



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



# Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security

Seascapes General Model and Regional Framework for Priority Seascapes



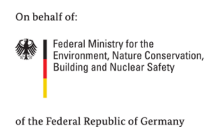
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# Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security

*Seascapes General Model and Regional Framework for Priority Seascapes*

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# Acronyms

CBD	Convention on Biological Diversity
CI	Conservation International
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS	Convention on the Conservation of Migratory Species of Wild Animals
COM	Council of Ministers of the CTI-CFF
CSO	Committee of Senior Officials
CT6	Six countries of the Coral Triangle region
CTI-CFF or CTI	Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security
EAFM	Ecosystem Approach to Fisheries Management
EBM	Ecosystem-based management
EBSA	Ecologically or Biologically Significant Areas
FAO	United Nations Food and Agriculture Organization
ICM	Integrated Coastal Management
ICZM	Integrated Coastal Zone Management
ICOM	Integrated Coastal and Ocean Management
IMO	International Maritime Organization
IUCN-WCPA	International Union for Conservation of Nature World Commission on Protected Areas
KBA	Key Biodiversity Area
LME	Large Marine Ecosystems
LMMA	Locally Managed Marine Area MARPOL - International Convention for the Prevention of Pollution from Ships
M&E	Monitoring and Evaluation
MARXAN	Marine Spatially Explicit Annealing
MFZ	Marine Functional Zoning
MPA	Marine Protected Area
MSP	Marine Spatial Planning
NCC	National Coordinating Committee
NCCC	National CTI Coordinating Committee
PSSA	Particularly Sensitive Sea Area
SDG	Sustainable Development Goals
SOM	Senior Officials Meeting
SSME	Sulu-Sulawesi Marine Ecoregion
SWG	Seascapes Working Group
RPOA	Regional Plan of Action
RS	CTI-CFF Regional Secretariat
TNC	The Nature Conservancy
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
VTS	Vessel Traffic Services
WCS	Wildlife Conservation Society
WG	Working Group
WWF	World Wide Fund for Nature

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# FOREWORD

by the Chair of the Seascapes Working Group

In 2015 193 Member States of the United Nations adopted the 2030 Agenda for Sustainable Development committing to “achieving sustainable development in its three dimensions – economic, social and environmental – in a balance and integrated manner.” As the world grows smaller and more interconnected, balanced and integrated action is needed to ensure equitable benefits for people without sacrificing the natural resources and ecosystem services billions depend on for their well-being.

The Coral Triangle region is a perfect example of this interconnectivity at a regional scale. Together, the countries of Indonesia, Malaysia, Papua New Guinea, the Philippines, the Solomon Islands and Timor-Leste make up the global center for marine biodiversity. These six countries also contain over 400 million people, 1/3 of whom rely directly on marine and coastal resources for their food and livelihoods. Overlaying this, the rapid development of the region’s economies, alongside global economic centers such as Singapore and Hong Kong and the immense presence of China, presents additional numbers of resource users and levels of pressure on marine and coastal systems.

Since the 2009 establishment of the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF), the countries of Coral Triangle have been focused on addressing the competing needs of coastal communities and economic growth through sustainable and collaborative approaches to management at large, “seascape” level, transboundary and multi-national scales. Seascapes offer a platform, a geographic area, within which all user groups can cooperate, coordinate and collaborate to manage for sustainable development, biodiversity conservation and human well-being. The CTI-CFF Regional Plan of Action identifies Seascapes as the first Goal: “Priority Seascapes Designated and Effectively Managed.”

This document represents a key achievement under the Seascapes Goal, the development of “a general model for the sustainable management of seascapes.” It is the result of four-years of evolving thinking and discussions related to what large-scale integrated marine management means to the countries of the Coral Triangle region provides guidance and advice in the establishment and implementation of Seascapes and although written for the context of the Coral Triangle countries, much of the documents sections would be applicable to other parts of the world interested in embarking on large-scale, coordinated, marine area management. We hope you use this document to look at the oceans from a broader perspective and invite all those that are both impacting and being impacted by its use.



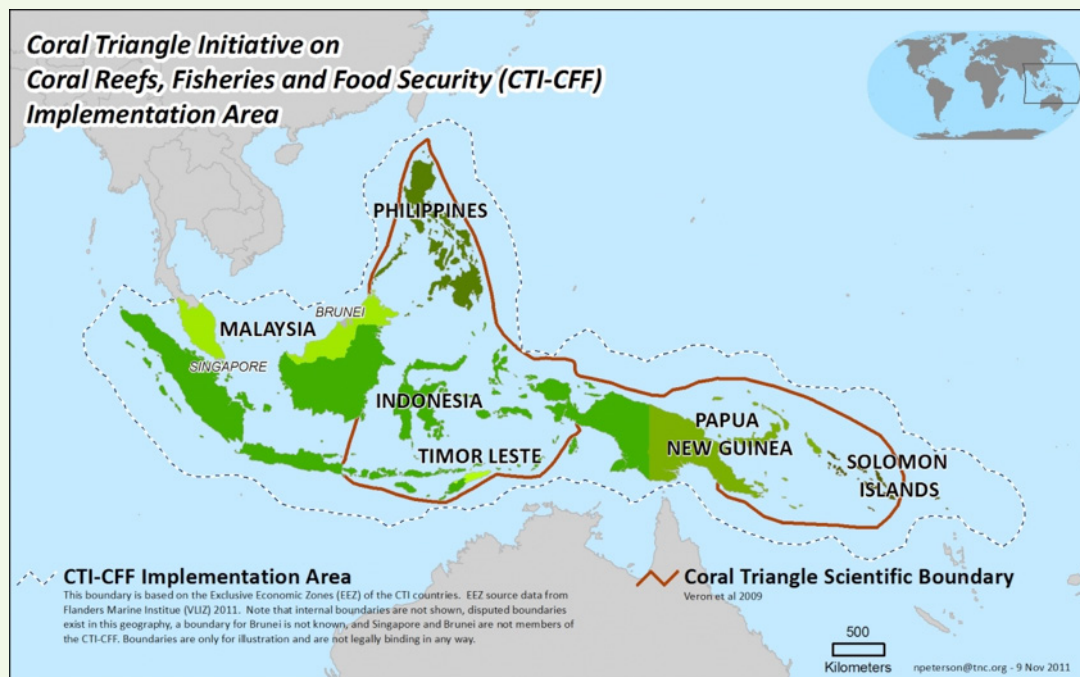
**Suharyanto**

Chairman of the CTI-CFF Seascapes Working Group

# I. Introduction to CTI-CFF Seascapes

The Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF) is an agreement signed in 2009 between six countries, Indonesia, Malaysia, Papua New Guinea, Philippines, Solomon Islands and Timor-Leste. In the agreement, these six countries came together to address urgent threats facing the coastal and marine resources of the Coral Triangle region, an area of approximately 2.3 million square miles, which includes the exclusive economic zones of each country.

Map 1: Map of Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security Implementation Area



(Caption: The colors of this maps indicate the terrestrial boundaries of each of the CT6)

The CTI-CFF Regional Plan of Action (RPOA) was designed to leverage and coordinate action and investment across this vast expanse of ocean space. Goal 1 of the RPOA is “‘Priority Seascapes’ Designated and Effectively Managed.” This Goal directs CTI-CFF countries to prioritize large-scale geographies for investment and action and expand the use of best practices in these areas. To achieve the targets of Goal 1, an associated timetable and Regional Actions have been identified as follows<sup>1</sup>:

- Target 1 – ‘Priority Seascapes’ Designated, with Investment Plans Completed and Sequenced
  - Regional Action 1 – Through regional collaboration, conduct Rapid Seascapes Assessments for the entire region, in order to delineate seascapes and identify priority seascapes
  - Regional Action 2 – Develop investment plans for all identified priority seascapes, including joint investment plans for those seascapes involving two or more countries
- Target 2 – Marine and Coastal Resources within all ‘Priority Seascapes’ are Being Sustainably Managed
  - Regional Action 1 – Adopt a general ‘model’ for the sustainable management of seascapes.
  - Regional Action 2 – Establish seascape capacity-building and learning mechanisms
  - Regional Action 3 – Through joint and single-country efforts, start to mobilize the financial resources to support ‘priority seascape’ programs

<sup>1</sup> The CTI-CFF RPOA runs from 2010-2020 and each Target is time-bound.

- Regional Action 4 – Conduct periodic monitoring and evaluation of priority seascape programs

The intention of the CTI-CFF was to establish seascapes as a tool for large-scale marine management and lay a course for the formation of a regional CTI Seascapes General Model that can both build a consistent framework for sustainable management as well as provide a platform for future investment. This document provides the foundation for the establishment of seascapes under the CTI-CFF.

## **a. The Value of the Coral Triangle to the Global Ocean**

Oceans support millions of jobs and contribute an estimated US \$2.5 trillion per year into the global economy, making it a larger economy than all but six countries of the world. By 2030, the ocean economy is expected to double in size and outperform the global economy. The need for the ocean to provide goods and services has never been greater: over two billion people depend on seafood for food security, nearly one billion jobs are directly related to the ocean economy, and about 40% of the world's population lives within 100 kilometers of the coast.

Within the Coral Triangle, the global epicenter of marine biodiversity, the dependence on the oceans is more striking. Roughly 90% of the region's 400 million people live within 50 kilometers of the coast. One-third of the population relies directly on marine and coastal resources for food and livelihoods.

However, as these sectors grow, the pressures on the oceans also increase. The oceans are being over-exploited and as social and cultural impacts become more complex, the countries of the Coral Triangle face trade-offs between different uses.

## **b. What do Seascapes Offer?**

A seascape is a geographic area where multiple uses and sectors, as well as multiple management designations and governance mechanisms, can be integrated and coordinated<sup>2</sup>. The area is often ecologically valued, politically relevant and logistically practical to manage, and can serve multiple purposes, such as fishing, tourism, recreation, and protection from some of the effects of climate change. As the countries of the Coral Triangle move forward, seascapes can offer benefits at the regional and national level.

Through the Seascape General Model encompassed in this document, the CTI-CFF can build a consistent regional framework for sustainable management and a platform for future investment for Priority Seascapes. Seascapes can also serve as an umbrella to integrate all the other work of CTI-CFF under the other RPOA goals, or as the main vehicle for integration, a concept that runs through all of the CTI-CFF's work across its five thematic goals. Functionally, seascapes provide a platform to coordinate the various policies, laws, and regulations within the marine space such as navigation, fishing, mining, and traditional and cultural uses. Also, seascapes can provide opportunities for learning and sharing between the six countries of the Coral Triangle Initiative (CTI). Finally, by leveraging these benefits, particularly integration, seascapes provide triple bottom line benefits (economic, social and environmental), that together exceed the benefits arising from marine resource management alone.

### ***i. Seascapes' Role in International and National Policy***

Seascapes are areas in which the management and conservation of natural resources can coexist to provide a pathway towards sustainable economic development. The integrative nature of seascapes allows for the pursuit of a multitude of commitments, targets and goals to improve ecological and

<sup>2</sup> For the full definition of a CTI-CFF seascape see Section II.a-Definition.



socio-economic well-being. A range of planning tools can be utilized to pursue seascapes. Investment in achieving the elements of seascapes will help the CTI countries meet both international and national level commitments and targets.

In the last year, the global community has established two new international policy frameworks to address the collective challenges of sustainable development and climate change. The Sustainable Development Goals and the Paris Climate Agreement join similar agreements whose collective aim is to safeguard the earth's biodiversity. The following eight frameworks are interlinked with one another addressing both marine and coastal conservation and economic development:

1. UN Sustainable Development Goals (SDGs),
2. Paris Climate Agreement under the UN Framework Convention on Climate Change (UNFCCC),
3. Aichi Biodiversity Targets under the UN Convention on Biological Diversity (CBD),
4. UN Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES),
5. UN Convention on the Conservation of Migratory Species of Wild Animals (CMS)
6. UN Convention on the Law of the Sea (UNCLOS),
7. UN Fish Stocks Agreement under UNCLOS<sup>3</sup>, and
8. International Maritime Organization (IMO).

Seascapes recognize such linkages and the interdependence of the multiple sectors and users within the marine space. By promoting coordination and collaboration, seascapes help countries meet their commitments to these international agreements through streamlining efforts and maximizing outcomes. For more information see Annex 2.

At the national level, each country has targets and goals for the utilization and conservation of natural resources. However, limited space frequently results in conflicts between sectors, users or priorities. Seascapes are areas where many different types of policies and regulations can be combined and coordinated. Marine activities and uses such as fisheries and aquaculture, marine-based tourism, mining, shipping and navigation, and cultural activities may be managed in a standardized way. This high level of integrated management helps countries identify priorities for marine and coastal resource conservation and management, maximize economic opportunities in a sustainable manner, coordinate government agencies at different scales, and recognize traditional rights and practices of communities.

## *ii. Benefits of Seascapes*

In addition to its outstanding biodiversity, the Coral Triangle provides economic, social, and cultural benefits to over 400 million people and directly supports the livelihoods of over 130 million inhabitants. It is also one of the fastest growing regions of the world. The same economic opportunities driving the region's growth are also putting enormous pressure on its natural resources and threatening ecosystem health. Given the development needs of the region, efforts to safeguard marine ecosystems need to be coupled with opportunities for economic growth and social equality. Altogether, seascapes provide a triple bottom-line framework of economic, social, and environmental benefits. Seascapes help to create these opportunities through the following benefits:

### Economic Benefits:

- Enhancing the security and predictability of benefits to ocean users by ensuring transparency and efficiency of ocean uses and reducing user conflicts;
- Encouraging private sector investment in ocean activities, such as eco-tourism and coastal development, through the creation of a stable and productive business environment;

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3 This is an implementing agreement of UNCLOS that applies to the conservation of straddling fish stocks and highly migratory fish stocks.

- Ensuring the long-term sustainability of vital industries, such as fishing and tourism, by managing local impacts and sustaining ocean health using the principles of ecosystem-based management; and
- Inciting the development of alternative and supplemental industries, which diversifies income generation and makes local economies less vulnerable to social and environmental impacts.

#### Social and Cultural Benefits:

- Ensuring the inclusion of social equality, traditional knowledge and cultural values by providing a platform for multi-stakeholder participation in management decisions and regimes;
- Encouraging communication between national, provincial, and local government and bringing together officials from different administrative or jurisdictional areas who may not otherwise plan together thereby facilitating cooperation across government levels and sectors;
- Providing for the incorporation of customary rights and cultural nuances into large-scale resource management through the flexible and collaborative planning process; and
- Promoting transparency between communities and decision-makers through open and participatory processes.

### **c. How Seascapes Align with and Strengthen Approaches and Tools for Marine Management in the Coral Triangle**

To advance CTI-CFF Seascapes, it is important to clarify how seascapes relate to large-scale marine management approaches that are ongoing or planned in each of the CTI countries. This will help the CT6 clarify how best to implement seascapes in the context of their ongoing large-scale marine management efforts.

In order to pursue large-scale marine management, managers need to have a geography, a coordinating mechanism, a management approach, and one or more planning tools. Seascapes align with other large-scale marine management approaches and tools in the following ways:

- A seascape is a geography that is ecologically valued, politically relevant, and logistically practical to manage.
- Seascapes are able to integrate and incorporate various approaches for large-scale planning and management. If a country does not have a preferred approach, they may use the Seascapes General Model outlined in this document.
- Seascapes can utilize a range of planning tools.
- Seascapes bring together different management agencies, sectors, and stakeholder groups which may not traditionally work together.

More detail is provided below on how seascapes align with existing or planned geographies, approaches, and planning tools for large-scale marine management in use in the CT6.

#### **Geographies**

Geographies for large-scale marine management are often chosen based on analysis of major ecological features, major resource uses such as fisheries, and political jurisdictions, whether they be at the district, provincial, national or regional level.

Geographic designations for management commonly used in the CT6 include Marine Protected Areas (MPAs), MPA Networks, Fisheries Management Areas, Locally Managed Marine Areas (LMMAs) and LMMA networks, and others. Seascapes are typically selected based on resource management

criteria similar to the geographic designations listed above, but they also consider the practicality of management based on political and social factors. Seascapes can and should be designed to align with other geographic designations that are already in place or planned in the CT6. In many cases, seascapes will encompass several other designated areas such as large MPAs or LMMAs or MPA and LMMA Networks.

Seascapes do not replace or duplicate any of the efforts already underway, but work to coordinate the existing management activities into a collaborative management effort. Additionally, seascapes are often designated to be trans-boundary in their geographic extent whether they cover two or more sub-national jurisdictions or are trans-national covering areas of two or more countries. Seascapes provide a geographic management designation where trans-boundary and trans-national cooperation and collaboration can occur. This is especially important in the CTI region as there is significant connectivity between countries and extensive sharing of marine and coastal resources.

### **Approaches to Large-scale Marine Management**

An approach to large-scale marine management outlines the vision, goal, and guiding principles of management as well as the range of features that will be included in the management effort.

Common approaches to large-scale marine management in the CTI include Ecosystem-based Management (EBM), the Ecosystem Approach to Fisheries Management (EAFM), Integrated Coastal Zone Management (ICZM), Integrated Coastal and Ocean Management (ICOM), Locally Managed Marine Area (LMMA), Marine Protected Area (MPA), and others. These are each defined in Annex 1.

