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### SUSTAINABLE OCEAN INITIATIVE NATIONAL CAPACITY DEVELOPMENT WORKSHOP FOR TIMOR-LESTE

Dili, 6-8 September 2016

#### **REPORT OF THE SUSTAINABLE OCEAN INITIATIVE NATIONAL CAPACITY DEVELOPMENT WORKSHOP FOR TIMOR-LESTE**

1. The Conference of the Parties, in various decisions, has requested training and capacity development for conservation and sustainable use of marine and coastal biodiversity in order to support Parties in achieving the Aichi Biodiversity Targets in marine and coastal areas.
2. Pursuant to these requests, the Sustainable Ocean Initiative (SOI) came into existence in the margins of the tenth meeting of the Conference of the Parties, with the support of Japan, and in collaboration with various partners that were willing to provide the necessary expertise, technical and financial resources and to serve as a global platform to build partnerships and enhance capacity to achieve the Aichi Biodiversity Targets in marine and coastal areas.
3. In line with the SOI Action Plan 2015-2020, the Executive Secretary convened the Sustainable Ocean Initiative National Capacity Development Workshop for Timor-Leste, with financial support from the Government of the Republic of Korea (through the EXPO 2012 Yeosu Korea Foundation and Korea Maritime Institute), and in collaboration with the Commonwealth Scientific, Industrial Research Organisation of Australia (CSIRO/Australia) and the Ministry of Commerce, Industry and Environment of Timor-Leste.
4. The workshop aimed to enhance cross-sectoral dialogue and coordination related to marine biodiversity to address capacity needs for Timor-Leste to achieve national priorities as well as global goals under the Aichi Biodiversity Targets and the Sustainable Development Goals. The workshop focused in particular on cross-sectoral dialogue and marine spatial planning as a tool to support effective conservation and sustainable use of marine biodiversity, balancing different uses and priorities for the marine environment and contributing to healthy ecosystems, sustainable economic growth and societal well-being.
5. The workshop report was developed in collaboration with the Commonwealth Scientific, Industrial Research Organisation of Australia (CSIRO/Australia) and the Ministry of Commerce, Industry and Environment of Timor-Leste. The model of the workshop is based on previous capacity development workshops implemented by CSIRO/Australia, in collaboration with various Governments and organizations, and, as such, the format of the workshop report is based on the reports of these previous workshops.

# Sustainable Ocean Initiative National Capacity Development Workshop for Timor-Leste

6 – 8 September 2016

Dili, Timor-Leste



# Foreword

This report provides a summary of the Sustainable Ocean Initiative (SOI) National Capacity Development Workshop for Timor-Leste, which took place in Dili, Timor-Leste from 6 to 8 September 2016.

This workshop was convened by the Secretariat of the Convention on Biological Diversity (CBD) and the Commonwealth Scientific, Industrial Research Organisation of Australia (CSIRO/Australia), together with the Ministry of Commerce, Industry and Environment of Timor-Leste.

Financial support for the workshop was kindly provided by the Government of the Republic of Korea, through the EXPO 2012 Yeosu Korea Foundation and Korea Maritime Institute. In-kind contributions were provided by the Ministry of Commerce, Industry and Environment of Timor-Leste and the Commonwealth Scientific, Industrial Research Organisation of Australia (CSIRO/Australia).

## Background

The Conference of the Parties (COP) to the Convention on Biological Diversity, at its tenth meeting, adopted the Strategic Plan for Biodiversity 2011-2020, with its Aichi Biodiversity Targets (see decision X/2). The mission of the Strategic Plan is:

*"to take effective and urgent action to halt the loss of biodiversity in order to ensure that by 2020 ecosystems are resilient and continue to provide essential services, thereby securing the planet's variety of life, and contributing to human well-being, and poverty eradication."*

At its tenth meeting, the COP also urged Parties and other Governments: (a) to achieve long-term conservation, management and sustainable use of marine resources and coastal habitats; (b) to establish and effectively manage marine protected areas, in order to safeguard marine and coastal biodiversity, marine ecosystem services, and sustainable livelihoods; and (c) to adapt to climate change, through appropriate application of the precautionary approach and the use of integrated marine and coastal area management, marine spatial planning, impact assessment, and other available tools. The COP also emphasized the need for training and capacity-building for developing country Parties through regional workshops that contribute to sharing experiences and knowledge related to the conservation and sustainable use of marine and coastal biodiversity.

Recognizing this urgent need, the Sustainable Ocean Initiative (SOI) was born in the margins of the tenth meeting of the COP, with the support of the government of Japan, and in collaboration with various partners that were willing to provide the necessary expertise, technical and financial resources. The SOI concept was further developed in subsequent meetings, such as the SOI Programme Development Meeting (Kanazawa, Japan, 2-4 August 2011) and SOI High-level Meeting (Yeosu, Republic of Korea, 5 June 2012,) and a high-level side event on SOI held during the eleventh meeting of the Conference of the Parties to the Convention (Hyderabad, India, 17 October 2012). The execution of SOI activities is coordinated by the Secretariat of the Convention on Biological Diversity.

The Sustainable Ocean Initiative (SOI) is a global capacity development partnership, coordinated by the Secretariat of the Convention on Biological Diversity (CBD), which is focused on addressing capacity needs to facilitate progress towards the Aichi Biodiversity Targets in marine and coastal

areas. SOI focuses on achieving a balance between conservation and sustainable use of marine and coastal biodiversity by applying an action-oriented, holistic and integrated capacity-building framework. SOI is committed to building bridges between biodiversity conservation and resource management sectors.

SOI has evolved as a global platform to build partnerships and enhance capacity to achieve the Aichi Biodiversity Targets in marine and coastal areas by:

- (a) Achieving a balance between conservation and sustainable use and the promotion of flexible and diverse approaches in achieving this balance;
- (b) Identifying best practices, facilitating information sharing and learning from experiences;
- (c) Creating partnerships that can provide for targeted capacity-building, training, technical assistance and learning exchange;
- (d) Providing for two-way communication among policymakers, scientific communities and local stakeholders;
- (e) Facilitating the provision of guidance to support the achievement of the Aichi Biodiversity Targets in marine and coastal areas;
- (f) Facilitating monitoring of progress towards achieving the Aichi Biodiversity Targets; and
- (g) Improving the scientific basis for implementation.

Requests from the CBD Conference of the Parties related to training and capacity development for marine activities emanating from its tenth and eleventh meetings, and the imperative to enhance progress towards the Aichi Biodiversity Targets, outlined the need to scale up SOI activities. In this regard, the SOI Action Plan 2015-2020 was developed, which outlines activities in the following areas:

- (a) Global partnership meetings;
- (b) Regional workshops and learning exchange programme;
- (c) Facilitating on-the-ground implementation through national training and exchange;
- (d) Local leaders forum;
- (e) Training of trainers;
- (f) Web-based information sharing and coordination.

## Purpose

The workshop aimed to enhance cross-sectoral dialogue and coordination related to marine biodiversity to address current and future capacity needs for Timor-Leste to achieve national priorities as well as global goals under the Aichi Biodiversity Targets and the Sustainable Development Goals. The workshop focused in particular on cross-sectoral dialogue and marine spatial planning as a tool to support effective conservation and sustainable use of marine biodiversity, balancing different uses and priorities for the marine environment and contributing to healthy ecosystems, sustainable economic growth and societal well-being.

This workshop provided an important opportunity for interactive discussions and coordination among different sectors and stakeholders in Timor-Leste. Through the workshop, participants underwent an exercise on applying each step of the marine spatial planning process, in particular identifying:

- Main priorities of different stakeholders for the marine resources of Timor-Leste;
- How different stakeholders value and use the marine resources of Timor-Leste;
- How different pressures affect the marine resources of Timor-Leste;
- What management options are available to address these pressures;
- How an understanding of these different values, uses, pressures and management options can support the development of a marine spatial planning process in Timor-Leste; and
- Potential first steps for developing a marine spatial planning process in Timor-Leste.

