PPPs). Indonesia has had considerable experience in setting up trust funds. There is the existing Kehati Conservation Fund, which was set up from a United States debt-for-nature swap initiative and is designed to be fully allocated in 10 years. Since its inception, it has prioritized the funding of marine conservation projects, and the SSME itself has benefited from the fund. Prior to Kehati, the Sumatra Sustainable Fund was established by the governors of the five provinces in Sumatra in partnership with the World Wide Fund for Nature (WWF). Finally, a climate change trust fund is being established by the national government to finance the national climate change program of the country.

Another mechanism that has great potential in Indonesia is the establishment of PPPs for conservation. Current Indonesian law requires the allotment of corporate social responsibility (CSR) funds among private companies operating in the Indonesian economy. The government can package activities in the SSME Action Plan and make them more attractive for private sector participation.

Malaysia

In contrast to the Philippines, Malaysian government authorities appear to be more generous in providing substantial budgets for environmental conservation. Because of this, the need to generate sustainable financing mechanisms is less pronounced. Nevertheless, there is still a funding gap, and there is still no assurance that conservation plans laid out by the park authorities and the Fisheries Department will be fully funded by federal and state budgets. As such, revenue-generating measures are being established in Sabah, particularly in areas that fall within the SSME.

Sabah has had similar experiences with the Philippines in implementing sustainable financing schemes for environmental conservation. In fisheries management, registration and licensing fees have been implemented for a substantial number of years. However, government authorities have kept fee levels low due to the subsistence nature of most of the fishers. Revenues generated from this scheme are still below the budgets provided for fisheries management, as in the Philippine case. The estimated amount raised from licensing fees is around RM500,000 a year. The money is deposited into a consolidated fund from which the Fisheries Department bids for its annual budget based on a plan.

Sabah Parks have had more success in generating their own revenues. Marine protected areas (MPAs) in Sabah have successfully implemented user fee schemes to sustain park operations. In Kota Kinabalu National Park alone, annual revenues have reached a total of roughly RM5 million–RM6 million, enough to sustain at least 80% of the park's operating expenses. Likewise in Sipadan, park revenues are estimated to contribute around RM1.6 million a year. But since all park revenues go to state coffers, the total amount does not necessarily go back to the park that generated the revenues. Rather, local revenues are used to augment the budgets of other parks in the state. Nevertheless, there is an opportunity for Sabah Parks to raise revenues from user fees if they are based on users' willingness to pay for park use. Sabah Parks has been moving to increase park fees by 10%–15%. In general, tourists are supportive of such increases as long as they are confident the fees will be used to fund park improvements through conservation. Other user fees that target charismatic or flagship species, e.g., marine turtles in Turtle Island Heritage Protected Area, may be considered in the future to increase revenues from user fees.

Conservation activities are heavily subsidized by government funding in Sabah. Because of the rapid economic growth of Malaysia during the past 2 or 3 decades, donor funding has not been as prominent as in the other two SSME countries, although some foreign funds have still contributed significantly to SSME planning and operations. The country has thus relied more heavily on federal and state budgets. Strategic lobbying for bigger budgets for conservation has been suggested to expand environmental programs within the government. Trust funds are likewise not common, but there are some that have been established to account for certain donations that last for 2 or 3 years. At the Fisheries Department, a trust fund is being established at the time of writing, the revenues of which will be used mainly for PPPs for conservation, which are not yet common in Malaysia. Most CSR projects are still focused on social and community development, such as educational scholarships, with periodic tree-planting activities being conducted. CSR is still treated as a marketing tool by most private companies in Malaysia, thus their objectives for engaging in environmental conservation activities are more for advertising purposes. The Sabah Foundation, which supports both education and environmental projects, is a good example of a responsible CSR program. It is believed that such partnerships with the private sector are improving, and there are high hopes that the government can rely on the private sector to become more involved in conservation programs in the near future. Some private companies have expressed their desire to participate more in environmental projects, but there needs to be more

awareness raised on how this can be done. Tourism in particular can be a good candidate for increasing CSR programs that support conservation in the SSME.

Penalties and fines for environment-related violations exist in Malaysia, although there may be scope for increasing their levels, subject to the approval by the State Assembly. As far as taxes are concerned, studies are still being conducted on the feasibility of imposing a tourist tax to be collected at the airport. It is hoped that this could be used for conservation. Other sources of taxes being suggested include those that target polluting industries, such as palm oil and logging, as well as all other industries that pollute waterways. However, most of these taxes are collected at the federal level, thus their disbursement is not automatically channeled back to conservation at the local level. More progress is being made at the Fisheries Department, where an ongoing study is looking at the feasibility of imposing taxes on the fish trade and directing revenues to fisheries conservation.

Philippines

The Philippines has had relatively rich experience in establishing sustainable financing mechanisms for environmental conservation. This may be partly due to the fact that environmental management budgets, both at the national and local levels, have been seriously wanting, and park managers and local government officials have had to rely on creative mechanisms to augment their meager budgets.

The earliest recorded attempts at establishing user fees for local MPA users in the Philippines date back to the late 1980s. User fees were first imposed on recreational visitors in MPAs, mostly in the Visayas region through the initiatives of Silliman University, e.g., Apo Island, and the former Coastal Resources Management Project, e.g., Sumilong, Gilutungan, and Olango MPAs. Another project called the Environmental and Natural Resources Accounting Project set the technical guidelines in estimating user fees through a Department of Environment and Natural Resources (DENR) administrative order that covered all protected areas under the National Integrated Protected Area System, some of which included seascapes and MPAs. There were also initiatives by nongovernment organizations (NGOs) to estimate scuba diving fees in locally protected areas, such as those in the Mabini–Tingloy area in Batangas, initiated by WWF; and the Moalboal, Siquijor and Bohol MPAs, as recommended by the Coastal Conservation and Education Foundation. To date, the Mabini–Tingloy diving fee system has proven to be one of the more successful attempts, earning more than P1 million per year for each municipality. Aside from recreational user fees, development fees have been recommended for resorts in the municipality of El Nido, Palawan, and imposed on the National Power Corporation's coal-fired power plant located within the MPA of Masinloc, Zambales. There are some local government units (LGUs) that charge environment or green fees, such as the green fee imposed on all tourists that enter Puerto Galera, whether they visit for scuba diving, snorkeling, or simply to lounge on the beach.

Fines and penalties have not been a major source of revenues, particularly since their maximum levels are severely limited by law. Nevertheless, some coastal LGUs that have long been practicing coastal resource management (CRM) have formulated ordinances that include a set of fines and penalties for violators of fishing or CRM rules and regulations. LGUs in the Verde Passage Marine Biodiversity Conservation Corridor, coastal towns in Bohol, some LGUs surrounding the Davao Gulf, Saranggani Bay, and Iligan Bay and many areas covered by donor-funded projects have formulated their own fisheries codes and CRM plans, many of which include provisions on fines and penalties. In Tubbataha Reefs Natural Marine Park, the Protected Area Management Board has set fines for ship grounding incidents to P12,000 per square meter of coral reef damaged, based on an economic valuation study conducted

for the area. In cases where enforcement has been vigorously pursued and where administrative fines have been set at levels that are enough to deter violations, revenues have been raised from this source. In Ubay, Bohol, the first year of enforcing its fishing rules saw the LGU earning close to P100,000 strictly from fines and charges.

Most CRM programs that were started in earlier decades have attempted to establish registration and licensing systems in coastal municipalities all over the country. Some municipalities have been able to set up their own registration and licensing schemes for municipal fishers. In Ubay, Bohol, the LGU is projected to be able to raise a little less than P1 million a year from registration fees if it can reach 100% coverage. Another project, called Ecological Governance, was likewise able to set up such schemes within its coastal project sites. Finally, the Marine Science Institute, through its Marine Environment and Resources Foundation, includes a registration and licensing scheme in the implementation of its CRM projects in northern Luzon. In most of these cases, revenues generated are used to partly fund enforcement activities of *Bantay Dagat* (coastguard) teams that monitor their local MPAs, or in the absence of MPAs, patrol their municipal waters to guard against fishing violations.

In some areas practicing CRM, taxes specific to products that are associated with CRM are being imposed. Examples of these are taxes on fish vendors, auxiliary invoices, and land use taxes for aquaculture production. In some areas that have improved their coastal resources through proper management, the improvements have translated into business opportunities for the local population, which in turn have allowed the LGUs to collect bigger taxes from them. One of the biggest tax sources is auxiliary invoices, a kind of tax applied to coastal resources, usually fish, being exported from the municipality. Some LGUs in Luzon, Visayas, and Mindanao earn significant revenues from this source.

As far as tax incentive schemes are concerned, Cemex has just entered into an agreement with Conservation International and the DENR through the DENR's Adopt-a-Wildlife-Species Program. The private company has agreed to fund a research program for the tarsier, an endangered species, to ensure its survival in the long term. Payments for funding the research program will be claimed as tax shelters for Cemex in its succeeding tax payments to the government. Future memorandums of agreement are being planned for marine mammals on the country's list of threatened species.

Pollution charges are not common in most parts of the country. The earliest and probably best documented case study is that of Laguna Lake, where a pollution charge system has been imposed on industries and households that use the lake for sewerage disposal. This has worked well for the Laguna Lake Development Authority in raising revenues for its operations. In the Verde Island Passage, a feasibility study of a tradable wastewater discharge permit system has been undertaken.

LGUs implementing CRM programs have set aside funds to finance regular enforcement and other management activities. In Ubay, Bohol, the LGU has set up a CRM office physically separate from other LGU departments. It allots a budget of P1.5 million a year primarily for enforcement and MPA maintenance expenses. An additional P0.82 million is provided through in-kind contributions through the volunteer work of *Bantay Dagat* team members and other local community residents who devote their time and labor to undertake CRM-related activities. The municipality of Looc in Mindoro Occidental has been spending over P1 million annually on CRM activities. In other cases, tapping into the Special Activity Fund of LGU budgets has proved successful in providing regular budgets for CRM.

In areas where MPA establishment and CRM have been institutionalized, MPA networks have been formed, such as in Surigao del Sur, Zamboanga del Sur, and the Verde Island Passage. The first two

alliances are sustained by annual contributions of member municipalities and enforcement efforts are coordinated, thus creating more impact and synergy. In the Verde Island Passage, regular funds for the operations of the MPA enforcement network are being provided by the provincial government of Batangas. In the island municipality of Cagayancillo, the inclusion of regular MPA enforcement activities in its annual investment plan has ensured regular funding. At the national level, a coastal and marine management office has been created at the DENR, which gets regular funding from the national government. The office coordinates all marine conservation-related efforts of national government agencies, with particular focus on mangrove reforestation efforts and the establishment of MPAs.

Foreign-funded CRM projects have provided the necessary trailblazing activities for the country to learn conservation lessons and build on them. Through many of these projects mentioned in earlier sections, sustainable financing activities and lessons have been studied, researched, and implemented to sustain conservation activities in the coastal and marine sector. Some have even funded the establishment of offices tasked with managing protected areas. For example, Tubbataha Reefs Natural Park was granted \$2.5 million in 2001 from the Global Environment Facility and the United Nations Development Programme to establish the Tubbataha Management Office (Blundell et al. 2009). The big environmental NGOs, such as Conservation International, Haribon, and WWF, have sourced their funds from foreign donors, some coming from private foundations working in the international arena. Success stories in some of these project sites have created windows for more foreign-funded projects to come in and build on what has been initiated.

The Philippines is one of the countries that were able to establish a trust fund specifically geared toward conservation objectives early on. The biggest endowment trust fund established for conservation objectives locally is the Foundation for the Philippine Environment (FPE), a grant-giving NGO. In 1992, the United States Agency for International Development funded the purchase by WWF of \$19 million-worth of commercial debt owed by the Philippines. In exchange for cancelling the debt, the Philippines allocated \$17 million to establish FPE (Blundell et al. 2009). Interest earned from investing the funds in a financial instrument sustains the operations and projects of the FPE. Other trust funds, some in the form of sinking funds, have been established for terrestrial conservation and management through similar debt-for-nature swap schemes, such as the Philippine Tropical Forestry Conservation Foundation. The Puerto Princesa Subterranean River National Park established a revolving environmental trust fund of P8.9 million (\$330,000) in 1993, with its annual revenue supplemented with income from tourist fees and P3.2 million (\$119,000) from the city government of Puerto Princesa (Blundell et al. 2009). Finally, the Tubbataha Reefs Natural Park established a sinking environmental trust fund of about P8 million (\$196,000) in 1998 (TRNMP Business Plan 2009).

PPPs have started to be formed to further conservation. Two successful PPPs have been formed in the Verde Island Passage. One is the Batangas Coastal Resources Management Foundation, which is composed of industry players located along the coastline of Batangas Bay. The foundation was set up in 1991 and has participated in numerous integrated coastal management activities that aim to conserve Batangas Bay and improve its water quality. A more recent partnership formed is the First Philippine Conservation, a partnership between First Gen Corporation and Conservation International–Philippines. The company agreed to fund components of the Coastal Resources Management Program for Verde Passage totaling P50 million (\$1 million) over 5 years (Anda and Dalabajan 2009). Other recent developments include the Energy and Biodiversity Initiative, convened by the Center for Leadership in Business within Conservation International. The Energy and Biodiversity Initiative is a group of five conservation organizations and four major energy companies working to integrate biodiversity conservation into oil and gas development. The partners have created a set of practical guidelines and

tools to minimize impacts on biodiversity and maximize contributions to conservation wherever oil and gas resources are developed (Rosales and Vergara 2007). Other PPPs exist in other parts of the country. In the El Nido Foundation in El Nido, Palawan, the tourism industry partners with local communities and LGUs in the area. The WWF has also made a number of partnership arrangements with the private sector, one of which is with Cebu Pacific in supporting climate change adaptation projects in their pilot sites in Mindoro Occidental and later on expanding to the Tubbataha Reefs Natural Park in Palawan. The Philippine Business for Social Progress, established in 1970, is a large corporate-led social development foundation, although it is not primarily geared toward environmental conservation programs. Member companies from the private sector allocate a portion of their CSR funds as membership dues, which in turn are used to fund social development projects that are selected and managed by the NGO's board and staff.

Appendix 2

Table A2 Description of Cost Items for Implementing the Comprehensive Action Plan and their Description

Cost Item	Description
Personnel and staff	Includes the total amount for full-time, part-time, and temporary staff salaries, including fringe benefits
Professional services and consultants	Includes the costs of hiring professional consultants with special or highly technical skills
Travel	Includes estimated costs for transport and per diem expenses during travel
Meetings and special events	Costs incurred for meetings, workshops, surveys, trainings, focus group discussions, consultations, and other specific activities (e.g., mangrove reforestation) including related travel expenses
Equipment and furniture	Includes all equipment purchases
Printing and publications	Costs incurred for all printing and publication requirements including reproduction services
Supplies	Includes office, workshop, and field supplies, including survey materials and data purchases (e.g., maps and images)
Seed capital and sub-grants	Includes all seed capital (e.g., specific livelihood grants) and sub-grant requirements necessary for engaging other partner organizations
Miscellaneous	Includes communications costs and other incidental expenses

Source: Tri-National Committee of the Sulu–Sulawesi Marine Ecoregion.

Appendix 3

Table A3.1 Detailed Cost of Implementing the Strategies for the Subcommittee on Threatened, Charismatic, and Migratory Species, by Country and Key Result Area: Marine Turtles (\$)

Line Item	KRA 12	KRA 13	KRA 14	KRA 15	KRA 16	KRA 17	KRA 18
Indonesia							
Personnel and staff	513,600	513,600	513,600	465,600	72,000	417,600	256,800
Professional services and consultants	172,000	78,500	129,250	59,000	5,000	77,000	132,000
Travel	156,750	44,000	79,750	88,000	500	62,700	52,800
Meetings and special events	110,500	35,000	38,850	71,500	1,000	404,500	134,750
Equipment and furniture	7,000	0	0	0	0	10,000	10,000
Printing and publications	79,000	1,000	500	0	0	2,500	28,000
Supplies	200	0	400	0	0	5,600	0
Seed capital and sub-grant	125,000	500,000	450,000	120,000	0	0	4,800
Miscellaneous	9,600	9,600	9,600	9,600	9,600	10,600	17,600
Subtotal	1,173,650	1,181,700	1,221,950	813,700	88,100	990,500	636,750
Country total	6,106,350						
Malaysia							
Personnel and staff	130,800	72,000	26,800	124,000	72,000	417,600	256,800
Professional services and consultants	3,000	11,000	6,000	8,000	5,000	77,000	132,000
Travel	9,850	0	8,450	0	500	62,700	52,800
Meetings and special events	1,120	2,400	5,200	4,000	1,000	404,500	134,750
Equipment and furniture	2,000	0	0	0	0	10,000	10,000
Printing and publications	500	1,000	500	0	0	2,500	28,000
Supplies	200	0	400	0	0	5,600	0

continued on next page

Table A3.1 *continued*

Line Item	KRA 12	KRA 13	KRA 14	KRA 15	KRA 16	KRA 17	KRA 18
Seed capital and sub-grant	0	0	0	0	0	0	4,800
Miscellaneous	9,600	9,600	9,600	9,600	9,600	10,600	17,600
Subtotal	157,070	96,000	56,950	145,600	88,100	990,500	636,750
Country total	2,170,970						
Philippines							
Personnel and staff	465,600	513,600	417,600	417,600	417,600	256,800	256,800
Professional services and consultants	390,000	101,000	148,000	80,000	68,000	77,000	132,000
Travel	167,475	62,700	89,100	67,600	52,800	62,700	52,800
Meetings and special events	879,725	181,000	223,500	504,800	8,250	404,500	134,750
Equipment and furniture	0	0	0	0	0	10,000	10,000
Printing and publications	36,500	2,500	2,500	0	50,000	2,500	85,000
Supplies	28,800	5,600	725,200	6,400	6,800	5,600	0
Seed capital and sub-grant	80,000	0	0	0	0	0	4,800
Miscellaneous	43,400	10,600	9,600	9,600	9,600	10,600	17,600
Subtotal	2,091,500	877,000	1,615,500	1,086,000	613,050	829,700	693,750
Country total	7,806,500						

KRA = key result area.

Source: Subcommittee on Threatened, Charismatic, and Migratory Species of the Sulu–Sulawesi Marine Ecoregion.

Table A3.2 Detailed Cost of Implementing the Strategies for the Subcommittee on Threatened, Charismatic, and Migratory Species, by Country and Key Result Area: Napoleon Wrasse (\$)

Line Item	Indonesia	Malaysia	Philippines
	KRA 19	KRA 19	KRA 19
Personnel and staff	417,600	112,000	112,000
Professional services and consultants	110,000	418,000	1,056,000
Travel	150,000	60,240	60,240
Meetings and special events	290,000	2,805,290	2,805,290
Equipment and furniture	50,000	12,500	12,500
Printing and publications	12,000	70,000	70,000
Supplies	24,000	108,000	108,000
Seed capital and sub-grant	240,000	300,000	300,000
Miscellaneous	9,600	9,600	9,600
Subtotal	1,303,200	3,895,630	4,533,630

KRA = key result area.

Source: Subcommittee on Threatened, Charismatic, and Migratory Species of the Sulu–Sulawesi Marine Ecoregion.

Table A3.3 Detailed Cost of Implementing the Strategies for the Subcommittee on Threatened, Charismatic, and Migratory Species, by Country and Key Result Area: Marine Mammals (\$)

Line Item	KRA 20	KRA 21	KRA 22	KRA 23
Indonesia				
Personnel and staff	513,600	176,000	80,000	96,000
Professional services and consultants	168,000	52,000	226,000	5,000
Travel	43,500	69,200	66,000	0
Meetings and special events	342,000	51,000	100,500	28,750
Equipment and furniture	4,750	1,875	2,000	0
Printing and publications	2,000	0	15,000	5,000
Supplies	20,800	20,800	20,800	25,600
Seed capital and sub-grant	0	400,000	0	0
Miscellaneous	9,600	9,600	9,600	9,600
Subtotal	1,104,250	780,475	519,900	169,950
Country total	2,574,575			
Malaysia				
Personnel and staff	176,000	176,000	176,000	176,000
Professional services and consultants	250,000	100,000	117,000	60,000
Travel	74,440	38,070	13,995	150,680
Meetings and special events	220,725	3,200	484,500	83,950
Equipment and furniture	3,250	1,875	85,000	0
Printing and publications	2,000	0	10,000	0
Supplies	9,800	400,000	400,000	8,800
Seed capital and sub-grant	0	0	0	0
Miscellaneous	9,600	9,600	9,600	9,600
Subtotal	745,815	728,745	1,296,095	489,030
Country total	2,574,575			
Philippines				
Personnel and staff	176,000	176,000	176,000	176,000
Professional services and consultants	250,000	100,000	261,000	60,000
Travel	74,440	38,070	13,995	150,680
Meetings and special events	220,725	3,200	484,500	83,950
Equipment and furniture	3,250	1,875	85,000	0
Printing and publications	2,000	0	10,000	0
Supplies	9,800	400,000	400,000	8,800
Seed capital and sub-grant	0	0	0	0
Miscellaneous	9,600	9,600	9,600	9,600
Subtotal	745,815	728,745	1,440,095	489,030
Country total	3,403,685			

KRA = key result area.

Source: Subcommittee on Threatened, Charismatic, and Migratory Species of the Sulu–Sulawesi Marine Ecoregion.

Table A3.4 Detailed Cost of Implementing the Strategies for the Subcommittee on Threatened, Charismatic, and Migratory Species, by Country and Key Result Area: Sharks (\$)

Line Item	KRA 24	KRA 25	KRA 26
Indonesia			
Personnel and staff	465,600	561,600	465,600
Professional services and consultants	356,800	260,800	80,000
Travel	388,400	116,000	0
Meetings and special events	581,750	38,500	63,000
Equipment and furniture	3,875	120,000	0
Printing and publications	22,800	0	7,000
Supplies	20,800	4,800	4,800
Seed capital and sub-grant	0	0	0
Miscellaneous	9,600	9,600	9,600
Subtotal	1,849,625	1,111,300	630,000
Country total	3,590,925		
Malaysia			
Personnel and staff	240,000	240,000	240,000
Professional services and consultants	274,000	929,290	185,200
Travel	225,600	192,270	105,810
Meetings and special events	576,550	3,210,290	158,200
Equipment and furniture	3,250	0	0
Printing and publications	388,000	445,600	7000
Supplies	19,800	30,200	12,600
Seed capital and sub-grant	0	0	0
Miscellaneous	9,600	9,600	9,600
Subtotal	1,736,800	5,057,250	718,410
Country total	7,512,460		
Philippines			
Personnel and staff	240,000	240,000	240,000
Professional services and consultants	274,000	929,290	185,200
Travel	225,600	192,270	105,810
Meetings and special events	576,550	3,210,290	158,200
Equipment and furniture	3,250	54,250	0
Printing and publications	388,000	445,600	7,000
Supplies	19,800	30,200	12,600
Seed capital and sub-grant	0	0	0
Miscellaneous	9,600	9,600	9,600
Subtotal	1,736,800	5,111,500	718,410
Country total	7,566,710		

KRA = key result area.

Source: Subcommittee on Threatened, Charismatic, and Migratory Species of the Sulu–Sulawesi Marine Ecoregion.