At times, large-scale marine management approaches are limited in scope and focus. For example, a fisheries management approach may strive to achieve and maintain maximum sustained yield in a fishery, but may not include conservation of biological diversity or maintenance of traditional indigenous uses of marine resources. Seascapes provide a geography in which comprehensive approaches or even multiple approaches can be feasibly implemented, thus helping to achieve a broader range of goals such as the balancing of biodiversity conservation, fisheries productivity, sustainable economic development, sustaining of traditional cultures, and several others. Given that seascapes are large, typically cross political boundaries (whether districts, provinces, or countries), and involve users from multiple sectors, their effective implementation requires management that is comprehensive, integrated, and transparent.

If a CTI country is already comfortable and practiced using a particular large-scale management approach, that approach can be applied in a seascape. If a country does not yet employ a particular large-scale management approach, under the CTI they can move forward with the identification, selection, designation, and planning of seascapes using the CTI Seascape General Model and informational documents to guide them in this process.

### **Planning Tools for Large-scale Marine Management**

Planning Tools for large-scale marine management are used to plan the implementation of a chosen management approach in a large marine area. This includes planning for the mosaic of uses, zones, regulations, and management actions that need to be in place to achieve large-scale management.

There are distinct differences between approaches for management and planning tools. Essentially, a management approach specifies the vision, goals, and outcomes that management efforts are striving to achieve, including what types of resources and features need to be managed to achieve those aims. A planning tool provides a process to gather and interpret key information about resources, threats,

uses and priorities, and to develop the specific objectives and actions to pursue the outcomes, goals and the overall vision identified in the management approach.

Examples of spatial planning tools used in the CTI region include Marine Spatial Planning (MSP) and Marine Functional Zoning (MFZ), which guide the process of identifying optimal areas for different management and uses. Additionally, identification of needed management actions is often guided through tools such as multi-use or multi-objective management planning. The purpose of planning tools such as these is to identify the needed management interventions to achieve the goals and meet the guiding principles of any management approach.

Planning for seascapes can use any or all of the planning tools in use across the CTI. The key is that they incorporate efforts to spatially manage the range of resources, habitats, values, and uses within the seascape as well as identify management objectives and needed actions toward achieving the vision and goals of the intended management approach.

#### **d. Seascapes Explanatory Diagrams**

The following diagrams are intended to provide additional visual explanation of seascapes and their relation to geographies, approaches, and planning tools. Diagram 1 depicts a process a country or multiple countries would likely follow in the creation of a seascape. With the facilitation of a coordinating mechanism (depicted on the side), the country(ies) could first select the geography, then they determine the approach or set of approaches they wish to employ. Based on these determinations, then they select the appropriate planning tools. The combination of these three components, geography, approach, and planning tools, leads to a seascape. Diagram 2 is a hypothetical example of a seascape depicted in a map showing various marine uses, economic activities, and stakeholders. Diagram 3 shows the geographic placement of potential seascapes in the region.

Diagram 1: Example Seascape Process

# CTI-CFF Seascapes

Transboundary

National

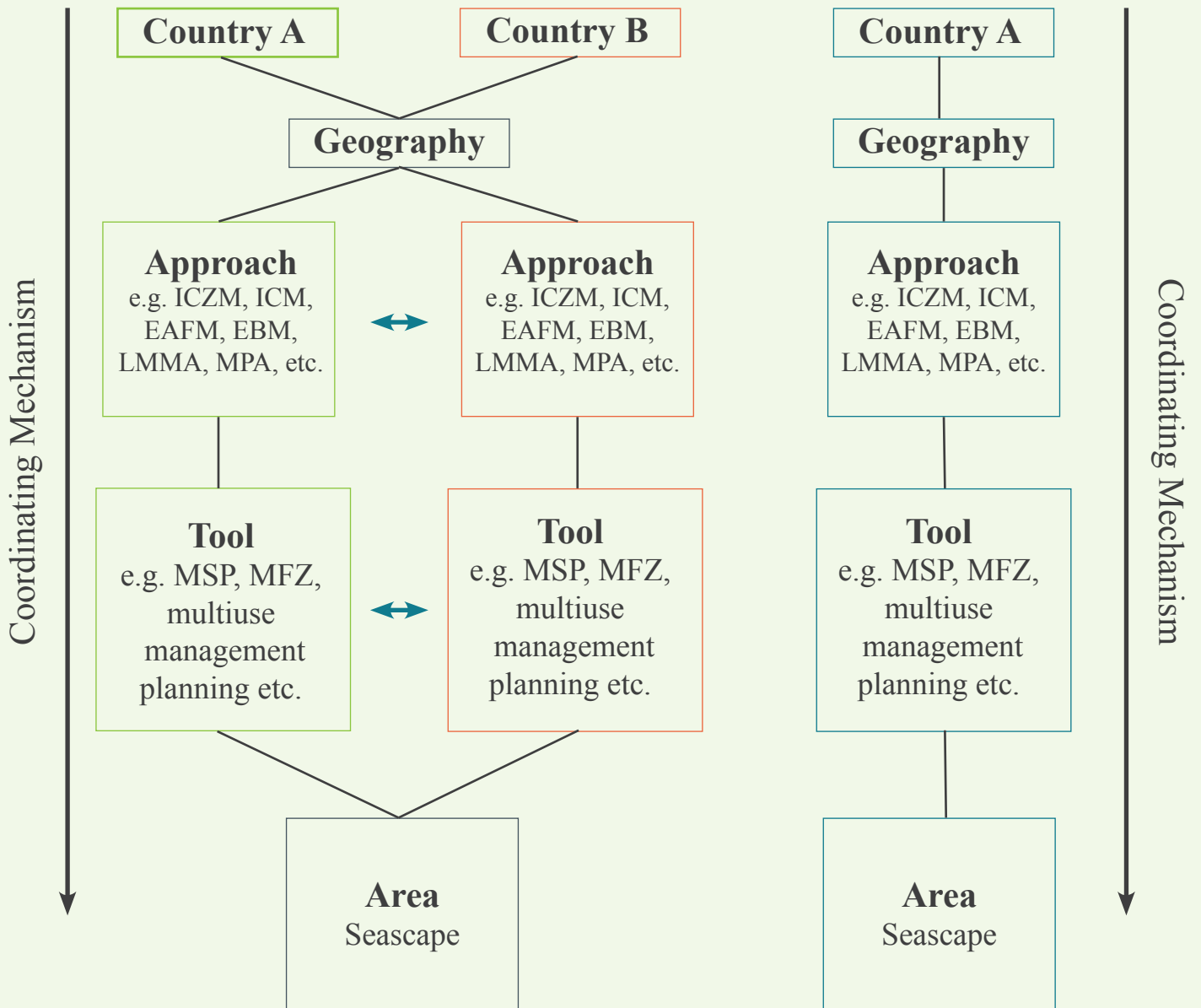
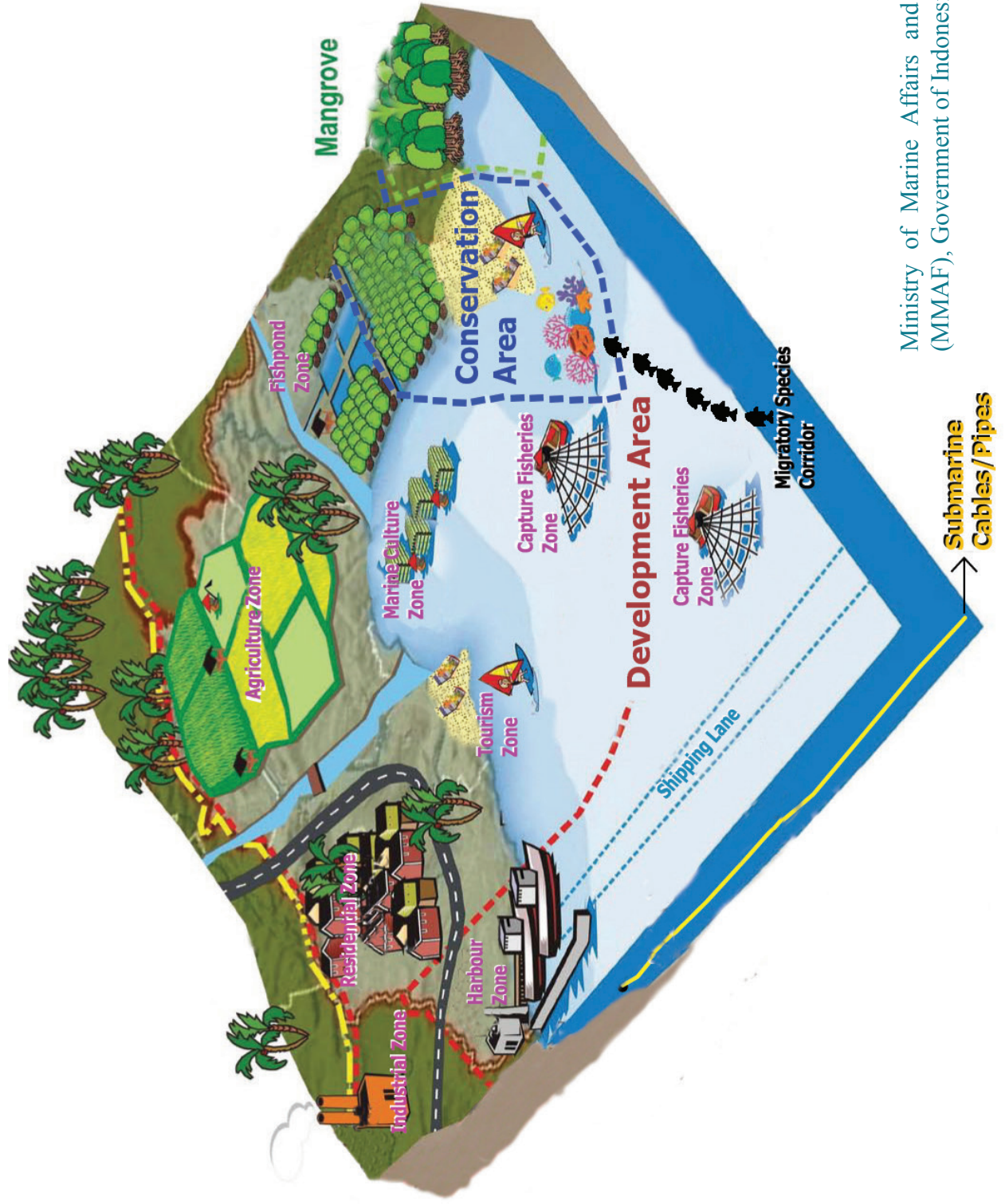
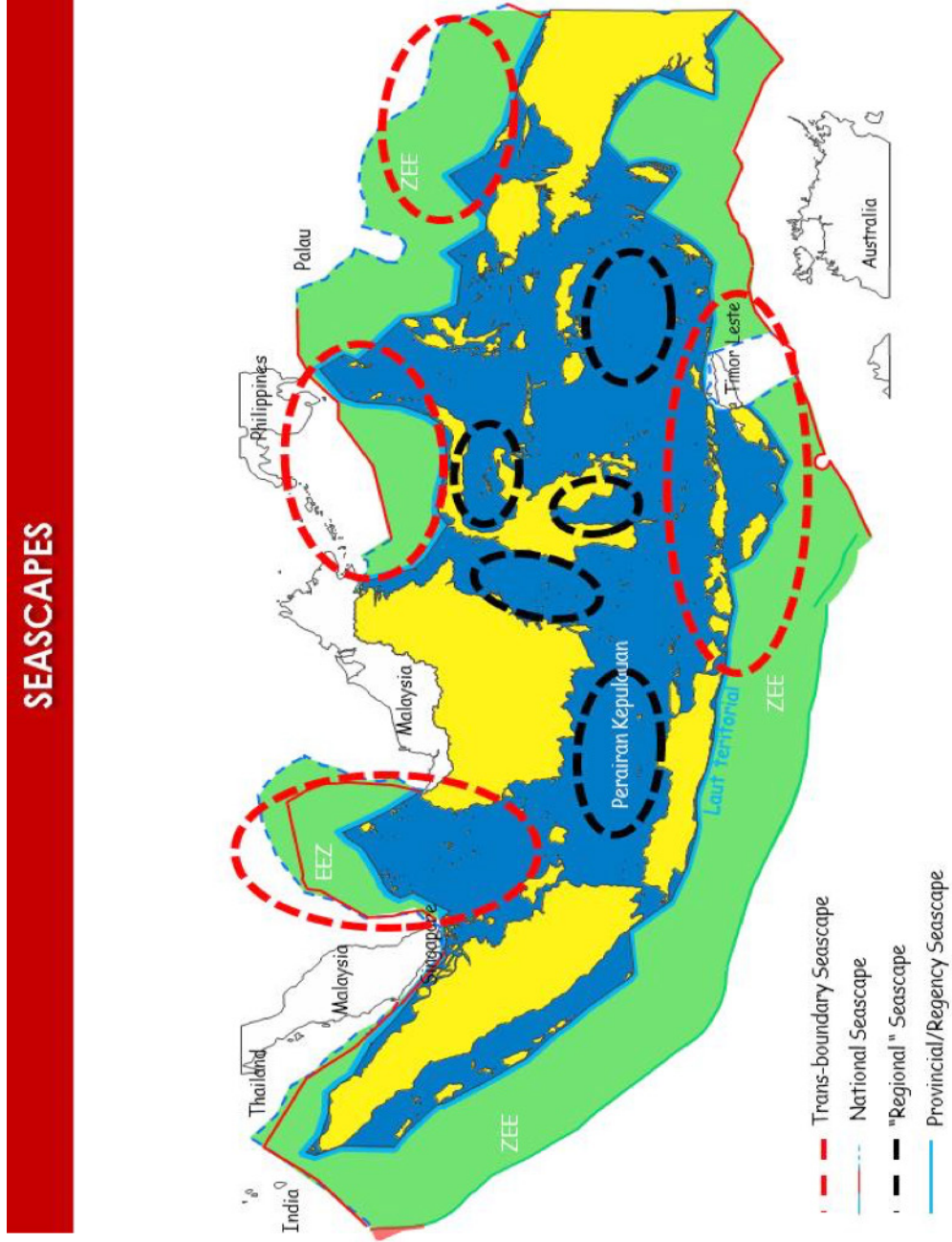


Diagram 2: Example Seascape Map



Ministry of Marine Affairs and Fisheries  
(MMAF), Government of Indonesia, 2014

Diagram 3: Example Seascape Map



## e. Abstracts of Country Case Studies

### **Case Study: Selection of Seascapes in the Philippines**

Protected landscapes and seascapes are one of the seven categories of protected areas under the National Integrated Protected Area System (NIPAS) Act of 1992. Under this law, landscapes and seascapes, or any protected area, are selected based on: biogeographic representation, naturalness, and ecological, social, cultural, economic, scientific and international significance.

On the other hand, seascapes under the CTI National Plan of Action correspond to marine biogeographic regions, which were previously delineated based on connectivity and dispersal features of ocean circulation, as well as, coral reef lifeform benthos and reef associated fish species. The Sulu-Sulawesi Seascape, a priority for seascape implementation in the Philippine National Plan of Action (NPOA), incorporates three marine biogeographic regions, i.e. Sulu, Celebes and Visayan seas. A second priority seascape was selected from the remaining regions, i.e. West Philippine Sea, North Philippine Sea and South Philippine Sea. The selection was guided by biophysical, socio-economic, institutional and governance criteria. Highest consideration was given to the biophysical criteria i.e. condition of MPAs or key marine biodiversity areas, extent of coral reefs, presence of endangered species, opportunities for corridor management, and the like. The process led to the identification of West Philippine Sea as the second priority seascape of the Philippines. (Full Case Study in Annex 5)

### **Case Study: The Sulu-Sulawesi Marine Ecoregion (SSME): Experience in Planning and Lessons Learned**

The Sulu-Sulawesi Marine Ecoregion (SSME) is a semi-enclosed large marine ecosystem that encompasses Indonesia, Malaysia and Philippines. It is globally significant because of its high biodiversity, highly productive ecosystems, economic importance to locals and global community, and social and cultural values. However, pressures from resource users and uses are also significant but potentials for multi-lateral cooperation to address transboundary issues exist. Large-scale conservation planning for the SSME followed the ecoregion approach, which includes the following steps: 1) reconnaissance, 2) detailed biophysical and socio-economic assessments, 3) formulation of a biodiversity conservation vision, 4) development of a stakeholders' ecoregion conservation plan, and 5) formal adoption of the plan and implementation by the countries of SSME. While planning, parallel conservation and capacity building activities are undertaken to keep the stakeholders engaged in the process. The formal adoption came in the form of a signed tri-national Memorandum of Understanding (2006-2016), which was ratified by the countries. Country mechanisms and a regional Tri-National Committee were formed to implement the plan at the country and regional levels. Additionally, three regional sub-committees were formed to implement regional action plans for marine protected areas and networks, sustainable fisheries and threatened, charismatic and migratory species. Implementation of country and ecoregion-level action plans is monitored by way of reporting to the regular meetings of



the sub-committees and the Tri-National Committee. While SSME was established using the ecoregion approach, it accommodated other approaches for large-scale management, e.g. Global International Waters Assessment for large marine ecosystems or LMEs. It also adapted the SSME plans to capture new developments in the region, e.g. climate change impacts. The SSME tri-national cooperation ended in 2016. With its recognition as a Priority Seascape under the Regional Plan of Action of the CTI-CFF, the SSME now known as the Sulu-Sulawesi Seascape, continues with the transboundary initiatives on MPA networks for migratory endangered sea turtles and ecosystem approach to fisheries management using CTI as the regional platform. (Full Case Study in Annex 4)

### **Case Study: Developing a Large-scale Marine Spatial Planning Framework for Effectively Managing the Lesser Sunda Ecoregion in Indonesia, a Priority Seascape for the CTI-CFF**

Lesser Sunda is located in the south-western part of the Coral Triangle covering the waters of two countries; Indonesia and Timor-Leste. It encompasses the chain of islands from Bali in the west to Timor-Leste in the east north along the Nusa Tenggara Islands and south to Sumba and Rote Islands. In one hand, Lesser Sunda has the very great ecosystem values, endemic marine species, marine biota migration routes. In the other hand, Lesser Sunda is also the area where marine economic development grows enormously, such as fisheries, tourism and shipping. Following those values, Lesser Sunda is considered to be the potential priority seascape for Indonesia.