## Workshop Approach

Marine spatial planning (MSP) provides a framework to gain a better understanding of how marine areas are used and valued by stakeholders to facilitate informed planning and decision-making. MSP allows for effective stakeholder discussions on how marine and coastal areas can be used effectively and sustainably. The process considers the interactions among various marine resources and uses, and seeks to balance demands for development with the need to protect marine ecosystems, and to achieve social, economic and environmental objectives. As such, the MSP process focuses on the planning and management of human activities in marine areas.

An effective marine spatial planning process will include at least the following key elements and principles<sup>1</sup>:

- Ecosystem-based—Balancing ecological, economic, and social goals and objectives toward sustainable development;
- Integrated—Across sectors and agencies, and among levels of government;
- Place-based or area-based;
- Adaptive—Capable of learning from experience;
- Strategic and anticipatory—Focused on the long-term objectives and outcomes; and
- Participatory—Stakeholders actively involved in the process

MSP can be conducted at any scale, depending upon the appropriate ecosystem or jurisdiction. Nevertheless, under the integrated and ecosystem-based approaches, the planning process should also consider influences and interactions with systems outside of the area (including human uses and ecosystem connectivity).

Importantly, MSP does not lead to a single, one-off plan. It is an ongoing, adaptive and iterative process, requiring regular review and revision. An MSP process aims to include the steps outlined below, not solely as a linear process, but with various overlaps and feedback loops, depending on local circumstances.

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<sup>1</sup> Ehler, C. and Douvère, F. (2009) Marine Spatial Planning: a step-by-step approach toward ecosystem-based management. Intergovernmental Oceanographic Commission and Man and the Biosphere Programme. IOC Manual and Guides No. 53, ICAM Dossier No. 6. Paris: UNESCO. (English).

The workshop provided a capacity development exercise in applying each step of the MSP process, using the knowledge and experiences of the workshop participants on values, uses, pressures, interactions and future aspirations for the marine environment of Timor-Leste. Specific focus was placed on opportunities to provide management of the ecosystems and species in Timor-Leste, also noting nationally, regionally and globally important ecosystems and species. The workshop ran through a process that can be easily adapted to meet the specific needs of communities and government at various levels and/or scales.

A particular focus for the workshop was to identify areas of social and ecological value and to investigate potential opportunities for establishing marine and coastal managed areas.

The workshop was structured to work through a single iteration of an MSP process, as devised by the Commonwealth Scientific and Industrial Research Organization of Australia (CSIRO/Australia) (Dunstan et al. 2016), drawing on experiences and expertise on MSP at the Secretariat of the Pacific Regional Environment Program (SPREP) and CSIRO.<sup>2</sup> It was designed based on approaches to fisheries and conservation planning and management processes and is intended to be able to meet the diverse sets of needs of different management agencies.

The scope and structure of the MSP process applied in this workshop covered the following steps:

- **Step 1:** Scoping and stakeholder engagement—Understanding the political/institutional and social domain, and motivations for marine management.
- **Step 2:** Understanding the values and uses in the marine environment—User knowledge and scientific information inputs.
- **Step 3:** Understanding the interactions between the values and uses of the marine environment and potential pressures on these values.
- **Step 4:** Informing a clear set of objectives and management responses, based on the values and interactions.
- **Step 5:** Formalising a process for monitoring and evaluating the effectiveness of management through indicators that can detect changes in the pressures and values identified in previous steps.

The workshop also looked at the need for future cycles of the MSP process to enhance and adapt according to newly acquired information. Figure 1 below shows the iterative cycle steps of a Marine Spatial Planning process used during this workshop.

## DISCLAIMER

It is important to note that the workshop was intended as a capacity building exercise and, as such, does not represent the official views of the offices or ministries involved. The various sessions of the workshop were intended as illustrative training exercises for the workshop participants and, therefore,

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<sup>2</sup> Dunstan PK, Bax NJ, Dambacher JM, Hayes KR, Hedge PT, Smith DC, Smith ADM (2016) Using Ecologically or Biologically Significant Areas to implement Marine Spatial Planning. *Ocean and Coastal Management* 121: 116-127.

the outputs of the sessions, including any maps, are not official designations. The information used in the workshop was based entirely on the information and knowledge of the workshop participants.

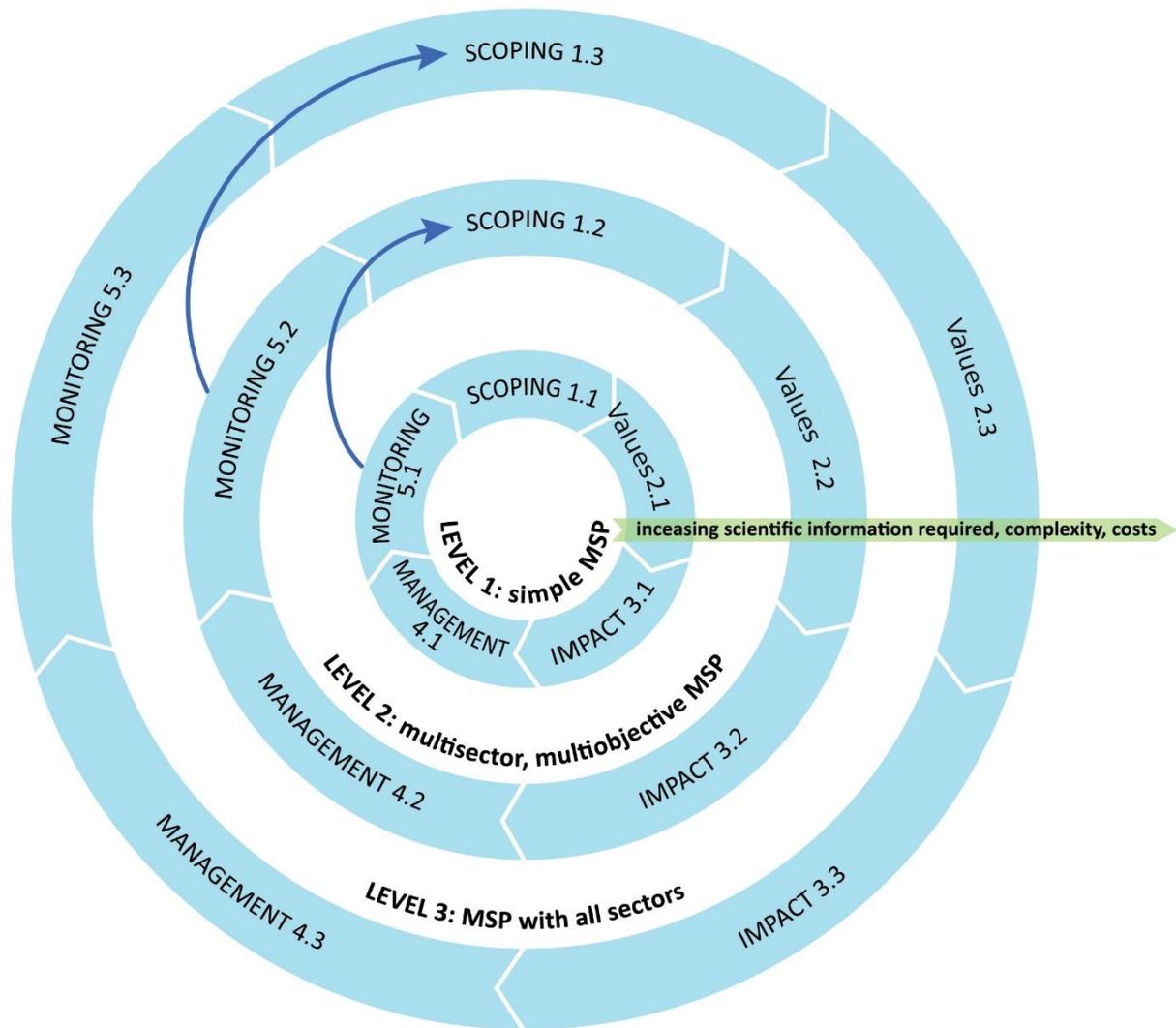


Figure 1: Illustrative of the iterative steps of a marine spatial planning process used during the workshop. Adapted from Dunstan et al. 2016 (see Appendix 1.)

## Step 1: Scoping and Stakeholder Engagement

### Objectives

The aim of the initial phase of the MSP process is to obtain an understanding of the stakeholders, the political, institutional and legislative context and social domain for management in the marine environment.