Appendix 4

Terms of Reference of the Subcommittee on Endangered, Charismatic, and Migratory Species of the Sulu–Sulawesi Marine Ecoregion

Official Designation

The Subcommittee on the Endangered, Charismatic, and Migratory Species of the Sulu–Sulawesi Marine Ecoregion (SSME), hereinafter referred to as the Species Subcommittee, is composed of the representatives of designated government officials as well as experts and/or specialists from nongovernment organizations, research, and/or academic institutions of Indonesia, Malaysia, and the Philippines, endorsed by their respective National Focal Authorities.

Mandate

The mandate of the Species Subcommittee originates from the decision taken by the SSME Tri-National Committee at its first meeting held in Balikpapan, Indonesia, on 1 March 2006. The Species Subcommittee was established under the auspices of the Tri-National Committee to address technical issues on the protection and management of endangered, charismatic, and migratory species in the region and provide technical advice and recommendations for policy development and implementation.

Duties and Responsibilities

The Species Subcommittee, on its behalf or jointly with other two subcommittees (i.e., Sustainable Fisheries that includes aquaculture and livelihood systems, and Marine Protected Areas (MPAs) and Networks that includes caves and wetlands), shall serve, in general, as a forum to provide technical advices and recommendations to the tri-national governments for the formulation of policies on the effective protection and management—including genetic conservation—of endangered, charismatic, and migratory species of the SSME. These will be achieved through, but not limited to, the following:

- Review of existing policies and programs on the protection and management of the endangered, charismatic, and migratory species within or outside MPAs, including *inter alia*, marine conservation and resource utilization that affects the species.
- Provision of technical advice and recommendations for the development of new policies and programs on the protection and management of the endangered, charismatic, and migratory

species within or outside MPAs, including *inter alia*, marine conservation and resource utilization that affects the species.

- Review and consolidation of technical advice and recommendations previously presented in various forms by organizations and experts as the basis to formulate new recommendations for policy development.
- Provision of technical advice and recommendations to support effective implementation of regional and global agreements related to endangered, charismatic, and migratory species protection and management, such as the Indian Ocean–South-East Asia Marine Turtle Memorandum of Understanding, the Convention on International Trade in Endangered Species of Wild Fauna and Flora, the Convention on the Conservation of Migratory Species of Wild Animals, the Ramsar Convention on Wetlands, and the Convention on Biological Diversity, at national or SSME levels.
- Coordination of research and studies on the endangered, charismatic, and migratory species within the SSME to enhance the understanding of biodiversity resources and factors affecting them to serve as basis for technical advice and recommendations for policy development.
- Coordination of the management and sharing of data and information on endangered, charismatic, and migratory species as the basis for developing technical advice and recommendations for policy development.

Subcommittee Composition

Chair

The subcommittee shall elect its chair from representatives of the members of the subcommittee. The chair shall serve a tenure of 2 years and shall be elected at a regular species subcommittee meeting. The chair shall oversee all aspects of the work progress of the subcommittee.

In the event where the chair is temporarily incapacitated, the subcommittee members shall appoint an acting chair to take over the functions of the chair.

Membership

Each country may nominate up to a maximum of five persons for the membership of the subcommittee. When it is deemed necessary, depending on the issues being addressed, the chair of the subcommittee, by the consent of the members, may invite external experts to assist the subcommittee in its works.

Focal Person

Members from each country shall appoint one focal person for each country to facilitate communication and coordinate activities within each country and between member countries.

Appendix 5

Achievements of the Countries in Implementing the Action Plan of the Subcommittee on Threatened, Charismatic, and Migratory Species

Indonesia

- Tagging of hundreds of marine turtles in Berau–Derawan Priority Conservation Area, Sulawesi Sea

Malaysia

Napoleon wrasse

- Non-Detrimental Finding Study, 2008—The results of the study were used by the scientific and management bodies in Malaysia to ban the export of Napoleon wrasse by January 2010. (Refer to Lessons Learned in Action Plan for Subcommittee on Sustainable Fisheries).

Philippines

- Assessment of the conservation status of corals in 2007, with the International Union for the Conservation of Nature and Natural Resources (IUCN) and Global Marine Species Assessment
- Assessment of the conservation status of wrasses (*Labridae*) in 2009, with IUCN and Global Marine Species Assessment

Ecoregion-Wide

Accomplishments of the three-country partnership under the Conservation International Sulu–Sulawesi Seascape Project:

- Review of the status of knowledge and information on sea turtle biology, habitats, conservation, and management to determine conservation needs and actions
- Draft Action Plan for the Conservation of Marine Turtles and their Habitats in the Sulu–Sulawesi Marine Ecoregion: a priority seascape in the Coral Triangle (Pilcher 2008) recommends courses action for the sustainable management of marine turtles shared by the countries
- Design of a Network of Protected Areas to Safeguard Marine Turtles in Sulu–Sulawesi (Pilcher 2008)

Volume 2

Subcommittee on
Marine Protected Areas
and Networks

The Sulu–Sulawesi Marine Ecoregion

The Sulu Sea and Sulawesi Sea are twin seas formed by the movement of submarine plates from the northern and southern hemispheres of the earth. The plates brought with them numerous species. Some of these species thrived in the warm seas and survived, while others evolved with the lowering and rising of the marine waters (Carpenter and Springer 2005).

The Sulu–Sulawesi Seas cover about 1 million square kilometers. The area is considered as the global center of tropical marine diversity, supporting the highest number of species of coral reef fishes, demersal fishes, turtles, and algae (DeVantier et al. 2004). The mangrove forests, seagrass beds, coral reefs, and coastal and offshore waters are the most species-rich in the tropics.

The bounty of these seas provides food and livelihood to about 40 million people living along the coastline of Sulu–Sulawesi Marine Ecoregion. There are many threats, however, that undermine the food security and livelihoods of these people. Overfishing reduces the populations of fishes, mollusks, and sea cucumbers to unproductive levels. Destructive fishing practices destroy coral reefs as habitats and kill all fishes, young and old. Organic pollution and sediment runoff from land slowly cover seagrass beds and coral reefs. More frequent and intense storms bring more freshwater to coastal waters, drastically lowering their salinity and killing organisms with low tolerance to changes in salinity. These storms also cause rivers to swell and carry organic substances and sediments to sea, increasing the stress to seagrass beds and coral reefs.

The Sulu–Sulawesi Marine Ecoregion Comprehensive Action Plan

The governments of Indonesia, Malaysia, and the Philippines signed a memorandum of understanding to conserve the Sulu–Sulawesi Marine Ecoregion (SSME) during the Seventh Conference of the Parties to the Convention on Biological Diversity held in Kuala Lumpur in 2004. The Ecoregion Conservation Plan was ratified by the three countries in 2006. The countries subsequently established the Tri-National Committee and three subcommittees to implement the three programs of work as follows:

- Threatened, Charismatic, and Endangered Species;
- Sustainable Fisheries; and
- Marine Protected Areas (MPAs) and Networks.

In 2009, the Action Plan of the Subcommittee on MPAs and Networks was published, which contained its goals, objectives, strategies and actions, the achievements and lessons learned in the past 3 years of country-wide implementation, and a historical account of its drafting. This version transforms the previous action plan into a comprehensive action plan with the following features:

1. The vision, mission, goals, objectives, and actions are summarized in a **logical framework** for the three subcommittees of the SSME. The vision of each subcommittee action plan remains the same, and is also termed as the set of long-

term goals of the SSME. These are then translated into five target conservation outcomes. Three of these represent the overall outcomes of the three subcommittee action plans while the two additional cross-cutting outcomes refer to SSME's contribution to the Coral Triangle Initiative and climate change adaptation. The last two outcomes reflect updates on recent events that are highly relevant to SSME conservation and management.

2. The conservation outcomes are then translated into shorter-term **purpose statements**, which reflect the objectives of the previous action plans. These purpose statements are then broken down into **strategies or key result areas**, which are further broken down into a set of **activities**. The previous list of objectives, strategies, programs, and activities were harmonized across the three subcommittee action plans, so that each level is consistent across subcommittees. In some cases, purpose statements and strategies were added to complete the logical framework, while some of the objectives were merged for consistency. All previous activities were included in the comprehensive action plans, while new ones were added to serve the two new conservation outcomes.
3. **Indicators** are provided at the level of short-term purpose statements. These can serve as the basis for developing a

- monitoring and evaluation framework for the Comprehensive Action Plan.
4. Estimated **costs** are provided for the implementation of the strategies or key result areas. Cost estimates resulted from a series of workshops held in each of the three SSME countries during the third quarter of 2010.
 5. A list of **potential revenue-generating mechanisms** is provided, along with an overview of how each country has implemented or sees the potential of implementing these mechanisms (Appendix 1).
 6. The brief description of the Tri-National Committee of the SSME was taken from the previous action plan. There were no changes in the structure of the Tri-National Committee and its subcommittees, and the functions and responsibilities in implementing the SSME comprehensive action plans remain the same.
 7. **Lessons learned** in the previous action plans are adopted for the implementation of the comprehensive action plans as they remain highly relevant in achieving this document's objectives.

Logical Framework of the Sulu–Sulawesi Marine Ecoregion Comprehensive Action Plan

Table 1.1 Logical Framework of the Sulu–Sulawesi Marine Ecoregion Comprehensive Action Plan

Logical Framework		
Long-Term Goal Statement	Targeted Conservation Outcomes	
A marine ecoregion that remains globally unique and a center of diversity with vibrant ecological integrity, including all species assemblages, communities, habitats, and ecological processes A highly productive ecoregion that sustainably and equitably provides for the socioeconomic and cultural needs of the human communities dependent on it An ecoregion where biodiversity and productivity are sustained through generations by participatory and collaborative management across all political and cultural boundaries	1	Sustainable fisheries, aquaculture, living aquatic resources use and livelihood systems in the SSME
	2	Conserved and sustainably managed biodiversity in the SSME
	3	Protected and managed threatened, charismatic and migratory species and their habitats in order to maintain the full range of biodiversity and provide for the long-term socioeconomic and cultural needs of human communities in the SSME
	4	A model in seascape planning and implementation contributing to the Coral Triangle Initiative
	5	Resilient habitats and communities adapting to the adverse effects of climate change

SSME = Sulu–Sulawesi Marine Ecoregion.

Source: Tri-National Committee of the Sulu–Sulawesi Marine Ecoregion.

Table 1.2 Logical Framework of the Sulu–Sulawesi Marine Ecoregion Comprehensive Action Plan: Marine Protected Areas and Networks

Purpose (Short-Term Goal)		Indicators	
Support the effective management of existing and new MPAs and networks, maintain the full range of sustainable marine resources, and provide for the long-term socioeconomic and cultural needs of human communities in the SSME.	1	Policy review and development promote effective MPA and MPA network management, including sustainable financing options.	
	2	Research studies provide scientific basis for the management of existing MPAs and networks and establishment of new MPAs and networks.	
	3	Effective collaboration between and among national and regional institutions on the establishment and management of MPAs and networks.	
Strategies or Key Result Areas		Activities	
1	Formulate policies, plans, and programs supporting the establishment and management of MPAs and networks.	1.1	Review policies at the national level, provide inputs and policy recommendations to policy makers and share documents regarding existing policies among member countries for review and possible harmonization.
		1.2	Revisit, update, and improve the framework for establishing MPAs and networks in the SSME.
		1.3	Create a regional-level task force if needed.
		1.4	Develop and pilot sustainable financing mechanisms for the MPAs and networks within the SSME.
2	Develop and implement nesting habitats and management programs to maximize hatchling production and survival.	2.1	Identify and/or profile lessons learned and best practices on MPA-related themes to contribute to recommendations for parallel programs, such as enforcement, sustainable financing options, community-based resource management, and collaborative arrangements.
		2.2	Capacitate the secretariats with facilities, manpower, logistics, and expertise by linking with existing centers of excellence on coastal resource management.
		2.3	Publish the Subcommittee Action Plan to include best practices, lessons learned, and accomplishments of the subcommittee.
		2.4	Develop an awards and incentive mechanism or program for outstanding MPAs and networks.
		2.5	Establish alternative livelihoods that are capable of weaning people away from unsustainable resource extraction and ensuring ecosystem integrity.
3	Undertake research and studies on the MPAs, caves, and wetlands, to enhance the understanding of their importance and the factors affecting them, as a basis for technical advice and recommendations for management and policy development.	3.1	Develop a program on connectivity-related research, such as larval dispersal, genetics, spawning aggregation, and migratory pattern of straddling stocks.
		3.2	Conduct census, update database and map of MPAs in the SSME to include biophysical and

continued on next page

Table 1.2 *continued*

Strategies or Key Result Areas		Activities	
4	Provide recommendations for collaborative arrangements and parallel programs to be undertaken by the member countries, whether bilaterally or individually, on the establishment and management of MPAs and networks.		socioeconomic data, collect significant research results, and share protocols of MPA monitoring and evaluation.
		3.3	Collaborate with research institutions and other related organizations.
		4.1	Identify sites to demonstrate possible collaborative arrangements, such as joint assessment of some MPAs or key candidate areas for MPA or marine-managed area.
		4.2	Conduct parallel programs, such as monitoring using the MPA Effectiveness Assessment Tool and joint targeted research on corals or turtles.
		4.3	Collaborate on the establishment of joint management areas in marine corridors for migratory species, such as turtles and marine mammals.
		4.4	Develop joint enforcement plan for the SSME.

MPAs = marine protected areas, SSME = Sulu–Sulawesi Marine Ecoregion.

Source: Subcommittee on Marine Protected Areas and Networks of the Sulu–Sulawesi Marine Ecoregion.

**Table 1.3 Logical Framework of the Sulu–Sulawesi Marine Ecoregion
Comprehensive Action Plan: Model Seascape**

Purpose (Short-Term Goal)		Indicators	
Facilitate effective management of feeding grounds, migratory routes, and protection of target species from overfishing and as bycatch; design MPAs and MPA networks in relation to the protection and management of target species and its habitat; and promote implementation of best practices in habitat conservation and management.		1	Marine turtles and their habitats are managed and protected through reduction of overfishing and bycatch, criteria are developed on MPA and MPA network design in relation to marine turtle protection and management, and information is disseminated on best practices on marine turtle population and habitat conservation and management in the SSME.
		2	Napoleon wrasse is conserved and managed in the SSME.
Strategies or Key Result Areas		Activities	
1	Secure political, stakeholder, and donor community acceptance to strengthen position of the SSME as a working priority model seascape in the Coral Triangle.	1.1	Advocate for the recognition of SSME as a priority seascape within the Coral Triangle Initiative political and decision making processes.
		1.2	Formulate and implement fundraising strategy and aggressive engagements with donors and private sector.
2	Build the capacity for seascapes at various levels.	2.1	Publish and disseminate information and educational materials promoting the SSME as a model seascape in the Coral Triangle.
		2.2	Support development of capacity on seascape planning, implementation, and sustainable management for other seascapes within the Coral Triangle and beyond.

MPAs = marine protected areas, SSME = Sulu–Sulawesi Marine Ecoregion.

Source: Tri-National Committee of the Sulu–Sulawesi Marine Ecoregion.

Table 1.4 Logical Framework of the Sulu–Sulawesi Marine Ecoregion Comprehensive Action Plan: Climate Change

Purpose (Short-Term Goal)		Indicators	
Climate change mitigation and adaptation strategies are considered in the implementation of plans and programs at all levels.		Baseline information and policies are in place to ensure that habitats and communities are safeguarded from the adverse effects of climate change.	
Strategies or Key Result Areas		Activities	
1	Build the capacity of relevant institutions and stakeholders on climate change adaptation strategies.	1.1	Capacitate the respective secretariats with facilities, manpower, logistics, and expertise by linking with potential centers of excellence on climate change adaptation.
2	Coordinate and implement research programs on climate change adaptation and mitigation to enhance the understanding of the adverse effects of climate change in the SSME as a basis for technical advice and recommendations for management and policy development.	2.1	Conduct research and studies on climate change adaptation and mitigation (e.g. reef resilience against global climate change).
3	Ensure the resiliency of fisheries and coastal communities to climate change.	3.1	Promote ecosystem-based climate change adaptation strategies for sustainable fisheries.

MPAs = marine protected areas, SSME = Sulu–Sulawesi Marine Ecoregion.

Source: : Tri-National Committee of the Sulu–Sulawesi Marine Ecoregion.

Estimated Costs of Implementing the Strategies for the Subcommittee on Marine Protected Areas and Networks

Each key result area or strategy has an estimated implementation cost over a period of 4 years. The total cost of implementing the strategies for the Subcommittee on Marine Protected Areas and Networks is \$17.41 million, while the total cost of implementing all the strategies for the

Sulu–Sulawesi Marine Ecoregion over 4 years is \$154.39 million. Budget items are defined in Appendix 2, while Appendix 3 contains the detailed budget items broken down for each key result area under the Subcommittee on Marine Protected Areas and Networks, for each country.

Table 2 Estimated Cost of Implementation, by Budget Item and Outcome (\$)

Budget Line Item	Outcome 1: Fisheries	Outcome 2: MPAs and Networks	Outcome 3: Species	Outcome 4: Model Seascape	Outcome 5: Climate Change	Total
Personnel and staff	3,681,000	2,455,800	12,446,400	1,584,000	417,600	20,584,800
Professional services and consultants	7,391,000	2,111,000	8,598,330	2,916,000	846,000	21,862,330
Travel	3,597,135	3,725,300	3,729,285	135,000	688,450	11,875,170
Meetings and special events	11,742,225	4,726,100	20,266,505	461,250	5,463,775	42,659,855
Equipment and furniture	18,161,950	223,500	517,500	30,000	16,000	18,948,950
Printing and publications	2,189,000	272,000	2,231,500	78,000	107,250	4,877,750
Supplies	1,336,550	84,080	2,911,600	28,800	40,800	4,401,830
Seed capital and sub-grant	16,896,000	3,665,000	2,529,400	450,000	4,648,000	28,188,400
Miscellaneous	201,600	151,200	493,800	57,600	86,400	990,600
Total	65,196,460	17,413,980	53,724,320	5,740,650	12,314,275	154,389,685

MPAs = marine protected areas.

Source: Subcommittee on Marine Protected Areas and Networks of the Sulu–Sulawesi Marine Ecoregion.

Table 3 Estimated Cost of Implementation, by Outcome and Country (\$)

Outcome		Indonesia	Malaysia	Philippines	Total
1	A harmonized fisheries management regime is developed through the conduct of research, policy development, and habitat restoration, and sustainable livelihoods to communities primarily dependent on fisheries are provided.	9,784,975	24,663,500	30,747,985	65,196,460
2	Effective management of existing and new MPAs and networks is supported, the full range of sustainable marine resources is maintained, and the long-term socioeconomic and cultural needs of human communities in the SSME are provided.	8,110,425	487,630	8,815,925	17,413,980
3	Effective management of feeding grounds, migratory routes, and protection of target species from overfishing and as bycatch is facilitated, MPAs and MPA networks in relation to the protection and management of target species and their habitats are designed, and implementation of best practices in habitat conservation and management is promoted.	13,575,050	16,838,745	23,310,525	53,724,320
4	The SSME officially is designated as a priority seascape in the Coral Triangle and serves as a geographic focus of investments and actions for the Coral Triangle Initiative based on a comprehensive action plan agreed upon by Indonesia, Malaysia, and the Philippines.	1,913,550	1,913,550	1,913,550	5,740,650
5	Climate change mitigation and adaptation strategies are considered in the implementation of plans and programs at all levels.	3,186,850	5,038,275	4,089,150	12,314,275
Total		36,570,850	48,941,700	68,877,135	154,389,685

MPAs = marine protected areas, SSME = Sulu–Sulawesi Marine Ecoregion.

Source: Subcommittee on Marine Protected Areas and Networks of the Sulu–Sulawesi Marine Ecoregion.

Table 4 Estimated Cost of Implementing Outcome 2, by Budget Item and Country (\$)

Budget Line Item	Indonesia	Malaysia	Philippines	Total
Personnel and staff	1,660,800	291,000	504,000	2,455,800
Professional services and consultants	1,119,500	31,500	960,000	2,111,000
Travel	699,625	22,850	3,002,825	3,725,300
Meetings and special events	2,696,400	43,200	1,986,500	4,726,100
Equipment and furniture	196,000	2,000	25,500	223,500
Printing and publications	133,500	6,000	132,500	272,000
Supplies	38,200	7,680	38,200	84,080
Seed capital and sub-grant	1,510,000	45,000	2,110,000	3,665,000
Miscellaneous	56,400	38,400	56,400	151,200
Total	8,110,425	487,630	8,815,925	17,413,980

Source: Subcommittee on Marine Protected Areas and Networks of the Sulu–Sulawesi Marine Ecoregion.

Table 5 Estimated Cost of Implementing Outcome 4, by Budget Item and Country (\$)

Budget Line Item	Indonesia	Malaysia	Philippines	Total
Personnel and staff	528,000	528,000	528,000	1,584,000
Professional services and consultants	972,000	972,000	972,000	2,916,000
Travel	45,000	45,000	45,000	135,000
Meetings and special events	153,750	153,750	153,750	461,250
Equipment and furniture	10,000	10,000	10,000	30,000
Printing and publications	26,000	26,000	26,000	78,000
Supplies	9,600	9,600	9,600	28,800
Seed capital and sub-grant	150,000	150,000	150,000	450,000
Miscellaneous	19,200	19,200	19,200	57,600
Total	1,913,550	1,913,550	1,913,550	5,740,650

Source: Subcommittee on Marine Protected Areas and Networks of the Sulu–Sulawesi Marine Ecoregion.

Table 6 Estimated Cost of Implementing Outcome 5, by Budget Item and Country (\$)

Budget Line Item	Indonesia	Malaysia	Philippines	Total
Personnel and staff	417,600	0	0	417,600
Professional services and consultants	148,000	349,000	349,000	846,000
Travel	62,950	312,750	312,750	688,450
Meetings and special events	1,446,150	1,679,375	2,338,250	5,463,775
Equipment and furniture	16,000	0	0	16,000
Printing and publications	41,750	36,750	28,750	107,250
Supplies	9,600	15,600	15,600	40,800
Seed capital and sub-grant	1,016,000	2,616,000	1,016,000	4,648,000
Miscellaneous	28,800	28,800	28,800	86,400
Total	3,186,850	5,038,275	4,089,150	12,314,275

Source: Subcommittee on Marine Protected Areas and Networks of the Sulu–Sulawesi Marine Ecoregion.

Sustainable Financing Options

Financing for the conservation of natural resources in the three countries of the Sulu–Sulawesi Marine Ecoregion (SSME) has historically relied mostly on government budgets and foreign donor funding. As such, decisions on disbursement for environmental conservation have mostly been made by government authorities and are often subject to the donors' own priorities and biases. Conservation often competes with other government programs that are characterized as directly contributing to economic development in the immediate term. The latter are naturally given priority more often than not, given these countries' developing status. But with recent trends showing fast-declining natural resource stock and increasing environmental degradation, now exacerbated by climate change and burgeoning population levels in these countries' coastal communities, responsible environmental management has never demanded higher priority than today. If biodiversity is to continue to exist in this part of the globe and provide ecosystem services to the people, it is imperative that the SSME partners start to rely more on their own local resources and initiatives to finance programs and projects that will support environmental management and biodiversity conservation over the long term.