In Lesser Sunda MSP, Lesser Sunda is divided into four areas based on key characteristics of the ecosystem, including existing conditions, levels of endemism, ecosystem sensitivity, and environmental services offered to local communities. The clustering approach is crucial to identifying how specific areas may receive disturbances and how an area's reaction will impact the management and concentration of activities allowed there. In addition, the clusters will be divided into sub-clusters to give more specific description about the characteristics of the areas. (Full Case Study in Annex 5)

## II. CTI-CFF Seascapes General Model

The following four sub-sections constitute the CTI-CFF Seascapes General Model. This model is optional guidance for the countries of the CTI. Individual countries are not obligated to comply with them<sup>4</sup>. The definitions, themes and tools are consistent with stated goals and values of the CTI<sup>5</sup> and are intended to provide initial steps and guidance for the identification, selection, designation, and planning of seascapes.

### a. Definition

“A large, multiple-use coastal and marine area, scientifically and strategically defined, in which governments, communities, private organizations, and other stakeholders cooperate, collaborate, and coordinate to manage for sustainable development, biodiversity conservation, and human well-being<sup>6</sup>.”

Supporting language (explanation):

- “Multiple use coastal and marine area” may include protected areas (e.g., marine reserve)
- “Strategically” includes in terms of national and/or regional interests; considers ecological, political, economic, and social aspects
- “Governments” includes local to national levels
- This definition may span two or more national jurisdictions (transboundary)
- “Biodiversity Conservation” – conservation of biological diversity and ecosystem processes which deliver goods and services

### b. Key Elements

Fifteen Key Elements are crucial to achieving Effective Governance, Ecological Well-being, and Human Well-being (Box 1). Each of the elements should be considered in the process of identifying, planning for, and implementing a CTI Seascape. However, CTI-CFF recognizes that every single Key Element may not apply to every seascape. All of the Key Elements should be considered and the most appropriate and applicable of them should be the focus of planning and implementation.

The Key Elements are grouped according to the area that they most contribute to, however, the CTI-CFF recognizes that the Key Elements can be defined and applied differently across the CTI<sup>6</sup>. Each Key Element is accompanied by a broad definition, which is intended to clarify meaning without restricting individual member country circumstances.

#### *Box 1: Key Elements*

1. Social Support
2. Political Will
3. Harmonized Policies & Regulations
4. Adequate Institutions and Partnerships
5. Sustainable Financing
6. Restoration of Critical Habitats
7. Maintenance of Ecosystem Services
8. Protection of Threatened & Critical Species
9. Fisheries Managed for Sustainability
10. Integrated Terrestrial & Marine Management
11. Respect for Customary Practices
12. Education & Awareness
13. Cultural, Gender, & Social Sensitivity
14. Sustainable Social & Economic Development
15. Climate Change Mitigation & Adaptation

4 Countries may use other established practices and processes relating to seascapes and are not obliged to follow the Seascapes General Model.

5 The Seascapes General Model is consistent with goals and values of the CTI and aligns with established frameworks and documents produced under the other four Goals. For example, ecosystem-based management is the designated management approach for Ecosystem Approach to Fisheries Management (EAFM) outlined in Goal 2 of the RPOA.

6 Individual countries may have their own national level definitions for seascapes. An example of this is the Philippines definition: “Protected landscapes/seascapes” are areas of national significance which are characterized by the harmonious interaction of man and land while providing opportunities for public enjoyment through the recreation and tourism within the normal lifestyle and economic activity of these areas”.

### *Effective Governance*

- Social Support – Support for seascapes activities from various social groups.
- Political Will – Support from and initiative taken by governing bodies to undertake seascape activities.
- Harmonized Policies and Regulations – Policies and regulations coordinated and harmonized across governing bodies and levels and between public and private sectors.
- Adequate Institutions and Partnerships – Adequate partnerships between efficient and capable governing bodies, public institutions, and private entities.
- Sustainable Financing – Secured, long-lasting, and self-sustaining financial support.

### *Ecological Well-being*

- Restoration of Critical Habitats – Critical habitats restored for overall ecosystem health and resilience.
- Maintenance of Ecosystem Functions – Ecosystem functions and their services maintained for overall ecosystem health and resilience and human well-being.
- Protection of Threatened and Critical Species – Threatened and critical species protected for overall ecosystem health and resilience.
- Fisheries Managed for Sustainability – Fisheries actively managed for the long-term availability of key resources.
- Integrated Terrestrial and Marine Management – Terrestrial and marine areas are managed in an integrated manner that recognizes the interconnectivity of ecosystems.

### *Human Well-Being*

- Respect for Customary Practices – Customary and traditional practices respected by governing bodies, public institutions, and private entities.
- Education and Awareness – Stakeholders and the general public educated on and made aware of seascape principles and activities.
- Cultural, Gender, and Social Sensitivity – Governing bodies, public institutions, and private entities undertake activities in a manner that is sensitive to different cultural, gender-based, and social constructs present.
- Sustainable Social and Economic Development – Social and economic development conducted in a manner that prioritizes the overall well-being of the environment and society in the long-term.
- Climate Change Mitigation and Adaptation – Impacts from climate change addressed through mitigation and adaptation activities.

## **c. Identification, Selection, and Designation**

The following section provides general guidance for the countries of the CTI in the process of identification, selection, and designation of seascapes. The bullet points below list important factors to be considered in this process. It is up to the discretion of each of the CTI countries to interpret and make use of the following guidance in the manner most appropriate for their national context.

### *Guidance for Seascape Identification and Selection*

- An area will have high biodiversity, socio-cultural and/or economic values or potential conflicts between different values and/or uses.

- Current management, governance mechanisms and management interventions (and scale) of the area are insufficient to address pressures and resource uses.
- Management of the area requires coordination, collaboration and management across different levels of government and sectors.

#### *Guidance for Seascape Designation*

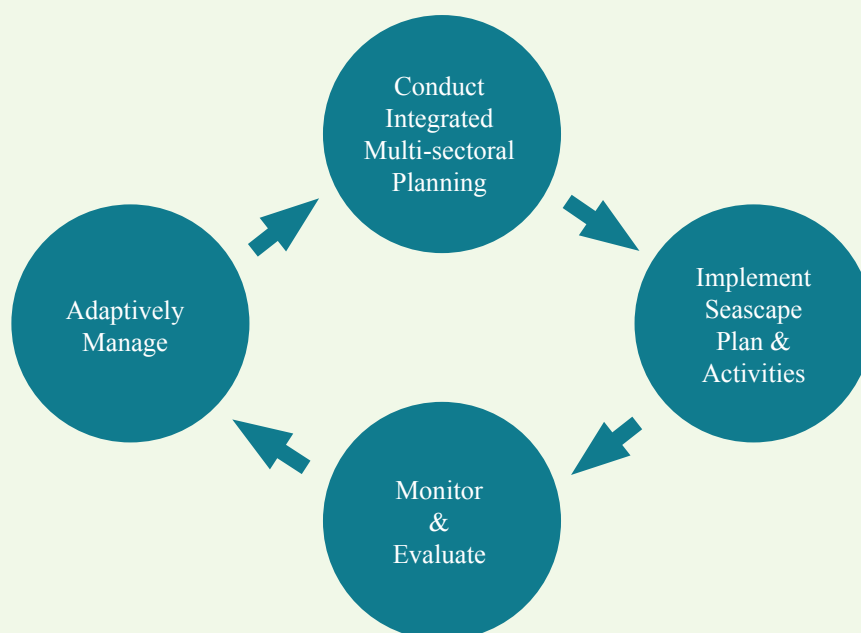
- Seascapes will be designated and planned appropriately and consider regional and national circumstances.
- The process for designation of a seascape may vary from country to country and must comply with relevant regional, national and local authorities and procedures.
- Seascapes will be designated by relevant government authorities (at different levels) that will provide the joint planning and coordination (can be across communities, municipalities, districts, provinces, countries).
- Seascape planning may at times precede designation according to individual country processes.

For further explanation and guidance, please refer to the case study “Seascape Selection in the Philippines” provided in Section I.e. as well as in Annex 5.

#### **d. Integrated Planning Model**

The process outlined in the Integrated Planning Model is intended to develop and effectively implement a seascapes plan with active participation and input across appropriate governing bodies and levels, public institutions, and private entities. The seascapes plan should incorporate Key Elements of CTI Seascapes and is meant to start by clarifying the specific purpose of doing the plan for that seascape. This can be driven by the issues, problems, and pressures. Seascapes should be designated and planned appropriately considering regional and national circumstances. It is up to the discretion of each of the CTI countries to interpret the following steps in the manner most appropriate for their national context.

Diagram 4: Integrated Planning Model



**Integrated Planning Model Steps:**

- Conduct Integrated Multi-sectoral Planning – This step refers to inter-organizational and inter-agency planning that promotes participation from various stakeholder groups.
- Implement Seascape Plan and Activities – This step refers to seascapes implementation following the express direction and parameters outlined in the Seascape Plan and Activities.
- Monitor and Evaluate – This step refers to the systematic gathering and analyses of information to measure progress.
- Adaptively Manage – This step refers to management that continually considers and adapts to changes and challenges discovered through monitoring and evaluation process.

For further explanation and guidance, please refer to the case studies “The Sulu-Sulawesi Marine Ecoregion (SSME): Experience in Planning and Lessons Learned” and “Developing a Large-scale Marine Spatial Planning Framework for Effectively Managing the Lesser Sunda Ecoregion in Indonesia, a Priority Seascape for the CTI-CFF” in Section I.e. as well as in Annex 5.

### **III. CTI-CFF Seascapes: Vision, Purpose, Objectives, and Geographic Scope**

The following Vision, Purpose, and Objectives represent a regional perspective on the role of this document and the intended conception of Priority Seascapes in the CTI.

#### **a. Vision for CTI-CFF Seascapes**

A set of seascapes across the Coral Triangle region is designated and sustainably managed with comprehensive investments and action plans that contributes to biodiversity conservation, food security, sustainable development and human well-being.

#### **b. Purpose of CTI-CFF Seascapes General Model and Regional Framework for Priority Seascapes**

The CTI-CFF Seascapes General Model and Regional Framework for Priority Seascapes explain how Priority Seascapes under the CTI-CFF are identified, established, planned, implemented, recognized, prioritized, evaluated, and tracked.

#### **c. Objectives for CTI-CFF Seascapes**

- Support regional, national and local collaboration, to recognize and designate priority seascapes for investment through the CTI-CFF.
- Strengthen the capacity of CT6 countries to establish and sustainably manage seascapes.
- Support the development and implementation of regional monitoring and evaluation indicators for seascapes.

#### **d. Geographic Scope for CTI-CFF Seascapes**

Seascapes can be geographically located in one or across multiple countries. They may not necessarily cover the entire exclusive economic zone (EEZ) of each country. The result could be a series of spatially disjointed seascapes across the region.

## IV. CTI-CFF Regional Framework for Priority Seascapes

The CTI-CFF Regional Framework for Priority Seascapes embodies the agreed upon Criteria, Operational Process, Designated Bodies, and Monitoring & Evaluation metrics that will be used to govern CTI-CFF Priority Seascapes. These parameters are not mandatory for countries to use within their own national jurisdictions; however, they will be used to determine whether a particular seascape is designated as a Priority Seascape under the CTI-CFF.

### a. CTI-CFF Priority Seascapes

Priority Seascapes are those seascapes, which can be trans-boundary and/or national, that have been evaluated based on the criteria and designated as “Priority” by the Council of Senior Officials and Council of Ministers.

The Sulu Sulawesi Seascape (also known as the Sulu Sulawesi Marine Ecoregion (SSME)), was the first Priority Seascape endorsed in the 4th Senior Officials Meeting in 2009 and adopted by the 2nd Council of Ministers Meeting in 2009.

#### Goals for the Designation of CTI-CFF Priority Seascapes

- Integrate the other goals of the CTI-CFF namely (reference official goals) sustainable fisheries, marine protected areas, climate change adaptation, and recovery of threatened species through an ecosystem-based management approach;
- Trans-boundary seascapes management may involve the collaboration of two or more national governments; and
- Provide an avenue for sustainable financing mechanisms that allow the region to sustain management efforts.

Diagram 5 depicts the process leading to a CTI-CFF Priority Seascape. It further shows how a seascape, whether it be trans-boundary and/or national, can become designated as a CTI-CFF Priority Seascape.

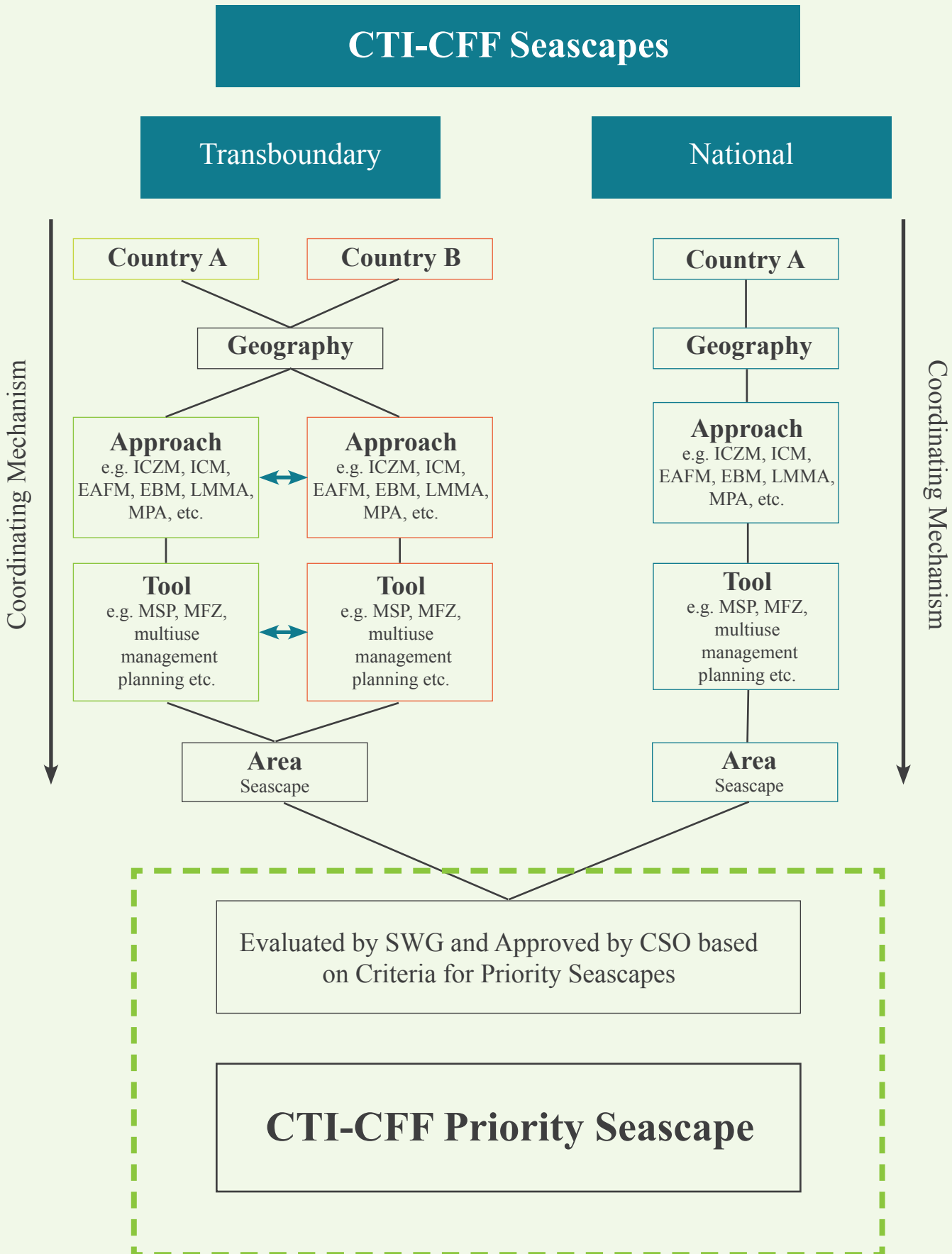
### b. Criteria for the Designation of CTI-CFF Priority Seascapes<sup>7</sup>

1. Each Priority Seascape demonstrates high values that bind and give purpose to the seascape. The specific high values of a Priority Seascape include at least three of the following:
  - Ecological significance (Examples: EBSA, KBA, migratory routes, nesting sites for sea turtles, etc.)
  - Biological productivity
  - Economic (Existing or potential)
  - Cultural / heritage values
  - Resilience
2. Demonstrates significant connectivity<sup>8</sup> within and outside the Priority Seascape in at least three out of the following ways:
  - a. Biological
  - b. Socio-Cultural
  - c. Institutional (local government networks, official or unofficial)
  - d. Economical

<sup>7</sup> Criteria for the designation of seascapes at the national level will be determined by national level agencies; however countries may use regional criteria as guidance.