This step identifies the key drivers for management and the stakeholders who have an interest in the area being managed. It identifies the aspirational objectives of the system (e.g., maintain biodiversity, maximum sustainable yield, economic growth) in terms of ecological/biological, social, economic and political needs. Experience in MSP has shown that detailed stakeholder participation as a key

component of this initial step, as it provides legitimacy for future steps. This step should be primarily conducted in conjunction with the agencies responsible for managing the system.

It is also important to note the difference between aspirational objectives (e.g. Sustainable Development Goals) and operational objectives, which have associated thresholds for agreed management action. Both play important, but different roles, in management. Aspiration targets are set in the first phase of management (i.e., scoping phase). They set the general tone of the process and represent broad agreement among consulted stakeholders on a particular outcome. There are four main types of objectives that lead to successful management: biological/ecological, economic, social and political.

Operational objectives are the key to a functioning adaptive management cycle. These objectives (and their associated thresholds, targets and limits) identify the points where actions must be taken if aspirational objectives are to be achieved. Each operational objective will have one or more indicators that will trigger different management actions (including reviews). The monitoring and evaluation of the indicators (Step 5 of the MSP process noted above) will determine if management is working or if changes need to be made.

## **Practical Exercise**

Participants were split into breakout groups and asked to identify and describe the objectives and priorities of Timor-Leste for their marine environment, including goals, objectives and priorities that have already been articulated under national, regional or global commitments. The participants were asked to think about the priorities at a community scale and national scale, and how or if these relate to priorities at the regional scale.

Key questions posed to the participants were:

- What are the current priorities for the ocean and coast in Timor-Leste?
- What are the national plans (e.g. Development plan, Fisheries plan, National Biodiversity Strategies and Action Plans (NBSAP))?
- What are the international commitments (e.g., Aichi Biodiversity Targets, Sustainable Development Goals)?
- What are the priorities of the communities?

After identifying priorities and objectives, participants were then asked to look at the priorities and objectives they identified and identify whether any of these are complementary or overlapping, or whether any of them may be conflicting.

## Results<sup>3</sup>

In breakout groups, participants identified various priority areas and interests, with some related objectives, as follow:

<b>Priority/Objective</b>
Marine protected areas <ol style="list-style-type: none"> <li>a. Very important for biodiversity</li> <li>b. Coral reef, fish seagrass all linked to each other</li> <li>c. Sustainable fisheries</li> <li>d. Prevent illegal fishing</li> <li>e. Enforce protected area law</li> <li>f. Establish and raise awareness about MPS boundaries and permitted uses</li> <li>g. Collaborate with local communities to ensure their participation in enforcing MPA regulations</li> </ol>
Awareness <p>“If we don’t have awareness we can’t protect the biodiversity”</p>
Legal Frameworks <ol style="list-style-type: none"> <li>a. “If we don’t have legal frameworks we can’t implement policy”</li> <li>b. Very important to protect the biodiversity so that the next generations can experience the biodiversity.</li> </ol>
Zoning/ spatial planning <ol style="list-style-type: none"> <li>a. Terrestrial zone</li> <li>b. Community empowerment</li> <li>c. Watershed management</li> <li>d. Mangrove restoration and conservation</li> <li>e. Marine protected areas</li> <li>f. Fisheries production zone</li> <li>g. Ecotourism zone</li> <li>h. Marine national park</li> </ol>
Mangrove conservation <ol style="list-style-type: none"> <li>a. Coastal &amp; marine resource management</li> <li>b. Protect sedimentation</li> <li>c. Enhance ecosystem</li> <li>d. Livelihoods</li> <li>e. Abrasion prevention</li> </ol>

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<sup>3</sup> Disclaimer: It is important to note that the workshop was intended as a capacity building exercise and, as such, does not represent the official views of the offices or ministries involved. The various sessions of the workshop were intended as illustrative training exercises for the workshop participants and, therefore, the outputs of the sessions, including any maps, are not official designations. The information used in the workshop was based entirely on the information and knowledge of the workshop participants.

<p>Tourism</p> <ol style="list-style-type: none"> <li>a. Income / Income diversity</li> <li>b. Job creation</li> <li>c. Marine biodiversity: corals and fish</li> <li>d. Income through tourism: (diving, snorkelling etc.)</li> <li>e. Income through infrastructure</li> <li>f. Promote eco-tourism (conservation tourism) in marine and coastal areas</li> <li>g. Define eco-tourism for local communities and tourists</li> <li>h. Develop and raise awareness on sustainable use and respective rules in the tourist sector focusing on marine and coastal areas</li> <li>i. Marine biodiversity: corals and fish</li> </ol>
<p>Fishing</p> <ol style="list-style-type: none"> <li>a. Food (protein)</li> <li>b. Money</li> <li>c. Sport (fishing competition)</li> <li>d. Coral reef protection</li> <li>e. Mangrove protection</li> <li>f. Livelihoods</li> </ol>
<p>Fisheries management</p> <ol style="list-style-type: none"> <li>a. Identify maximum sustainable yield, carrying capacity, protected/endangered species</li> <li>b. Establish no-take zones, temporary protected areas, fishing seasons, Tara Bandu (local community/traditional law), and promote enforcement</li> <li>c. Regulate fishing and means of extracting other marine resources (gear/net size, fish size, prohibiting bomb fishing etc.)</li> </ol>
<p>Minimizing habitat destruction</p> <ol style="list-style-type: none"> <li>a. Law enforcement</li> <li>b. Improve sectoral cooperation</li> <li>c. Ecosystem habitation</li> <li>d. Strengthen local wisdom</li> </ol>

The participants were then asked to consider how these various priorities relate to each other, and where there might exist complementary aspects of these priorities and what the key challenges are with regards to the achievement of these priorities.

**Complementary priorities and objectives:** The participants identified the following priorities and objectives were complimentary.

- Tourism and fisheries management (e.g., wildlife tourism is under various forms of management); and
- Protected areas and fisheries management under various forms of management.

***Challenges implementing these priorities:*** The participants then identified the following challenges in working to achieve these priorities.

- Human resources (technical skills)
- Equipment
- Inadequate management
- Genetic biodiversity loss
- Enforcement of laws and regulations
- Lack of enforcement of marine security
- Lack of management on regulation

## **Future Options**

There are a number of options that may be included in future iterations of the scoping step in the context of an MSP process in Timor-Leste:

1. Inclusion of a greater stakeholder diversity in future rounds to achieve a broader consensus of priorities and objectives.
2. A broader group might include a member from each coastal district and all government departments. High-level governmental policy makers would help to clearly articulate current policies and shed light on any upcoming policies.
3. Priorities can be linked explicitly to strategic targets identified in national development plans and plans of action.
4. As experience with a MSP process develops, it becomes possible to include more sectors into the process, although simplicity in the initial steps will aid in implementation.

# Step 2 – Values

## Objectives

The aim of the second step in the MSP process is to identify sites and areas that are significant and important to stakeholders. Areas that are important can be considered to have value placed on them, within a socio-economic context.<sup>4</sup> There are three broad categories of values that could be described in the marine environment: ecological, socio-cultural and monetary. The value systems identified within national frameworks have been useful as prioritization tools, focusing effort and attention onto the areas identified. These areas are where extra caution is applied in the management of these systems. There has been considerable effort to identify criteria that can be used to describe significant or important areas.

To assist in the development of a preliminary national set of values the workshop used the CBD scientific criteria for ecologically or biologically significant marine areas (EBSAs). The application of these has been described in Bax et al. (2016). The EBSA criteria and approach to identification of areas meeting the EBSA criteria are clear descriptions of ecological value and share many of the same criteria with the socio-economic valuations suggested by DeGroot (2003).<sup>5</sup> Given the overlap with other criteria sets and the acceptance of the EBSA criteria by 196 Parties to the CBD, the EBSA criteria provide a base set of criteria that can be used and adapted to other purposes, and feed other international processes where appropriate. Participants were also encouraged to include additional criteria in this exercise, where relevant.