The following is a list of potential sustainable financing instruments that can be employed in the SSME countries. It is by no means all-inclusive of every possible instrument that can finance coastal resource management (CRM) in the global setting. Rather, it is based on mechanisms that exist in the SSME region and are being used for environmental conservation purposes. The applicability of each instrument will depend on the situation at hand, such as the intensity of resource use conflict, the

existing tenure and other legal arrangements, the level of complexity of the instrument itself, local capacities in management, and the level of environmental degradation in the subject area. In most cases, total funding for environment programs will be sourced from a combination of some of these instruments, as experience has shown that relying on just one source is never enough. It thus follows that funding the whole SSME Comprehensive Action Plan will necessitate pooling of funds sourced from a combination of these instruments. Determining the appropriate mix of instruments will have to be based on the level of maturity and capacity of the players involved in each particular instrument.

User Fees

User fees are probably one of the most popular ways of raising funds for marine conservation. The generic definition of user fees is a payment scheme for the use of a certain area, and/or certain resources found in the area, for a specific activity. For instance, in some marine protected areas (MPAs) within the SSME, scuba diving fees are imposed on scuba divers who choose to dive in those MPAs. The payment is made by the diver for the use of the MPA for recreational purposes. On the other hand, there are some local governments that charge environment or green fees to certain users in an area. In this sense, green fees are different from user fees because they do not refer to any specific resource or service being used by the payer; rather they are usually applied in a general sense and are meant to fund resource or environmental management in general. It is assumed though that the funds generated from this scheme are earmarked specifically for environment and natural resource or CRM.

User fee systems work as sustainable financing schemes if the following important conditions are met. First, there has to be a significant number of users against whom the fee will be imposed if the unit amounts are typically low, e.g., entrance or scuba diving fees. The number of users will determine the volume of revenues that can be realized from the scheme. Second, the users should further be consulted on the appropriate level of fees to be set. The amount should be based on their willingness to pay for the environmental good or service being protected or managed. Finally, collection and disbursement schemes should be simple and transparent. Complicated collection schemes will only result in high transaction costs, and sometimes low collection rates. On the other hand, if revenues collected are not perceived as being spent on the very intent of the fee, users may eventually protest against the scheme, creating lower collection rates and possible boycotts of the area. If any of these conditions are not met, the user fee scheme may not be able to raise the needed funds to continue CRM or MPA management in the area.

Registration and Licensing Fees

In the fisheries sector, the most common form of revenue-generating mechanism employed for CRM is the imposition of registration and licensing fees. Fishing is usually not allowed within MPA boundaries, although there are some management bodies that allow hook and line fishing within the outer portion of their MPAs, or even spear fishing outside of the core zone but still within the MPA boundaries. Registration and licensing of fishers has been practiced in the commercial sector for quite some time now, and is being implemented by state or national government agencies. Ideally, revenues generated should be used to partly fund enforcement activities of teams that monitor MPAs, or in the absence of MPAs, to patrol waters to guard against fishing violations.

Registration fees are usually set at low levels, as they are used more for information purposes

than for regulation. License fees are usually set higher, ideally at levels that estimate the economic rent captured from the activity. In countries where fishing regulations are more advanced, licensing schemes come with limits to entry; hence a maximum number of licenses are awarded to fishers. In the absence of entry limits, license fees can be set at higher levels if the objective is to regulate the fishing activity in the area. These amounts, however, have to be balanced against equity and poverty alleviation objectives, especially in most coastal areas in the country where fishers comprise the poorest sector of the community.

Taxes

The biggest revenue source of government is the tax system. In some areas where CRM is practiced, taxes specific to products that are associated with CRM are being imposed. Examples of these are taxes on fish vendors, auxiliary invoices, and land use taxes for aquaculture production. In some areas that have improved their coastal resources through proper management, the improvements have translated into business opportunities for the local population, which in turn have allowed governments to collect bigger taxes from them. The main criticism against using taxes as a financing mechanism is that there is no assurance that taxes collected for CRM purposes are automatically allocated toward CRM disbursements since all tax revenues accrue to the general fund of the government. Nevertheless, they can serve as a major funding mechanism if larger budgets are allocated toward CRM as a consequence of increased tax collections.

A related instrument is the use of the tax system as an incentive for private sector entities to invest more in natural resource management projects. Such investments can sometimes be used as tax incentive schemes, whereby payments made by private entities for CRM can be claimed against their outstanding tax payments to the government. These arrangements are

usually formalized through a memorandum of agreement or similar instruments involving the government and the private entity, along with a broker that ensures the funds are used for CRM purposes.

Penalties and Fines

Some governments that have long been practicing CRM have formulated laws or regulations that include a set of fines and penalties for violators of fishing or CRM rules and regulations. The amounts of fines and penalties should ideally be set at levels that approximate the economic and environmental damages caused by the violation, if not higher, to serve as a disincentive to violate. In cases where enforcement has been vigorously pursued and where administrative fines have been set at levels that are enough to deter violations, revenues have been raised from this source. However, caution should be applied in using fines as a sustainable source of finance. Once enforcement efforts become effective, violations decrease drastically. This bodes well for CRM in general, but it also means that there is a smaller source of revenues generated from fines and penalties. When fishers realize that enforcement of fishing rules in the area is being conducted seriously, the number of violators declines over time, until there are hardly any violators caught despite the same level of patrolling. Hence, fines and penalties may become revenue sources in the short term, but should not be treated as a sustainable source of financing in the medium and long term.

Pollution Charges

Similar to user fees is the system of charging a fee to polluters in a certain area. The concept of a pollution charge is premised on the instrument acting as an economic incentive to “force” polluters to internalize the true cost of their polluting activities, i.e., the damage to society caused by their activities. The underlying principle here is that the charge should have a

sound economic basis, and the environmental damages are actually measured and reflected in the price or the charge.

Pollution charges, just like user fees, will work only if there is a critical mass of polluters that can potentially join the system. More importantly, the technical capability of public institutions for regulating, monitoring, and enforcing water quality standards is a difficult requirement that must be met. If governments are willing to invest in capacity building in this regard, then pollution charges can work not only as regulatory instruments but also as revenue-generating mechanisms.

Government Budgetary Allocation for Coastal Resource Management

The traditional source of funding for CRM has always been allocations from the general budget of the local or national government. Some governments have set aside funds for financing enforcement and other management activities on a regular basis. In the absence of alternative revenue sources, some governments have proposed the increase of revenue allocations for coastal government units. In areas where MPA establishment and CRM have been institutionalized, MPA networks have been formed. These alliances are sustained by annual contributions of member municipalities and enforcement efforts are coordinated among the member municipalities, thus creating more impact and synergy.

Donor Funding

Although not really falling within the realm of sustainable financing, funds from foreign and local donors have played a significant role in promoting best CRM practices and establishing MPAs throughout the region. Donors may include aid agencies of developed country governments, international development banks, and private

foundations of large private corporations that allocate specific amounts for donation largely toward environmental conservation. Funds come in the form of either grants or loans, although in the biodiversity conservation sector, grants are the dominant form of foreign funding. Foreign-funded CRM projects have provided the necessary trailblazing activities for the countries to learn conservation lessons and build on them. Through many of these projects mentioned in earlier sections, sustainable financing activities and lessons have been studied, researched, and implemented to sustain conservation activities in the coastal and marine sector. Success stories in some of these project sites have created windows for more foreign-funded projects to come in and build on what has been initiated.

At the global level, the Scientific and Technical Advisory Panel of the Global Environment Facility has determined that “15 to 20 percent of all biodiversity funding should go to coastal and marine biodiversity conservation. Thus far, investment in marine biodiversity has lagged far behind terrestrial biodiversity projects. This is not surprising, because in the terrestrial realm there were numerous projects ‘ready to go,’ and there was considerable consensus on where the most important areas lie” (Hooten and Hatzios 1995). Much work still needs to be done for the world’s oceans and seas to achieve this target.

Trust Funds

In some cases, revenue-generating mechanisms are difficult to establish due to the lack of a critical mass of resource or environmental service users who are willing and able to pay for user fees. Still, this does not negate the need for funds to manage certain areas due to the large total economic value they possess. In these instances, the next best alternative would be to tap global beneficiaries who are willing to pay for protecting environmental services, such as biodiversity conservation and carbon sequestration. To make these payments last over the long run, they are often invested in trust funds. Some

of these trust funds, called endowment funds, are invested in financial instruments to earn interest perpetually, which in turn is used to fund management expenses (or other types of expenses approved by the fund’s management board). On the other hand, some (known as sinking funds) are designed to be used up after a fixed period of time through the disbursement of both the principal amount and whatever interest it earns. Globally, approximately 75% of the funding for conservation trust funds comes from multilateral and bilateral aid, with the United States contributing 45%; the Global Environment Facility, 19%; and Germany, 7% (Spergel and Taieb 2009). This money, amounting to around \$810 million, was contributed to 55 funds—74% to Latin America and the Caribbean, and 10% to Asia (Blundell et al. 2009).

One source of seed capital for establishing trust funds is debt-for-nature swaps. These instruments have been used extensively since the 1980s mostly in Latin America. A portion of a government’s external debt is redeemed in exchange for the developing country’s government using an equivalent amount to finance natural resource management projects (Gutman 2003).

Public–Private Partnerships

Government and nongovernment actors in the conservation world have long recognized the importance of partnerships with the private sector in achieving conservation targets and outcomes. The objectives of these partnerships are varied and may range from simple corporate social responsibility targets to the convergence of values between conservation groups and profit-based organizations. On the part of the private sector, industries are already implementing various initiatives in their efforts to improve their business operations and environmental performance. A major factor underlying these instances is the increasing level of environmental awareness among top management of concerned firms, prompting them to make efforts to pay back to the environment and to society. This

growing consciousness is also a reflection of the companies' compliance with global standards and various national and local regulatory instruments and their aspiration to improve their corporate reputation (Ancog and Vergara 2009).

Whatever the objective, the results have proven favorable, such that additional resources are being devoted to conservation. Some partnerships are short-term in nature and, hence, have short-term impacts in fund provision. Others are premised on more lasting mechanisms, and have formed part of the literature on sources of sustainable financing for natural resources management. Case studies abound in the marine sector, with private companies adopting MPAs, housing offices or administrative functions of integrated coastal management (ICM)-related groups, sponsoring projects that usually fall within the mandate of the government, entering memorandums of agreement with government agencies or and/or nongovernment organizations (NGOs), and becoming permanent members in ICM-related groups along with government and NGOs.

Payment for Ecosystem Services

Schemes involving payment for ecosystem services (PES) are relatively new financing instruments that address the twin goals of environmental conservation and poverty alleviation. They “represent a new paradigm of ‘conditional conservation’ that promises to be more efficient and equitable, and which can also help raise additional environmental funding” (Wunder and Wertz-Kanounnikoff 2009). PES is defined as “voluntary, contingent transactions between at least one seller and one buyer over

a well-defined ecosystem service, or a land (or water) use likely to secure that service” (Wunder and Wertz-Kanounnikoff 2009).

The concept of PES has evolved as traditional sources of funding for protected areas (such as government and foreign donors) have been drying up. The development of PES is occurring in many parts of the world. Some of the major terrestrial environmental services that are already being marketed include biodiversity conservation, carbon sequestration, watershed protection, and preservation of landscape beauty. Among these, markets for watershed protection services are the most common. In the marine environment, PES is slowly evolving in integrated ecosystem management, such as in the areas of ecotourism including coral reefs and mangrove forests, linking freshwater quality markets with coastal water quality, innovative market strategies in fisheries, and sustainable offshore energy development (Katoomba Group 2010).

The generic definition of PES schemes already subsumes some of the case studies mentioned above, such as the establishment of user fee systems in MPAs, the creation of various CRM funds, and the formation of public–private partnerships through some of the conservation projects they initiate or support. There is still great hope that PES could substantially solve the perennial problem of sustainable financing for ICM. For instance, mangroves are being studied in the hope of generating enough scientific evidence for this ecosystem to be eligible for carbon trading in the future. It is hoped that PES case studies can multiply, so the scheme can show itself to be a sustainable financing mechanism for ICM.

Estimated Costs of Implementing Sustainable Financing Options for the Subcommittee on Marine Protected Areas and Networks

Based on the identified activities and strategies in the logical framework of the Subcommittee on Marine Protected Areas and Networks, the estimated budget needed

to implement sustainable financing options to support the key result areas of the subcommittee over 4 years amounts to \$1.87 million.

Table 7 Estimated Cost of Implementing Sustainable Financing Options (\$)

Budget Line Item	Indonesia	Malaysia	Philippines	Total
Personnel and staff	0	0	0	0
Professional services and consultants	60,000	0	64,000	124,000
Travel	13,500	0	11,550	25,050
Meetings and special events	308,000	0	435,500	743,500
Equipment and furniture	0	0	0	0
Printing and publications	0	2,000	13,000	15,000
Supplies	0	0	0	0
Seed capital and sub-grant	70,000	20,000	870,000	960,000
Miscellaneous	0	0	0	0
Total	451,500	22,000	1,394,050	1,867,550

Source: Subcommittee on Marine Protected Areas and Networks of the Sulu–Sulawesi Marine Ecoregion.

The Subcommittees of the Sulu–Sulawesi Marine Ecoregion: The Driving Forces for Marine Conservation

The Tri-National Committee of the Sulu–Sulawesi Marine Ecoregion (SSME) was formed in 2006 immediately after the ratification of the memorandum of understanding by Indonesia, Malaysia, and the Philippines. The Tri-National Committee then formed the Subcommittee on Threatened, Charismatic, and Migratory Species; the Subcommittee on Sustainable Fisheries; and the Subcommittee on Marine Protected Areas and Networks.

Each subcommittee is led by a country and guided by its own terms of reference (Appendix 4). The Subcommittee on Threatened, Charismatic,

and Migratory Species is led by Indonesia; the Subcommittee on Sustainable Fisheries by Malaysia; and the Subcommittee on Marine Protected Areas and Networks by the Philippines.

The subcommittees implement an action plan to meet the objectives and vision of the Ecoregion Conservation Plan. The subcommittees report on achievements of the three countries in meeting their respective action plans. The subcommittees are in turn assisted by the technical working groups that are formed in each country. The governance structure of the Tri-National Committee and its subcommittees is illustrated below.

Figure 1 Governance Structure of the Tri-National Committee of the Sulu–Sulawesi Marine Ecoregion



Source: Tri-National Committee of the Sulu–Sulawesi Marine Ecoregion.

Lessons Learned in the Implementation of the Action Plan

Many lessons have been learned in the implementation of country activities that have contributed to the achievement of the objectives of the previous Action Plan of the Subcommittee on Marine Protected Areas (MPAs) and Networks. The current Comprehensive Action Plan adopts these lessons as they remain highly relevant in achieving its objectives. Samples of lessons learned from Indonesia, Malaysia, and the Philippines are provided here to highlight the benefits of collaboration between the management board and local communities, networking to increase understanding of coral reefs for conservation, networking for assessing the management effectiveness of MPAs, and collaboration to provide incentives to manage MPAs effectively. These lessons—and many more—are shared for other MPA managers in the Sulu–Sulawesi Marine Ecoregion and the Coral Triangle.

Lessons Learned from Collaborative Management at Bunaken National Park, Indonesia¹

Bunaken National Park (BNP) is a marine park located in the northern tip of Sulawesi Island, Indonesia, bordering the Sulawesi Sea to the

north. Administratively, the park is part of the city of Manado, the capital of North Sulawesi province. The park represents Indonesian tropical marine ecosystems, consisting of seagrass beds, coral reefs, and other coastal ecosystems. It is also home to more than 390 species of corals, as well as many fish, mollusks, reptiles, and marine mammal species. BNP was established in 1991 and was among the first of Indonesia's growing system of marine parks. It covers a total area of 890.65 square kilometers, 97% of which is marine habitat, including five islands: Bunaken, Manado Tua, Mantehage, Nain, and Siladen.

A collaborative management approach has been applied to the management of the park. This led to the establishment of the BNP Management Advisory Board, Dewan Pengelolaan Taman Nasional Bunaken (DPTNB) in 2005 by decree of the North Sulawesi Governor. The board was intended to support the management authority of the park, which is under the Ministry of Forestry, with the objectives of (i) improving stakeholders' awareness and pride in the park; (ii) coordinating and synchronizing policies, strategies, and conservation programs of government agencies and other institutions; (iii) designing a virtuous conservation program to support the management of the park; (iv) monitoring and supervising the development

¹ Prepared by Cherryta Yunia and Irawan Asaad of the Ministry of Forestry–Indonesia; edited and rewritten by Ahsanal Kasasiah and Rofi Alhanif of the Ministry of Marine Affairs and Fisheries–Indonesia.

program of the park and tourism industry within the area; and (v) supporting and developing different types of conservation financing mechanisms for the sustainable management of the park.

The board involves local governments bordering the park (the City of Manado, Minahasa Regency, North Minahasa Regency, and South Minahasa Regency); the provincial government of North Sulawesi; the BNP management authority (the Regional Technical Unit under the Ministry of Forestry); the Air and Water Police of North Sulawesi; the private sector (the North Sulawesi Water Sport Association and Local Tourism Business Owners of Bunaken Island); and Sam Ratulangi University.

The major achievements of the collaborative management of the BNP include the establishment of collaborative zoning of BNP, the installation of a radio communication network in 22 villages, the setting up of a grand program using allocations from collected conservation fees that has supported 30 residential areas in the park, collaboration between the private sector and the local community in an annual beach cleaning program, a significant decrease in illegal fishing, and an 11.02% increase in live coral cover in the 18 months following the establishment of DPTNB.

One of the significant lessons learned from this collaborative management approach is the sharing of responsibility for natural resources among many institutions and levels of governments, the private sector, and universities. However, the role of the BNP management authority established by the Ministry of Forestry, seems to have become sidelined by the DPTNB system. It is arguable if the management of the funding collection could meet the system.

Lessons Learned from the Turtle Islands Heritage Protected Area, Malaysia

Enforcement and Transborder Patrol

The Turtle Islands Heritage Protected Area is situated on the international border between Sabah, Malaysia, and the Turtle Islands of the Philippines.² The governments of Malaysia and the Philippines have formed the Border Patrol Coordinating Group. The border patrol provides a platform to address common concerns, with both sides showing an interest in working together and improving their diplomatic relationship. Few issues have been solved by consistent meeting and cooperation in the short term, but sea operation and other activities will bring significant impacts in the long run, albeit at high cost.

Sabah Parks, the management agency of Turtles Islands Malaysia, is involved in patrolling the international maritime border. The staff of Sabah Parks involved in the operation has been exposed to large marine-related enforcement issues and have gained experience in operational tactics.

An enforcement plan among Indonesia, Malaysia, and the Philippines is being discussed to combat poaching of endangered species and commercially important fishery products. The continued interaction between Filipinos and Malaysians in joint border patrol, meetings, and other activities eases the discussions of enforcement. It has also provided a groundswell of support for introducing Indonesians to joint enforcement operations and its benefits. The discussions are being facilitated by Conservation International and the enforcement plan is under development.

² This section was prepared by Paul Basintal, Director, Sabah Parks, Malaysia.

Implementation of Sustainable Financing Option

A business plan for sustainable financing of the Turtle Islands Park was prepared in 2007. The plan includes an increase in conservation fees to generate more funds for operational costs. This business plan has yet to be approved by the Board of Trustees of Sabah Parks; however, consultations with the tourism industry are underway to ensure smooth implementation of the proposed conservation fee.

During the consultative meetings, the representatives of the private sector supported the business plan, agreeing to raise the conservation fees to more than what was proposed. They understood the importance of conserving the resource base—the beaches, seagrass beds, coral reefs, and the nesting marine turtles—since conserving the marine environment means a sustainable business opportunity for the tourism industry.

The implementation of the revised conservation fee requires good planning and timing. Private sector groups, such as travel agents and tour operators, require a period of at least a year before the new fee can be implemented. Giving time for the private sector to adjust to the new conservation fees will eliminate resistance and engender goodwill, as learned from the implementation of payment for ecosystem services in another site in Sabah.

Lessons Learned from the Turtle Islands Wildlife Sanctuary, Philippines

The Turtle Islands Wildlife Sanctuary (TIWS) was established in 1999 as a protected area by Presidential Proclamation No. 171.³ The TIWS has been considered a top 10 priority site for the implementation of the National Integrated

Protected Area System (NIPAS) in the Philippines. At the initial implementation of NIPAS, the Initial Protected Area Plan (IPAP) for TIWS was crafted for the conservation of endangered marine turtles. However, since its crafting, the protected area staff never had a chance to revisit and review the plan. There was also a high rate of turnover of protected area staff, administrative shuffling on the ground, and unfamiliarity of the incumbent team with the IPAP (some have viewed the goals and objectives of the IPAP document only once).

The lessons learned from the TIWS are drawn from the implementation of the projects from 1982 to 2009. The government-funded Pawikan Conservation Project (1982 to present) aims to “conserve and propagate the ecologically important marine turtles” and addresses the collection of turtle eggs that prevents hatchlings from being produced to increase regional populations. Commercial trawling operations in the surrounding waters have also increased in the last 10 years, causing bycatch of juvenile and adult turtles. Another project that contributed to the management of the TIWS is the Conservation of Priority Protected Areas Project (1992–1998), a World Bank project that sought the establishment of the TIWS as a protected area under NIPAS. The project proclaimed the TIWS under NIPAS and prepared its IPAP. The WWF–Philippines–supported Integrated Conservation and Development Project in the Turtle Islands (1997–2003) aimed to catalyze development and integrate the conservation agenda in the process. An alternative livelihoods project was developed to reduce the dependence of the population on income from turtle egg collection and sales. The Sulu–Sulawesi Seascape Project sea turtle corridor component (2006 to present, Conservation International) focused on improving management effectiveness of the TIWS by improving the capacity of the local government unit to enforce regulations and to develop a viable ecotourism project to address human well-being issues.

³ This section was prepared by Evangeline F.B. Miclat, Renato Cruz, and Annadel S. Cabanban from reports of Conservation International, WWF–Philippines, and Pawikan Conservation Project of the Department of Environment and Natural Resources.

The ecological, administrative, and governance lessons of these projects are as follows:

- The population trend of a particular nesting area can only be visualized if data gathered cover at least 10 years.
- Integrated marine turtle conservation should cover all life stages and habitats of a particular genetic stock or population.
- Marine turtle conservation activities should be participatory and involve collaborative efforts among the government agencies,⁴ private organizations, and nongovernment organizations, as well as international organizations.
- Good governance for basic services (health, education, sanitation) and natural resources management (fisheries, habitat conservation) has to be improved to reduce threats (such as egg collection and bycatch of marine turtles in trawl-fishing).
- The local government unit is the most important element in the implementation of conservation activities.
- Protected area management board meetings should be conducted within the TIWS.
- Key government agencies' presence should be felt in the area.