<sup>8</sup> The word “connectivity” is defined as the state of being or being able to be connected. In this instance, connectivity can refer to biological connectivity, economic connectivity, social connectivity, etc.

Diagram 5: Example Seascape Process with Priority Seascape





3. There must be sustainable economic and/or other human activities overlapping with and adding pressure/potential threat<sup>9</sup> on the high values. (This is the justification for triggering the creation of a Priority Seascape.)
4. The following key enabling factors are present:
  - Political will
  - Governance
  - Stakeholder support, engagement
  - Opportunity (This may include collaboration and partnership, financial support, etc.)
5. A political and/or institutional enabling coordinating/governance mechanism is present (newly initiated or existing) in order to move the process of creating a seascape forward.

Examples of enabling coordinating/governance mechanisms: Bilateral formal cooperation, treaties, Memorandum of Understanding, international agreements, CTI-CFF, CTI-CFF Sub-group, project, etc.

6. Priority Seascapes should have and contribute to the regional and/or global benefit of the CTI. The regional and/or global benefit of a specific Priority Seascape can come from a wide variety of factors including:
  - Ecological Factors
  - Social and Cultural Factors
  - Economic Factors
  - Biological representation
  - Regionally unique or significant phenomenon
  - Geographic representation
7. Priority Seascapes have data and information available and accessible for decision making.

### **c. Designated Bodies**

The Operational Process for nominating, evaluating, endorsing and approval of Priority Seascapes involves the participation of several Designated Bodies. The roles and responsibilities of these bodies in the implementation of this process are outlined in the points below.

Council of Ministers (COM)

- Consider and adopt or reject endorsement from Committee of Senior Officials (CSO)

Committee of Senior Officials (CSO):

- Consider and approve/disapprove recommendations from the Seascapes Working Group (SWG)

National Coordinating Committees (NCCs):

- Nominate a Priority Seascape through SWG member
- Facilitate consultations in country
- Advisory body for implementation of a Priority Seascape
- Monitor and evaluate the Priority Seascapes to which they are party
- Identify the designated authority within the country to be the focal point for a Priority Seascape

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<sup>9</sup> Pressure in this context refers to the activities that are impacted high values in present time, while a threat refers to activities that have the potential to impact the high values in the future.

to which they are a party

#### Regional Secretariat (RS):

- Overall coordination of review, establishment, coordination, planning, implementation, monitoring and/or evaluation of CTI-CFF Priority Seascapes.
- Facilitates the review and approval by CSO and COM
- Coordinating with the NCCs and SWG
- Preparation of the documents
- Ensuring alignment with the RPOA including the relating Monitoring and Evaluation Working Group (M&E WG)
- Ensuring the CTI-CFF processes are followed
- Facilitate any proposals or projects submitted by the SWG for review and the NCC for approval
- Support the SWG to review and nomination of seascapes to be considered “priority”
- Establish and maintain a database for CTI-CFF Priority Seascapes

#### Seascapes Working Group (SWG):

- Review the nomination of the Priority Seascape based on the criteria
- If accepted, make the recommendation to the CSO through the RS, if not, the nomination is given back to the recommending country(ies)
- Review and/or establish coordinating, planning, implementing, monitoring and/or evaluating mechanisms for Priority Seascapes that may be a sub-group or a separate body/group
- Administration of monitoring and evaluation systems
- The SWG may establish an evaluation team to review the nomination of the Priority Seascape or perform other functions relating to the nomination as determined by the SWG with support from the RS

#### Sub-group:

- Carry out and perform activities tasked by the SWG
- They may be established and/or disbanded by the SWG
- The composition of the sub-group will be identified by the SWG in consultation with the NCCs

#### Partners:

- Support the development and implementation of CTI-CFF Priority Seascapes
- Communicate with both RS, NCCs, and SWG on activities and projects

### **d. Operational Process<sup>10</sup>**

The process shown in Diagram 6 below outlines how CTI-CFF Priority Seascapes are nominated, evaluated, endorsed and approved within the CTI-CFF. The sequence below is the pathway by which an individual seascape is designated as a “Priority Seascape” and applies to seascapes that are both national and trans-boundary in nature.

The evaluation of seascapes by both the SWG and the SOM (as referenced in the diagram) is conducted based on the aforementioned criteria. The diagram is color coded to indicate the four main bodies involved in the Operational Process:

- actions of the “Nominating Parties” (NCCs and members of the SWG who nominate a seascape) are located in orange hexagons,
- actions of the SWG are in the green diamonds,

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<sup>10</sup> The Mechanisms and Processes mentioned in this document apply only to regional CTI Priority Seascape designation and do not prohibit the formation of other seascapes.

- actions of the CSO are in the blue circle, and
- actions of the COM are in the pink triangle.
- the yellow rectangle indicates actions of both the SWG and nominating parties in the case of designated Priority Seascapes.

The Regional Secretariat plays an important role in supporting and facilitating this process. The roles and responsibilities of the RS and the groups listed above are outlined further in the previous section “Designated Bodies”.

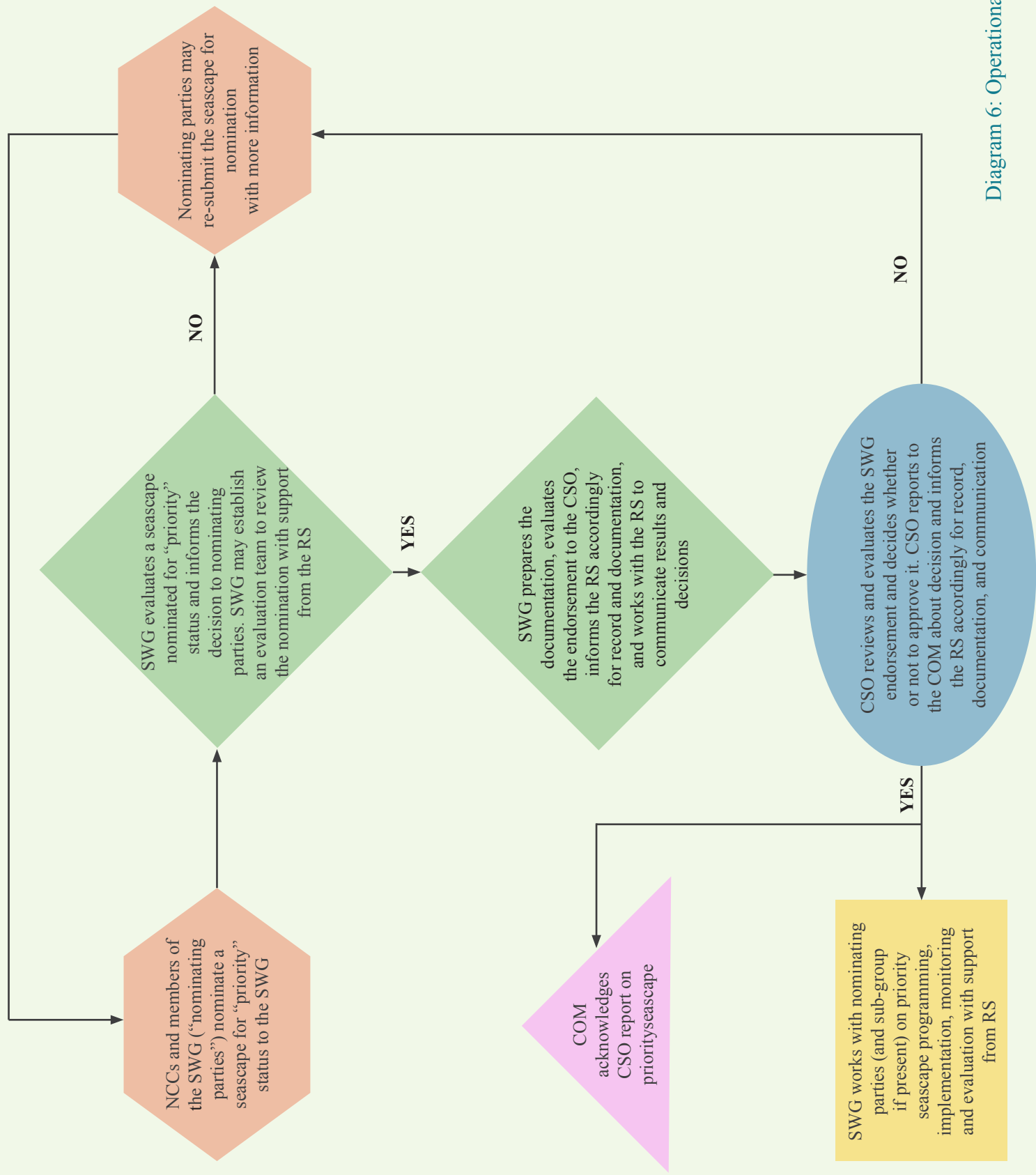


Diagram 6: Operational Process

In the Operational Process for the designation of Priority Seascapes in the CTI, the following rules must be followed:

Rules:

1. If the proposed seascapes boundary involves two or more countries, representatives to the SWG from each country must be involved in jointly nominating to SWG.
2. Any regional assessment on Priority Seascapes conducted by the Regional Secretariat must consult with NCCs and SWG.

#### **e. Monitoring and Evaluation**

The following set of indicators is intended to be used by the Regional Secretariat to monitor and evaluate the status of Priority Seascapes at the regional level. Individual Priority Seascapes will be monitored and evaluated based on indicators developing in the planning and implementation process. The Goal and Targets in the table below refer to those in the Regional Plan of Action.

## Goal 1: Priority Seascapes Designated and Effectively Managed

### Target 1.1 (Intermediate Result): “Priority Seascapes” designated, with investment plans complemented and sequenced by 2012

#	Level	Indicator	Description
Target 1	1	Number of Priority Seascapes designated	<p>A seascape is a large, multiple-use coastal and marine area, scientifically and strategically defined, in which governments, communities, private organizations, and other stakeholders cooperate, collaborate, and coordinate to manage for sustainable development, biodiversity conservation, and human well-being. Designation means that the seascape is recognized by national and/or transboundary/international agreements. The target for this goal is to designate a set of priority seascapes across the Coral Triangle to serve as the geographic focus of major investments and action during 2010 to 2020.</p> <p>Possible Sub-indicators:</p> <ol style="list-style-type: none"> <li>1. Establishment of committee and its functioning</li> <li>2. Stakeholder commitment from government and private sector and communities</li> <li>3. Rapid assessment to determine the baseline data, information</li> <li>4. Geographic boundary identified/confirmed</li> <li>5. Official recognition from the government (for example: diploma, proclamation, etc.)</li> </ol>
Target 2	2	Coordinating mechanism for each “priority seascape” functioning to guide, monitor and track efforts in the seascape/s	<p>A seascape is a large marine management area defined by ecological considerations. Designation means that the seascape is recognized by CTI mechanism. For each priority seascape, a corresponding mechanism exists for the sole purpose of managing that seascape. These coordinating mechanisms may be comprised of representatives from government, private sector, academic, civil society and/or other organizations at local, national, and/or regional levels.</p> <p>Possible Sub-indicators:</p> <ol style="list-style-type: none"> <li>1. Detailed assessment of the biological, socio-economic, institutional mechanisms, the management undertaken in the area, opportunities, pressures, etc.</li> <li>2. Appropriate mechanism for planning is in place</li> </ol>

Target 1	3	Number of Priority Seascapes with Action Plans and Investment Plans	<p>Comprehensive Seascape Investment Plans for each priority seascape are completed, along with an overall scheme for the sequencing of investments across the 10-year timeframe of the CTI Plan of Action. [2012].</p> <p>Possible Sub-indicators:</p> <ol style="list-style-type: none"> <li>1. Appropriate mechanism for planning is in place</li> <li>2. Process for developing the Actions Plans present</li> <li>3. Seascapes with Actions Plans</li> <li>4. Process for developing the Investment Plans present</li> <li>5. Seascapes with Investment Plans</li> </ol>
Target 2	4	Number of priority seascapes under continuous improved management based on the implementation of the Seascapes Action Plan	<p>Improved management will be defined for each seascape by benchmarks for integrated coastal management that includes criteria for effectively managed-marine protected area management, fisheries management, climate change adaptation, protection of threatened species and enforcement. The existence of and support for management plans that cover all or part of the seascape is also a prerequisite to qualify for “improved management” of the seascape, which as referenced in the RPOA, will draw upon experience, best practices, and lessons learned to date on key elements of seascape programs, such as (but not limited to): (i) governance through appropriate institutions; (ii) marine protected area (MPA) networks; (iii) selected management approach; (iv) private sector engagement; (v) enabling legal framework (conventions, laws, regulations, and policies); (vi) social and political support/commitment; (vii) sustainable financing; (viii) communications program; and (ix) scientific research and monitoring.</p> <p>Possible Sub-indicators:</p> <ol style="list-style-type: none"> <li>1. Appropriate mechanism for implementation in place</li> <li>2. Appropriate or required planning processes for the country or countries completed</li> <li>3. Enforcement system &amp; measurement of effectiveness of system (communities &amp; SH of the place)</li> <li>4. Communities are actively engaged in resource management</li> <li>5. Recognition, inclusion of appropriate traditional or customary law and resource management</li> <li>6. M&amp;E system in place to track progress on resource status and threats</li> <li>7. Dedicated and allocated financing</li> </ol>

## V. Annex 1

### Important Definitions for Large Scale Marine Management for CTI-CFF Seascapes

a. *Geographies for Large Scale Marine Management* - Geographies for large-scale marine management are often chosen based on analysis of major ecological features, major resource uses such as fisheries, and political jurisdictions depending on the scale of management, whether it be at the district, provincial, national or regional level.

- 1. Marine Protected Areas (MPAs):** A clearly defined geographical space, recognized, dedicated, and managed through legal or other effective means, to achieve long-term conservation of nature with associated ecosystem services and cultural values. MPAs include a wide variety of governance types (including community based areas), and include but are not limited to marine reserves where no extraction is permitted. (Dudley, 2008).
- 2. Marine Protected Area Networks:** A Marine Protected Area Network can be defined as “a collection of individual MPAs or reserves operating cooperatively and synergistically, at various spatial scales, and with a range of protection levels that are designed to meet objectives that a single reserve cannot achieve.” (TNC, 2008). Such a network can include several MPAs of different sizes, located in critical habitats, containing components of a particular habitat type or portions of different kinds of important habitats, and interconnected by the movement of animals and plant propagules. (IUCN-WCPA) (2008). A Marine Protected Area Network is often designed using criteria including ecological connectivity and representation of key habitats. MPA networks are often established to improve fish catch, to conserve biodiversity, or for a combination of these two reasons. They are usually placed so that larvae can migrate from MPAs to other, more impacted areas. There are also other types of MPA networks including Governance and Social or Educational Networks that do not necessarily depend on ecological connectivity but benefit one another through shared governance and/or shared learning.
- 3. Locally Managed Marine Areas (LMMAs):** The international LMMA network ([www.immanetwork.org](http://www.immanetwork.org)) defines an LMMA as an area of nearshore waters that is actively being managed in a ‘local’ practitioner context by residing or neighboring communities and/or families, or being collaboratively managed by both resident communities and local government representatives based in the immediate vicinity of the LMMA. LMMAs are usually managed to achieve local conservation and/or sustainable development objectives. Increasingly, the definition of LMMAs is being broadened to include all the marine, coastal, and terrestrial resources that a community traditionally owns or manages.
- 4. Locally Managed Marine Area (LMMA) Networks:** Networks of LMMAs have been designed and implemented to address concerns that LMMAs are often too small to result in ecosystem impacts and may not be designed with sufficient scientific guidance. LMMA networks have been designed in Indonesia to bring hundreds of thousands of hectares of marine and coastal area under management.
- 5. Ecoregions or Eco-region:** A large unit of land and water that contains a geographically distinct assemblage of natural communities sharing a large majority of species, dynamics, and environmental conditions, and consequently functions effectively as a conservation unit. (Omernik, 2004) The boundaries of an ecoregion are not fixed and sharp, but rather encompass



an area within which important ecological and evolutionary processes most strongly interact. The Global ecoregions recognize the fact that, whilst tropical forests and coral reefs harbor the most biodiversity and are the traditional targets of conservation organizations, unique manifestations of nature are found in temperate and boreal regions, in deserts and mountain chains, which occur nowhere else on Earth and which risk being lost forever if they are not conserved.