Criteria to describe human well-being values were adopted from Skewes et al. (2016), and form the basis for the *Asset Drivers, Well-being Interaction Matrix* (ADWIM), which is a participatory tool for estimating future impacts on ecosystem services and livelihoods,<sup>6</sup> which also derives human well-being indicators from the Millennium Ecosystem Assessment (2005).<sup>7</sup>

The ideas outlined in Gómez-Baggethun and Martin Lopez (2015) suggest how social and cultural values could be included into national or regional values frameworks.<sup>8</sup> There are significant challenges in adopting this approach, particularly around scale and engagements with the all the relevant stakeholders. However, having a unified framework to consider ecological, social/cultural and economic values describing areas from different groups of stakeholders would provide a key component of MSP.

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<sup>4</sup> Erik Gómez- Baggethun and Berta Martín- López (2015) Ecological economics perspectives on ecosystem services valuation. Handbook of Ecological Economics, Chapter: 11, Publisher: Edward Elgar, Editors: Joan Martínez-Alier, Roldan Muradian, pp.260-282

<sup>5</sup> Rudolf De Groot, Johan Van der Perk, Anna Chiesura, Arnold van Vliet, Importance and threat as determining factors for criticality of natural capital, Ecological Economics, Volume 44, Issues 2–3, March 2003, Pages 187-204, ISSN 0921-8009, [http://dx.doi.org/10.1016/S0921-8009\(02\)00273-2](http://dx.doi.org/10.1016/S0921-8009(02)00273-2).

<sup>6</sup> T.D. Skewes, C.M. Hunter, J.R.A. Butler, V.D. Lyne, W. Suadnya, R.M. Wise, The Asset Drivers, Well-being Interaction Matrix (ADWIM): A participatory tool for estimating future impacts on ecosystem services and livelihoods, Climate Risk Management, Available online 11 September 2015, ISSN 2212-0963, <http://dx.doi.org/10.1016/j.crm.2015.08.001>.

<sup>7</sup> Millennium Ecosystem Assessment, 2005. Millennium Ecosystem Assessment. Ecosystems and Human Well-being: a Framework for Assessment. Island Press, Washington DC.

<sup>8</sup> Erik Gómez- Baggethun and Berta Martín- López (2015) Ecological economics perspectives on ecosystem services valuation. Handbook of Ecological Economics, Chapter: 11, Publisher: Edward Elgar, Editors: Joan Martínez-Alier, Roldan Muradian, pp.260-282

## Practical Exercise

Participants were asked consider “what are the important and valuable in-shore marine areas (large or small) in Timor-Leste?” Participants were asked to identify these areas and spatially locate them on large hardcopy maps.

At the same time, participants were asked to consider what makes these areas valuable to them from environmental, ecological, socio-cultural and monetary perspectives and note the specific areas that possess these attributes. Participants were given a suggested list of 13 values to work with (below) and encouraged to add their own values in describing important areas in the waters of Timor-Leste. Participants were also encouraged to identify different areas that meet more than one criterion and to make similar areas located near each other into a single system when they possess similar values.

### **Ecological values/attributes**

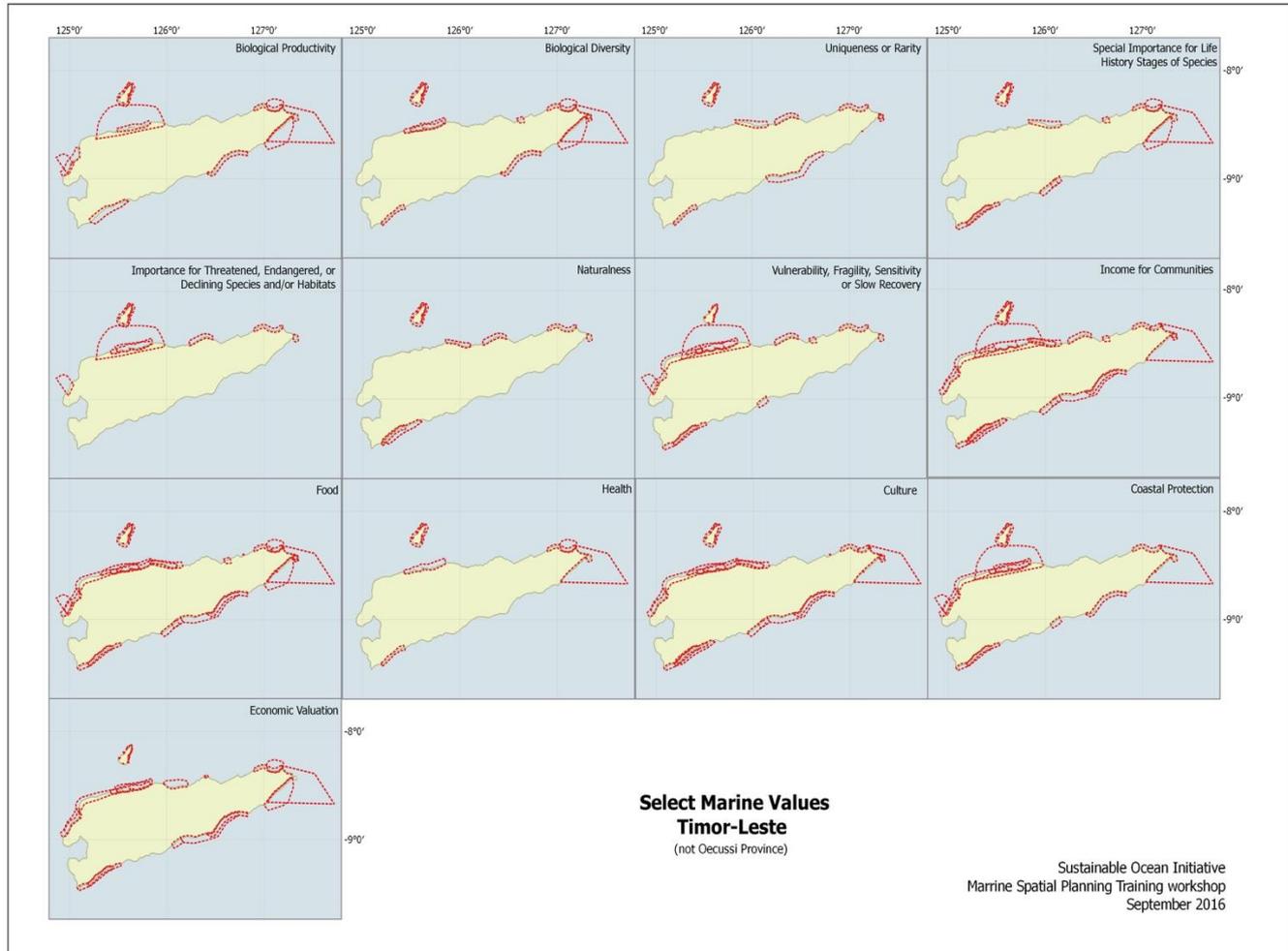
1. Biological productivity
2. Biological diversity
3. Uniqueness or rarity
4. Special importance for life history stages of species
5. Importance for threatened, endangered or declining species and/or habitats
6. Naturalness
7. Vulnerability, fragility, sensitivity or slow recovery

### **Livelihood Importance/Ecosystem services**

8. Economic valuation
9. Income
10. Food
11. Health
12. Culture
13. Coastal protection

# Results<sup>9</sup>

In this exercise, the participants identified the following valuable areas seen in the maps below:



<sup>9</sup> Disclaimer: It is important to note that the workshop was intended as a capacity building exercise and, as such, does not represent the official views of the offices or ministries involved. The various sessions of the workshop were intended as illustrative training exercises for the workshop participants and, therefore, the outputs of the sessions, including any maps, are not official designations. The information used in the workshop was based entirely on the information and knowledge of the workshop participants.

## **Discussion**

Broad sets of values were described for all the coastal and near shore areas of Timor-Leste. These covered all the potential values described in the initial suggestions. However, it is important to note that each area is identified by a range of values and that areas with different values often overlap.

The participants of the workshop do not represent all stakeholders in the marine environment in Timor-Leste, particularly from all municipalities. It is anticipated that if more representatives from more municipalities were included that a more comprehensive and robust description of the values of the coastal and near shore environment would be obtained.

Consideration also needs to be given to the set of criteria used to describe the values. Development of a national values framework would assist in this process that describes a comprehensive set of values for Timor-Leste.