Conservation of marine turtles in the TIWS cannot be implemented successfully without addressing the socioeconomic needs of the community (such as health, sanitation, and education). This lesson is all the more important to heed in developing community-based resource management in the TIWS. If the basic needs of communities are not satisfied, they cannot be partners in conservation and resource management. Social development is necessary and can be done only through the collaborative efforts of various institutions. Livelihood activities and projects must be an integral part of the implementation of conservation activities. Alternative livelihoods are necessary to dissuade communities from deriving income from egg collection in the MPA.

However, credit schemes were found to be ineffective, partly because there is no capacity on the island to implement a credit program.

The assessment of the management effectiveness of the TIWS in 2006 has showed that management, to some extent, had been effective. Having area-based personnel was a factor in putting back in place a system of management which, while imperfect, is seen to be working for the area. However, to a large extent, management was ineffective because of the following:

- Marine turtle conservation was centralized.
- Goals and objectives were unclear and results were not measurable (the objectives and goals were reviewed through a series of consultations, resulting in the approval of the General Management Plan of the TIWS in 2008).
- Trust, acceptance, and support of the local people were absent as a result of the top-down implementation of the national policy.
- Communication and engagement of all stakeholders was weak, although these factors are very important especially because of the different (and occasionally conflicting) interests.
- Lack of personnel, capacity, and resources for the management of the area.

These findings provided bases for a series of recommendations submitted to the national government to focus on an appropriate and acceptable policy for the TIWS.

The lessons learned and findings of the management review have provided the backdrop for improving the management of the TIWS as one of the MPAs in the marine turtle corridor that is being established in the Sulu–Sulawesi Seascape. To improve enforcement of fisheries regulations, the protected area management board and stakeholders were informed of regulations and given training in enforcement. To

⁴ Department of Environment and Natural Resources and other related governmental agencies, and local government units.

improve livelihoods, an ecotourism plan is being considered and enabling conditions are being explored.

Lessons from Networking of Stakeholders of Coral Reefs in the Philippines

Coral Reef Information Network of the Philippines

The Coral Reef Information Network of the Philippines (PhilReefs) is a group of marine biologists, researchers, divers, and other stakeholders of coral reefs in the country. PhilReefs was established to document information on the status of coral reefs for dissemination and to promote better management. This networking of stakeholders has achieved the publication of the following:

- *Atlas of Philippine Coral Reefs*. 2002. Quezon City, Philippines: Goodwill Trading.
- PhilReefs. 2003. Philippine Coral Reefs through Time: Workshop Proceedings. *Atlas of the Philippine Coral Reefs, 2nd Series*. PhilReefs and the Marine Science Institute, University of the Philippines, Diliman, Quezon City, Philippines and the Marine Parks Center, Tokyo, Japan.
- PhilReefs. 2005. *Coral Reefs through Time 2004. Biennial Report on the Status of Philippine Coral Reefs*. PhilReefs and the Marine Science Institute, University of the Philippines, Diliman, Quezon City, Philippines.
- PhilReefs. 2008. *Coral Reefs through Time 2008: Initiating the State of the Coasts Reports*. PhilReefs, MPA Support Network, Marine Environment and Resource Foundation, and the Marine Science

Institute, University of the Philippines, Diliman, Quezon City, Philippines.

Para el MAR Awards and Recognition—Promoting MPA Best Practices

The *Para el MAR* (For the Sea) awards are the culmination of the assessment of the management effectiveness of MPAs in the Philippines.⁵ The MAR-MPA Awards and Recognition provides incentives for individuals and organizations for their contribution to marine conservation. This event and recent local networking initiatives have increased the number of effectively managed MPAs from 15% in 2000 to 30% in 2007.

Para el MAR is the collaboration of a wide group of people with a common goal: the conservation of coral reefs in the Philippines. The MPA Support Network was established with 20 member organizations to provide support initiatives to establish MPAs and a network of MPAs by 2020 under the Philippine Marine Sanctuary Strategy. The MPA Support Network supports local actions by helping improve management effectiveness. The United States Agency for International Development provided funds for the Philippine Environmental Governance Project 2 and provided support for the Philippine Association of Marine Science to assess the management effectiveness of the MPAs in the country.

The assessment of MPAs is based on a rating system with a set of criteria, indicators, and means of verification. The criteria and their weight in percentage terms are as follows:

- i. Management effectiveness: 35%
 - Local participation and local government unit support
 - Enforcement and compliance
 - Sustainability of management

⁵ Philippine Association of Marine Science. 2008. Outstanding MPA Awards and Recognition: Promoting Best Practices. Quezon City, Philippines: MPA Support Network, Marine Environment and Resources Foundation, Inc., and the Marine Science Institute, University of the Philippines.

- ii. Biophysical and ecological impacts: 32%
 - Enhanced productivity of associated organisms
 - Improved quality of habitat
- iii. Social and economic benefits: 33%
 - Increased income
 - Increased livelihood opportunities
 - Equitable benefits

A perception survey is also conducted alongside the evaluation of an MPA. The survey is designed to find out whether the community knows about the existence of the MPA and whether there is support for it. The MPA evaluation process consists of the following steps:

- i. Screening and short-listing of MPAs throughout the country;
- ii. On-site evaluation of nine short-listed MPAs, using the rating system;
- iii. Perception survey of MPAs, conducted by evaluators;
- iv. Evaluation of presentation by management committees; and
- v. Synthesis of findings to select the country's best-managed MPA.

The MPA evaluation process has shown that monitoring is an indispensable activity in the adaptive management of MPAs. However, less than 30% of MPAs in the country have this activity in their management plan. As such, the biological, social, and economic impacts of MPAs cannot be evaluated. It is recommended that the monitoring of the indicators of these impacts be conducted by the community with the assistance of academic, government, and other technically capable institutions. Furthermore, the activity should be viewed as a monitoring exercise rather than as training of communities.

The good practices and lessons learned from the *Para el MAR* awards can be useful in the following three areas. Lessons of broad applications are highlighted under each area.

- i. Enhancing and institutionalizing incentives
 - It is important to enhance public–private partnerships in the incentive

system as part of MPA advocacy to foster corporate social responsibility.

- The rating system developed by the Coastal Conservation Education Foundation is a good initial basis but needs to be refined (e.g., functionality, weighing, and governance criteria), strengthened, institutionalized, and sustained.
- Refining the technical evaluation process will promote broader constituency and help institutionalize the adaptive management process.
- ii. Sustaining efforts to meet objectives, institutionalizing systems, standards, and processes
 - Management plans are formulated and adjusted along the concept of adaptive management.
 - Multi-sector participation and institutionalization in terms of financing and inter-hierarchical complementation are encouraged.
 - The wellspring of support from the various sectors of society in the *Para el MAR* process provides opportunities for stakeholders to act consistently and achieve benefits.
 - National enforcement agencies can help improve local and provincial enforcement effectiveness in conjunction with communication and advocacy efforts.
 - Management effort is sustained from the synergistic effect between management of an MPA at local level and higher level networking, reducing transaction costs.
- iii. Implementing strategic imperatives

It is imperative for MPA management efforts to address the following:

- Coordination of action plans and strategies with other initiatives, e.g., International Year of the Reef, National Biodiversity Strategy, climate change
- Pursuing the operationalization of national policies and strategies

- Replicating best practices in other areas and scaling up through establishment of networks of MPAs, e.g., bay-wide management or alliances

Lessons Learned from the Convergence of Resource Management and Poverty Alleviation

Palompon is one of the biggest municipalities in the province of Leyte located in the Eastern Visayan region.⁶ It is composed of 50 *barangays*, 26 of which are coastal, and has a population of 62,000. The predominant livelihoods are agriculture and fishing. The area is known to be a haven for diverse mangrove species, local and migratory birds, mangrove forests, seagrass beds, and coral reef formations that provide favorable spawning and breeding grounds for marine life. However, during the past 10–20 years, indiscriminate cutting of mangroves for fuel and construction material, and conversion to fishponds and residential land; unregulated fishing during the spawning season; rampant destructive fishing; and uncontrolled extraction of corals has led to the serious depletion of valuable marine resources. Dwindling fish catch, decreasing fish yield and supply, and deteriorating catch quality and diversity were noted. The population decline of a dominant fish species—the *iganids* or rabbitfishes—that constitutes a primary source of livelihood for 80%–90% of the residents in the coastal *barangays* has been severely felt. A coastal resource management (CRM) program with substantial annual budget coming from the municipal government was launched to restore, protect, and manage the marine resources through a combination of conservation measures based on local knowledge and poverty alleviation strategies. This included the establishment of MPAs and fish sanctuaries, and regulated fishing in areas

outside the MPAs together with environmental advocacy, networking, and community organizing for livelihood projects. Ordinances on the conservation and management measures were passed and strictly enforced. These covered the establishment of MPAs; seasonal closure specifically for the *iganids* outside the protected areas in municipal waters from fishing activities during spawning peak season, i.e., fourth to sixth days after the new moon in February, March, and April; and the use of environment-friendly fishing methods and gear.

Tabuk Island was declared a marine park and wildlife sanctuary for birds and fishes through a municipal order in 1995. The island is home to wild ducks and other migratory birds that belong to more than 20 rare species, fruit bats, and diverse marine reef fishes. Destructive fishing methods, extraction of corals, and cutting of mangroves are not allowed in the area. Since the island was declared as a sanctuary, the populations of wild ducks, migratory birds, fruit bats, and fishes have increased; fish diversity has improved; corals and sea grasses have regenerated; and the mangrove forests have grown denser. Furthermore, Tabuk Island has become an ecotourism destination.

This enlightening experience prompted the establishment of more MPAs, and more mangrove replanting activities were done to rehabilitate the remaining mangrove forests.

In waters outside the MPAs, fishermen are now using sustainable fishing methods like fish corrals, bamboo fish traps, spear fishing, and hook and line. Extraction of corals and hunting of birds on the islands has ceased. Fish diversity has improved and fish populations have increased remarkably. There are anecdotal reports of improved fish catch from an average of 3–4 kilos in 10 hours of fishing to 4–7 kilos in 6–8 hours of fishing. Shellfish trading also increased and, more

⁶ This section was prepared by Sandra Victoria R. Arcamo, Fisheries Resource Management Division, Bureau of Fisheries and Aquatic Resources and sourced from the presentation of Mayor Eulogio Tupa at the 2nd Conference of Coastal Municipalities, 29 June 2009 in Cebu City, and from primers and presentations of the Palompon Municipal Environmental Office.

importantly, the local market was flooded with abundant *siganid* catch. An emergent ancillary enterprise—the processing of the extra catch into boneless *siganid*—boosted the livelihoods of the coastal communities. As a result, local income has steadily increased from year to year, contributing to the change in municipal classification of Palompon from third class to second class, a significant indicator of reduction in poverty incidence. Moreover, the municipality received commendations for these efforts as a recipient of the *Galing Pook* Award in 1997 and the Outstanding Marine Resources Conservation and Management Award in 2000.

Subcommittee on Marine Protected Areas and Networks in the Sulu–Sulawesi Marine Ecoregion

The Subcommittee on Marine Protected Areas (MPAs) and Networks has a Comprehensive Action Plan that is consistent with Goal 3 (MPAs established and effectively managed) of the Regional Plan of Action of the Coral Triangle Initiative. The implementation of activities in this comprehensive action plan contributes to meeting the target of establishing a fully functional region-wide Coral Triangle MPA system. The activities under each strategy provide detailed direction toward setting in place “comprehensive, ecologically representative, and well-managed” MPAs in the Sulu–Sulawesi Marine Ecoregion (SSME)—the apex of the Coral Triangle region.

The subcommittee abides by the Framework for Establishing Networks of MPAs (2004; Appendix 5) for conservation of species, fisheries enhancement, and integrated coastal and marine ecosystems. The framework was very relevant in preparing the comprehensive action plan and design of a network of sea turtle MPAs in the Sulu–Sulawesi Seascape (see volume 1 of Action Plans for the SSME).

Appendix 6 shows the highlights of the achievement of the SSME countries in implementing the Action Plan of the Subcommittee on MPAs and Networks.

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Appendix 1

Country Experiences in Implementing Sustainable Financing Mechanisms for Marine Conservation

Indonesia

The Government of Indonesia practices a highly centralized form of budgeting for all of its public offices, including those that are involved in environmental and natural resources management. The issue of generating more sustainable financing mechanisms for conservation has been discussed in a number of broad stakeholder workshops throughout the country. However, current laws have limited the country's options because of a specific requirement to deposit all government revenues in a centralized fund managed by the national government. Local authorities have no fiscal autonomy and are not in a position to directly disburse the revenues they generate. Budget plans are submitted to the national government, which in turn determines how to allocate all public funds. Even existing user fee systems in national parks are now being subjected to the same budgeting process. Because of this, there is little incentive for public officials and environmental managers to devise creative mechanisms to increase their revenues. Moreover, fund releases conform strictly to the annual budgeting process. If fresh funds come in the middle of the fiscal year, disbursement has to wait for the next budgeting process before they are allocated and released.

Of the 10 potential sustainable financing mechanisms for the comprehensive Sulu–Sulawesi Marine Ecoregion (SSME) action plans, four are deemed to be most feasible for Indonesian SSME activities: government budgetary allocation, donor funding, trust funds, and public–private partnerships (PPPs). Indonesia has had considerable experience in setting up trust funds. There is the existing Kehati Conservation Fund, which was set up from a United States debt-for-nature swap initiative and is designed to be fully allocated in 10 years. Since its inception, it has prioritized the funding of marine conservation projects, and the SSME itself has benefited from the fund. Prior to Kehati, the Sumatra Sustainable Fund was established by the governors of the five provinces in Sumatra in partnership with the World Wide Fund for Nature (WWF). Finally, a climate change trust fund is being established by the national government to finance the national climate change program of the country.

Another mechanism that has great potential in Indonesia is the establishment of PPPs for conservation. Current Indonesian law requires the allotment of corporate social responsibility (CSR) funds among private companies operating in the Indonesian economy. The government can package activities in the SSME Action Plan and make them more attractive for private sector participation.

Malaysia

In contrast to the Philippines, Malaysian government authorities appear to be more generous in providing substantial budgets for environmental conservation. Because of this, the need to generate sustainable financing mechanisms is less pronounced. Nevertheless, there is still a funding gap, and there is still no assurance that conservation plans laid out by the park authorities and the Fisheries Department will be fully funded by federal and state budgets. As such, revenue-generating measures are being established in Sabah, particularly in areas that fall within the SSME.

Sabah has had similar experiences with the Philippines in implementing sustainable financing schemes for environmental conservation. In fisheries management, registration and licensing fees have been implemented for a substantial number of years. However, government authorities have kept fee levels low due to the subsistence nature of most of the fishers. Revenues generated from this scheme are still below the budgets provided for fisheries management, as in the Philippine case. The estimated amount raised from licensing fees is around RM500,000 a year. The money is deposited into a consolidated fund from which the Fisheries Department bids for its annual budget based on a plan.

Sabah Parks have had more success in generating their own revenues. Marine protected areas (MPAs) in Sabah have successfully implemented user fee schemes to sustain park operations. In Kota Kinabalu National Park alone, annual revenues have reached a total of roughly RM5 million–RM6 million, enough to sustain at least 80% of the park's operating expenses. Likewise in Sipadan, park revenues are estimated to contribute around RM1.6 million a year. But since all park revenues go to state coffers, the total amount does not necessarily go back to the park that generated the revenues. Rather, local revenues are used to augment the budgets of other parks in the state. Nevertheless, there is an opportunity for Sabah Parks to raise revenues from user fees if they are based on users' willingness to pay for park use. Sabah Parks has been moving to increase park fees by 10%–15%. In general, tourists are supportive of such increases as long as they are confident the fees will be used to fund park improvements through conservation. Other user fees that target charismatic or flagship species, e.g., marine turtles in Turtle Island Heritage Protected Area, may be considered in the future to increase revenues from user fees.

Conservation activities are heavily subsidized by government funding in Sabah. Because of the rapid economic growth of Malaysia during the past 2 or 3 decades, donor funding has not been as prominent as in the other two SSME countries, although some foreign funds have still contributed significantly to SSME planning and operations. The country has thus relied more heavily on federal and state budgets. Strategic lobbying for bigger budgets for conservation has been suggested to expand environmental programs within the government. Trust funds are likewise not common, but there are some that have been established to account for certain donations that last for 2 or 3 years. At the Fisheries Department, a trust fund is being established at the time of writing, the revenues of which will be used mainly for PPPs for conservation, which are not yet common in Malaysia. Most CSR projects are still focused on social and community development, such as educational scholarships, with periodic tree-planting activities being conducted. CSR is still treated as a marketing tool by most private companies in Malaysia, thus their objectives for engaging in environmental conservation activities are more for advertising purposes. The Sabah Foundation, which supports both education and environmental projects, is a good example of a responsible CSR program. It is believed that such partnerships with the private sector are improving, and there are high hopes that the government can rely on the private sector to become more involved in conservation programs in the near future. Some private companies have expressed their desire to participate more in environmental projects, but there needs to be more

awareness raised on how this can be done. Tourism in particular can be a good candidate for increasing CSR programs that support conservation in the SSME.

Penalties and fines for environment-related violations exist in Malaysia, although there may be scope for increasing their levels, subject to the approval by the State Assembly. As far as taxes are concerned, studies are still being conducted on the feasibility of imposing a tourist tax to be collected at the airport. It is hoped that this could be used for conservation. Other sources of taxes being suggested include those that target polluting industries, such as palm oil and logging, as well as all other industries that pollute waterways. However, most of these taxes are collected at the federal level, thus their disbursement is not automatically channeled back to conservation at the local level. More progress is being made at the Fisheries Department, where an ongoing study is looking at the feasibility of imposing taxes on the fish trade and directing revenues to fisheries conservation.

Philippines

The Philippines has had relatively rich experience in establishing sustainable financing mechanisms for environmental conservation. This may be partly due to the fact that environmental management budgets, both at the national and local levels, have been seriously wanting, and park managers and local government officials have had to rely on creative mechanisms to augment their meager budgets.

The earliest recorded attempts at establishing user fees for local MPA users in the Philippines date back to the late 1980s. User fees were first imposed on recreational visitors in MPAs, mostly in the Visayas region through the initiatives of Silliman University, e.g., Apo Island, and the former Coastal Resources Management Project, e.g., Sumilong, Gilutungan, and Olango MPAs. Another project called the Environmental and Natural Resources Accounting Project set the technical guidelines in estimating user fees through a Department of Environment and Natural Resources (DENR) administrative order that covered all protected areas under the National Integrated Protected Area System, some of which included seascapes and MPAs. There were also initiatives by nongovernment organizations (NGOs) to estimate scuba diving fees in locally protected areas, such as those in the Mabini–Tingloy area in Batangas, initiated by WWF; and the Moalboal, Siquijor and Bohol MPAs, as recommended by the Coastal Conservation and Education Foundation. To date, the Mabini–Tingloy diving fee system has proven to be one of the more successful attempts, earning more than P1 million per year for each municipality. Aside from recreational user fees, development fees have been recommended for resorts in the municipality of El Nido, Palawan, and imposed on the National Power Corporation's coal-fired power plant located within the MPA of Masinloc, Zambales. There are some local government units (LGUs) that charge environment or green fees, such as the green fee imposed on all tourists that enter Puerto Galera, whether they visit for scuba diving, snorkeling, or simply to lounge on the beach.

Fines and penalties have not been a major source of revenues, particularly since their maximum levels are severely limited by law. Nevertheless, some coastal LGUs that have long been practicing coastal resource management (CRM) have formulated ordinances that include a set of fines and penalties for violators of fishing or CRM rules and regulations. LGUs in the Verde Passage Marine Biodiversity Conservation Corridor, coastal towns in Bohol, some LGUs surrounding the Davao Gulf, Saranggani Bay, and Iligan Bay and many areas covered by donor-funded projects have formulated their own fisheries codes and CRM plans, many of which include provisions on fines and penalties. In Tubbataha Reefs Natural Marine Park, the Protected Area Management Board has set fines for ship grounding incidents to P12,000 per square meter of coral reef damaged, based on an economic valuation study conducted

for the area. In cases where enforcement has been vigorously pursued and where administrative fines have been set at levels that are enough to deter violations, revenues have been raised from this source. In Ubay, Bohol, the first year of enforcing its fishing rules saw the LGU earning close to P100,000 strictly from fines and charges.

Most CRM programs that were started in earlier decades have attempted to establish registration and licensing systems in coastal municipalities all over the country. Some municipalities have been able to set up their own registration and licensing schemes for municipal fishers. In Ubay, Bohol, the LGU is projected to be able to raise a little less than P1 million a year from registration fees if it can reach 100% coverage. Another project, called Ecological Governance, was likewise able to set up such schemes within its coastal project sites. Finally, the Marine Science Institute, through its Marine Environment and Resources Foundation, includes a registration and licensing scheme in the implementation of its CRM projects in northern Luzon. In most of these cases, revenues generated are used to partly fund enforcement activities of *Bantay Dagat* (coastguard) teams that monitor their local MPAs, or in the absence of MPAs, patrol their municipal waters to guard against fishing violations.

In some areas practicing CRM, taxes specific to products that are associated with CRM are being imposed. Examples of these are taxes on fish vendors, auxiliary invoices, and land use taxes for aquaculture production. In some areas that have improved their coastal resources through proper management, the improvements have translated into business opportunities for the local population, which in turn have allowed the LGUs to collect bigger taxes from them. One of the biggest tax sources is auxiliary invoices, a kind of tax applied to coastal resources, usually fish, being exported from the municipality. Some LGUs in Luzon, Visayas, and Mindanao earn significant revenues from this source.

As far as tax incentive schemes are concerned, Cemex has just entered into an agreement with Conservation International and the DENR through the DENR's Adopt-a-Wildlife-Species Program. The private company has agreed to fund a research program for the tarsier, an endangered species, to ensure its survival in the long term. Payments for funding the research program will be claimed as tax shelters for Cemex in its succeeding tax payments to the government. Future memorandums of agreement are being planned for marine mammals on the country's list of threatened species.

Pollution charges are not common in most parts of the country. The earliest and probably best documented case study is that of Laguna Lake, where a pollution charge system has been imposed on industries and households that use the lake for sewerage disposal. This has worked well for the Laguna Lake Development Authority in raising revenues for its operations. In the Verde Island Passage, a feasibility study of a tradable wastewater discharge permit system has been undertaken.

LGUs implementing CRM programs have set aside funds to finance regular enforcement and other management activities. In Ubay, Bohol, the LGU has set up a CRM office physically separate from other LGU departments. It allots a budget of P1.5 million a year primarily for enforcement and MPA maintenance expenses. An additional P0.82 million is provided through in-kind contributions through the volunteer work of *Bantay Dagat* team members and other local community residents who devote their time and labor to undertake CRM-related activities. The municipality of Looc in Mindoro Occidental has been spending over P1 million annually on CRM activities. In other cases, tapping into the Special Activity Fund of LGU budgets has proved successful in providing regular budgets for CRM.

In areas where MPA establishment and CRM have been institutionalized, MPA networks have been formed, such as in Surigao del Sur, Zamboanga del Sur, and the Verde Island Passage. The first two

alliances are sustained by annual contributions of member municipalities and enforcement efforts are coordinated, thus creating more impact and synergy. In the Verde Island Passage, regular funds for the operations of the MPA enforcement network are being provided by the provincial government of Batangas. In the island municipality of Cagayancillo, the inclusion of regular MPA enforcement activities in its annual investment plan has ensured regular funding. At the national level, a coastal and marine management office has been created at the DENR, which gets regular funding from the national government. The office coordinates all marine conservation-related efforts of national government agencies, with particular focus on mangrove reforestation efforts and the establishment of MPAs.