- 6. Ecologically or Biologically Significant Areas (EBSAs):** EBSAs are special areas in the ocean that serve important purposes, in one way or another, to support the healthy functioning of oceans and the many services that it provides (from the Convention on Biological Diversity). They are defined on criteria of any of

  - Uniqueness or Rarity
  - Special importance for life history stages of species
  - Importance for threatened, endangered or declining species and/or habitats
  - Vulnerability, Fragility, Sensitivity, or Slow recovery
  - Biological Productivity
  - Biological Diversity
  - Naturalness

drawing on available scientific and traditional knowledge (<https://www.cbd.int/ebsa/about>). As a part of the Convention on Biological Diversity (CBD), EBSAs are identified and conservation and management measures adopted by member States of the United Nations as well as competent intergovernmental organizations, in accordance with international law, including the UN Convention on the Law of the Sea. (EBSAs, 2016)
- 7. Particularly Sensitive Sea Areas (PSSAs):** A Particularly Sensitive Sea Area (PSSA) is an area that needs special protection through action by the International Maritime Organization (IMO) because of its significance for recognized ecological or socio-economic or scientific reasons and which may be vulnerable to damage by international maritime activities. When an area is approved as a particularly sensitive sea area, specific measures can be used to control the maritime activities in that area, such as routing measures, strict application of International Convention for the Prevention of Pollution (MARPOL) discharge and equipment requirements for ships, such as oil tankers; and installation of Vessel Traffic Services (VTS). PSSAs are under the jurisdiction of the IMO of the United Nations. (IMO, 2016).
- 8. Key Biodiversity Areas (KBA):** KBAs are defined by the United Nation’s Environment Programme World Conservation Monitoring Centre as, “Sites contributing significantly to the global persistence of biodiversity. They represent the most important sites for biodiversity conservation worldwide, and are identified nationally using globally standardized criteria and thresholds.” (<http://www.biodiversitya-z.org/content/key-biodiversity-areas-kba>).
- 9. Large Marine Ecosystem (LME):** Developed by the University of Rhode Island and National Oceanic and Atmospheric Administration, Large Marine Ecosystems generally exceed 200,000 km<sup>2</sup> in extent. There are 64 in total and they encircle nearly every continent and some large islands and island chains. Each LME has distinct bathymetry (depth), hydrography (tides, currents, and physical conditions of ocean waters), and biological productivity whose plant and animal populations are inextricably linked to one another in the food chain. Five information modules—biological productivity, fish and fisheries, pollution and health, socioeconomics, and governance—accompany each LME. They are intended to help scientists and managers understand and integrate the elements of monitoring, assessing and managing LMEs. (<http://www.lme.noaa.gov/>)

b. *Approaches to Large Scale Marine Management* - An approach to large-scale marine management outlines the vision, goal, and guiding principles of management as well as the range of features that will be included in this management effort.

1. **Ecosystem-Based Management (EBM):** A management framework that integrates biological, social, and economic factors into a comprehensive strategy aimed at protecting and enhancing sustainability, diversity, and productivity of natural resources. EBM “emphasizes the protection of ecosystem structure, functioning, and key processes; is place-based in focusing on a specific ecosystem and the range of activities affecting it; explicitly accounts for the interconnectedness among systems, such as between air, land, and sea; and integrates ecological, social, economic, and institutional perspectives, recognizing their strong interdependencies.” (McLeod et al., 2005)
2. **Ecosystem Approach to Fisheries Management (EAFM):** According to the Essential EAFM Ecosystem approach to fisheries management Training Course developed by FAO, EAFM is defined as follows, “EAFM is a more holistic approach to management that represents a move away from fisheries management systems that focus only on the sustainable harvest of target species, towards systems and decision-making processes that balance ecological well-being with human and societal well-being, within improved governance frameworks i.e. it is a practical way to achieve sustainable development. It addresses the multiple needs and desires of societies, without jeopardizing the options for future generations to benefit from the full range of goods and services provided by marine ecosystems (Garcia et al., 2003).” (Staples, et. al. 2014).
3. **Integrated Coastal (Zone) Management (ICM or ICZM):** An ecosystem approach to managing a coastal area. A continuous mechanism that involves a systematic process for managing competing issues in marine and coastal areas, including diverse and multiple uses of natural resources. ICM puts into practice effective governance, active partnerships, practical coordinating strategies, sustainable financial resources, and strengthened technical institutional capacities. Under ICM, decisions are made for the sustainable use, development, and protection of coastal and marine areas and resources. (Flower et al., 2013).

c. *Planning Tools for Large Scale Marine Management* - Planning Tools for Large Scale Marine Management are used to plan the implementation of a chosen management approach in a large marine area. This includes identifying the mosaic of uses, zones, regulations, and management actions that need to be in place to achieve large-scale management.

1. **Marine Spatial Planning (MSP):** Marine spatial planning (MSP) is a public process of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives that are usually specified through a political process. Marine spatial planning (MSP) is a practical way to create and establish a more rational organization of the use of marine space and the interactions between its uses, to balance demands for development with the need to protect marine ecosystems, and to achieve social and economic objectives in an open and planned way. The development and implementation of MSP involves a number of steps, including: (1) Identifying need and establishing authority; (2) Obtaining financial support; (3) Organizing the process through pre-planning; (4) Organizing stakeholder participation; (5) Defining and analyzing existing conditions; (6) Defining and analyzing future conditions; (7) Preparing and approving the spatial management plan; (8) Implementing and enforcing the spatial management plan; (9) Monitoring and evaluating performance; and (10) Adapting the marine spatial management process (Ehler and Douvère. 2009). Optimization software tools such as MARXAN can be

used to support spatial planning with a focus on systematic reserve planning software

2. **Marine Functional Zoning (MFZ):** Marine Functional Zoning has been used in China and other countries to achieve similar results as marine spatial planning. The process of MFZ was summarized as the following elements: preparatory work, collecting data, defining and analyzing present and future conditions, developing the zoning scheme, approving and revising the zoning scheme. (Fang, et. al. 2011)
3. **Ecoregional Planning:** Ecoregional planning is broadly defined as planning for regions delineated by natural boundaries. (Mason. 2011) While a generally accepted definition was not found, experience of the Coral Triangle and other regions around the world suggests that ecoregional planning typically focuses on identifying the optimal management mosaic to conserve biodiversity and ecosystem functions. Ecoregional planning does not typically go as far as Marine Spatial Planning or Marine Functional Zoning to recommend management zones but instead focuses on identifying the most critical areas for conservation management based on criteria including biological diversity, important taxonomic groups, key habitats, ecosystem functions, rare or unique biological phenomenon, and migration routes. Optimization tools such as MARXAN have been used to support ecoregional planning as have expert workshops. Organizations may choose to overlay a proposed ecoregional plan with considerations of human uses such as fisheries, development, mining, oil, and gas, tourism, and others as appropriate.
4. **Resource Management Planning:** Resource management planning involves the development of a detailed plan for managing natural resources within a particular area. Resource management planning includes identification of natural and social resources that are valued and therefore are targets for management, identification of threats to those resources and the cause of those threats, identification of potential strategies to address the threats, identification of objectives, outcomes, and activities that will lead to improved condition of the target resources. Here we separate the management planning process from the marine spatial planning process, although the two work hand and hand to result in effective management of a focal geography.

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## Annex 2

### Related International Agreements

This annex provides additional information to supplement Section I.b.i. Seascapes Roles in International and National Policy. The following eight frameworks are interlinked with one another addressing both marine and coastal conservation and economic development:

1. UN Sustainable Development Goals (SDGs)  
<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>
2. Paris Climate Agreement, UN Framework Convention on Climate Change (UNFCCC)  
<http://unfccc.int/2860.php>
3. Aichi Biodiversity Targets, UN Convention on Biological Diversity (CBD)  
<https://www.cbd.int/sp/targets/>
4. UN Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)  
<https://www.cites.org>
5. UN Convention on the Conservation of Migratory Species of Wild Animals (CMS)  
<http://www.cms.int/>
6. UN Convention on the Law of the Sea (UNCLOS)  
[http://www.un.org/depts/los/convention\\_agreements/texts/unclos/closindx.htm](http://www.un.org/depts/los/convention_agreements/texts/unclos/closindx.htm)
7. UN Fish Stocks Agreement (FSA) [http://www.un.org/depts/los/convention\\_agreements/convention\\_overview\\_fish\\_stocks.htm](http://www.un.org/depts/los/convention_agreements/convention_overview_fish_stocks.htm)
8. International Maritime Organization (IMO)  
<http://www.imo.org/en/Pages/Default.aspx>

The following table indicates which of these agreements have been ratified by countries of the CTI-CFF. This table is current as of January 31, 2017.

	<i>UN Sustainable Development Goals (SDG)</i>	<i>Paris Climate Agreement, UN Framework Convention on Climate Change (UNECCC)</i>	<i>Aichi Biodiversity Targets, UN Convention on Biological Diversity (CBD)</i>	<i>UN Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)</i>	<i>UN Convention on the Conservation of Migratory Species of Wild Animals (CMS)</i>	<i>UN Convention on the Law of the Sea (UNCLOS)</i>	<i>UN Fish Stocks Agreement under UNCLOS (FSA)</i>	<i>International Maritime Organization (IMO)</i>
Indonesia								
Malaysia								
Papua New Guinea								
Philippines								
Solomon Islands								
Timor-leste								

The following table indicates which of the Aichi Targets of the UN Convention on Biological Diversity (CBD) relate directly to seascapes implementation.

<b>Target</b>	<b>Description</b>
1	By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.
2	By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.
4	By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.
5	By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.
6	By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.
7	By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.

10	By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.
11	By 2020, at least 17 percent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.
12	By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.
14	By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.
15	By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 percent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.
18	By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.
19	By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.

The following table indicates which of the Sustainable Development Goals (SDGs) relate directly to seascapes implementation.

Goal	Description
1	End poverty in all its forms everywhere
2	End hunger, achieve food security and improve nutrition and promote sustainable agriculture
5	Achieve gender equality and empower women and girls
8	Promote inclusive and sustainable economic growth, employment and decent work for all
9	Build resilient infrastructure, promote sustainable industrialization and foster innovation
10	Reduce inequality within and among countries
11	Make cities inclusive, safe, resilient and sustainable
12	Ensure sustainable consumption and production patterns
13	Take urgent action to combat climate change and its impacts
14	Conserve and sustainably use the oceans, seas and marine resources



## Annex 3

### Seascape Concept

#### Republic of Indonesia

To manage the ocean uses sustainably we need an integrated approach which is already available in form of integrated coastal and ocean management (ICOM). As an approach ICOM itself is not operational unless it is translated in other tools. In particular, ICOM as management approach need more detailed level of approach in form of ocean use planning.

If we look at Indonesia as an example, ICOM approach is applied and implemented through several planning measures and tools. There are two planning approaches. First, in term of generic planning we use marine/ocean strategic planning; second, in specific planning we use marine spatial planning.

Spatially, ICOM is implemented and operationalized through Marine Spatial Planning (MSP)/Marine Functional Zoning (MFZ). MSP/MFZ translates strategic issues within strategic plan which have been publicly consulted and agreed into spatial uses of sectors e.g. fisheries, conservation, and tourism.

In that case, individual planning approach, such as marine protected areas or fisheries management is not sufficient to manage the marine/ocean uses. MPA is not independent from other ocean uses by other sectors. MPA requires marine spatial planning/marine functional zoning to avoid sector activities that are not compatible with MPA objectives e.g. mining. Seascapes then can utilize this existing approach (ICOM) and even optimize it by providing broader context where MSP/MFZ cannot accommodate. For example, seascapes can go beyond administration jurisdiction (trans-boundary (“regional” in international perspective)) whereby seascapes provide geographical context (i.e. Sulu Sulawesi, Lesser Sunda, Bird Head). MSP/MFZ is a tool to implement ICM within the Seascape whereby usually based on specific administrative boundary (Province, regency, etc.) or geographical boundary (“Regional” in national perspective such as Bay, Strait, and Sea that covers seascapes more than one province) and it is used a basis for permitting system which is administered by government agency. In this regards it is right that seascapes, ICOM, and MSP/MFZ are complement each other and even need each other to make it operational effectively to manage all ocean/marine uses. By definition, Seascapes is:

A large, multiple-use marine area, scientifically and strategically defined, in which governments, communities, private organizations, and other stakeholders cooperate, collaborate, and coordinate to manage for sustainable development, biodiversity conservation, and human well-being.

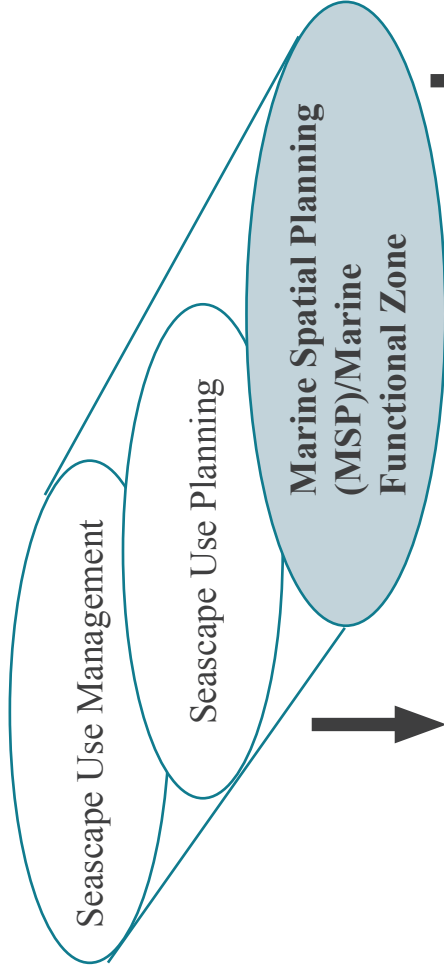
Hereby, MSP/MFZ is the umbrella for the other Seascape Use Management tools, such as MPA, Fisheries management, Tourism Management, Mining Management. In this context, MSP/MFZ should come first before those other management tools. However, the reality in CTI – CFF the progress of SWG is left behind than other working groups. So, Seascape Use Management does not follow the framework as expected.

Nonetheless, existing other seascape use management will be adopted into MSP/MFZ with some adjustments if any.

**INTEGRATED COASTAL MANAGEMENT/ICM (APPROACH)**



**SEASCAPE (AREA)**



**Seascape Use Management Plan**

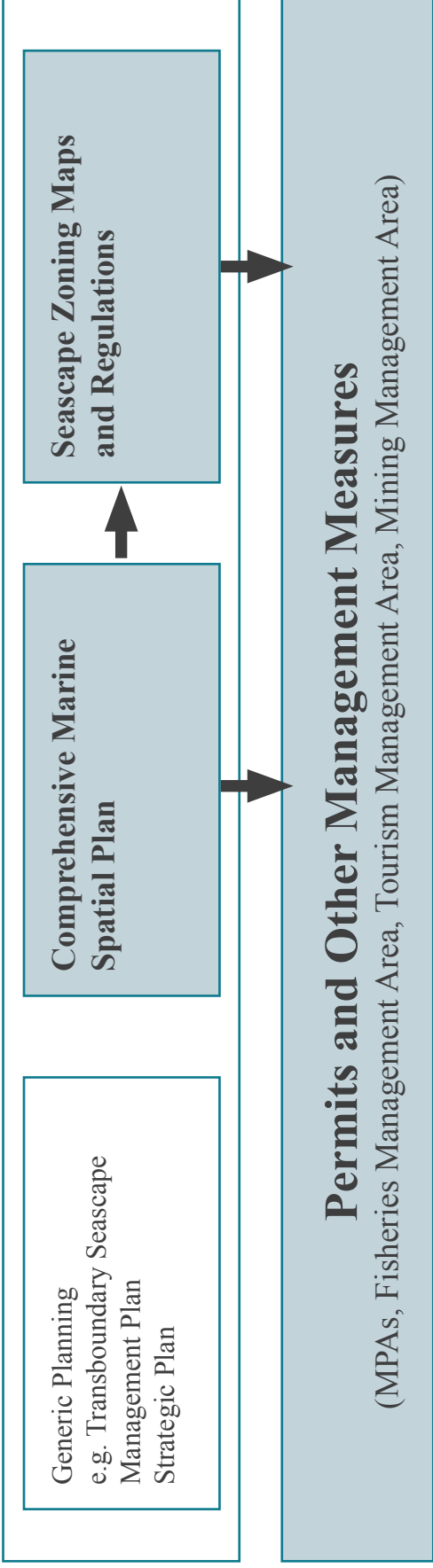


Figure 1

Figure 1 shows that ICOM as an approach is the basis of thought for managing the seascape. ICOM provides the way of thinking and framework how seascape should be managed. On the other hand, Seascapes provide the geographical scope which can go beyond administrative boundary and specific administrative boundary for the management of ocean and coast.

In managing ocean, we need planning at the first place that will lead the way on how this seascape management will be conducted. Basically, there are two types of planning, namely non-spatial planning/generic planning and spatial planning. Spatial planning answers the question where the activities will be taken place, what activities that are compatible or incompatible spatially, while non-spatial planning deals with the question of what is the objectives and targets of our management, how to achieve those objectives and targets, what strategies need to be done, when will they be achieved and who will do those strategies. In this context, spatial and non-spatial planning are the tools for implementing the ICOM.

Both, spatial and non-spatial planning may have certain forms/document depending on the needs and its focus. For example, in non-spatial planning there is strategic planning because it plans strategic actions. In Spatial planning, there is Marine Spatial Planning (MSP)/Marine Functional Zoning (MFZ) because it plans seascape.