## **Future Options**

There are a number of options that may be included in future iterations of this step:

1. Broader engagement with a more diverse set of stakeholders will provide a more robust accounting of all the values held by community and government.
2. With increasing experience, more information and scientific data can be included in the identification of areas. This can include data from fisheries and environmental research.
3. Engagement with sectors providing key economic activities to better capture the interaction between social, environmental and economic sectors.

## **Step 3 – Uses and Pressures Objectives**

The values identified in the previous exercise can be overlaid with the current human uses and pressures that exist within the area or may exist over the term of the management cycle. In the simplest case, this may be a simple matrix of values and pressures, identifying which values in the areas identified are most likely to be impacted. With increasing understanding of the values and ecosystem components, it is possible to construct conceptual models that allow for a more formal analysis of the cumulative impacts of pressures on values.

Finally, as more information is obtained through a marine spatial planning and management process, other models and analysis can be used to provide information on key thresholds to trigger management interventions. With increasing data, understanding of each area meeting the value criteria will improve, supporting a more refined understanding of the ecosystem and its interactions.

### **Practical Exercise (Part 1)**

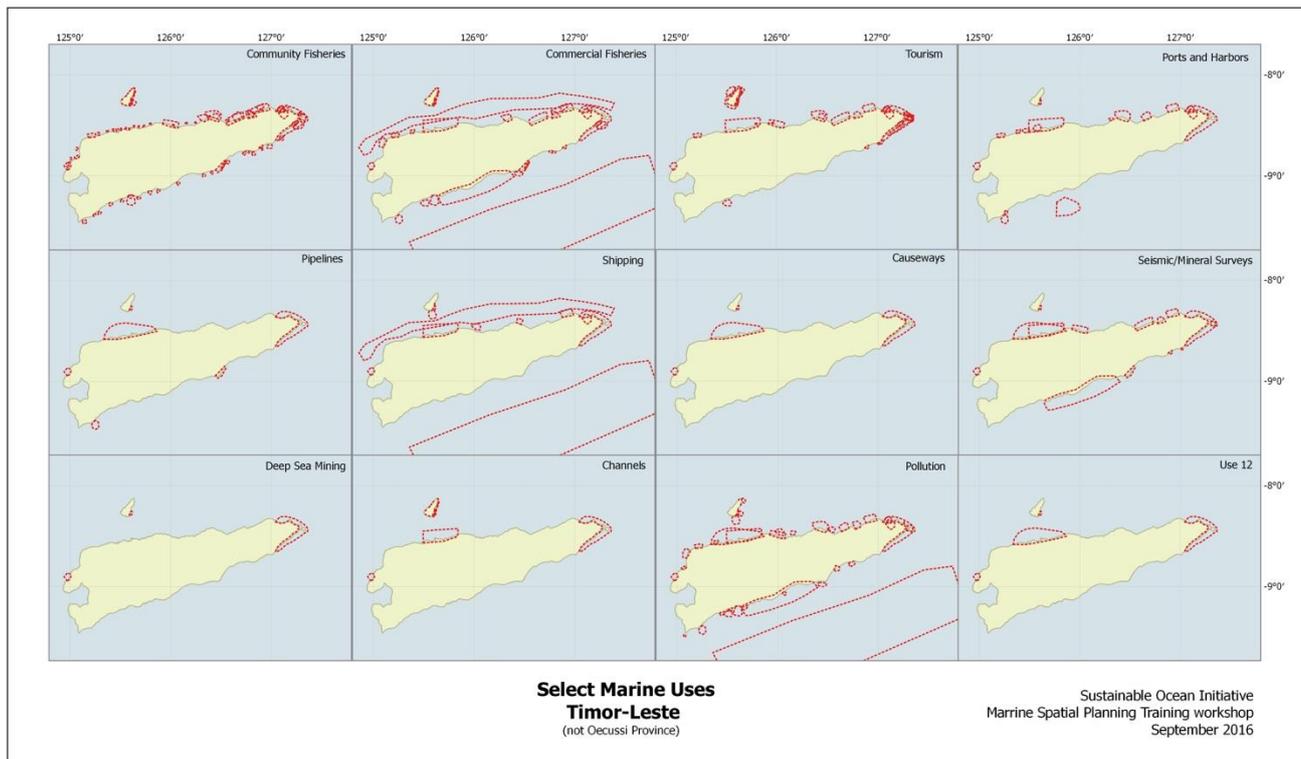
Participants were asked to spatially identify the uses and pressures on the in-shore marine areas around Timor-Leste on maps, drawing where the areas of uses were occurring and record what type of use. The participants were also asked to think about the different types of use that occur and to identify any that may have been missed. To get the exercise started, participants were given a list of possible uses that often occur in the coastal environment, as shown below, and were instructed to add any relevant uses not shown:

1. Artisanal fisheries
2. Commercial fisheries
3. Tourism
4. Ports and harbors
5. Pipelines
6. Shipping
7. Seismic/mineral surveys
8. Deep-sea mining
9. Channels
10. Pollution

## Results<sup>10</sup>

In this exercise, the participants identified some of the uses of marine environment of Timor-Leste, as shown below:

*\*\*Please note that “Use 12” in the below figure refers to salt production.*



## Practical Exercise (Part 2)

In the second part of the exercise on use and pressures, participants were asked to undertake a simple risk assessment of the values identified, in order to understand the potential impacts of multiple uses and pressures on the values that have been identified in areas that may be important and/or vulnerable. The simplest means of analysis is the direct examination of the interaction of the values identified and the pressures thought to interact with that area. There are two key components to this. First, the pressures that occur within the area need to be identified and assessed to see if there is possible interaction between the pressures and the area. If there is no possible spatial overlap and if the

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pressures could not reasonably be expected to interact with the values of interest, then the pressure should be considered a low risk with no further consideration required.

Second, expert elicitation can be used to identify and rank the potential risk of impact from pressures on the values in each relevant subsystem. The elicitation can be either structured or unstructured. Structured elicitation is preferred (as it confers some degree of consistency), but it is not always possible and so unstructured elicitation should not be ruled out if alternatives are not available.

Unstructured elicitation was used in the workshop and may involve a consensus process where a group of experts identify the potential interactions between pressures and values on a scale of consequence (e.g. pressures are "of concern", "of potential concern", "of less concern", "not of concern", "data deficient or not assessed") where a predetermined threshold is identified.

In order to understand how certain pressures might affect the values identified in the previous exercise, participants were asked to consider where these uses overlap with the values that they have identified and characterize the relationship, as follows:

**H:** High level of use and potential pressure

**M:** Moderate level of use and potential pressure

**L:** Low level of use and potential pressure

N/A : No use or impact.

In a full-fledged MSP process, this type of classification would benefit from validation by scientific data, where available.

## Results<sup>11</sup>

The characterization of the relationship between uses and values in specific areas in Timor-Leste are shown in the table below:

AREA	IMPACT												
	FISHING		TOURISM	POLLUTION	PORT	SEISMIC	SHIPPING	PIPELINE	MANGROVE CUTTING	CORAL BLEACHING	SEDIMENT-ATION	CLIMATE CHANGE	AQUA-CULTURE
	COMMUNITY	COMMERCIAL											
Acrema	L	L	L	M	L	L	L	na	na	na	na	na	na
Adara	L	L	L	M	L	L	L	na	na	na	na	na	na
Arlo	L	L	L	M	L	L	L	na	na	na	na	na	na
Atecrv	L	L	L	M	L	L	L	na	na	na	na	na	na
Barvana	L	L	L	M	L	L	L	na	na	na	na	na	na
Baucau	M	M	L	na	L	na	na	na	na	na	na	na	na
Beloi	L	L,H,H	M,H,M	H	H	L	M,L	na	na	na	na	M	H
Berao	Na	na	L	L	L	L	L	na	na	na	na	na	na
Bikeli*	L	L,H,H	M,H	L,H	L	L	L	na	na	na	na	M	H
Biqueli*	Na	H	M	na	na	na	NA	na	na	na	na	na	na
Com	Na	na	NA	L	L	na	na	na	na	na	na	na	na
Dili Cristo Rei	M	M	M	na	M	na	na	na	na	na	na	na	na
Dilli Atauro	M	M	H	na	M	na	na	na	na	na	na	na	na
Fatu/u	L	L	L	M	L	L	L	na	na	na	na	na	na
Jaco	Na	na	L	N/A	N/A	na	na	na	na	na	na	na	na

<sup>11</sup> Disclaimer: It is important to note that the workshop was intended as a capacity building exercise and, as such, does not represent the official views of the offices or ministries involved. The various sessions of the workshop were intended as illustrative training exercises for the workshop participants and, therefore, the outputs of the sessions, including any maps, are not official designations. The information used in the workshop was based entirely on the information and knowledge of the workshop participants.