Foreign-funded CRM projects have provided the necessary trailblazing activities for the country to learn conservation lessons and build on them. Through many of these projects mentioned in earlier sections, sustainable financing activities and lessons have been studied, researched, and implemented to sustain conservation activities in the coastal and marine sector. Some have even funded the establishment of offices tasked with managing protected areas. For example, Tubbataha Reefs Natural Park was granted \$2.5 million in 2001 from the Global Environment Facility and the United Nations Development Programme to establish the Tubbataha Management Office (Blundell et al. 2009). The big environmental NGOs, such as Conservation International, Haribon, and WWF, have sourced their funds from foreign donors, some coming from private foundations working in the international arena. Success stories in some of these project sites have created windows for more foreign-funded projects to come in and build on what has been initiated.

The Philippines is one of the countries that were able to establish a trust fund specifically geared toward conservation objectives early on. The biggest endowment trust fund established for conservation objectives locally is the Foundation for the Philippine Environment (FPE), a grant-giving NGO. In 1992, the United States Agency for International Development funded the purchase by WWF of \$19 million-worth of commercial debt owed by the Philippines. In exchange for cancelling the debt, the Philippines allocated \$17 million to establish FPE (Blundell et al. 2009). Interest earned from investing the funds in a financial instrument sustains the operations and projects of the FPE. Other trust funds, some in the form of sinking funds, have been established for terrestrial conservation and management through similar debt-for-nature swap schemes, such as the Philippine Tropical Forestry Conservation Foundation. The Puerto Princesa Subterranean River National Park established a revolving environmental trust fund of P8.9 million (\$330,000) in 1993, with its annual revenue supplemented with income from tourist fees and P3.2 million (\$119,000) from the city government of Puerto Princesa (Blundell et al. 2009). Finally, the Tubbataha Reefs Natural Park established a sinking environmental trust fund of about P8 million (\$196,000) in 1998 (TRNMP Business Plan 2009).

PPPs have started to be formed to further conservation. Two successful PPPs have been formed in the Verde Island Passage. One is the Batangas Coastal Resources Management Foundation, which is composed of industry players located along the coastline of Batangas Bay. The foundation was set up in 1991 and has participated in numerous integrated coastal management activities that aim to conserve Batangas Bay and improve its water quality. A more recent partnership formed is the First Philippine Conservation, a partnership between First Gen Corporation and Conservation International–Philippines. The company agreed to fund components of the Coastal Resources Management Program for Verde Passage totaling P50 million (\$1 million) over 5 years (Anda and Dalabajan 2009). Other recent developments include the Energy and Biodiversity Initiative, convened by the Center for Leadership in Business within Conservation International. The Energy and Biodiversity Initiative is a group of five conservation organizations and four major energy companies working to integrate biodiversity conservation into oil and gas development. The partners have created a set of practical guidelines and

tools to minimize impacts on biodiversity and maximize contributions to conservation wherever oil and gas resources are developed (Rosales and Vergara 2007). Other PPPs exist in other parts of the country. In the El Nido Foundation in El Nido, Palawan, the tourism industry partners with local communities and LGUs in the area. The WWF has also made a number of partnership arrangements with the private sector, one of which is with Cebu Pacific in supporting climate change adaptation projects in their pilot sites in Mindoro Occidental and later on expanding to the Tubbataha Reefs Natural Park in Palawan. The Philippine Business for Social Progress, established in 1970, is a large corporate-led social development foundation, although it is not primarily geared toward environmental conservation programs. Member companies from the private sector allocate a portion of their CSR funds as membership dues, which in turn are used to fund social development projects that are selected and managed by the NGO's board and staff.

Appendix 2

Table A2 Cost Items for Implementing the Comprehensive Action Plan and their Description

Cost Item	Description
Personnel and staff	Includes the total amount for full-time, part-time, and temporary staff salaries, including fringe benefits
Professional services and consultants	Includes the costs of hiring professional consultants with special or highly technical skills
Travel	Includes estimated costs for transport and per diem expenses during travel
Meetings and special events	Costs incurred for meetings, workshops, surveys, trainings, focus group discussions, consultations, and other specific activities (e.g., mangrove reforestation) including related travel expenses
Equipment and furniture	Includes all equipment purchases
Printing and publications	Costs incurred for all printing and publication requirements including reproduction services
Supplies	Includes office, workshop, and field supplies, including survey materials and data purchases (e.g., maps and images)
Seed capital and sub-grants	Includes all seed capital (e.g., specific livelihood grants) and sub-grant requirements necessary for engaging other partner organizations
Miscellaneous	Includes communications costs and other incidental expenses

Source: Tri-National Committee of the Sulu–Sulawesi Marine Ecoregion.

Appendix 3

Table A3 Detailed Cost of Implementing the Strategies for the Subcommittee on Marine Protected Areas and Networks Subcommittee, by Budget Item, Country, and Key Result Area (\$)

Line Item	KRA 8	KRA 9	KRA 10	KRA 11
Indonesia				
Personnel and staff	451,200	403,200	403,200	403,200
Professional services and consultants	293,000	80,000	492,000	254,500
Travel	139,500	123,000	136,125	301,000
Meetings and special events	1,091,250	317,900	929,500	357,750
Equipment and furniture	78,000	0	118,000	0
Printing and publications	40,000	0	44,500	49,000
Supplies	8,600	6,000	14,000	9,600
Seed capital and sub-grant	200,000	320,000	727,500	262,500
Miscellaneous	9,600	9,600	27,600	9,600
Subtotal	2,311,150	1,259,700	2,892,425	1,647,150
Country total	8,110,425			
Malaysia				
Personnel and staff	0	96,000	27,000	168,000
Professional services and consultants	10,750	10,050	6,500	4,200
Travel	13,000	1,250	3,500	5,100
Meetings and special events	19,900	3,000	6,100	14,200
Equipment and furniture	2,000	0	0	0
Printing and publications	4,000	0	0	2,000
Supplies	1,440	2,400	1,440	2,400
Seed capital and sub-grant	0	20,000	25,000	0
Miscellaneous	9,600	9,600	9,600	9,600
Subtotal	60,690	142,300	79,140	205,500
Country total	487,630			

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Table A3 *continued*

Line Item	KRA 8	KRA 9	KRA 10	KRA 11
Philippines				
Personnel and staff	120,000	120,000	120,000	144,000
Professional services and consultants	231,000	68,000	406,500	254,500
Travel	46,900	2,518,800	136,125	301,000
Meetings and special events	576,750	122,500	929,500	357,750
Equipment and furniture	2,000	0	23,500	0
Printing and publications	39,000	0	44,500	49,000
Supplies	8,600	6,000	14,000	9,600
Seed capital and sub-grant	800,000	320,000	727,500	262,500
Miscellaneous	9,600	9,600	27,600	9,600
Subtotal	1,833,850	3,164,900	2,429,225	1,387,950
Country total	8,815,925			

KRA = key result area.

Source: Subcommittee on Marine Protected Areas and Networks of the Sulu–Sulawesi Marine Ecoregion.

Appendix 4

Terms of Reference of the Subcommittee on Marine Protected Areas and Networks of the Sulu–Sulawesi Marine Ecoregion

Official Designation

The members of the Tri-National Subcommittee on Marine Protected Areas (MPAs) and Networks, hereinafter referred to as the Subcommittee on MPAs and Networks, shall be composed of officials and experts from the national government agencies, nongovernment organizations, and academic institutions, officially endorsed by their respective heads of offices and designated by the national authorities of Indonesia, Malaysia, and the Philippines.

Mandate

The mandate of the Subcommittee on MPAs and Networks emanates from the agreement during the first meeting of the Tri-National Committee on the Sulu–Sulawesi Marine Ecoregion (SSME) on 1 March 2006 in Balikpapan, East Kalimantan, Indonesia, to address the technical issues on the identification, establishment, and management of MPAs, including caves and wetlands, within the SSME, and provide management and technical advices for the recommendation and development of policies.

Duties and Responsibilities

The Subcommittee on MPAs and Networks shall provide technical advice and recommendations to the governments of Indonesia, Malaysia, and the Philippines through the Tri-National Committee for the formulation of policies and guidelines, and for joint collaborative arrangements and parallel efforts among the three countries on the establishment and management of MPAs and Networks, including caves and wetlands. It shall likewise provide recommendations for the review and update of the Ecoregion Conservation Plan whenever necessary. The functions of the Subcommittee on MPAs and Networks are, but are not limited to, the following:

- i. Review of existing policies, plans, programs and their implications on the management of existing MPAs and Networks and the establishment of new MPAs *inter alia*, turtle reserves and fish sanctuaries, within the SSME.
- ii. Promote reciprocal learning and capacity-building initiatives among MPAs to gain insights, learn lessons, and share best practices, including sustainable financing and cost-recovery mechanisms for the improvement of MPA management through, among others, the development of a framework and mechanism for data access and sharing among the member countries.

- iii. Coordinate research and studies on MPAs, caves, and wetlands to enhance the understanding of their importance and the factors affecting them as basis for technical advice and recommendations for management and policy development.
- iv. Provide recommendations for joint collaborative arrangements and parallel programs to be undertaken by the member countries, whether bilaterally or trilaterally, on the establishment and management of MPAs and Networks.

Subcommittee Composition and Tenure

Chair

The chair of the Subcommittee on MPAs and Networks shall be elected during the first subcommittee meeting with a tenure of 2 years, after which subsequent chairs would be designated on rotation basis, following the alphabetical order of Indonesia, Malaysia, and the Philippines.

The chair shall oversee all aspects of the work and communicate progress of the subcommittee and shall report to the Tri-National Committee on SSME.

Membership

The Subcommittee on MPAs and Networks shall be composed of officials and experts from government agencies, nongovernment organizations, and academic institutions from each of the member countries officially designated by the respective national authorities. Each country may nominate up to a maximum of five persons as members.

The chair of the subcommittee, with consent of the members, may invite other experts or representatives from other relevant sectors as observers or advisers, when necessary.

Meetings

A regular subcommittee meeting shall be convened once a year or more as may be necessary prior to the regular meeting of the Tri-National Committee. The first regular annual meeting shall be organized and held in the Philippines, the focal point country as designated in the First Tri-National Committee Meeting, and the succeeding meetings shall be on rotation basis, following the alphabetical order: Indonesia, Malaysia, the Philippines.

Special meetings may, however be called by the chair when necessary, with prior consultation with the subcommittee member countries.

In each meeting of the subcommittee, observers may be invited from within and outside the member countries, the number of which shall be decided by each country and communicated to the subcommittee chair prior to the meeting.

Secretariat

The chair may create his or her own secretariat or seek the assistance of the Tri-National Committee, when necessary. The secretariat shall facilitate communication and coordinate activities within each country and among member countries through the Secretariat of the Tri-National Committee using electronic and other cost-effective means of communication. The host country may provide secretariat support to the elected chair.

Financial Arrangements

To ensure the continuity of the activities of the Subcommittee on MPAs and Networks, the member countries may raise their own funds, and mobilize additional resources from relevant organizations and/or through funding of the Tri-National Committee.

Adopted on this fourteenth day of April 2007 at the Protected Areas and Wildlife Bureau of the Department of Environment and Natural Resources, Diliman, Quezon City, Philippines.

AGUS DERMAWAN

Head of Delegation
Indonesia

RAYNER STUEL GALID

Head of Delegation
Malaysia

THERESA MUNDITA S. LIM

Head of Delegation
Philippines

Appendix 5

Excerpt from the Framework for a Network of Marine Protected Areas in the Sulu–Sulawesi Marine Ecoregion, 2004

Intermediate action priorities (1–5 years)

The intermediate action priorities are as follows:

- i. Marine protected area (MPA) network design, selection of sites, and community actions
 - Select MPAs as part of the network based on the criteria
 - Consider ecological criteria
 - Identify decision rules to apply criteria
 - Conduct research and assessments for suitability
 - Develop minimum standards and guidelines for an MPA network
 - Design boundaries for the MPA network, individual MPAs, and zones
 - Design an administrative framework to include a management network
 - Conduct community actions
 - Disseminate information to generate support, awareness, and participation (to include research)
 - Intensify capacity-building activities
 - Develop livelihood projects
- ii. Completion of planning and preparation for effective management
 - Form an ecoregional coordinating body from previously identified stakeholders
 - Secure funding for effective management; ecoregional coordinating body will be responsible for seeking international funding to complement national budgets
 - Develop Sulu–Sulawesi Marine Ecoregion MPA network goals, and a monitoring and evaluation framework to evaluate the network's functionality (both in ecological and administrative terms)
- iii. Interim activities and management

Note: The framework also includes long-term action priorities (3–10 years), i.e., 2007–2013 focused on addressing issues related to implementing network of MPAs geared toward strengthening management effectiveness.

Appendix 6

Achievements of the Countries in Implementing the Action Plan of the Subcommittee on Marine Protected Areas and Networks

Indonesia

New policies and regulations are instituted for marine conservation, such as:

- Ministerial Regulation No. 2/2009 on Procedure for Establishment of Aquatic Conservation Area
- Ministerial Regulation No. 18/2008 on Conservation Area in the Coastal Zone and Small Islands Area
- Ministerial Ordinance No. 38/2004 on General Guidelines for Management of Coral Reef and Its Adjacent Ecosystems
- Guidelines on:
 - Identification of Aquatic Conservation Area
 - Instituting Aquatic Conservation Area
 - Developing Management Plan for Aquatic Conservation Area

Establishment of marine protected area (MPA)

- Berau District Marine Conservation Area, 2005—1.3 million hectares—the largest in Southeast Asia

Malaysia

Drafted Management Plan for the proposed Tun Mustapha Park, Kudat Priority Conservation Area

Promoted reciprocal learning in

- MPA Planning and Management, 22–26 June 2009, Sabah Parks, in collaboration with The Nature Conservancy and World Wide Fund for Nature (WWF)—Malaysia
- Enhancement of Sea Turtle Protection and Management in Sabah, 24–26 March 2008, Sabah Parks in collaboration with Conservation International
- Cross-site learning workshop: Capturing Important Messages from the Field on MPAs in the Sulu–Sulawesi Marine Ecoregion, WWF–Malaysia and the WWF–United States

Ongoing enforcement and transborder patrol:

- Joint operation between Malaysia and the Philippines
- Joint customs patrol between Indonesia and Malaysia

Business Plan for Sustainable Financing of the Turtle Islands Park, Malaysia, 4 March 2009, WWF–Malaysia and funded by Conservation International

Philippines

Achievements:

Passing of Executive Order 578 on the Creation of the Multisectoral Task Force for the Verde Island Passage

Revision of the National Integrated Protected Area Systems, Republic Act 7586

Signing of the Executive Order 797 on the Adoption of the National Plan of Action in the Coral Triangle Initiative

Establishment of new MPAs:

- Apo Reef National Park
- Tubbataha Reef National Park
- Great and Little Santa Cruz Island
- Murcielagos Islands

Supporting establishment of new MPAs and networks in the context of ecosystem-based management in the following activities:

- National Summit of Protected Area Management Boards
- Second Conference of Coastal Communities
- Scaling up of MPAs to Seascapes
- MPA Gap Analysis
- Action Planning Workshop for Law Enforcement
- *Buhay Dagat* (Sea Life) Program of the Palawan Council for Sustainable Development
- Pilot Planning for Climate Change
- Regional Exchange Program in Support of Coral Triangle Initiative

Increasing understanding of MPAs from

- Biodiversity Monitoring System
- Connectivity Study in the Sulu–Sulawesi Seascape Program
- Ongoing projects: Integrated Coastal Resource Management; EcoGov Project Phase 2; FISH; Sustainable Management of Coastal Resources; protected area management board organizational strengthening.

Volume 3

Subcommittee on
Sustainable Fisheries

The Sulu–Sulawesi Marine Ecoregion

The Sulu Sea and Sulawesi Sea are twin seas formed by the movement of submarine plates from the northern and southern hemispheres of the earth. The plates brought with them numerous species. Some of these species thrived in the warm seas and survived, while others evolved with the lowering and rising of the marine waters (Carpenter and Springer 2005).

The Sulu–Sulawesi Seas cover about 1 million square kilometers. The area is considered as the global center of tropical marine diversity, supporting the highest number of species of coral reef fishes, demersal fishes, turtles, and algae (DeVantier et al. 2004). The mangrove forests, seagrass beds, coral reefs, and coastal and offshore waters are the most species-rich in the tropics.

The bounty of these seas provides food and livelihood to about 40 million people living along the coastline of Sulu–Sulawesi Marine Ecoregion. There are many threats, however, that undermine the food security and livelihoods of these people. Overfishing reduces the populations of fishes, mollusks, and sea cucumbers to unproductive levels. Destructive fishing practices destroy coral reefs as habitats and kill all fishes, young and old. Organic pollution and sediment runoff from land slowly cover seagrass beds and coral reefs. More frequent and intense storms bring more freshwater to coastal waters, drastically lowering their salinity and killing organisms with low tolerance to changes in salinity. These storms also cause rivers to swell and carry organic substances and sediments to sea, increasing the stress to seagrass beds and coral reefs.

The Sulu–Sulawesi Marine Ecoregion Comprehensive Action Plan

The governments of Indonesia, Malaysia, and the Philippines signed a memorandum of understanding to conserve the Sulu–Sulawesi Marine Ecoregion (SSME) during the Seventh Conference of the Parties to the Convention on Biological Diversity held in Kuala Lumpur in 2004. The Ecoregion Conservation Plan was ratified by the three countries in 2006. The countries subsequently established the Tri-National Committee and three subcommittees to implement the three programs of work as follows:

- Threatened, Charismatic, and Endangered Species;
- Sustainable Fisheries; and
- Marine Protected Areas (MPAs) and Networks.

In 2009, the Action Plan of the Subcommittee on MPAs and Networks was published, which contained its goals, objectives, strategies and actions, the achievements and lessons learned in the past 3 years of country-wide implementation, and a historical account of its drafting. This version transforms the previous action plan into a comprehensive action plan with the following features:

1. The vision, mission, goals, objectives, and actions are summarized in a **logical framework** for the three subcommittees of the SSME. The vision of each subcommittee action plan remains the same, and is also termed as the set of long-

term goals of the SSME. These are then translated into five target conservation outcomes. Three of these represent the overall outcomes of the three subcommittee action plans while the two additional cross-cutting outcomes refer to SSME's contribution to the Coral Triangle Initiative and climate change adaptation. The last two outcomes reflect updates on recent events that are highly relevant to SSME conservation and management.

2. The conservation outcomes are then translated into shorter-term **purpose statements**, which reflect the objectives of the previous action plans. These purpose statements are then broken down into **strategies or key result areas**, which are further broken down into a set of **activities**. The previous list of objectives, strategies, programs, and activities were harmonized across the three subcommittee action plans, so that each level is consistent across subcommittees. In some cases, purpose statements and strategies were added to complete the logical framework, while some of the objectives were merged for consistency. All previous activities were included in the comprehensive action plans, while new ones were added to serve the two new conservation outcomes.
3. **Indicators** are provided at the level of short-term purpose statements. These can serve as the basis for developing a

- monitoring and evaluation framework for the Comprehensive Action Plan.
4. Estimated **costs** are provided for the implementation of the strategies or key result areas. Cost estimates resulted from a series of workshops held in each of the three SSME countries during the third quarter of 2010.
 5. A list of **potential revenue-generating mechanisms** is provided, along with an overview of how each country has implemented or sees the potential of implementing these mechanisms (Appendix 1).
 6. The brief description of the Tri-National Committee of the SSME was taken from the previous action plan. There were no changes in the structure of the Tri-National Committee and its subcommittees, and the functions and responsibilities in implementing the SSME comprehensive action plans remain the same.
 7. **Lessons learned** in the previous action plans are adopted for the implementation of the comprehensive action plans as they remain highly relevant in achieving this document's objectives.

Logical Framework of the Sulu–Sulawesi Marine Ecoregion Comprehensive Action Plan

Table 1.1 Logical Framework of the Sulu–Sulawesi Marine Ecoregion Comprehensive Action Plan

Logical Framework		
Long-Term Goal Statement	Targeted Conservation Outcomes	
A marine ecoregion that remains globally unique and a center of diversity with vibrant ecological integrity, including all species assemblages, communities, habitats, and ecological processes A highly productive ecoregion that sustainably and equitably provides for the socioeconomic and cultural needs of the human communities dependent on it An ecoregion where biodiversity and productivity are sustained through generations by participatory and collaborative management across all political and cultural boundaries	1	Sustainable fisheries, aquaculture, living aquatic resources use and livelihood systems in the SSME
	2	Conserved and sustainably managed biodiversity in the SSME
	3	Protected and managed threatened, charismatic, and migratory species and their habitats in order to maintain the full range of biodiversity and provide for the long-term, socioeconomic and cultural needs of human communities in the SSME
	4	A model in seascape planning and implementation contributing to the Coral Triangle Initiative
	5	Resilient habitats and communities adapting to the adverse effects of climate change

SSME = Sulu–Sulawesi Marine Ecoregion.

Source: Tri-National Committee of the Sulu–Sulawesi Marine Ecoregion.

Table 1.2 Logical Framework of the Sulu–Sulawesi Marine Ecoregion Comprehensive Action Plan: Marine Turtles

Purpose (Short-Term Goal)		Indicators	
Develop a harmonized fisheries management regime through the conduct of research, policy development, habitat restoration, and provision of sustainable livelihoods to communities primarily dependent on fisheries.	1	In-country policies and transboundary agreements support effective fisheries management in SSME.	
	2	Comprehensive baseline data and information provide scientific basis for sound program implementation.	
	3	Improved capacities and effective information, education, and communication program facilitate information exchange and effective implementation of fisheries management programs.	
	4	Sustainable financing options are in place.	
	5	Sustainable and sound seafood products are available from SSME areas.	
Strategies or Key Result Areas		Activities	
1	Establish enabling mechanisms (e.g., policy development, transboundary agreements and enforcement) that support effective and harmonized fisheries management.	1.1	Determine the status and issues on illegal, unregulated, and unreported fishing along the borders of the SSME.
		1.2	Implement regular joint and parallel monitoring, control and surveillance that effectively address cross-border illegal, unregulated, and unreported fishing.
		1.3	Analyze and amend policy gaps for more effective management of incidental catch of threatened species in fisheries.
		1.4	Work toward voluntary adoption by traders of a proposed code of practice for sustainable LRFT.
		1.5	Develop a market-based incentive model to support sustainable fish trade (e.g., eco-labelling).
		1.6	Incorporate the ecosystem approach to fisheries management into Indonesian fisheries management areas within the SSME.
2	Undertake knowledge management and research studies to establish baseline information and provide basis for policy formulation and conservation action.	2.1	Determine baseline information for groupers, Napoleon wrasse, and other LRFT species, as well as marine ornamentals.
		2.2	Conduct studies on cross-border trade of groupers, Napoleon wrasse, and other LRFT species, as well as marine ornamentals.
		2.3	Conduct an in-depth study on the chain of custody of the LRFT to generate a basis for more effective policies.
		2.4	Undertake joint and parallel population studies on shared fish stocks specifically on neritic tunas and other highly migratory species and small pelagic species.