As we can see from the Figure 1, a comprehensive MSP/MFZ should be connected with the non-spatial planning (generic planning) that provides the guidance for the MSP/MFZ in determining the objectives, strategies and targets that will be taken place. As the result, a comprehensive MSP/MFZ will produce Seascape Zoning Maps and Regulations. Zoning maps speak about where the activities will be taken place and their connectivity with other activities. While the zoning regulations speak about things that are allowed, forbid/not allowed or allowed under some conditions within particular zones and activities. Thus, based on zoning maps and regulations we can measure how the management of certain area is conducted. One of the tools that we can use for measuring it is to apply system permits. With the permits system, which controls the utilizations of the seascape use.

In Figure 2 explains that MSP/MFZ allocates the marine resources within the seascape. Marine resources are living resources, non-living resources, artificial/man-made resources, and environmental services. Resources not only can be utilized but also should be conserved. The allocation of space in MSP/MFZ can be divided into 4 : 1) public utilization area for the uses to generate economic growth and distribution; 2) conservation area to conserve and protect resources which their existence or their quality are threatened; 3) sea lanes for the resources that flows within the sea; 4) and for certain areas that are prioritized for the needs of economic acceleration or sensitive areas due to their unique resources/locations or restricted area due to defense and security issues.

Public Utilization Area can be used to develop economic opportunities such as fisheries, tourism, port, mining, etc. Meanwhile, the needs for preserving and conserving resources can be allocated under the conservation area or MPA, to protect coastal ecosystem (coral reefs, mangroves, sea grass) or spawning the locations of marine species. The connectivity of seascape need to be allocated under the sea lanes such as shipping lanes for transportation, or submarine cables and pipes, or migratory routes of marine species. MPA in many cases and in particular for Indonesia also has multipurpose or objectives. Protection of habitats does not exclude other sustainable uses. Therefore, within the MPA or marine conservation area fishing, aquaculture, and eco-tourism are allowed under very strict limitation according to MPA carrying capacity and mitigation of impacts.

In this context, allocation of certain resources use in MSP/MFZ provides the geographical scope for specific management plan of the resources. For example, we can use fisheries management plan to fulfill the specific plan of fisheries zone. Marine Protected Area (MPA) Management can be delivered

to manage the conservation area. We can also generate the MPA network using the migratory species lanes once they are delineated within the zoning map.

Although MSP/MFZ provides geographical scope for specific management plan, MSP/MFZ itself needs geographical scope for it is to be arranged. Geographical scope for MSP/MFZ is important for scaling-up and scaling-down the information level and level of substances of the plan. Here in this context, Seascape can play the role as the geographical scope of MSP/MFZ. On the other hand, MSP/MFZ can play the role as the tools for achieving the Seascape objectives and targets. Thus, the relationship between Seascape and MSP/MFZ can go either way.

By the time we see Seascape as the geographical scope for MSP/MFZ, we need to level the geographical setting of both seascape and MSP/MFZ. As we can see in Figure 3 below, Seascape can be level up from the trans-boundary to national and domestic administrative geographical scope. In trans-boundary seascape such as SSME (Indonesia, Malaysia and Philippines) we may not deliver MSP/MFZ for SSME because each country may have different planning system and it is very difficult to delineate space allocation. However, we can deliver coordination, collaboration and corporation between countries on how SSME should be managed and its objectives and targets for the benefit of each country and the regional constellation. Those things provide inputs for the MSP/MFZ in the national level.

MSP/MFZ in the national level produces policies and strategies on how allocating marine resources spatially. It may also define seascapes within national level. They can be assigned as trans-provincial (“regional”) boundary seascapes. In this matter, MSP/MFZ then can be conducted based on “regional” geographical scope of the seascapes such as bay/gulf, strait and inner sea or it can be conducted based on the administrative boundary such as provincial level, regency, or districts. MSP/MFZ at this level produces zoning maps and regulations as the basis of permits granted and other management measures. The third figure also shows how MSP also can be seen as a tool for ecosystem based management. EBM is considered as a management of trans-boundary (regional) seascapes. Trans-boundary Seascapes must have common objectives, common strategies, and common targets which will be implemented in each country in coordinated way.

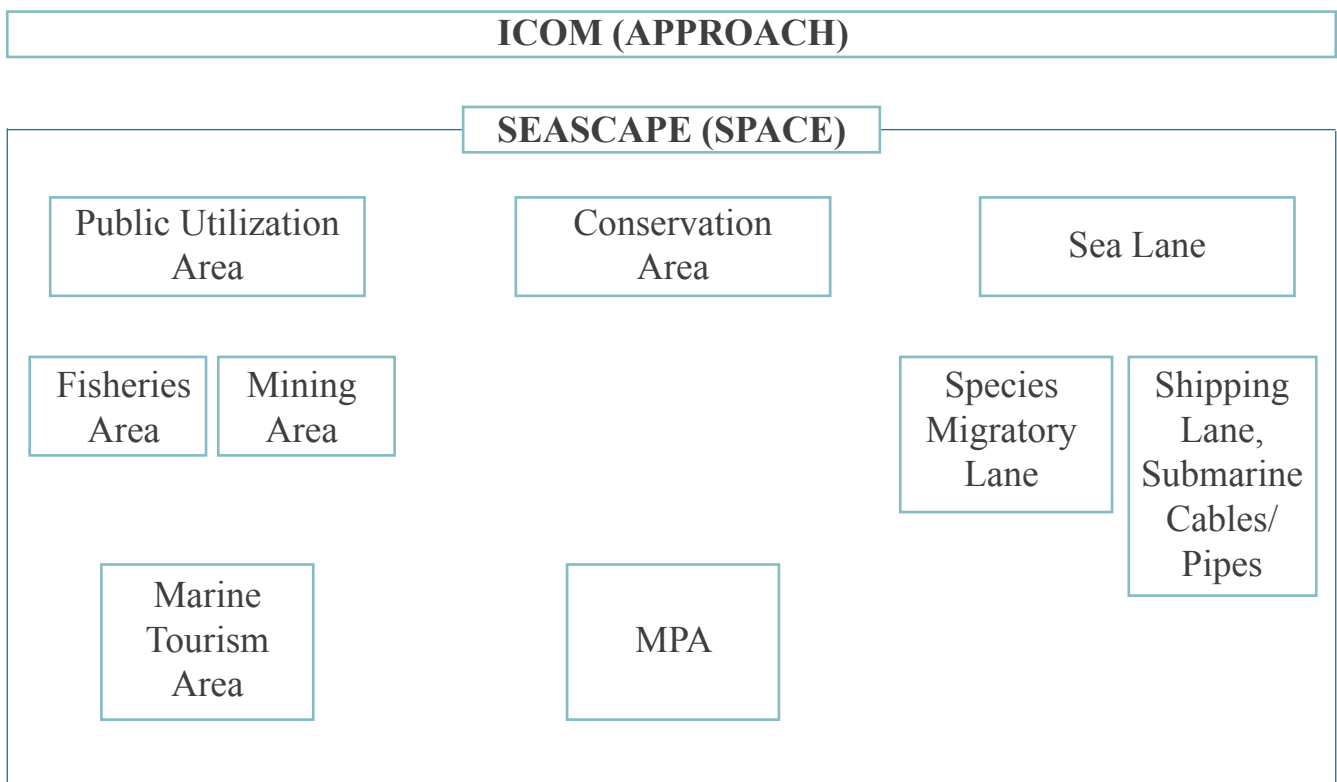


Figure 2

# MARINE SPATIAL PLANNING (MSP)

Allocating parts of three-dimensional marine spaces to specific uses or non-use, to achieve **ecological, economic and social objectives**.

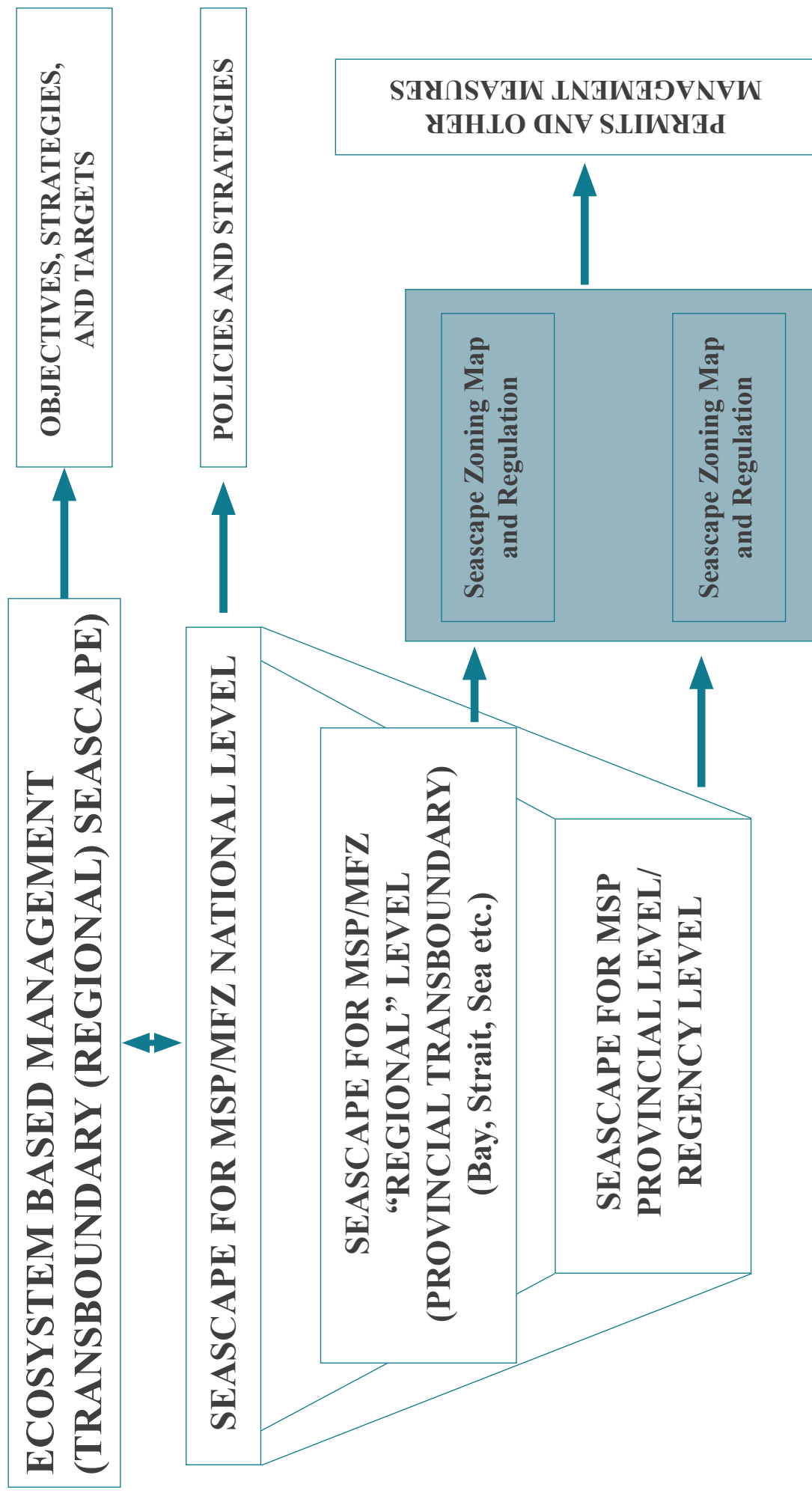


Figure 3

# SEASCAPES

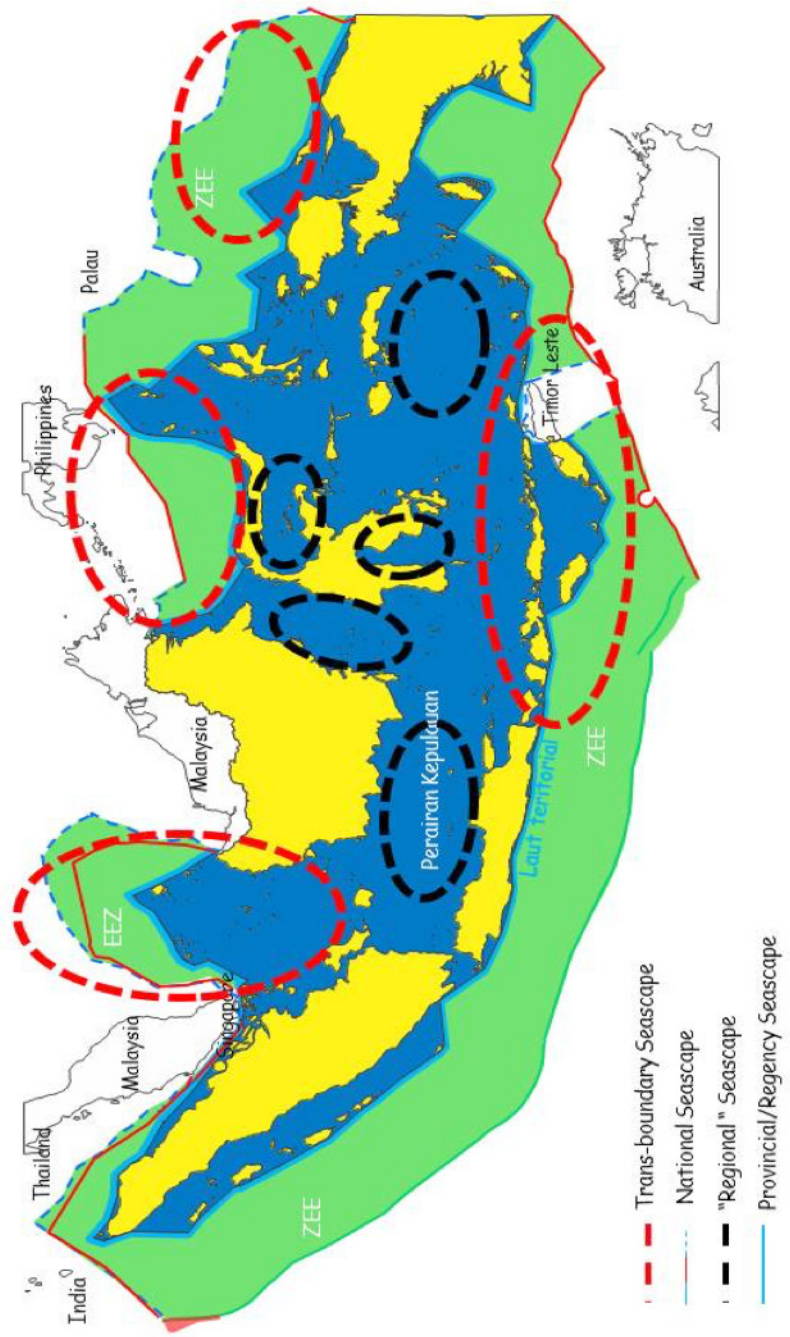


Figure 4

## Annex 4

### THE SULU-SULAWESI MARINE ECOREGION (SSME): EXPERIENCE AND LESSONS LEARNED IN PLANNING AND IMPLEMENTATION

By:

Department of Environment and Natural Resources - Biodiversity Management Bureau, Philippines  
Ministry of Agriculture and Food Industry - Department of Fisheries - Sabah, Malaysia  
Ministry of Marine Affairs and Fisheries, Indonesia  
and  
Conservation International Philippines

#### Introduction

Marine biogeographic areas are termed differently depending on the management approach applied.

- Large marine ecosystems or LMEs – global units for resource management, which built on the Regional Seas Program of UNEP in the 1990s (Shermann, 1993; Dahl, 1993).
- Ecoregions – terminology used by World Wildlife Fund (WWF) to mean large areas for a representation approach to conserving biodiversity (Olsen and Dinerstein, 1998)
- Seascapes – terminology used by Conservation International (CI) to mean large multiple-use geographies of biological and ecological importance with emphasis on multi-sectoral and multi-level governance and coalition building approach (Atkinson et al., 2011).

Sulu-Sulawesi followed the ecoregion approach, thus termed Sulu-Sulawesi Marine Ecoregion (SSME).