Lautem	Na	na	L	N/A	N/A	na							
Lore 1	Na	na	N/A	N/A	N/A	na							
Macadade	Na	M	L	H	L	na	na	na	na	na	na	M	L
Maquer	L	L	L	M	L	L	L	na	na	na	na	na	na
Maquili*	Na	H	H	H	L	na	na	na	na	na	na	M	L
Maumeta	Na	H	M	na	na	na	L	na	na	na	na	na	na
Parlamento (Sika)	Na	na	N/A	L	N/A	na							
Perang Hapat	L	L	L	M	L	L	L	na	na	na	na	na	na
Suai	M	M	L	na	L	na	na	H	na	na	na	na	na
Tibar Bay	Na	na	na	na	na	na	na	na	H	na	M	na	na
Vilca-Maumeta	Na	M	M	H	L	na							

## **Discussion**

Understanding the potential impacts of different uses on the values identified in the marine environment will necessarily require the use of a variety of techniques. Issues of knowledge, data availability, cost, and uncertainty all limit the application of many tools and approaches. It might be desirable to have a single tool that could be used to decide on the optimal/most efficient management option, but this is only possible in a limited number of circumstances, and policy makers often prefer a set of options that they can test against additional non-scientific criteria. A hierarchy of tools, moving from simple, rapid and low cost tools that screen out minor risks, to progressively more complex and costly tools would support the prioritisation that managers will typically need to undertake.

In assessing risk, there are three key concerns that need to be addressed: (1) there are multiple pressures on the marine environment; (2) some or all of these will have a substantial probability of adversely impacting the social, economic or ecosystem values (high risk); and (3) it is uncertain which ones will have high risk, what the magnitude of that impact will be and what are the likely synergistic effects with other pressures. A framework is needed that allows rapid assessment and elimination of low risk pressures and a graduated response as risk increases, thus focusing assessment (and management) effort either where risks are greatest and/or where intervention can be most effective.

## **Future Options**

Future efforts may consider adopting an assessment hierarchy with multiple levels of increasing information needs. The first level may be an expert-based assessment of the interaction between the values in the relevant system and identified pressures. This first level of assessment is based on a general conceptual model of the system, while subsequent levels of assessment require an increased use of mathematical models that provide greater understanding, prediction and scope for management interventions. The second level employs qualitative mathematical models that use the information from the first level to build a more robust understanding of the subsystem being examined. The third level combines the use of qualitative and quantitative models that require extensive data and resources. This might include formal fisheries assessment processes and techniques. Each of the previous levels provides the context and justification for further investigation of risk to ecosystems/values/assets (i.e., which may require examination at the next level in the hierarchy), or allows a management decision at that level. While the three levels of assessment are laid out as a three-stage progression, they are, in practice, intended to provide a progressive feedback between modelling, monitoring and management activities.

# Step 4 - Management

## Objectives

The information resulting from the previous three steps (Scoping, Values, Uses and Impacts) provides an opportunity to focus on management interventions for particular pressures that are acting on the identified values in specific areas.

The objective of this step is to build on the improved understanding of the ecosystem from the previous steps and to identify the minimum intervention/management measure that will ensure that these objectives and priorities are met. Identifying the management intervention that is needed will require an understanding of how the pressures are likely to interact with the values. The minimum management intervention should only target the pressures that interact with the values. Using this approach would emphasise the custom of sectoral management arrangements, unless there are cumulative impacts that span multiple sectors. For example, fisheries agencies would be responsible for managing fisheries, except in circumstances where other sectors impacted the same values in the area. If mining were to also be undertaken in the same area, then the cumulative impact of these activities would have to be assessed, resulting in management interventions that may involve multiple sectors. Pressures such as land-based run-off and pressures on in-shore ecosystems will also generally require multi-sector integrated management interventions.

In some circumstances, the number of values and complexity of ecosystems might render single sector approaches inefficient and marine protected areas could be seen as an alternative if the values were all required to be maintained.

## Practical Exercise (Part 1)

Part 1 of this step's practical exercise saw the participants focus on management options for a number of developments in areas around Timor-Leste, assessing their impact on the values and priorities identified in previous steps. The identified areas for the practical exercise showcase a variety of development types with different impacts potentially affecting a multitude of values and priorities.

For these development locations, participants were asked to think about what types of spatial management will allow Timor-Leste to maintain and achieve the priorities identified in Step 1 while balancing the values and uses from Steps 2 and 3. There is a wide variety of uses in Timor-Leste, but they are not all distributed evenly in space and do not all interact with the values identified in Step 2.

In this exercise, participants were asked first to consider a specific area and, in the context of the objectives identified in Step 1, the values and uses identified in Step 2, consider:

- Which management actions are most appropriate to enhance the values and minimize adverse impacts in this area?

## Results<sup>12</sup>

The breakout groups each considered one of the primary objectives that they identified on the first day, and considering the major uses identified related to this objective, what management actions needed to achieve the objective. The results are shown as follows:

OBJECTIVE	USE	ACTION/MANAGEMENT
Reduce community fishing in Atauro Island and achieve sustainable use of marine resources	Community fishing in Atauro Island	<ul style="list-style-type: none"> <li>• Education and public awareness</li> <li>• Community-based management</li> </ul>
Reduce the high impact on marine biodiversity through management	Tourism	Environment and education <ul style="list-style-type: none"> <li>• Waste management</li> <li>• Integrated coastal management (ICM)</li> <li>• Marine protected areas (MPA)</li> <li>• Interaction between environment and infrastructure</li> <li>• Ecotourism</li> </ul>
Reduce the high impact on marine biodiversity through management	Pollution	<ul style="list-style-type: none"> <li>• Enforcement of legal frameworks through policy and implementation</li> <li>• Dissemination of environment and fisheries law</li> <li>• Waste management</li> <li>• Reforestation</li> </ul>
Reduce the high impact on marine biodiversity through management	Ports	Standardisation of projects (e.g. set standards for port activities)
	Artisanal fishing	<ul style="list-style-type: none"> <li>• Public awareness</li> <li>• Monitoring</li> <li>• ICAP</li> <li>• Law</li> <li>• Tara Bandu (traditional law)</li> </ul>
Minimise impact on marine resources	Tourism (diving)	Awareness-building through <ul style="list-style-type: none"> <li>• Media</li> <li>• Radio</li> <li>• TV</li> <li>• Posters</li> </ul>

<sup>12</sup> Disclaimer: It is important to note that the workshop was intended as a capacity building exercise and, as such, does not represent the official views of the offices or ministries involved. The various sessions of the workshop were intended as illustrative training exercises for the workshop participants and, therefore, the outputs of the sessions, including any maps, are not official designations. The information used in the workshop was based entirely on the information and knowledge of the workshop participants.