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Table 1.2 *continued*

Strategies or Key Result Areas		Activities	
		2.5	Undertake joint and parallel research on the artificial propagation of high-value species for aquaculture as an alternative to wild catch.
		2.6	Conduct collaborative biological and physical oceanographic surveys in the SSME.
		2.7	Conduct an assessment to determine the status of turtle–seaweed–farm interactions in the three countries.
3	Provide recommendations on specific features or criteria in marine protected area (MPA) design and MPA network design in relation to the protection and management of marine turtles in SSME waters.	3.1	Develop a common communications strategy to increase public awareness on particular issues that relate to sustainable fisheries, aquaculture, and living aquatic resources exploitation and trade.
		3.2	Conduct information exchange and share experiences on regeneration, rehabilitation and restoration of coastal wetlands, sustainable fisheries, aquaculture, and living aquatic resources exploitation and trade.
		3.3	Facilitate information sharing on existing legislation and policies on the management of neritic tuna and small pelagic species.
		3.4	Conduct information exchange on each country's policies and legislation on LRFT.
		3.5	Undertake information and data sharing on shared fish stocks and aquaculture research.
4	Conduct capacity-building initiatives to address gaps in promoting improved fisheries management program.	4.1	Conduct an assessment of the needs of human resources development to address gaps in capabilities for effective sustainable fisheries management.
		4.2	Develop and implement capacity-building programs based on the needs identified in the assessment.
5	Implement alternative livelihood programs and promote income diversification to help address unsustainable resource use practices.	5.1	Develop joint pilot projects in establishing experimental farms for the culture of high-value seaweed species other than <i>Kappaphycus</i> and <i>Eucheuma</i> species and the establishment of integrated multispecies seaweed farms (e.g., mollusks, sea cucumbers, siganids, and other invertebrates).
		5.2	Identify and promote livelihoods that are designed to wean stakeholders away from unsustainable resource extraction.
6	Undertake habitat restoration initiatives to support important fish species assemblages.	6.1	Undertake rehabilitation, regeneration, and restoration of degraded wetlands, including abandoned shrimp farms, degraded coastal wetlands, and other identified nursery and spawning areas.

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Table 1.2 *continued*

Strategies or Key Result Areas		Activities	
7	Identify sustainable financing options to support interventions that need to be addressed in the long term.	7.1	Find ways and means to raise internal and external funds to implement the programs and projects identified under the Subcommittee on Sustainable Fisheries, including tapping funds from international conservation organizations.
		7.2	Identify and implement innovative financing mechanisms, such as payment for ecosystem services as a conservation and poverty alleviation tool for fisheries management.

LRFT = live reef fish trade, MPAs = marine protected areas, SSME = Sulu–Sulawesi Marine Ecoregion.

Source: Subcommittee on Sustainable Fisheries of the Sulu–Sulawesi Marine Ecoregion.

Table 1.3 Logical Framework of the Sulu–Sulawesi Marine Ecoregion Comprehensive Action Plan: Model Seascape

Purpose (Short-Term Goal)		Indicators	
1	The SSME is officially designated as a Priority Seascape in the Coral Triangle and serves as a geographic focus of investments and actions for the CTI based on a comprehensive action plan agreed upon by Indonesia, Malaysia, and the Philippines.	1	Six Coral Triangle countries at the ministerial level officially recognize the SSME as a priority seascape for delivering conservation results under the CTI Regional Plan of Action; a comprehensive action plan with clear strategies, activities, budgets, and indicators published and disseminated.
		2	The SSME is adopted as a general model for planning, implementation, and sustainable management of seascapes across the Coral Triangle and beyond.
Strategies or Key Result Areas		Activities	
1	Secure political, stakeholder, and donor community acceptance to strengthen the position of the SSME as a working priority model seascape in the Coral Triangle.	1.1	Advocate for the recognition of the SSME as a priority seascape within the CTI political and decision making processes.
		1.2	Formulate and implement a fundraising strategy and aggressive engagements with donors and private sector.
2	Build the capacity for seascapes at various levels.	2.1	Publish and disseminate information and educational materials promoting the SSME as a model seascape in the Coral Triangle.
		2.2	Support the development of capacity on seascape planning, implementation, and sustainable management for other seascapes within the Coral Triangle and beyond.

CTI = Coral Triangle Initiative, SSME = Sulu–Sulawesi Marine Ecoregion.

Source: Tri-National Committee of the Sulu–Sulawesi Marine Ecoregion.

**Table 1.4 Logical Framework of the Sulu–Sulawesi Marine Ecoregion
Comprehensive Action Plan: Climate Change**

Purpose (Short-Term Goal)		Indicators	
Climate change mitigation and adaptation strategies are considered in the implementation of plans and programs at all levels.		Baseline information and policies are in place to ensure that habitats and communities are safeguarded from the adverse effects of climate change.	
Strategies or Key Result Areas		Activities	
1	Build the capacity of relevant institutions and stakeholders on climate change adaptation strategies.	1.1	Capacitate the secretariats with facilities, manpower, logistics, and expertise by linking with potential centers of excellence on climate change adaptation.
2	Coordinate and implement research programs on climate change adaptation and mitigation to enhance the understanding of the adverse effects of climate change in the SSME as a basis for technical advice and recommendations for management and policy development.	2.1	Conduct research and studies on climate change adaptation and mitigation (e.g., reef resilience against global climate change).
3	Ensure the resiliency of fisheries and coastal communities to climate change.	3.1	Promote ecosystem-based climate change adaptation strategies for sustainable fisheries.

SSME = Sulu–Sulawesi Marine Ecoregion.

Source: Tri-National Committee of the Sulu–Sulawesi Marine Ecoregion.

Estimated Costs of Implementing the Strategies for the Subcommittee on Sustainable Fisheries

Each key result area or strategy has an estimated implementation cost over a period of 4 years. The total cost of implementing the strategies for the Subcommittee on Sustainable Fisheries is \$65.20 million, while the total cost of implementing all the strategies

for the SSME over 4 years is \$154.39 million. Budget items are defined in Appendix 2, while Appendix 3 contains the detailed budget items broken down for each key result area under the Subcommittee on Sustainable Fisheries, for each country.

Table 2 Estimated Cost of Implementation, by Budget Item and Outcome (\$)

Budget Line Item	Outcome 1: Fisheries	Outcome 2: MPAs and Networks	Outcome 3: Species	Outcome 4: Model Seascape	Outcome 5: Climate Change	Total
Personnel and staff	3,681,000	2,455,800	12,446,400	1,584,000	417,600	20,584,800
Professional services and consultants	7,391,000	2,111,000	8,598,330	2,916,000	846,000	21,862,330
Travel	3,597,135	3,725,300	3,729,285	135,000	688,450	11,875,170
Meetings and special events	11,742,225	4,726,100	20,266,505	461,250	5,463,775	42,659,855
Equipment and furniture	18,161,950	223,500	517,500	30,000	16,000	18,948,950
Printing and publications	2,189,000	272,000	2,231,500	78,000	107,250	4,877,750
Supplies	1,336,550	84,080	2,911,600	28,800	40,800	4,401,830
Seed capital and sub-grant	16,896,000	3,665,000	2,529,400	450,000	4,648,000	28,188,400
Miscellaneous	201,600	151,200	493,800	57,600	86,400	990,600
Total	65,196,460	17,413,980	53,724,320	5,740,650	12,314,275	154,389,685

MPAs = marine protected areas.

Source: Subcommittee on Sustainable Fisheries of the Sulu–Sulawesi Marine Ecoregion.

Table 3 Estimated Cost of Implementation, by Outcome and Country (\$)

Outcome		Indonesia	Malaysia	Philippines	Total
1	A harmonized fisheries management regime is developed through the conduct of research, policy development, habitat restoration, and sustainable livelihoods to communities primarily dependent on fisheries are provided.	9,784,975	24,663,500	30,747,985	65,196,460
2	Effective management of existing and new MPAs and networks is supported, the full range of sustainable marine resources is maintained, and the long-term socioeconomic and cultural needs of human communities in the SSME are provided.	8,110,425	487,630	8,815,925	17,413,980
3	Effective management of feeding grounds, migratory routes, and protection of target species from overfishing and as bycatch is facilitated; MPAs and MPA networks in relation to the protection and management of target species and its habitat are designed; and implementation of best practices in habitat conservation and management is promoted.	13,575,050	16,838,745	23,310,525	53,724,320
4	The SSME is officially designated as a priority seascape in the Coral Triangle and serves as a geographic focus of investments and actions for the Coral Triangle Initiative based on a comprehensive action plan agreed on by Indonesia, Malaysia, and the Philippines.	1,913,550	1,913,550	1,913,550	5,740,650
5	Climate change mitigation and adaptation strategies are considered in the implementation of plans and programs at all levels.	3,186,850	5,038,275	4,089,150	12,314,275
Total		36,570,850	48,941,700	68,877,135	154,389,685

MPAs = marine protected areas, SSME = Sulu–Sulawesi Marine Ecoregion.

Source: Subcommittee on Sustainable Fisheries of the Sulu–Sulawesi Marine Ecoregion.

Table 4 Estimated Cost of Implementing Outcome 1, by Budget Item and Country (\$)

Budget Line Item	Indonesia	Malaysia	Philippines	Total
Personnel and staff	2,274,000	667,200	739,800	3,681,000
Professional services and consultants	962,000	3,007,000	3,422,000	7,391,000
Travel	680,475	1,226,950	1,689,710	3,597,135
Meetings and special events	2,218,850	3,600,000	5,923,375	11,742,225
Equipment and furniture	160,450	9,018,250	8,983,250	18,161,950
Printing and publications	185,000	835,000	1,169,000	2,189,000
Supplies	41,000	641,900	653,650	1,336,550
Seed capital and sub-grant	3,196,000	5,600,000	8,100,000	16,896,000
Miscellaneous	67,200	67,200	67,200	201,600
Total	9,784,975	24,663,500	30,747,985	65,196,460

Source: Subcommittee on Sustainable Fisheries of the Sulu–Sulawesi Marine Ecoregion.

Table 5 Estimated Cost of Implementing Outcome 4, by Budget Item and Country (\$)

Budget Line Item	Indonesia	Malaysia	Philippines	Total
Personnel and staff	528,000	528,000	528,000	1,584,000
Professional services and consultants	972,000	972,000	972,000	2,916,000
Travel	45,000	45,000	45,000	135,000
Meetings and special events	153,750	153,750	153,750	461,250
Equipment and furniture	10,000	10,000	10,000	30,000
Printing and publications	26,000	26,000	26,000	78,000
Supplies	9,600	9,600	9,600	28,800
Seed capital and sub-grant	150,000	150,000	150,000	450,000
Miscellaneous	19,200	19,200	19,200	57,600
Total	1,913,550	1,913,550	1,913,550	5,740,650

Source: Subcommittee on Sustainable Fisheries of the Sulu–Sulawesi Marine Ecoregion.

Table 6 Estimated Cost of Implementing Outcome 5, by Budget Item and Country (\$)

Budget Line Item	Indonesia	Malaysia	Philippines	Total
Personnel and staff	417,600	0	0	417,600
Professional services and consultants	148,000	349,000	349,000	846,000
Travel	62,950	312,750	312,750	688,450
Meetings and special events	1,446,150	1,679,375	2,338,250	5,463,775
Equipment and furniture	16,000	0	0	16,000
Printing and publications	41,750	36,750	28,750	107,250
Supplies	9,600	15,600	15,600	40,800
Seed capital and sub-grant	1,016,000	2,616,000	1,016,000	4,648,000
Miscellaneous	28,800	28,800	28,800	86,400
Total	3,186,850	5,038,275	4,089,150	12,314,275

Source: Subcommittee on Sustainable Fisheries of the Sulu–Sulawesi Marine Ecoregion.

Sustainable Financing Options

Financing for the conservation of natural resources in the three countries of the Sulu–Sulawesi Marine Ecoregion (SSME) has historically relied mostly on government budgets and foreign donor funding. As such, decisions on disbursement for environmental conservation have mostly been made by government authorities and are often subject to the donors' own priorities and biases. Conservation often competes with other government programs that are characterized as directly contributing to economic development in the immediate term. The latter are naturally given priority more often than not, given these countries' developing status. But with recent trends showing fast-declining natural resource stock and increasing environmental degradation, now exacerbated by climate change and burgeoning population levels in these countries' coastal communities, responsible environmental management has never demanded higher priority than today. If biodiversity is to continue to exist in this part of the globe and provide ecosystem services to the people, it is imperative that the SSME partners start to rely more on their own local resources and initiatives to finance programs and projects that will support environmental management and biodiversity conservation over the long term.

The following is a list of potential sustainable financing instruments that can be employed in the SSME countries. It is by no means all-inclusive of every possible instrument that can finance coastal resource management (CRM) in the global setting. Rather, it is based on mechanisms that exist in the SSME region and are being used for environmental conservation purposes. The applicability of each instrument will depend on the situation at hand, such as the intensity of resource use conflict, the

existing tenure and other legal arrangements, the level of complexity of the instrument itself, local capacities in management, and the level of environmental degradation in the subject area. In most cases, total funding for environment programs will be sourced from a combination of some of these instruments, as experience has shown that relying on just one source is never enough. It thus follows that funding the whole SSME Comprehensive Action Plan will necessitate pooling of funds sourced from a combination of these instruments. Determining the appropriate mix of instruments will have to be based on the level of maturity and capacity of the players involved in each particular instrument.

User Fees

User fees are probably one of the most popular ways of raising funds for marine conservation. The generic definition of user fees is a payment scheme for the use of a certain area, and/or certain resources found in the area, for a specific activity. For instance, in some marine protected areas (MPAs) within the SSME, scuba diving fees are imposed on scuba divers who choose to dive in those MPAs. The payment is made by the diver for the use of the MPA for recreational purposes. On the other hand, there are some local governments that charge environment or green fees to certain users in an area. In this sense, green fees are different from user fees because they do not refer to any specific resource or service being used by the payer; rather they are usually applied in a general sense and are meant to fund resource or environmental management in general. It is assumed though that the funds generated from this scheme are earmarked specifically for environment and natural resource or CRM.

User fee systems work as sustainable financing schemes if the following important conditions are met. First, there has to be a significant number of users against whom the fee will be imposed if the unit amounts are typically low, e.g., entrance or scuba diving fees. The number of users will determine the volume of revenues that can be realized from the scheme. Second, the users should further be consulted on the appropriate level of fees to be set. The amount should be based on their willingness to pay for the environmental good or service being protected or managed. Finally, collection and disbursement schemes should be simple and transparent. Complicated collection schemes will only result in high transaction costs, and sometimes low collection rates. On the other hand, if revenues collected are not perceived as being spent on the very intent of the fee, users may eventually protest against the scheme, creating lower collection rates and possible boycotts of the area. If any of these conditions are not met, the user fee scheme may not be able to raise the needed funds to continue CRM or MPA management in the area.

Registration and Licensing Fees

In the fisheries sector, the most common form of revenue-generating mechanism employed for CRM is the imposition of registration and licensing fees. Fishing is usually not allowed within MPA boundaries, although there are some management bodies that allow hook and line fishing within the outer portion of their MPAs, or even spear fishing outside of the core zone but still within the MPA boundaries. Registration and licensing of fishers has been practiced in the commercial sector for quite some time now, and is being implemented by state or national government agencies. Ideally, revenues generated should be used to partly fund enforcement activities of teams that monitor MPAs, or in the absence of MPAs, to patrol waters to guard against fishing violations.

Registration fees are usually set at low levels, as they are used more for information purposes

than for regulation. License fees are usually set higher, ideally at levels that estimate the economic rent captured from the activity. In countries where fishing regulations are more advanced, licensing schemes come with limits to entry; hence a maximum number of licenses are awarded to fishers. In the absence of entry limits, license fees can be set at higher levels if the objective is to regulate the fishing activity in the area. These amounts, however, have to be balanced against equity and poverty alleviation objectives, especially in most coastal areas in the country where fishers comprise the poorest sector of the community.

Taxes

The biggest revenue source of government is the tax system. In some areas where CRM is practiced, taxes specific to products that are associated with CRM are being imposed. Examples of these are taxes on fish vendors, auxiliary invoices, and land use taxes for aquaculture production. In some areas that have improved their coastal resources through proper management, the improvements have translated into business opportunities for the local population, which in turn have allowed governments to collect bigger taxes from them. The main criticism against using taxes as a financing mechanism is that there is no assurance that taxes collected for CRM purposes are automatically allocated toward CRM disbursements since all tax revenues accrue to the general fund of the government. Nevertheless, they can serve as a major funding mechanism if larger budgets are allocated toward CRM as a consequence of increased tax collections.

A related instrument is the use of the tax system as an incentive for private sector entities to invest more in natural resource management projects. Such investments can sometimes be used as tax incentive schemes, whereby payments made by private entities for CRM can be claimed against their outstanding tax payments to the government. These arrangements are

usually formalized through a memorandum of agreement or similar instruments involving the government and the private entity, along with a broker that ensures the funds are used for CRM purposes.

Penalties and Fines

Some governments that have long been practicing CRM have formulated laws or regulations that include a set of fines and penalties for violators of fishing or CRM rules and regulations. The amounts of fines and penalties should ideally be set at levels that approximate the economic and environmental damages caused by the violation, if not higher, to serve as a disincentive to violate. In cases where enforcement has been vigorously pursued and where administrative fines have been set at levels that are enough to deter violations, revenues have been raised from this source. However, caution should be applied in using fines as a sustainable source of finance. Once enforcement efforts become effective, violations decrease drastically. This bodes well for CRM in general, but it also means that there is a smaller source of revenues generated from fines and penalties. When fishers realize that enforcement of fishing rules in the area is being conducted seriously, the number of violators declines over time, until there are hardly any violators caught despite the same level of patrolling. Hence, fines and penalties may become revenue sources in the short term, but should not be treated as a sustainable source of financing in the medium and long term.

Pollution Charges

Similar to user fees is the system of charging a fee to polluters in a certain area. The concept of a pollution charge is premised on the instrument acting as an economic incentive to “force” polluters to internalize the true cost of their polluting activities, i.e., the damage to society caused by their activities. The underlying principle here is that the charge should have a

sound economic basis, and the environmental damages are actually measured and reflected in the price or the charge.

Pollution charges, just like user fees, will work only if there is a critical mass of polluters that can potentially join the system. More importantly, the technical capability of public institutions for regulating, monitoring, and enforcing water quality standards is a difficult requirement that must be met. If governments are willing to invest in capacity building in this regard, then pollution charges can work not only as regulatory instruments but also as revenue-generating mechanisms.

Government Budgetary Allocation for Coastal Resource Management

The traditional source of funding for CRM has always been allocations from the general budget of the local or national government. Some governments have set aside funds for financing enforcement and other management activities on a regular basis. In the absence of alternative revenue sources, some governments have proposed the increase of revenue allocations for coastal government units. In areas where MPA establishment and CRM have been institutionalized, MPA networks have been formed. These alliances are sustained by annual contributions of member municipalities and enforcement efforts are coordinated among the member municipalities, thus creating more impact and synergy.

Donor Funding

Although not really falling within the realm of sustainable financing, funds from foreign and local donors have played a significant role in promoting best CRM practices and establishing MPAs throughout the region. Donors may include aid agencies of developed country governments, international development banks, and private

foundations of large private corporations that allocate specific amounts for donation largely toward environmental conservation. Funds come in the form of either grants or loans, although in the biodiversity conservation sector, grants are the dominant form of foreign funding. Foreign-funded CRM projects have provided the necessary trailblazing activities for the countries to learn conservation lessons and build on them. Through many of these projects mentioned in earlier sections, sustainable financing activities and lessons have been studied, researched, and implemented to sustain conservation activities in the coastal and marine sector. Success stories in some of these project sites have created windows for more foreign-funded projects to come in and build on what has been initiated.

At the global level, the Scientific and Technical Advisory Panel of the Global Environment Facility has determined that “15 to 20 percent of all biodiversity funding should go to coastal and marine biodiversity conservation. Thus far, investment in marine biodiversity has lagged far behind terrestrial biodiversity projects. This is not surprising, because in the terrestrial realm there were numerous projects ‘ready to go,’ and there was considerable consensus on where the most important areas lie” (Hooten and Hatzios 1995). Much work still needs to be done for the world’s oceans and seas to achieve this target.

Trust Funds

In some cases, revenue-generating mechanisms are difficult to establish due to the lack of a critical mass of resource or environmental service users who are willing and able to pay for user fees. Still, this does not negate the need for funds to manage certain areas due to the large total economic value they possess. In these instances, the next best alternative would be to tap global beneficiaries who are willing to pay for protecting environmental services, such as biodiversity conservation and carbon sequestration. To make these payments last over the long run, they are often invested in trust funds. Some

of these trust funds, called endowment funds, are invested in financial instruments to earn interest perpetually, which in turn is used to fund management expenses (or other types of expenses approved by the fund’s management board). On the other hand, some (known as sinking funds) are designed to be used up after a fixed period of time through the disbursement of both the principal amount and whatever interest it earns. Globally, approximately 75% of the funding for conservation trust funds comes from multilateral and bilateral aid, with the United States contributing 45%; the Global Environment Facility, 19%; and Germany, 7% (Spergel and Taieb 2009). This money, amounting to around \$810 million, was contributed to 55 funds—74% to Latin America and the Caribbean, and 10% to Asia (Blundell et al. 2009).

One source of seed capital for establishing trust funds is debt-for-nature swaps. These instruments have been used extensively since the 1980s, mostly in Latin America. A portion of a government’s external debt is redeemed in exchange for the developing country’s government using an equivalent amount to finance natural resource management projects (Gutman 2003).

Public–Private Partnerships

Government and nongovernment actors in the conservation world have long recognized the importance of partnerships with the private sector in achieving conservation targets and outcomes. The objectives of these partnerships are varied and may range from simple corporate social responsibility targets to the convergence of values between conservation groups and profit-based organizations. On the part of the private sector, industries are already implementing various initiatives in their efforts to improve their business operations and environmental performance. A major factor underlying these instances is the increasing level of environmental awareness among top management of concerned firms, prompting them to make efforts to pay back to the environment and to society. This

growing consciousness is also a reflection of the companies' compliance with global standards and various national and local regulatory instruments and their aspiration to improve their corporate reputation (Ancog and Vergara 2009).

Whatever the objective, the results have proven favorable, such that additional resources are being devoted to conservation. Some partnerships are short-term in nature and, hence, have short-term impacts in fund provision. Others are premised on more lasting mechanisms, and have formed part of the literature on sources of sustainable financing for natural resources management. Case studies abound in the marine sector, with private companies adopting MPAs, housing offices or administrative functions of integrated coastal management (ICM)-related groups, sponsoring projects that usually fall within the mandate of the government, entering memorandums of agreement with government agencies or and/or nongovernment organizations (NGOs), and becoming permanent members in ICM-related groups along with government and NGOs.