#### Significance of the SSME

The SSME encompasses Indonesia, Malaysia and Philippines (Figure 1). It is important to the three countries due to the following:

- Highly significant marine biodiversity – e.g. marine flora, giant clams, corals, reef fishes including Napoleon Wrasse, sharks and rays, coelacanths, pelagic fishes, sea birds, endangered marine turtles, marine mammals
- Highly productive coastal ecosystems – e.g. coral reefs, seagrass beds, mangrove forests
- Ecological and evolutionary processes – e.g. upwelling areas, fish spawning sites, migration routes
- Economic importance – e.g. fisheries, tourism, transportation and navigation
- Socio-cultural significance – e.g. >50 cultural groups depending on resources across Indonesia, Malaysia and Philippines; source of food and livelihood of 3 countries; supplies food to international community
- Unmanaged and escalating pressures on resources can compromise ecological integrity and goods and services it delivers to human populations.
- High potentials for joint effort and multi-lateral cooperation for biodiversity conservation and sustainable development with focus on addressing transboundary concerns

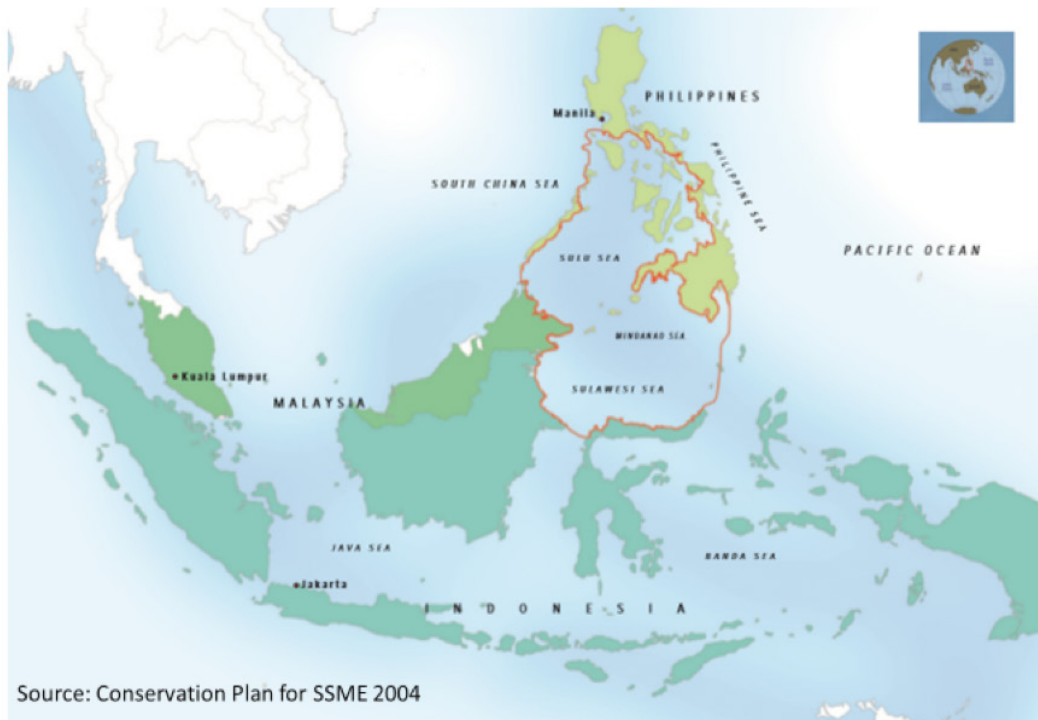


Figure 1. The Sulu-Sulawesi Marine Ecoregion

### Planning in the SSME

Planning for the conservation and sustainable development of Sulu-Sulawesi followed the ecoregion approach (WWF, 1998) with some modifications to suit the conditions in this ecoregion (Figure 2) (Miclait et al., 2006). Key steps included:

- **Reconnaissance** – a pre-planning step wherein a quick assessment of the important characteristics - biological, ecological and socio-economic – of Sulu-Sulawesi, as well as, identification of pressures and opportunities were undertaken. This step was necessary in deciding if this ecoregion would be worth the conservation investments.
- **Biophysical Assessment** – this was a detailed assessment of the biodiversity, which characterized the SSME: important marine taxa, e.g., marine plants, corals, fishes, marine mammals; important marine areas: e.g. habitats of important taxa, productive ecosystems, and areas that support ecological and evolutionary processes, and marine corridors. Since SSME is a transboundary seascape and encompasses three countries (Indonesia, Malaysia and Philippines), biophysical assessments were done by each country and then integrated into an ecoregional assessment.
- **Socio-economic Assessment** – this was the assessment of the uses and users of the resources of the SSME. This included information on policies, institutions, pressures, and related management initiatives. Information was collected from each of the SSME countries and then integrated into an ecoregional assessment.
- **Biodiversity Vision** – the 50-year Conservation Vision for SSME was developed through a regional technical exercise participated in by leading marine scientists, resource managers, and conservation practitioners in the SSME countries. Taking the results of the **Biophysical Assessment**, the formulation of the vision involved overlays of important areas, and, identification of 58 priority conservation areas that represent the full range of biodiversity and



key ecological processes that sustain the SSME (Miclát and Trono, 2002).

- **Ecoregion Conservation Plan (ECP)** – the 10-year Conservation Plan for SSME was developed through 12 stakeholders' workshops: 6 local and 1 national in the Philippines; 2 local and 1 national in Indonesia; 1 national workshop in Malaysia; and 1 tri-national workshop. Considering the results of the **Socio-economic Assessment**, the stakeholders identified actions that could be implemented in 10 years as initial steps towards achieving the **Biodiversity Vision** (Dumaup et al., 2003).
- **Government adoption and implementation** – the ECP was adopted and implemented by the countries of SSME by virtue of a signed and ratified tri-national Memorandum of Understanding (2006-2016). This is an important step so that the countries could integrate SSME into their national and regional priority programs and engage partners and stakeholders to also take actions and support priority programs.

## **Lessons learned:**

### **On planning**

A modification from the ecoregion approach that was adopted for SSME was the implementation of conservation activities through collaborative efforts, while planning, and the formation of building blocks of the in-country and transboundary mechanisms for SSME governance. Examples of conservation activities were enforcement in key sites, development of framework for fisheries management, formulation of a Framework for Network of MPAs in the SSME (Llwellyn et al., 2004) and information, education and communication. Implementation of activities, which demonstrated potentials for ecoregion conservation, motivated stakeholders to participate in planning. (Lessons learned in planning are articulated in Miclát et al., 2006.)

### **On governance**

The formation of interim mechanisms, i.e. country Technical Working Groups and a three-country Preparatory Committee, were necessary to facilitate planning and formalize transboundary cooperation. In SSME, formalization of cooperation was through a signed and ratified tri-national MOU. Following MOU ratification, the Preparatory Committee ceased to function and a Tri-National Committee was formed to oversee the implementation of the ECP at the country and regional levels. The Tri-National Committee created three sub-committees: 1) Marine Protected Areas and Networks, 2) Sustainable Fisheries, and 3) Threatened, Charismatic and Migratory Species (Challenges and opportunities in governance building are detailed in Miclát and Trono, 2008).

### **On plan implementation**

The Tri-National Committee is the forum to discuss the implementation of the ECP for SSME. The ECP contained 3 country Action Plans and 1 Ecoregion-level Action Plan according to the 10 objectives that were aligned to the Biodiversity Vision. The SSME had no specific indicators for measuring ECP implementation since the Plan itself had to be broad for it to be acceptable to the countries. However, annual meetings of the SSME sub-committees and annual or biannual meetings of the Tri-National Committee were venues to monitor progress of country and ecoregional implementation of action plans (Functional transboundary governance is described by SSME Tri-National Secretariat in Malaysia, 2008).

### **On adaptive management**

- The Tri-National Committee noted and followed the progress of the formation of a multi-

lateral partnership called the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF). Thus in 2009, at the 4th Meeting of the Committee, the SSME countries issued a Joint Communiqué that included a statement, "... the Parties resolve to work with and in consonance with the Coral Triangle Initiative reflective of their common goals and objectives" (SSME, 2009). Representation of members of the Tri-National Committee with support from Conservation International (CI) Philippines at the CTI meetings that followed made possible the recognition of SSME as a Priority Seascape in the Regional Plan of Action (RPOA) of CTI-CFF ([www.coraltriangleinitiative.org](http://www.coraltriangleinitiative.org)). This move was perceived as one of the ways to strengthen the SSME program and for SSME countries to contribute capacities earned in transboundary governance to the Coral Triangle Region. Since the SSME MOU (2006-2016) has ended, the CTI-CFF provides a fresh platform for the sustainability of the programs of the SSME, which is now termed, the Sulu-Sulawesi Seascape.

- The Tri-National Committee noted two developments in the region and acted accordingly: 1) the recognition of SSME as a Priority Seascape in the CTI-CFF RPOA, and 2) the emergence of climate change impacts as a regional issue. In view of these and the need to source external funds to enhance the SSME programs, the three Sub-Committees, through the technical support of CI Philippines and funding from the Asian Development Bank (ADB), developed the Comprehensive Action Plan for SSME (ADB, 2011). The Comprehensive Action Plan (CAP) updated the Ecoregion Conservation Plan by adding two new conservation outcomes, i.e. 1) on SSME contribution to CTI as a model seascape and 2) on resilient habitats and communities adapting to impacts of climate change. The CAP takes the form of an Investment Plan, which guided the identification of priority programs for implementation in-country and across countries and in sourcing internal and external funding.
- While the SSME was established based on the ecoregion conservation approach, it accommodated other approaches for large-scale management. For example, in developing a Strategic Action Program (SAP), the SSME utilized the Global International Waters Assessment, a GEF-promoted approach for LMEs. The assessment included the review of the SSME boundary, a transboundary diagnostic analysis of environmental problems, and prioritization of transboundary problems to guide the development of the SAP. Among the results were: 1) the adjustment of SSME boundary to include watersheds because of the impact of activities in the watershed to marine ecosystem and 2) the analysis of root causes of top environmental problem, which is unsustainable exploitation of fish. Based on this top priority problem, a Regional Strategic Action Program (RSAP) for the Sustainable Fisheries Management was developed through partnership between the SSME Sub-Committee on Sustainable Fisheries, CI and GEF-UNDP (SSME, 2013).

#### Notes:

- Lessons learned in SSME planning and implementation have fed into the development of the Seascapes General Model under the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF).
- To date, SSME initiatives, i.e. MPA networks for migratory marine turtles with fisheries and climate change components, continue under the CTI-CFF Framework, as CTI Sulu-Sulawesi Seascape projects with funding support from ADB and BMUB-GIZ.
- National Action Plans embodied in the RSAP for Sustainable Fisheries Management are implemented as government programs in Sulu-Sulawesi.

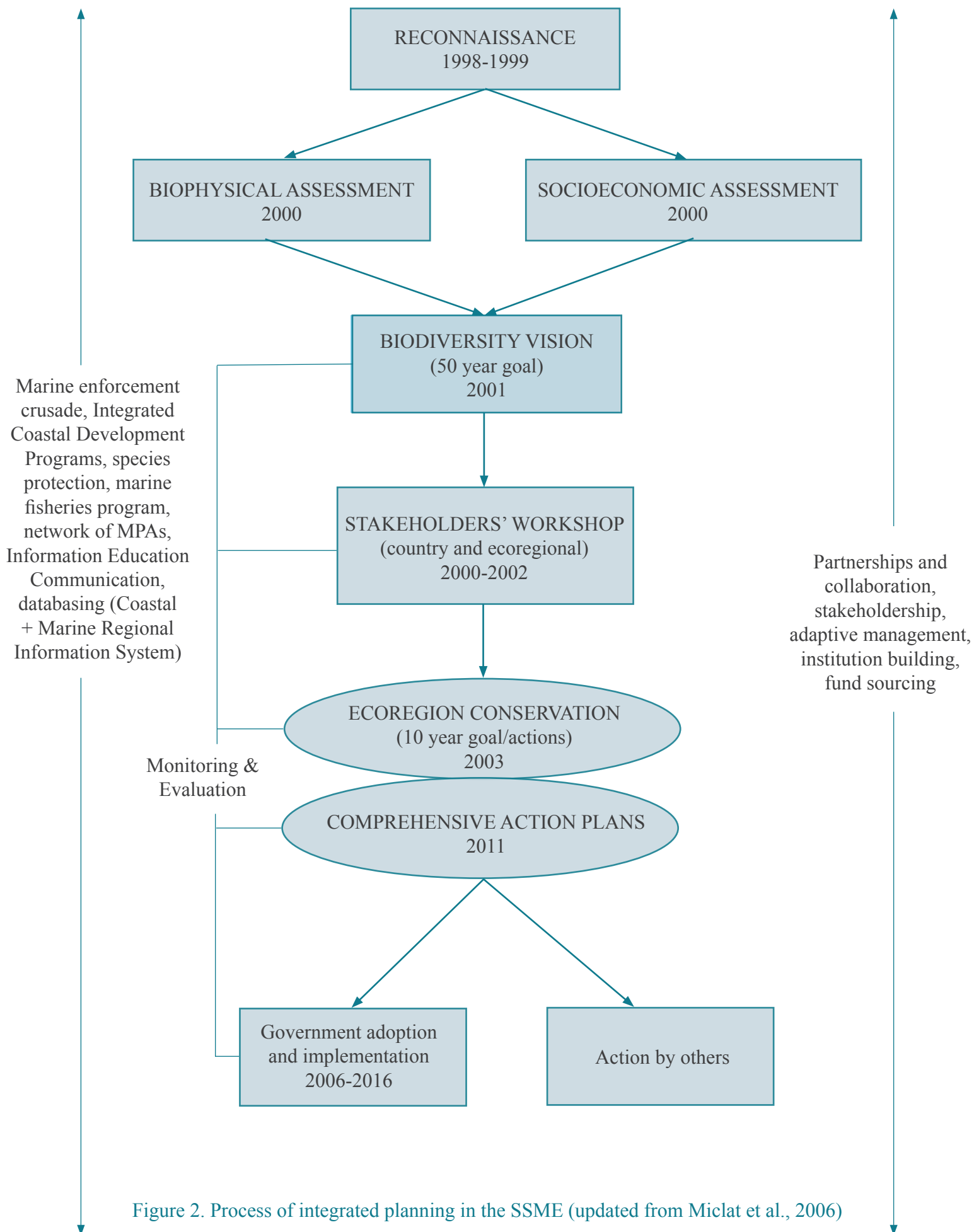


Figure 2. Process of integrated planning in the SSME (updated from Miclat et al., 2006)

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## Annex 5: Country Case Studies

### 1. Case Study: Seascape Selection in the Philippines by Department of Environment and Natural Resources-Biodiversity Management Bureau and Conservation International Philippines

The Philippines recognizes two types of seascapes: 1) protected landscapes and seascapes under the National Integrated Protected Area System (NIPAS) Act of 1992 and 2) seascapes corresponding to marine biogeographic regions.

#### Seascapes under the NIPAS Act of 1992

The NIPAS Act of 1992 is the fundamental law, which defines the processes of establishing and managing protected areas. It identifies seven categories of protected areas, among them, protected landscapes and seascapes. Protected landscapes and seascapes are broadly defined as “areas of national significance which are characterized by the harmonious interaction of man and land while providing opportunities for public enjoyment through recreation and tourism within the normal lifestyle and economic activity of these areas”.

Under the law protected areas are selected based on the following criteria: biogeographic representation, naturalness, and ecological, economic, social, cultural, scientific, and international significance. To date, there are 32 protected areas with marine areas under NIPAS, i.e. 21 Protected Landscapes and Seascapes, 4 Seascapes, 3 Marine Reserves, 2 Natural Park, 1 Wildlife Sanctuary and 1 Natural Park under NIPAS (Figure 1). Monitoring and evaluation and reporting systems are in place for NIPAS.

The Department of Environment and Natural Resources through the Biodiversity Management Bureau is the main agency that has mandate over NIPAS in cooperation with other government agencies, non-government organizations, scientific and academic institutions, and development partners.

#### Seascapes under the CTI National Plan of Action (NPOA)

The Philippines identified six candidate seascapes corresponding to marine bio-geographic regions that had been previously delineated based on connectivity and dispersal features of ocean circulation, as well as, coral reef lifeform benthos and associated reef fish species (Alino and Gomez 1995) (Figure 2). Of the candidate regions, the existing Sulu- Sulawesi Seascape, which already incorporated the Sulu, Celebes, and Visayan seas, has been identified as a priority for implementation in the Philippine NPOA for CTI. This left the West Philippine Sea (WPS), Northern Philippine Sea (NPS), and Southern Philippine (SPS) Sea to select the next priority seascape from.

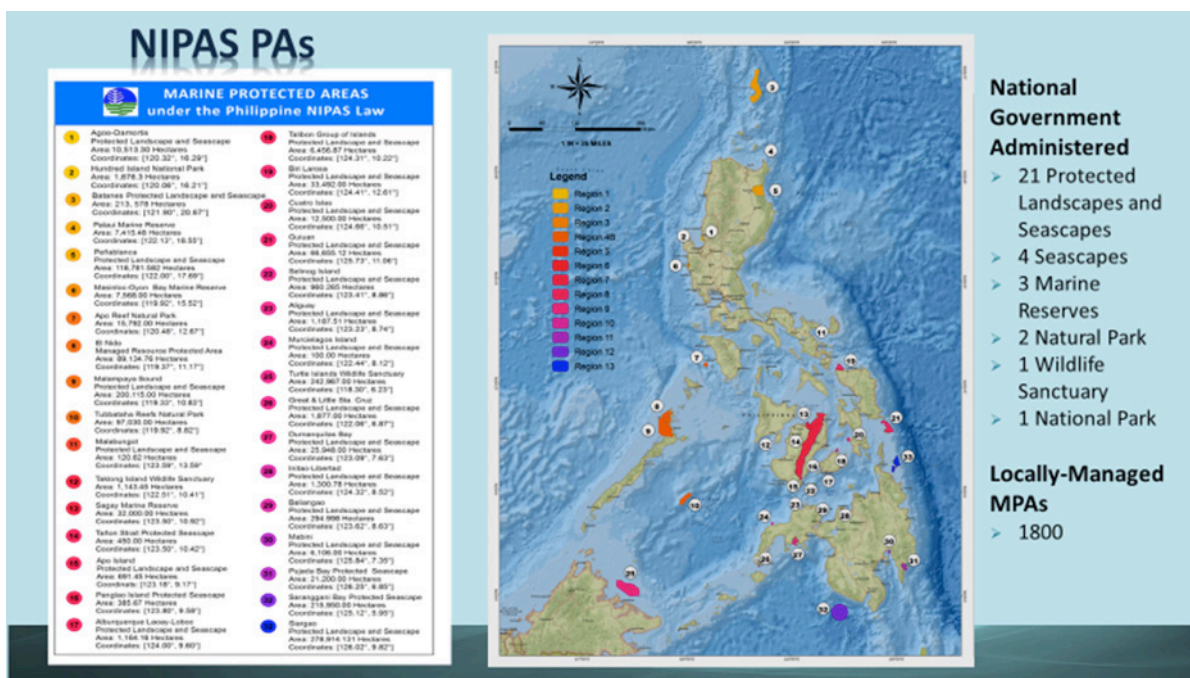


Figure 1. Seascape under the National Integrated Protected Area System (Source: Department of Environment and Natural Resources-Biodiversity Management Bureau)

Because the candidate areas were primarily recognized as equally important from a biological standpoint, prioritization and selection for seascape investment was secondarily based on more pragmatic considerations such as investment opportunities, governance feasibility, and economic efficiency. Opportunities for success in the Key Elements were considered in the selection process.