Improve resource management Healthy environment Sustainable Income	Multiple uses in Dili	<ul style="list-style-type: none"> <li>• Establish and enforce legal frameworks</li> <li>• Capacity building</li> <li>• Socialisation</li> <li>• Sensitization</li> <li>• Regular cleanup</li> </ul>
Improve resource management Healthy environment Sustainable Income	Multiple uses in Baucau	<ul style="list-style-type: none"> <li>• Establish and enforce legal frameworks</li> <li>• Capacity building</li> <li>• Socialisation</li> <li>• Sensitization</li> <li>• Regular cleanup</li> </ul>
Create healthy environment in Tibar Bay into the future	Uses in Tibar Bay	<ul style="list-style-type: none"> <li>• Law enforcement (within existing environmental laws)</li> <li>• Raise awareness (evaluate education)</li> <li>• Provide facility <ul style="list-style-type: none"> <li>a. Rubbish bin for every household</li> <li>b. Provide closed/covered rubbish transports</li> <li>c. Promote recycle system (Reduce, reuse, recycle)</li> <li>d. Ministry coordination</li> </ul> </li> </ul> <p><b>Financial Support</b></p> <ul style="list-style-type: none"> <li>• State budget</li> <li>• Bilateral/donors</li> <li>• Other initiative (e.g., Healthcare)</li> </ul> <p><b>Continuous Monitoring</b> by all stakeholders</p>
<b>BELOI MARINE RESOURCE MANAGEMENT</b>		
Increase fish population	Fishing	<ul style="list-style-type: none"> <li>• Establish MPAs</li> <li>• Tara Bandu (traditional law)</li> <li>• Reduce net size</li> <li>• Aquaculture fish farms</li> <li>• Monitor fishing methodology</li> </ul>
Promote ecotourism	Tourism	Promotion and facilitation of ecotourism
Reduce the negative impact of port activities	Port	<ul style="list-style-type: none"> <li>• Create good management for port activities</li> </ul>
Reduce pollution	Various uses that create waste/pollution	<ul style="list-style-type: none"> <li>• Local and tourist education</li> <li>• Local recycle</li> <li>• Beach cleanups</li> </ul>
Regional efforts	Climate change Ozone depletion substances control	<ul style="list-style-type: none"> <li>• Support global effort in reducing carbon emissions and ozone depleting substances</li> </ul>
Increase economic benefits	Aquaculture (Seaweed)	<ul style="list-style-type: none"> <li>• Dedicated seaweed farm areas</li> </ul>

## Practical Exercise (Part 2)

Each of the breakout groups were then presented with one of the following hypothetical scenarios for new development projects in a specific area: (i) construction of a new harbour and marine, (ii) construction of a super resort, (iii) development of an offshore aquaculture farm, and (iv) development of a wave energy project. They were then asked to consider how each of these hypothetical uses would affect the existing values and uses in these areas and what management actions would be needed.

## Discussion

The practical exercises in this step gave participants the opportunity to identify potential impacts from a range of scenarios that may affect values and priorities identified in Timor-Leste's marine and coastal areas in the previous steps. Some impacts were positive, enhancing stakeholder values while some may negatively affect the values (i.e., through biodiversity loss and pollution). In light of these affected identified values, participants designed a number of management options to reduce and manage the potential negative impacts on the identified values. There were a range of management options available under government legislation to facilitate meeting the operational objectives and ensuring that stakeholder values and objectives were met. Some of the impacts were identified as single sector impacts, requiring management from a single sector (i.e., fisheries). Others would require multiple sector management arrangements (i.e., fisheries, community and environment) to ensure values are maintained.

Participants were asked to identify areas where spatial planning and management could directly address stakeholder values and opportunities in Timor-Leste's marine environment.

## Future Options

Future efforts may want to consider the following:

- Implementing a further cycle of identification of operational objectives with clearly articulated thresholds to trigger actions from conceptual ecosystem models. These thresholds may result from a formal process of expert and stakeholder elicitation. The links between pressures and values should be identified and a heuristic understanding of the whole ecosystem should be used to identify which management interventions will have the greatest impact.
- Building qualitative models using an improved understanding of ecosystem structure, building on knowledge from monitoring and scientific sampling, can be used to identify the direct and indirect impacts of pressures on biodiversity values.
- Undertaking a management strategy evaluation using qualitative, statistical and numerical ecosystem models can be used to identify thresholds and alternative management scenarios to meet operational objectives.

# Step 5 - Monitoring

## Objectives

This step addresses elements of a process for monitoring and evaluation of the effectiveness of management through indicators. It aims to assess whether management is working and progress is being made towards achieving the operation objectives and what changes may need to be made.

Monitoring programs should be linked to the operational objectives and should meet three broad requirements; 1) there are appropriate management actions in place with appropriate governance to respond to monitoring; 2) the management actions will result in changed behaviour of the resource users, and 3) these will lead to an improvement in the indicator.

There are four main components of monitoring:

1. **Objectives:** What do you want to achieve?
2. **Indicator:** What you will measure?
3. **Target:** If the indicator meets this, then the objective is achieved
4. **Time:** The time by which the target will be met.

Different types of categories of monitoring can also be considered, such as governance, social/economic and fisheries/environmental.

## Practical Exercise

Breakout groups were then presented with an exercise for monitoring and evaluation as follows:

- Chose one of the management areas addressed in Step 4
- Develop monitoring for each management action, in line with the operational objectives selected, and
- List the indicator/target/time for each management action/objective.
  - Each of the objectives/indicators/targets/timeframes must be linked to the priorities from Step 1.
- Consider whether the priorities from Step 1 might need to be adjusted.

## Results<sup>13</sup>

The participants identified the following potential elements of a monitoring and evaluation framework for the various objectives identified in the first session.

Sector	Objective	Indicator	Target	Priorities
Community fisheries	Increase community income by 50% through implementing a community-based program to achieve sustainable use of marine resources in 5 years	Income	Increase in income by 50% in 5 years	Implement community-based programme to achieve sustainable use of marine resources.
Coastal management zone	To establish a port which has limited impact on the environment while delivering economic and socio-cultural objectives	<ul style="list-style-type: none"> <li>• Reforestation</li> <li>• MPA</li> </ul>	Percentage of the community which will receive direct and indirect benefits	To establish a port which delivers the economic and socio-cultural objectives while maintaining the ecological integrity of the region
Fisheries	To reduce the fishing pressure in Lore 1 by 75%	<ul style="list-style-type: none"> <li>• Quantity of fisherman in coastal area is reduced.</li> <li>• Increase fisherman skills in deep-sea fishing.</li> <li>• Fish habitat and population is recovered and size increased.</li> </ul>	In 5 years, reduce the fishing pressure in Lore 1 by 75%	<ul style="list-style-type: none"> <li>• Capacity building</li> <li>• Provide appropriate fishing gear</li> <li>• Increase public awareness</li> <li>• Law enforcement</li> </ul>

<sup>13</sup> Disclaimer: It is important to note that the workshop was intended as a capacity building exercise and, as such, does not represent the official views of the offices or ministries involved. The various sessions of the workshop were intended as illustrative training exercises for the workshop participants and, therefore, the outputs of the sessions, including any maps, are not official designations. The information used in the workshop was based entirely on the information and knowledge of the workshop participants.