Payment for Ecosystem Services

Schemes involving payment for ecosystem services (PES) are relatively new financing instruments that address the twin goals of environmental conservation and poverty alleviation. They "represent a new paradigm of 'conditional conservation' that promises to be more efficient and equitable, and which can also help raise additional environmental funding" (Wunder and Wertz-Kanounnikoff 2009). PES is defined as "voluntary, contingent transactions between at least one seller and one buyer over

a well-defined ecosystem service, or a land (or water) use likely to secure that service" (Wunder and Wertz-Kanounnikoff 2009).

The concept of PES has evolved as traditional sources of funding for protected areas (such as government and foreign donors) have been drying up. The development of PES is occurring in many parts of the world. Some of the major terrestrial environmental services that are already being marketed include biodiversity conservation, carbon sequestration, watershed protection, and preservation of landscape beauty. Among these, markets for watershed protection services are the most common. In the marine environment, PES is slowly evolving in integrated ecosystem management, such as in the areas of ecotourism including coral reefs and mangrove forests, linking freshwater quality markets with coastal water quality, innovative market strategies in fisheries, and sustainable offshore energy development (Katoomba Group 2010).

The generic definition of PES schemes already subsumes some of the case studies mentioned above, such as the establishment of user fee systems in MPAs, the creation of various CRM funds, and the formation of public-private partnerships through some of the conservation projects they initiate or support. There is still great hope that PES could substantially solve the perennial problem of sustainable financing for ICM. For instance, mangroves are being studied in the hope of generating enough scientific evidence for this ecosystem to be eligible for carbon trading in the future. It is hoped that PES case studies can multiply, so the scheme can show itself to be a sustainable financing mechanism for ICM.

Estimated Costs of Implementing Sustainable Financing Options for the Subcommittee on Sustainable Fisheries

Based on the identified activities and strategies in the logical framework of the Subcommittee on Sustainable Fisheries, the estimated budget needed to implement

sustainable financing options to support the key result areas of the subcommittee for 4 years amounts to \$7.03 million.

Table 7 Estimated Cost of Implementing Sustainable Financing Options (\$)

Budget Line Item	Indonesia	Malaysia	Philippines	Total
Personnel and staff	221,400	0	0	221,400
Professional services and consultants	114,000	0	1,338,000	1,452,000
Travel	32,350	0	0	32,350
Meetings and special events	93,800	0	162,000	255,800
Equipment and furniture	0	0	0	0
Printing and publications	24,000	0	0	24,000
Supplies	4,000	0	9,600	13,600
Seed capital and sub-grant	0	0	5,000,000	5,000,000
Miscellaneous	9,600	9,600	9,600	28,800
Total	499,150	9,600	6,519,200	7,027,950

Source: Subcommittee on Sustainable Fisheries of the Sulu–Sulawesi Marine Ecoregion.

The Subcommittees of the Sulu–Sulawesi Marine Ecoregion: The Driving Forces for Marine Conservation

The Tri-National Committee of the Sulu–Sulawesi Marine Ecoregion (SSME) was formed in 2006 immediately after the ratification of the memorandum of understanding by Indonesia, Malaysia, and the Philippines. The Tri-National Committee then formed the Subcommittee on Threatened, Charismatic, and Migratory Species; the Subcommittee on Sustainable Fisheries; and the Subcommittee on Marine Protected Areas and Networks.

Each subcommittee is led by a country and guided by its own terms of reference (Appendix 4). The Subcommittee on Threatened, Charismatic,

and Migratory Species is led by Indonesia; the Subcommittee on Sustainable Fisheries by Malaysia; and the Subcommittee on Marine Protected Areas and Networks by the Philippines.

The subcommittees implement an action plan to meet the objectives and vision of the Ecoregion Conservation Plan. The subcommittees report on achievements of the three countries in meeting their respective action plans. The subcommittees are in turn assisted by the technical working groups that are formed in each country. The governance structure of the Tri-National Committee and its subcommittees is illustrated below.

Figure 1 Governance Structure of the Tri-National Committee of the Sulu–Sulawesi Marine Ecoregion



Source: Tri-National Committee of the Sulu–Sulawesi Marine Ecoregion.

Lessons Learned in the Implementation of the Action Plan

Lessons Learned in Preparing the Sulu–Celebes Sea Sustainable Fisheries Management Project

The Sulu–Celebes Sea Sustainable Fisheries Management Project is the first regional collaborative project of the Subcommittee on Sustainable Fisheries and the Tri-National Committee.¹ The Sulu–Celebes Sea Sustainable Fisheries Management (SCS SFM) Project is funded by the Global Environment Facility (GEF) through its implementing agency, the United Nations Development Programme (UNDP). The SCS SFM Project has a duration of 5 years, beginning in 2009 and ending in 2014. The scope of the project includes the following:

- Component 1—Conducting a transboundary diagnostic analysis of marine fisheries
- Component 2—Strategic action programming
- Component 3—Institutional strengthening at various levels of governance
- Component 4—Demonstrating ecosystem-based management of small pelagic fisheries
- Component 5—Managing knowledge gained in the project

The development of the SCS SFM Project is an activity in the work plan of the subcommittee. The implementation of the project will also achieve the objective of applying the ecosystem-based management of fisheries (particularly small pelagic fisheries), the intent of countries to work in a collaborative project, the plan to conduct research for management, and the desire to raise funding for the activities in the work plan.

The SCS SFM Project ushers in a management concept that needs to get traction in fisheries management agencies; it also brings a range of benefits to the implementation of the action plan of the subcommittee. It is thus important to share the following lessons learned surrounding the project:

- It is important to participate in regional and international conferences to publicize the work plan, achievements, and needs of the subcommittee. Donors attend conferences and gather information on potential projects and partnerships. The effort of Conservation International to highlight the Sulu–Sulawesi Seascape Project in consonance with the Sulu–Sulawesi Marine Ecoregion (SSME) Conservation Plan and to promote the SSME tri-national cooperation stimulated the interest of representatives of the GEF and UNDP at a regional conference. This

¹ This section was prepared by Annadel S. Cabanban, project document preparation coordinator and national consultant for Malaysia for the project preparation grant implementation.

resulted in GEF support for the preparation of the SCS SFM project proposal.

- The governance mechanism set in place for the implementation of the action plan is feasible. Conservation International–Philippines, a nongovernment organization member of the Subcommittee on Sustainable Fisheries, prepared the concept note in consultation with the Philippine head of delegation to the Tri-National Committee and with the chair of the Subcommittee for Sustainable Fisheries. The approval of the concept note and the availability of the preparatory grant for project development were reported by the subcommittee to the Tri-National Committee, which tasked the subcommittee to pursue project development. The subcommittee created a technical working group for GEF project development and appointed Conservation International to coordinate the activity.
- The project development employed collaborative and consultative processes, such as selecting country-level and international consultants, conducting in-country consultations, and conducting tri-national writeshops. The consultants were identified by the subcommittee and endorsed by Conservation International to the United Nations Office for Programme Support. Consultation with stakeholders was facilitated by the fisheries department of each country.
- Special sessions of the technical working group of the subcommittee for the purpose of reviewing and refining the proposal were held with the participation of UNDP. All matters for decision were elevated by the subcommittee to the Tri-National Committee. The project will be implemented by the subcommittee under its mandate.

The formation of a technical working group of the subcommittee is an important step in project development. The technical working group has the governments' mandate and the focus to review project designs, provide information, contribute insights, and facilitate government decisions to commit and mobilize resources for project development and implementation.

Lessons Learned on Partnership with the Shrimp Industry in Mangrove Forest Rehabilitation, Tarakan, Indonesia

The importance of mangrove forests in shrimp production is at the forefront of the ongoing project by a multi-sector stakeholder group in Tarakan, East Kalimantan.² The World Wide Fund for Nature (WWF)–Indonesia facilitated a partnership among the government of East Kalimantan, shrimp farmers, and the shrimp export industry to reduce the environmental and social impacts of shrimp aquaculture. The project began in 2006. One strategy of the project is to increase the area of Tarakan Mangrove Reserve from 9 to 21 hectares. The Tarakan Mangrove Reserve provides ecosystem services as nursery sites of shrimps as well as habitat of the proboscis monkey, which is endemic to Borneo.

Working with the fisheries and aquaculture industry to address an environmental issue is beneficial for conservation. Companies³ supported the rehabilitation of mangrove forests and provided financial support for the replanting activity. By 2009, 52,000 mangrove saplings had been planted. A monitoring tower for the rehabilitated mangrove forest in Bom Panjang, Tarakan was constructed by the companies and a consumer group.⁴ The growing mangrove

² This section was prepared by Imam Musthofa Zainudin, Fisheries Program leader, WWF–Indonesia.

³ Seafood International Indonesia, Nichirei Fresh, and Ganko Food Service.

⁴ The companies are PT Mustika Minanusa Aurora and Marusen Suisa; the consumer group is Customer Nichirei Fresh.

saplings are now hosting four species of migratory waterbird. The leadership of the private sector in engaging in environmental issues is the most important key to the success of this project.

Lessons Learned in Partnerships in with Stakeholders in the Live Reef Fish Trade, Indonesia

Live coral reef fishes, particularly groupers and Napoleon wrasse, are important commodities from coral reefs. The export of these fishes to the People's Republic of China; Hong Kong, China; Singapore; and Taipei, China has caused the decline of their populations in coral reef areas. WWF–Indonesia has begun a project to enhance the social, economic, and biological sustainability of the live reef fish trade (LRFT). This includes the following:

- i. Undertaking baseline biological and socioeconomic studies (livelihood value-chain analysis);
- ii. Undertaking gap analyses and reviewing current practices against acknowledged best practice standards under the International Standard for the Trade in Live Reef Food Fish;
- iii. Supporting the application of best practices for the capture and trade in live reef fish through financial incentives and comparative studies that demonstrate positive socioeconomic outcomes from adopting a more sustainable business model; and
- iv. Implementing at least two pilot projects with best practices being implemented by LRFT company partners and being recognized by market buyers in the People's Republic of China and Hong Kong, China.

Collaboration with two stakeholders in implementing the project has yielded results.

The study for updating information on the LRFT was carried out in 17 provinces of Indonesia in collaboration with the Indonesian Reef Check Network. A related study on the live grouper fishery was also conducted in Berau, East Kalimantan in collaboration with WWF–Denmark. The data gathered by these conservation groups will help guide management interventions to conserve the live reef fishery.

WWF–Indonesia is also collaborating with exporters of live reef fishes. In support of the National Plan of Action of Indonesia in the Coral Triangle Initiative, WWF–Indonesia is in the process of building partnership with one of the biggest live grouper exporters in Indonesia.⁵ The company agreed to conduct a pilot project to promote sustainable management of the live grouper fishery in Berau, East Kalimantan, Sulawesi Sea and in three other sites in Indonesia.⁶ The activity planned for Berau, East Kalimantan is consistent with the activity in the work plan of the Subcommittee on Sustainable Fisheries of the SSME. A memorandum of understanding between WWF and the company is now being developed toward the sustainability of the LRFT.

Lessons Learned in Implementing the Regulations of the International Convention on Trade in Endangered Species on Napoleon Wrasse in Sabah, Malaysia

Signatories to the Convention on International Trade in Endangered Species (CITES) are required to institute regulations on exports of endangered species. Malaysia (as well as Indonesia and the Philippines) is a signatory to the convention and, as such, is required to take necessary actions to regulate the export of the Napoleon wrasse (*Cheilinus undulates*), which was the first coral

⁵ P.T. Pulau Mas Bali.

⁶ Wakatabi, Southeast Sulawesi; Kei Island, Maluku; and Cenderawasih Bay, West Papua.

reef fish that was assessed as endangered in 2004 (Red List of Threatened Species, International Union for the Conservation of Nature) and is listed in Appendix 2 of CITES.⁷ The Napoleon wrasse is endangered because of harvesting for the LRFT. The Department of Fisheries of Sabah (DOF–Sabah) began to respond to regulations in 2006 and is continuing its commitment toward achieving the sustainability of the live reef fishery.

The DOF–Sabah, in collaboration with The Wildlife Trade Monitoring Network–Southeast Asia (TRAFFIC–SEA)⁸ and WWF–Malaysia, with the support of the cage operators and exporters, conducted the Non-Detrimental Finding (NDF) Study, which is required to establish a national export quota. This is the first NDF study on endangered fishes in Malaysia. The collaboration was the perfect combination of stakeholders of the management agency (DOF–Sabah), conservation science (WWF–Malaysia), enforcement assistance (TRAFFIC–SEA), and support of the live reef fish industry (the resource users) toward the survival of the Napoleon wrasse and the sustainability of its trade. The NDF Study has provided the scientific information required by DOF–Sabah in formulating the total ban on the export of Napoleon wrasse from Sabah to other parts of Malaysia and to overseas markets. The ban took effect on January 2010. It has led to the formation of an association of traders in Sabah that can be linked to the network of exporting and importing countries of Napoleon wrasse (Hong Kong, China; Indonesia; and Malaysia).

The conduct of the NDF Study for Napoleon wrasse has ancillary benefits. The capacity of the stakeholders of the live reef fishery and trade has improved in the process of conducting the study. Enforcement personnel were trained in

species identification of CITES-listed reef fishes and oriented with the procedures for handling regulated exports of CITES-listed species. This training and orientation, held in Sandakan in March 2008, provided a good foundation for implementing the newly gazetted Act 686 on the International Trade in Endangered Species (otherwise known as the CITES Act for Malaysia) at the end of 2009.

Lessons Learned from the Bureau of Fisheries and Aquatic Resources, Philippines

The Bureau of Fisheries and Aquatic Resources (BFAR) of the Philippines has initiated several programs in compliance with international agreements and in accordance with the implementation of the Action Plan of the Subcommittee on Sustainable Fisheries.⁹ BFAR is implementing the programs with the local government units, research institutions, academe, and the commercial fishing industry. Some lessons learned in the early stages of implementation are discussed below.

By-Catch Reduction Program: Adoption of Circular Hooks and Turtle Excluder Device

The bycatch of marine turtles, marine mammals, sharks, and seabirds in commercial fishery is one of the threats to marine biodiversity. In 2008, BFAR began the Bycatch Reduction Program: Adoption of Circular Hooks and Turtle Excluder Device (TED). There is no information or analysis on the success rate of the bycatch reduction tools in Philippine waters, so BFAR conducted experimental long line fishing using circular hooks in Philippine water to determine its effectiveness. This information will be useful in

⁷ This section was prepared by Lawrence Kissol, fisheries officer, DOF–Sabah; and Annadel S. Cabanban, proprietor and senior marine ecologist, ASC Ecological and Engineering Solutions, Philippines.

⁸ One of the nine regional programs of TRAFFIC that works to ensure that trade in wild plants and animals is not a threat to the conservation of nature.

⁹ This section was prepared by Mujeekewis Santos and Edwyn Alesna, BFAR, Philippines.

convincing members of the commercial fishing industry to adopt this device. Seminars and workshops were conducted with stakeholders on the adoption of circular hooks and TED in their fishing operations. The implementation is, thus far, hampered by the difficulty in monitoring of the use of circular hooks and TED because of lack of personnel and funds.

National Plan of Action for Sharks

Sharks are another group of fishes whose populations have dwindled worldwide due to the harvesting of their fins or as bycatch in fishing operations. BFAR is currently drafting the National Plan of Action for Sharks. The project will identify the number of shark species in the country, their geographic location, biology, and population, and will establish guidelines for the

assessment, management, and conservation of sharks in the Philippines. The diversity and distribution of sharks are already available from studies in the 1990s; however, information on shark fisheries is scant and difficult to collect.

Philippine Fisheries Observers Program

The Philippine Fisheries Observers Program is a very recent initiative to record catch and bycatch of commercial fishing vessels in the western and central Pacific Ocean. Deployment of observers commenced in September 2009. There is a need to train more observers to implement the program and to quickly establish the data management system, compose the database, and develop analytical procedures for the data gathered by the observers.

Achievements of the Countries in Implementing the Action Plan of the Subcommittee

The Subcommittee on Sustainable Fisheries has achieved a significant milestone in the successful application for a grant for a full-sized project from the Global Environment Facility International Waters Focal Area, Coral Triangle Initiative Southeast Asia Program. It is an important achievement to receive a grant for the Sulu–Celebes Sea Sustainable Fisheries Management (SCS SFM) Project because this project will put in place regional policies for transboundary stocks of marine fishes shared among Indonesia, Malaysia, and the Philippines; strengthen national institutions to enable them to manage fisheries better and in consideration of the coastal and marine ecosystems; and establish demonstration sites for the implementation of ecosystem-based management of small pelagic fisheries. This is the first phase of an inherently long process and investment for sustainable fisheries.

The SCS SFM Project is also a very important vehicle to implement strategies in the action plan. The project will involve the conduct of collaborative research for fisheries management on the biology and ecology of some small pelagic fishes.

Policy review pertaining to marine fisheries will also be done. Policies, institutions, and enforcement will be strengthened to address the prevailing illegal, unregulated, and unreported fishing in the Sulu–Sulawesi Seas.

At the national level, particularly at the sites, the SCS SFM Project allows the implementation of other activities of the action plan at national levels. Fisheries management, i.e., regulation of harvesting levels and monitoring of catch levels, will be implemented. Bycatch of small-pelagic fishing operations can also be undertaken in conjunction with monitoring of catches. In addition, mangrove rehabilitation may be considered in developing integrated coastal management at demonstration sites in Tarakan, Indonesia; Semporna (for the southeast fishing management zone), Malaysia; and Zamboanga (for the fishing grounds in the Celebes Sea), Philippines.

Other achievements of the Sulu–Sulawesi Marine Ecoregion member countries in implementing the Action Plan of the Subcommittee on Fisheries are shown in Appendix 5.

Subcommittee on Sustainable Fisheries in the Sulu–Sulawesi Marine Ecoregion

The Action Plan of the Subcommittee on Sustainable Fisheries is consistent with Goal 2 of the Coral Triangle Initiative (CTI), which is the full application of the ecosystem approach to the management of fisheries and other marine resources. The action plan promotes ecosystem-based management of fisheries and contains specific activities that contribute to implementing steps that consider the ecosystems that support marine fisheries, research and monitoring for fisheries policies and regulations, and the livelihood of

coastal communities and the fishing industry. The action plan is a holistic response of the governments of Indonesia, Malaysia, and the Philippines to meet the targets of the CTI and the Millennium Development Goals toward improving the status of marine fish stocks by 2015 and improving the socioeconomic condition of coastal communities dependent on them. The Global Environment Facility-approved Sulu–Celebes Sea Sustainable Fisheries Management will be implemented under the CTI.

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Appendix 1

Country Experiences in Implementing Sustainable Financing Mechanisms for Marine Conservation

Indonesia

The Government of Indonesia practices a highly centralized form of budgeting for all of its public offices, including those that are involved in environmental and natural resources management. The issue of generating more sustainable financing mechanisms for conservation has been discussed in a number of broad stakeholder workshops throughout the country. However, current laws have limited the country's options because of a specific requirement to deposit all government revenues in a centralized fund managed by the national government. Local authorities have no fiscal autonomy and are not in a position to directly disburse the revenues they generate. Budget plans are submitted to the national government, which in turn determines how to allocate all public funds. Even existing user fee systems in national parks are now being subjected to the same budgeting process. Because of this, there is little incentive for public officials and environmental managers to devise creative mechanisms to increase their revenues. Moreover, fund releases conform strictly to the annual budgeting process. If fresh funds come in the middle of the fiscal year, disbursement has to wait for the next budgeting process before they are allocated and released.

Of the 10 potential sustainable financing mechanisms for the comprehensive Sulu–Sulawesi Marine Ecoregion (SSME) action plans, four are deemed to be most feasible for Indonesian SSME activities: government budgetary allocation, donor funding, trust funds, and public–private partnerships (PPPs). Indonesia has had considerable experience in setting up trust funds. There is the existing Kehati Conservation Fund, which was set up from a United States debt-for-nature swap initiative and is designed to be fully allocated in 10 years. Since its inception, it has prioritized the funding of marine conservation projects, and the SSME itself has benefited from the fund. Prior to Kehati, the Sumatra Sustainable Fund was established by the governors of the five provinces in Sumatra in partnership with the World Wide Fund for Nature (WWF). Finally, a climate change trust fund is being established by the national government to finance the national climate change program of the country.

Another mechanism that has great potential in Indonesia is the establishment of PPPs for conservation. Current Indonesian law requires the allotment of corporate social responsibility (CSR) funds among private companies operating in the Indonesian economy. The government can package activities in the SSME Action Plan and make them more attractive for private sector participation.

Malaysia

In contrast to the Philippines, Malaysian government authorities appear to be more generous in providing substantial budgets for environmental conservation. Because of this, the need to generate sustainable financing mechanisms is less pronounced. Nevertheless, there is still a funding gap, and there is still no assurance that conservation plans laid out by the park authorities and the Fisheries Department will be fully funded by federal and state budgets. As such, revenue-generating measures are being established in Sabah, particularly in areas that fall within the SSME.

Sabah has had similar experiences with the Philippines in implementing sustainable financing schemes for environmental conservation. In fisheries management, registration and licensing fees have been implemented for a substantial number of years. However, government authorities have kept fee levels low due to the subsistence nature of most of the fishers. Revenues generated from this scheme are still below the budgets provided for fisheries management, as in the Philippine case. The estimated amount raised from licensing fees is around RM500,000 a year. The money is deposited into a consolidated fund from which the Fisheries Department bids for its annual budget based on a plan.

Sabah Parks have had more success in generating their own revenues. Marine protected areas (MPAs) in Sabah have successfully implemented user fee schemes to sustain park operations. In Kota Kinabalu National Park alone, annual revenues have reached a total of roughly RM5 million–RM6 million, enough to sustain at least 80% of the park's operating expenses. Likewise in Sipadan, park revenues are estimated to contribute around RM1.6 million a year. But since all park revenues go to state coffers, the total amount does not necessarily go back to the park that generated the revenues. Rather, local revenues are used to augment the budgets of other parks in the state. Nevertheless, there is an opportunity for Sabah Parks to raise revenues from user fees if they are based on users' willingness to pay for park use. Sabah Parks has been moving to increase park fees by 10%–15%. In general, tourists are supportive of such increases as long as they are confident the fees will be used to fund park improvements through conservation. Other user fees that target charismatic or flagship species, e.g., marine turtles in Turtle Island Heritage Protected Area, may be considered in the future to increase revenues from user fees.

Conservation activities are heavily subsidized by government funding in Sabah. Because of the rapid economic growth of Malaysia during the past 2 or 3 decades, donor funding has not been as prominent as in the other two SSME countries, although some foreign funds have still contributed significantly to SSME planning and operations. The country has thus relied more heavily on federal and state budgets. Strategic lobbying for bigger budgets for conservation has been suggested to expand environmental programs within the government. Trust funds are likewise not common, but there are some that have been established to account for certain donations that last for 2 or 3 years. At the Fisheries Department, a trust fund is being established at the time of writing, the revenues of which will be used mainly for PPPs for conservation, which are not yet common in Malaysia. Most CSR projects are still focused on social and community development, such as educational scholarships, with periodic tree-planting activities being conducted. CSR is still treated as a marketing tool by most private companies in Malaysia, thus their objectives for engaging in environmental conservation activities are more for advertising purposes. The Sabah Foundation, which supports both education and environmental projects, is a good example of a responsible CSR program. It is believed that such partnerships with the private sector are improving, and there are high hopes that the government can rely on the private sector to become more involved in conservation programs in the near future. Some private companies have expressed their desire to participate more in environmental projects, but there needs to be more

awareness raised on how this can be done. Tourism in particular can be a good candidate for increasing CSR programs that support conservation in the SSME.