The prioritization exercise consisted of three steps:

1. *Consolidate/standardize data to allow comparison of seascapes*

This step involved building on data collected in the candidate seascape identification process (biophysical, socioeconomic, and governance/institutional) and consolidating it with academic studies and development projects.

2. *Review existing standards for prioritization and scoring*

A small group of experts met to review existing methods for prioritization/ selection of key biodiversity areas. Various methodologies were considered that could be used to compare and select the next seascape. Ultimately, the expert group recommended using three parameters for scoring: 1) biophysical; 2) socioeconomic; and 3) governance/institutional criteria. It was agreed that the specific scoring protocols for these parameters would be determined by the larger consultation meeting to follow.

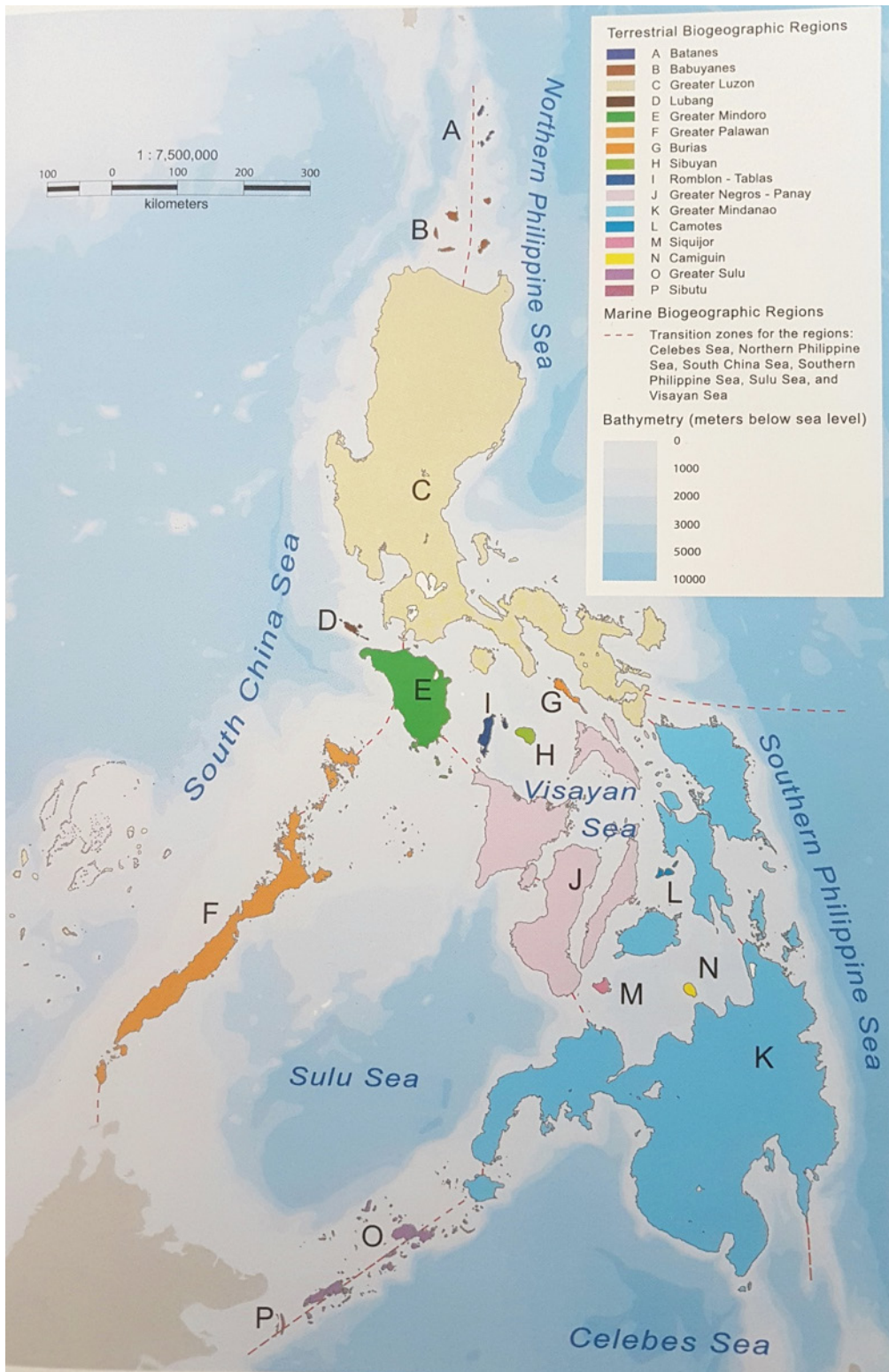


Figure 2. Terrestrial and marine biogeographic regions of the Philippines (Source: Ong et al., 2002)



### *3. Voting through expert consultation*

The final step in the Philippines' prioritization exercise was the expert consultation organized by the Department of Environment and Natural Resources.

Participants discussed a proposed method for evaluating and voting on candidate seascapes. They organized two sessions with the first focused on assigning weight to the selection criteria, and the second on letting all participants vote for the next seascape based on those criteria. Participants broke into groups based on expertise to control for bias in weighting criteria, and each group cast a collective vote after deliberation.

Weight assignments were determined before voting, since votes would be influenced by the importance given to various parameters (as percentages), the recognition of elements making up each of the parameters, and comparison with existing knowledge on each candidate seascape. The groups prepared a menu of attributes or indicators to define the three types of criteria:

- Institutional and governance criteria included relevant conservation projects in the seascapes, their relative levels of funding or investment, alliances among local governments and with the private sector, and supporting management plans or policies.
- Socioeconomic criteria included population, poverty, degree of dependence on coastal resources, and presence of development activities.
- Biophysical criteria included the area and condition of MPAs or key marine biodiversity areas, extent of coral reefs, presence of endangered species, opportunities for corridor management, and the like.

Participants decided to give greater weight to the biophysical criteria because they are the main rationale for setting up the seascape, and while institutions or governing bodies might not be functioning properly at the time of selection, they could be developed.

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## ***2. Developing a Large Scale Marine Spatial Planning Framework for Effectively Managing the Lesser Sunda Ecoregion in Indonesia, a Potential Priority Seascape for the CTI-CFF.***

*Indonesia Submission to the 4th CTI-CFF Seascape Working Group Meeting and Second Regional Exchange on Seascapes*

Lesser Sunda, which is located the south-western part of the Coral Triangle covering the waters of two countries; Indonesia and Timor-Leste. It encompasses the chain of islands from Bali in the west to Timor-Leste in the east north along the Nusa Tenggara Islands and south to Sumba and Rote Islands. In one hand, Lesser Sunda has the very great ecosystem values, endemic marine species, marine biota migration routes. In the other hand, Lesser Sunda is also the area where marine economic development grows enormously, such as fisheries, tourism and shipping. Following those values, Lesser Sunda is considered to be the potential priority seascape for Indonesia.

For seascapes in Indonesia, Government of Indonesia is intended to use Marine Spatial Planning (MSP) to achieve a balance between escalating economic development and protecting natural values and resources. Thus, in Lesser Sunda, which consists of three provinces, Government of Indonesia is developing MSP to be spatial guidance for marine development. In developing Lesser Sunda MSP, firstly, Government of Indonesia identify the appropriate authorities for MSP both in national level and local level. Secondly, within Lesser Sunda MSP, Lesser Sunda is viewed holistically, as one ecosystem.

In Lesser Sunda MSP, Lesser Sunda is divided into four areas based on key characteristics of the ecosystem, including existing conditions, levels of endemism, ecosystem sensitivity, and environmental services offered to local communities. The clustering approach is crucial to identifying how specific areas may receive disturbances and how an area's reaction will impact the management and concentration of activities allowed there. In addition, the clusters will be divided into sub-clusters to give more specific description about the characteristics of the areas.

Basically, Lesser Sunda MSP does not allocate marine space into rigidly specific zones. In fact, it allocates four main areas, those are protected areas, general utilization areas, sea lanes (shipping lanes, submarine cables/pipes, and marine biota migration routes/corridors), and strategic areas. Lesser Sunda MSP only provides the priority areas and activities that will be detailed in Provincial MSP. Hierarchically, Lesser Sunda MSP is referred to National MSP and it will act as guidance for Provincial MSP. Thus, in this case, Lesser Sunda MSP provides limitations for Provincial MSP in allocating specific protected areas, strategic areas and also provides activities that need to be prioritized. However, Lesser Sunda MSP is also limited by national policy that exists in national MSP.

### **Context and Rational**

The Lesser Sunda ecoregion located in the south-western part of the Coral Triangle, covering the waters of two countries; Indonesia and Timor-Leste. It encompasses the chain of islands from Bali in the west to Timor-Leste in the east north along the Nusa Tenggara Islands and south to Sumba and Rote Islands and containing 35,802,039 hectares of oceans and 10,886 kilometers of coastline (Green and Mous, 2008).

In one hand, the near and off shore ecosystems in this area are very rich. It is expected that this region contains more than 523 reef building corals (Veron, et.al, 2009) and around 1,783 species of fish have been recorded, 25 of which are endemic to this region (Allen, 2007). The Lesser Sunda region also provides unique habitat for large marine fauna such as whales, dugong, dolphins, turtle and manta rays. Kahn, 2002 in Wilson et.al., 2011, had identified 21 species of marine mammals including the highly endangered blue whale. In the other hand, marine economic development in Lesser Sunda grows enormously. In fact, 73 % of total Indonesia's fisheries export come from this area. Lesser Sunda is also known as one of the main tourism destination, such as Bali and Lombok, which contributes to 40 % of foreign tourists for Indonesia. It is also the area where the international shipping lanes, known as Archipelagic Sea Lanes (ALKI) lies (there are two ALKIs). In addition, Lesser Sunda is also the second busiest local shipping in Indonesia. Following these values, Lesser Sunda then to be considered as one of the potential priority seascape within Indonesia's Jurisdiction.

The Coral Triangle Initiative (CTI) Plan of Actions is the manifestation of the bold and ambitious commitments made by the head of the six CT countries in Menado, May 2009 to transform sustainable management of marine resources in the Coral Triangle (CT) region. This plan of actions encompasses six overarching goals including a goal around designation and effective management of 'priority seascapes'. This means -as described in the CTI Plan of Actions-, CT countries will need to identify priority seascapes (geographically large scale) for investment and actions where best practices are demonstrated and expanded. The recent CTI Seascape Working Group meeting held in Bali, April 2013, has identified Lesser Sunda as one of the priority seascapes. The next step after this –as described in the CTI Plan of Actions under Target 1, Goal 1 (Priority Seascape)<sup>11</sup> - is to develop and sequence an investment plan in the selected seascape to demonstrate and leverage best practices.

For developing seascapes in Indonesia, Government of Indonesia is intended to use Marine Spatial Planning (MSP) as the tool for achieving comprehensive planning within the seascapes under Indonesia's Jurisdiction. MSP is a scientific planning process that has been widely used to resolve conflicts between development and conservation needs by helping to: 1) manage current and potential conflicting uses; 2) anticipate and plan for the effects of human activities; 3) promote the protection of marine resources; and 4) increase the transparency of planning processes. MSP also provides direct benefits to local communities through more sustainable management of their fish stocks. In response to CBD COP 10 Decision X/29 para 78 'Invites Parties and other Governments to increase efforts to apply marine spatial planning tools, as appropriate, in accordance with Parties' national planning and strategies, for better integration of conservation objectives in marine and other sectoral development programs, and in overall plans for economic development, the government of Indonesia showed increasing interests to apply MSP concept to improve marine management and address highest conservation priorities as identified in the Coral Triangle Initiative Plan of Action.

### **MSP Design in Lesser Sunda Ecoregion**

Following the implementation on Design of a Resilient Network of Marine Protected Areas in the Lesser Sunda, government of Indonesia produced a comprehensive Lesser Sunda MSP document that integrate the existing and future government plans including conservation and economic development. This document will provide guidance for future sustainable economic investments and development throughout the Lesser Sunda ecoregion.

Government of Indonesia's first step in the Lesser Sunda Ecoregion was to identify appropriate authorities for MSP. The analysis suggests that existing regulations could lay the foundation for MSP practices. The analysis also suggests that authority in the design and implementation of marine

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11 <http://www.coraltriangleinitiative.net/knowledge-hub/document-library/member-countries/cti-cff-regional-secretariat/regional-plan-of-actions>

spatial plan needs to be further translated. At the national level, the authority on land use planning practices held by the Ministry of Public Works is now delegated to the Ministry of Agricultural and Spatial Planning through the coordination of National Spatial Planning Coordinating Board. The new Coordinating Ministry of Maritime Affairs which coordinates four ministries, including tourism, shipping, energy and minerals, and fisheries, is expected to coordinate with National Spatial Planning Coordinating Board to meet the objectives of national MSP. The analysis also found that the ongoing national MSP initiatives may fill the absence of sea-use management of Indonesia.

Government of Indonesia views the Lesser Sunda ecoregion holistically, as one ecosystem. Yet economic activities currently taking place in Indonesian seas are regulated with sector-based approach. Government agencies are charged with the management of individual economic sectors. These agencies have jurisdiction over the regulations and marine planning for a given sector regardless of where in the country the activity is happening.

MSP in Lesser Sunda ecoregion is designed to allocate space and marine resources for the welfare of the community. Exercising a conservation approach, the eventual zoning will balance conservation with the economic interests of the fisheries, tourism, and mining sectors. With political, institutional, and technical support, it is expected that Lesser Sunda MSP can be a national showcase for effective management of marine space and resources.

During the Lesser Sunda MSP exercise, government of Indonesia tested various techniques and found that performance-based zoning is an appropriate conservation tool for the Lesser Sunda Ecoregion. Performance zoning seeks to address potential impacts arising from a certain use or activity, rather than restricting the activity in a specific zone. It sets explicit performance standards for each zone, thereby limiting resource use and emphasizing desired impacts. By incorporating standards that simultaneously promote the economic growth and allows for the protection of local resources, performance zoning management targets transcend physical boundaries.

Within Lesser Sunda MSP, Lesser Sunda is divided into four areas based on key characteristics of the ecosystem, including existing conditions, levels of endemism, ecosystem sensitivity, and environmental services offered to local communities. The clustering approach is crucial to identifying how specific areas may receive disturbances. How an area reacts and recovers will impact the management and concentration of activities allowed there. The four areas were namely: Bali (medium level of sensitivity or uniqueness and high level of human use); Lombok (medium to high level in sensitivity or uniqueness and potential disturbance from anthropogenic causes); Sumbawa and East Nusa Tenggara (high level of sensitivity or uniqueness and considerably low disturbance); and deep seas (highest level of sensitivity or uniqueness). For each cluster then, the sub-cluster is set based on its characteristics, strategic roles and environmental services.

The Lesser Sunda MSP does not rigidly allocate marine spaces into specific zone for marine use. In fact, the Lesser Sunda MSP allocate marine spaces into four main areas which are Protected Area, General Utilization Areas, Sea Lanes, and Strategic Areas. Firstly, allocation in Lesser Sunda MSP is for Protected Areas. Protected Areas in Lesser Sunda MSP is driven from two types of protected areas, those are existing Terrestrial Protected Areas and Conservation Areas. Conservation areas that allocated in Lesser Sunda MSP includes Marine National Parks, Local Marine Conservation Areas, Marine Sanctuary Areas, Marine Preserve Areas, Marine Nature Tourism Park, and area of interests. Secondly, the allocation of marine space in Lesser Sunda MSP is for General Utilization Areas. General Utilization Areas in Lesser Sunda MSP is not divided to specific uses. Instead, General Utilization Areas in Lesser Sunda MSP is only allocating marine spaces by using priority of activities. This kind of allocation will allow other marine uses to utilize marine spaces, which detail how activities will be allocated in Provincial MSP (Lesser Sunda cover 3 Provinces). In Lesser Sunda MSP, there are three

marine uses that is set to be priority activities, those are fisheries, tourism, and sea transportation. Third allocation in Lesser Sunda MSP is for sea lanes. Under Indonesia Law, sea lanes consist of shipping lanes, submarine cables/pipes, and biota migration routes or corridors. Finally, allocation in Lesser Sunda MSP is for Strategic Areas. There are three kinds of strategic areas in Lesser Sunda MSP, those are Strategic Area for economic development, Strategic Area for environment protection and Strategic Area for defense.

Hierarchically, Lesser Sunda MSP is referred to National MSP and it will act as guidance for Provincial MSP. Thus, in this case, Lesser Sunda MSP provides limitations for Provincial MSP in allocating specific protected areas, strategic areas and also provides kind of activities that need to be prioritized. However, Lesser Sunda MSP is also limited by national policy that exists in national MSP.