Penalties and fines for environment-related violations exist in Malaysia, although there may be scope for increasing their levels, subject to the approval by the State Assembly. As far as taxes are concerned, studies are still being conducted on the feasibility of imposing a tourist tax to be collected at the airport. It is hoped that this could be used for conservation. Other sources of taxes being suggested include those that target polluting industries, such as palm oil and logging, as well as all other industries that pollute waterways. However, most of these taxes are collected at the federal level, thus their disbursement is not automatically channeled back to conservation at the local level. More progress is being made at the Fisheries Department, where an ongoing study is looking at the feasibility of imposing taxes on the fish trade and directing revenues to fisheries conservation.

Philippines

The Philippines has had relatively rich experience in establishing sustainable financing mechanisms for environmental conservation. This may be partly due to the fact that environmental management budgets, both at the national and local levels, have been seriously wanting, and park managers and local government officials have had to rely on creative mechanisms to augment their meager budgets.

The earliest recorded attempts at establishing user fees for local MPA users in the Philippines date back to the late 1980s. User fees were first imposed on recreational visitors in MPAs, mostly in the Visayas region through the initiatives of Silliman University, e.g., Apo Island, and the former Coastal Resources Management Project, e.g., Sumilong, Gilutungan, and Olango MPAs. Another project called the Environmental and Natural Resources Accounting Project set the technical guidelines in estimating user fees through a Department of Environment and Natural Resources (DENR) administrative order that covered all protected areas under the National Integrated Protected Area System, some of which included seascapes and MPAs. There were also initiatives by nongovernment organizations (NGOs) to estimate scuba diving fees in locally protected areas, such as those in the Mabini–Tingloy area in Batangas, initiated by WWF; and the Moalboal, Siquijor and Bohol MPAs, as recommended by the Coastal Conservation and Education Foundation. To date, the Mabini–Tingloy diving fee system has proven to be one of the more successful attempts, earning more than P1 million per year for each municipality. Aside from recreational user fees, development fees have been recommended for resorts in the municipality of El Nido, Palawan, and imposed on the National Power Corporation's coal-fired power plant located within the MPA of Masinloc, Zambales. There are some local government units (LGUs) that charge environment or green fees, such as the green fee imposed on all tourists that enter Puerto Galera, whether they visit for scuba diving, snorkeling, or simply to lounge on the beach.

Fines and penalties have not been a major source of revenues, particularly since their maximum levels are severely limited by law. Nevertheless, some coastal LGUs that have long been practicing coastal resource management (CRM) have formulated ordinances that include a set of fines and penalties for violators of fishing or CRM rules and regulations. LGUs in the Verde Passage Marine Biodiversity Conservation Corridor, coastal towns in Bohol, some LGUs surrounding the Davao Gulf, Saranggani Bay, and Iligan Bay and many areas covered by donor-funded projects have formulated their own fisheries codes and CRM plans, many of which include provisions on fines and penalties. In Tubbataha Reefs Natural Marine Park, the Protected Area Management Board has set fines for ship grounding incidents to P12,000 per square meter of coral reef damaged, based on an economic valuation study conducted

for the area. In cases where enforcement has been vigorously pursued and where administrative fines have been set at levels that are enough to deter violations, revenues have been raised from this source. In Ubay, Bohol, the first year of enforcing its fishing rules saw the LGU earning close to P100,000 strictly from fines and charges.

Most CRM programs that were started in earlier decades have attempted to establish registration and licensing systems in coastal municipalities all over the country. Some municipalities have been able to set up their own registration and licensing schemes for municipal fishers. In Ubay, Bohol, the LGU is projected to be able to raise a little less than P1 million a year from registration fees if it can reach 100% coverage. Another project, called Ecological Governance, was likewise able to set up such schemes within its coastal project sites. Finally, the Marine Science Institute, through its Marine Environment and Resources Foundation, includes a registration and licensing scheme in the implementation of its CRM projects in northern Luzon. In most of these cases, revenues generated are used to partly fund enforcement activities of *Bantay Dagat* (coastguard) teams that monitor their local MPAs, or in the absence of MPAs, patrol their municipal waters to guard against fishing violations.

In some areas practicing CRM, taxes specific to products that are associated with CRM are being imposed. Examples of these are taxes on fish vendors, auxiliary invoices, and land use taxes for aquaculture production. In some areas that have improved their coastal resources through proper management, the improvements have translated into business opportunities for the local population, which in turn have allowed the LGUs to collect bigger taxes from them. One of the biggest tax sources is auxiliary invoices, a kind of tax applied to coastal resources, usually fish, being exported from the municipality. Some LGUs in Luzon, Visayas, and Mindanao earn significant revenues from this source.

As far as tax incentive schemes are concerned, Cemex has just entered into an agreement with Conservation International and the DENR through the DENR's Adopt-a-Wildlife-Species Program. The private company has agreed to fund a research program for the tarsier, an endangered species, to ensure its survival in the long term. Payments for funding the research program will be claimed as tax shelters for Cemex in its succeeding tax payments to the government. Future memorandums of agreement are being planned for marine mammals on the country's list of threatened species.

Pollution charges are not common in most parts of the country. The earliest and probably best documented case study is that of Laguna Lake, where a pollution charge system has been imposed on industries and households that use the lake for sewerage disposal. This has worked well for the Laguna Lake Development Authority in raising revenues for its operations. In the Verde Island Passage, a feasibility study of a tradable wastewater discharge permit system has been undertaken.

LGUs implementing CRM programs have set aside funds to finance regular enforcement and other management activities. In Ubay, Bohol, the LGU has set up a CRM office physically separate from other LGU departments. It allots a budget of P1.5 million a year primarily for enforcement and MPA maintenance expenses. An additional P0.82 million is provided through in-kind contributions through the volunteer work of *Bantay Dagat* team members and other local community residents who devote their time and labor to undertake CRM-related activities. The municipality of Looc in Mindoro Occidental has been spending over P1 million annually on CRM activities. In other cases, tapping into the Special Activity Fund of LGU budgets has proved successful in providing regular budgets for CRM.

In areas where MPA establishment and CRM have been institutionalized, MPA networks have been formed, such as in Surigao del Sur, Zamboanga del Sur, and the Verde Island Passage. The first two

alliances are sustained by annual contributions of member municipalities and enforcement efforts are coordinated, thus creating more impact and synergy. In the Verde Island Passage, regular funds for the operations of the MPA enforcement network are being provided by the provincial government of Batangas. In the island municipality of Cagayancillo, the inclusion of regular MPA enforcement activities in its annual investment plan has ensured regular funding. At the national level, a coastal and marine management office has been created at the DENR, which gets regular funding from the national government. The office coordinates all marine conservation-related efforts of national government agencies, with particular focus on mangrove reforestation efforts and the establishment of MPAs.

Foreign-funded CRM projects have provided the necessary trailblazing activities for the country to learn conservation lessons and build on them. Through many of these projects mentioned in earlier sections, sustainable financing activities and lessons have been studied, researched, and implemented to sustain conservation activities in the coastal and marine sector. Some have even funded the establishment of offices tasked with managing protected areas. For example, Tubbataha Reefs Natural Park was granted \$2.5 million in 2001 from the Global Environment Facility and the United Nations Development Programme to establish the Tubbataha Management Office (Blundell et al. 2009). The big environmental NGOs, such as Conservation International, Haribon, and WWF, have sourced their funds from foreign donors, some coming from private foundations working in the international arena. Success stories in some of these project sites have created windows for more foreign-funded projects to come in and build on what has been initiated.

The Philippines is one of the countries that were able to establish a trust fund specifically geared toward conservation objectives early on. The biggest endowment trust fund established for conservation objectives locally is the Foundation for the Philippine Environment (FPE), a grant-giving NGO. In 1992, the United States Agency for International Development funded the purchase by WWF of \$19 million-worth of commercial debt owed by the Philippines. In exchange for cancelling the debt, the Philippines allocated \$17 million to establish FPE (Blundell et al. 2009). Interest earned from investing the funds in a financial instrument sustains the operations and projects of the FPE. Other trust funds, some in the form of sinking funds, have been established for terrestrial conservation and management through similar debt-for-nature swap schemes, such as the Philippine Tropical Forestry Conservation Foundation. The Puerto Princesa Subterranean River National Park established a revolving environmental trust fund of P8.9 million (\$330,000) in 1993, with its annual revenue supplemented with income from tourist fees and P3.2 million (\$119,000) from the city government of Puerto Princesa (Blundell et al. 2009). Finally, the Tubbataha Reefs Natural Park established a sinking environmental trust fund of about P8 million (\$196,000) in 1998 (TRNMP Business Plan 2009).

PPPs have started to be formed to further conservation. Two successful PPPs have been formed in the Verde Island Passage. One is the Batangas Coastal Resources Management Foundation, which is composed of industry players located along the coastline of Batangas Bay. The foundation was set up in 1991 and has participated in numerous integrated coastal management activities that aim to conserve Batangas Bay and improve its water quality. A more recent partnership formed is the First Philippine Conservation, a partnership between First Gen Corporation and Conservation International–Philippines. The company agreed to fund components of the Coastal Resources Management Program for Verde Passage totaling P50 million (\$1 million) over 5 years (Anda and Dalabajan 2009). Other recent developments include the Energy and Biodiversity Initiative, convened by the Center for Leadership in Business within Conservation International. The Energy and Biodiversity Initiative is a group of five conservation organizations and four major energy companies working to integrate biodiversity conservation into oil and gas development. The partners have created a set of practical guidelines and

tools to minimize impacts on biodiversity and maximize contributions to conservation wherever oil and gas resources are developed (Rosales and Vergara 2007). Other PPPs exist in other parts of the country. In the El Nido Foundation in El Nido, Palawan, the tourism industry partners with local communities and LGUs in the area. The WWF has also made a number of partnership arrangements with the private sector, one of which is with Cebu Pacific in supporting climate change adaptation projects in their pilot sites in Mindoro Occidental and later on expanding to the Tubbataha Reefs Natural Park in Palawan. The Philippine Business for Social Progress, established in 1970, is a large corporate-led social development foundation, although it is not primarily geared toward environmental conservation programs. Member companies from the private sector allocate a portion of their CSR funds as membership dues, which in turn are used to fund social development projects that are selected and managed by the NGO's board and staff.

Appendix 2

Table A2 Description of Cost Items for Implementing the Comprehensive Action Plan and their Description

Cost Item	Description
Personnel and staff	Includes the total amount for full-time, part-time, and temporary staff salaries, including fringe benefits
Professional services and consultants	Includes the costs of hiring professional consultants with special or highly technical skills
Travel	Includes estimated costs for transport and per diem expenses during travel
Meetings and special events	Costs incurred for meetings, workshops, surveys, trainings, focus group discussions, consultations, and other specific activities (e.g., mangrove reforestation) including related travel expenses
Equipment and furniture	Includes all equipment purchases
Printing and publications	Costs incurred for all printing and publication requirements including reproduction services
Supplies	Includes office, workshop, and field supplies, including survey materials and data purchases (e.g., maps and images)
Seed capital and sub-grants	Includes all seed capital (e.g., specific livelihood grants) and sub-grant requirements necessary for engaging other partner organizations
Miscellaneous	Includes communications costs and other incidental expenses

Source: Tri-National Committee of the Sulu–Sulawesi Marine Ecoregion.

Appendix 3

Table A3 Detailed Cost of Implementation, by Country and Key Result Area (\$)

Line Item	KRA 1	KRA 2	KRA 3	KRA 4	KRA 5	KRA 6	KRA 7
Indonesia							
Personnel and staff	241,200	277,200	277,200	369,600	369,600	369,600	369,600
Professional services and consultants	180,000	338,000	112,000	128,000	36,000	54,000	114,000
Travel	27,500	217,750	158,125	136,000	49,000	62,500	29,600
Meetings and special events	616,300	391,250	509,500	165,500	274,100	193,400	68,800
Equipment and furniture	9,450	110,000	0	9,000	16,000	16,000	0
Printing and publications	44,000	0	52,000	15,000	25,000	25,000	24,000
Supplies	4,800	0	17,800	4,800	4,800	4,800	4,000
Seed capital and sub-grant	1,936,000	0	0	0	1,080,000	180,000	0
Miscellaneous	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Subtotal	3,068,850	1,343,800	1,136,225	837,500	1,864,100	914,900	619,600
Country total	9,784,975						
Malaysia							
Personnel and staff	69,600	321,600	0	240,000	0	36,000	0
Professional services and consultants	194,000	676,000	72,000	144,000	435,000	148,000	1,338,000
Travel	322,500	171,750	0	145,600	125,100	462,000	0
Meetings and special events	1,131,000	1,071,000	126,000	90,000	90,000	930,000	162,000
Equipment and furniture	8,883,250	80,000	0	20,000	35,000	0	0
Printing and publications	720,000	20,000	20,000	15,000	20,000	20,000	20,000
Supplies	582,300	25,000	4,800	2,400	12,000	5,800	9,600
Seed capital and sub-grant	0	0	0	0	100,000	500,000	5,000,000
Miscellaneous	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Subtotal	11,912,250	2,374,950	232,400	666,600	826,700	2,111,400	6,539,200
Country total	24,663,500						

continued on next page

Table A3 *continued*

Line Item	KRA 1	KRA 2	KRA 3	KRA 4	KRA 5	KRA 6	KRA 7
Philippines							
Personnel and staff	166,200	297,600	0	240,000	0	36,000	0
Professional services and consultants	194,000	676,000	57,000	288,000	721,000	148,000	1,338,000
Travel	345,000	322,050	0	374,360	186,300	462,000	0
Meetings and special events	3,399,375	1,071,000	126,000.00	100,000	135,000	930,000	162,000
Equipment and furniture	8,883,250	80,000	0	20,000	0	0	0
Printing and publications	700,000	15,000	450,000	4,000	0	0	0
Supplies	594,050	25,000	4,800	2,400	12,000	5,800	9,600
Seed capital and sub-grant	0	0	0	1,000,000	900,000	1,200,000	5,000,000
Miscellaneous	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Subtotal	14,291,475	2,496,250	647,400	2,038,360	1,963,900	2,791,400	6,519,200
Country total	30,747,985						

KRA = key result area.

Source: Subcommittee on Sustainable Fisheries of the Sulu–Sulawesi Marine Ecoregion.

Appendix 4

Terms of Reference of the Subcommittee on Sustainable Fisheries of the Sulu–Sulawesi Marine Ecoregion

Official Designation

The Subcommittee on Sustainable Fisheries of the Sulu–Sulawesi Marine Ecoregion (SSME) is composed of the representatives of designated government officials as well as experts and/or specialists from nongovernment organizations, research, and/or academic institutions of Indonesia, Malaysia, and the Philippines, endorsed by their respective National Focal Authorities.

Mandate

The mandate of the Subcommittee on Sustainable Fisheries originates from the decision taken by the SSME Tri-National Committee at its first meeting held in Balikpapan, Indonesia, on 1 March 2006. The Subcommittee on Sustainable Fisheries was established under the auspices of the Tri-National Committee to address management and technical issues that relate to sustainable fisheries, aquaculture, living aquatic resources exploitation, trade, and livelihood systems in the region and provide technical advice and recommendations for policy development and implementation.

Duties and Responsibilities

The Subcommittee on Sustainable Fisheries, on its behalf or jointly with other two subcommittees (i.e., the Subcommittee on Endangered, Charismatic, and Migratory Species and the Subcommittee on Marine Protected Areas and Priority Conservation Areas), shall serve, in general, as a forum to provide technical advice and recommendations to the SSME Tri-National Committee for the formulation of policies, development and implementation on sustainable fisheries, aquaculture, living aquatic resources exploitation, trade and livelihood systems in the SSME. These will be achieved through, but not limited to the following:

- i. Review of existing policies and programs on sustainable fisheries, aquaculture, living aquatic resources exploitation, trade, and livelihood systems.
- ii. Provision of technical advice and recommendations for the development and implementation of new policies and programs on sustainable fisheries, aquaculture, living aquatic resources exploitation, trade, and livelihood systems.

- iii. Review and consolidation of technical advice and recommendations previously presented in various forms by organizations and experts as the basis to formulate new recommendations for policy development.
- iv. Provision of technical advice and recommendations to support the effective implementation of regional and global agreements related to sustainable fisheries, aquaculture, living aquatic resources exploitation, trade, and livelihood systems such as, but not limited, to the Convention on International Trade in Endangered Species of Wild Fauna and Flora, the Convention on the Conservation of Migratory Species of Wild Animals, the Indian Ocean–South-East Asia Marine Turtle Memorandum of Understanding, the Ramsar Convention on Wetlands, the Convention on Biological Diversity, the United Nations Convention on the Law of the Sea, and the Brunei Darussalam–Indonesia–Malaysia–Philippines East ASEAN Growth Area, at national or SSME levels.
- v. Identification of research priorities, collaborative management initiatives, and harmonized approaches on sustainable fisheries, aquaculture, living aquatic resources exploitation, trade, and livelihood systems from the SSME to form the basis for technical advice and recommendations for policy development and implementation.
- vi. Provision of advice on the implementation, coordination, and monitoring of projects and activities identified under research priorities, collaborative management initiatives, and harmonized approaches mentioned under item v. above.
- vii. Coordination of the management and sharing of data and information on sustainable fisheries, aquaculture, living aquatic resources exploitation, trade, and livelihood systems as the basis for developing technical advice and recommendations for policy development and implementation.

Subcommittee Composition

Chair

The subcommittee shall elect its chair from representatives of the members of the subcommittee. The chair shall serve a tenure of 2 years and shall be elected at a regular subcommittee meeting. The chair shall oversee all aspects of the work progress of the subcommittee.

In the event where the chair is temporarily incapacitated, the subcommittee members shall appoint an acting chair to take over the functions of the chair for the duration in which the chair is unable to perform his or her duties.

Membership

Each country may nominate up to a maximum five persons as members of the subcommittee. When it is deemed necessary, depending on the issues being addressed, the chair of the subcommittee, with the consent of the members, may invite external experts to assist the subcommittee in its work.

Focal Person

Members from each country shall appoint one focal person for each country to facilitate communication and coordinate activities within each country and between member countries.

Meetings

A regular subcommittee meeting shall be convened once a year prior to the regular meeting of the Tri-National Committee to minimize travel and meeting costs where possible.

An intercessional meeting may, however, be called by the chair when necessary, and with prior consultation with all focal persons of the member countries.

In each meeting of the subcommittee, it may also include observers from inside or outside the three countries, the number of which shall be decided before every meeting by each country. Observers who wish to attend any of the subcommittee meetings shall be endorsed by the national focal authorities. Both numbers and names should be communicated to the chair prior to the meeting.

The chair shall participate in the meetings of the Tri-National Committee and/or of related agreements and organization that the Tri-National Committee deem relevant to SSME work.

Working Mechanism

The subcommittee shall, as much as possible, conduct its communication primarily through electronic means to minimize costs.

The secretarial works of the subcommittee shall be borne by the chair, who may establish his or her own secretariat or request the assistance of the secretariat of the Tri-National Committee, when necessary.

Reports of activities, technical advice, and recommendations, and all other information generated from the work of the subcommittee shall be submitted to the chair of the Tri-National Committee through its secretariat in electronic format. The chair shall maintain and manage copies of all reports and information related to the subcommittee work.

Financial Arrangements

To ensure the continuity of the subcommittee's activities, member countries shall endeavor to allocate and/or raise their own funds, or through the Tri-National Committee, or through direct mobilization of additional resources from relevant organizations.

Appendix 5

Achievements of the Countries in Implementing Activities in the Action Plan of the Subcommittee on Sustainable Fisheries

Indonesia

- Rehabilitation of mangrove forests in Tarakan, East Kalimantan—4,000 saplings have been planted (see Lessons Learned section)
- Various research on migration of small pelagic fish (Southeast Asian Fisheries Development Center) and tuna and skip-jack by tagging
- Monitoring of tuna in Sulawesi, 2008 onward (West Central Pacific Fisheries Council)
- Implementation of best practices in shrimp aquaculture in Kalimantan, Sulawesi Sea
- Passing of the resolution on bycatch of marine turtles at the fifth meeting of the signatory states of the Indian Ocean–South-East Asia Marine Turtle Memorandum of Understanding
- Certification of trade on some ornamental coral reef fishes

Malaysia

- Non-Detrimental Study of Napoleon wrasse for the regulation of exports
- Research on migration of small pelagic fish by tag-recapture technique (Southeast Asian Fisheries Development Center)
- Training of the Department of Fisheries staff and fishing boat operators on the use of the turtle excluder device to reduce bycatch of trawling operations
- Strengthening of enforcement on poaching of marine resources with the Malaysian Maritime Enforcement Agency
- Compliance of deep-sea vessels in installing gadgets to allow Vessel Monitoring System
- Engagement of trawl-fishing operators in the trial use of the turtle excluder device to gather data on bycatch for the purpose of fishery policy formulation (through Marine Research Foundation–Department of Fisheries of Sabah–Conservation International partnership)

Philippines

- Finalization of the Philippine Tuna Management Plan and initiation of work to incorporate ecosystem-based management principles in the plan
- Adoption by the League of Municipalities of the concept of coastal resource management

- Various research projects to support fisheries management including the biology and ecology of juvenile tunas for the regulation of fishing in fish-aggregating devices, and an assessment of handline fishery for the regulation of illegal, unregulated, and unreported fishing

Ecoregion-Level

- Dialogue with neighboring countries to reduce illegal, unregulated, and unreported fishing by Hainan fishers

Comprehensive Action Plans of the Sulu–Sulawesi Marine Ecoregion

A Priority Seascape of the Coral Triangle Initiative

The Sulu–Sulawesi Marine Ecoregion (SSME), as the apex of the Coral Triangle, is considered the center of the center of marine biodiversity where the highest number of colorful reef and marine fishes, various sizes of corals and shells, myriad shapes of algae, and protective mangrove forests are found. The SSME's marine aquarium is not only a delightful lure for tourists but is also the source of food and a natural capital for livelihoods among coastal communities.

To address threats to SSME's diversity and productivity, an ecoregion conservation plan was forged collaboratively by Indonesia, Malaysia, and the Philippines in 2004. As the management framework to address threats to its diversity and productivity, the SSME Ecoregion Conservation Plan has spurred the development of three comprehensive action plans for 2010–2012. These plans are implemented by the subcommittees on Migratory and Threatened Species, Marine Protected Areas and Networks, and Sustainable Fisheries, and guided by the SSME's Tri-National Committee.

This publication includes business plans and cost estimates to implement the three action plans—providing useful guide on costs and activities for governments, prospective donors, and investors; valuable information from cost–benefit analyses; and lessons learned from past conservation efforts.

About the Asian Development Bank

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Asian Development Bank
6 ADB Avenue, Mandaluyong City
1550 Metro Manila, Philippines
www.adb.org
ISBN 978-92-9092-465-4
Publication Stock No. RPT114043

 Printed on recycled paper



Printed in the Philippines