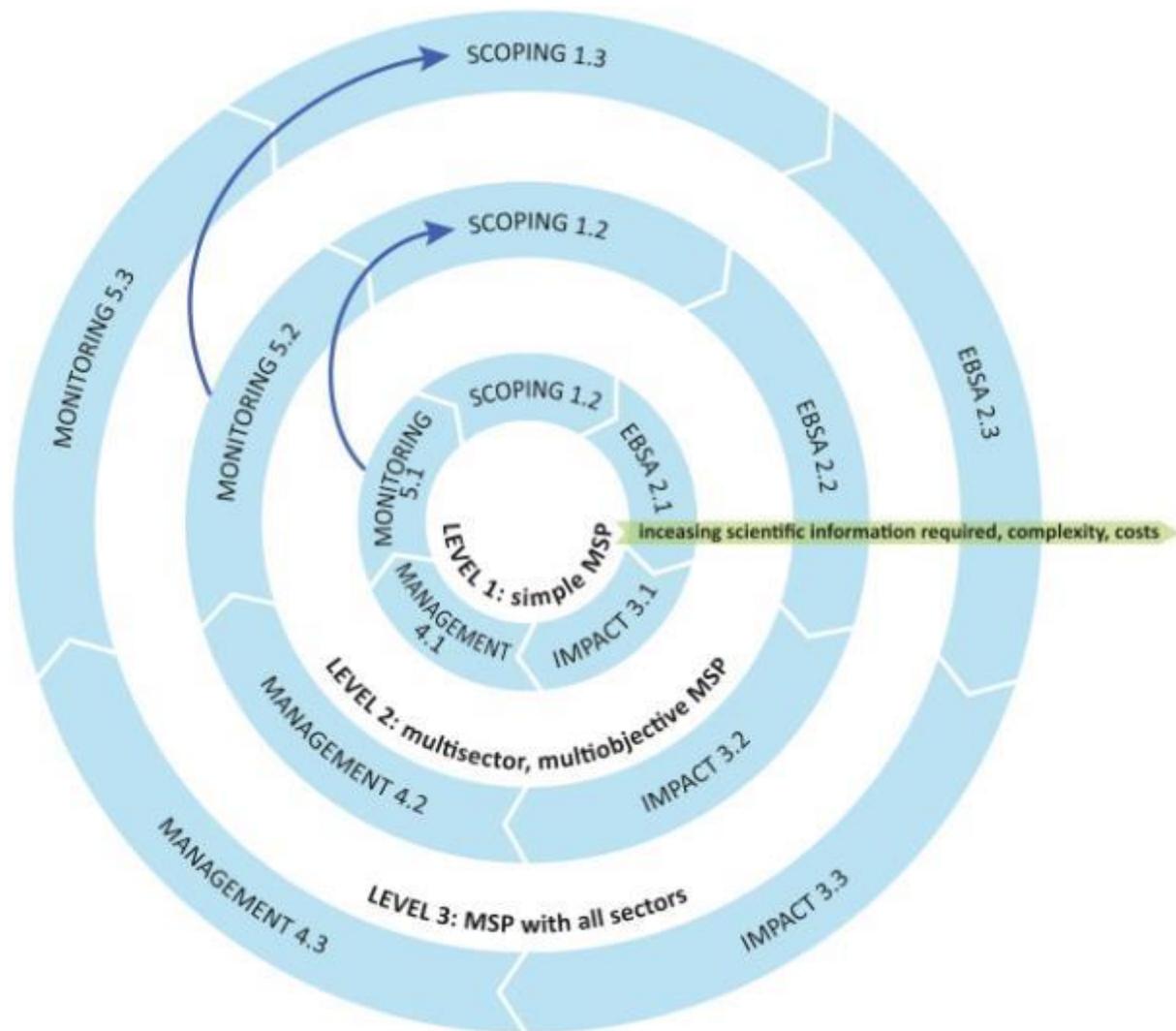
Environment	<ul style="list-style-type: none"> <li>• Minimize solid waste to the marine environment at Tibar Bay</li> <li>• Strengthen the ability of the local community to have good management and income to local community</li> </ul>	<ul style="list-style-type: none"> <li>• Local community leaders manage solid waste by 50% in 5 years.</li> </ul>	<ul style="list-style-type: none"> <li>• Management of solid waste achieved</li> <li>• Facilitate rubbish bins, trucks with covers are provided</li> <li>• 3 R's (recycle, reuse, reduce) are implemented and effective</li> <li>• Relevant legislation/ regulations are in place within 5 years</li> <li>• In 5 years, manageable rubbish dumping is established</li> <li>• 50% of solid waste is recycled, reduced and reused.</li> </ul>	<ul style="list-style-type: none"> <li>• To keep the Bay ecologically healthy</li> </ul>
Fisheries	To enhance the size and weight of fish caught	<ul style="list-style-type: none"> <li>• Fish size by weight</li> </ul>	<ul style="list-style-type: none"> <li>• Fish size maintained and increased by 30% after 5 years</li> </ul>	<ul style="list-style-type: none"> <li>• Establish MPAs</li> <li>• Fishery management, net size, fishing methods and regulations.</li> </ul>
Pollution	To reduce waste in Beloi through beach clean-ups	<ul style="list-style-type: none"> <li>• Weight of total waste collected in kg</li> </ul>	<ul style="list-style-type: none"> <li>• 30% less waste weight in 3 years</li> </ul>	

## Future Options

Future efforts related to the development of a process for monitoring and evaluation may want to consider the following:

- Utilise existing programs and capabilities to monitor the pressures and values identified for each area meeting the value criteria, if these programs are suitably located.
- Developing heuristic understanding of how the area has changed, based on, for example, monitoring of similar systems where existing programs are suitably located, and/or from partial observation of the system's components/processes.
- Build capacity to target particular values and identify the degree of confidence on the current state of each biodiversity value, and target scientific sampling that is linked to operational objectives.
- Develop and implement a scientific monitoring program with a sampling design to allow identification of thresholds and trends from the data.
- Utilise statistical models to track performance and trends of values relative to the operational objectives.
- Identify indicators that have improved with additional data.

# Appendix 1 – CSIRO EBSA Marine Spatial Planning process diagram



The schematic diagram of the process to use scientific information related to EBSAs within an MSP / ecosystem-based management (EBM) framework, which is similar to many other frameworks. It can be started with very simple tools and slowly built upon as capacity and scientific understanding increases.<sup>14</sup>

Please see: Dunstan PK et al (2016) Using Ecologically or Biologically Significant Areas to implement Marine Spatial Planning. *Ocean and Coastal Management* 121: 116-127.

<sup>14</sup> Dunstan PK, Bax NJ, Dambacher JM, Hayes KR, Hedge PT, Smith DC, Smith ADM (2016) Using Ecologically or Biologically Significant Areas to implement Marine Spatial Planning. *Ocean and Coastal Management* 121: 116-127.

## Appendix 2 - List of Participants

NAME	INSTITUTION	POSITION
João Carlos Soares	MCIA-DGA	Director General
Donna Hayes	CSIRO	Seno-E.Suentrs
Rui dos Reis Pires	DNPRB-MCIA	Director
Francisco C. dos Santos	DNPRB-MCIA	Staff
Marçal Gusmão	UNTL	National Focal Point for Timor-Leste to the Nagoya Protocol on Access and Benefits Sharing
Mario Ximenes	MCIA-DNAC	Staff
Flaminio M.E. Xavier	MCIA-DNPRB	Head of Department
Lucas Fernandes	Fisheries /MAP	Head of Management RP Department
Françelino Cardozo	PGA	Head of the SOM
Luçio S.Babo	MCIA- DNAC	Staff
Carlos C.	MCIA	-
Clarinha de Araujo	Pemsea Pescas	Staff
João dos Santos	Floresta	Staff
Viçente Saneher	DSAMD	Staff
Fraçisco X.C. Pereira	MAF-Fisheries	Staff
Gregorio Quintao	Quarantine	Head of Department
Avelino Moniz	Haburas Fundadation	Staff
Anselmo L.A.	CT	MPM
Herculano M.Boavida	DNCPIA –MCIA	Technical staff of AIA
Obed Lopes N.Mauzinho	NGO Belun	Programme Coordinator
Martinho Freitas	UNITAL	Student
Basilio Guterres	DNPRB-MCIA	Staff
Juvita G.soarres	DNPRB-MCIA	Staff
Jovita Barreto de Araujo	DNPRB-MCIA	Staff
Pedro Sequeira	UNITAL	Lecturer
Guilermimo Quintao		Staff
Armandina Marçal	MAF	Researcher
Eubenia Borques Amaral	UNITAL	Student
Olinda Ximenes Alves	MCIA	-
Aida P.DA Costa	DGA-MCIA	Staff
Aires E.Aparicio Guterres	DUGONG	PM
Linçe Pessy Fonseca	UNITAL	Dean of Agricultural Faculty
Augusto Manuel Pinto	DNAC-MCIA	Director National Focal Point for Timor-Leste to the Convention on Biological Diversity
João C.da Silva	PNTL –UPM	Commandant UPM
Amenica M.Fernandes	DNCPIA	Head of Department
Caetano Ximenes	PEMSEA-TL	AFA
Cesaltino de Carvallo	MCIA	Advisor
Sancha Pinto da Silva	MAP/Fisheries	Staff
Alda Sousa L.dapose	MAP/Fisheries	Staff
Elda da Costa	MCIA /DGA	Staff
Abilio da Fonseca	MCIA	Staff
Toiki Kilo	MCIA	Staff
Orlando A.Kales	MAP	Head of Department

Arlindo Silveira	DNAC-MCIA	Staff
Sean Clement	Blue Ventures	Conservation Coordinator
Getrudes da C. Araujo	DNCPIA –MCIA	Staff
Tessa Koppert	USP	ICC
Gilsel Borges	Gabinete PM	Focal Point
Fernanda C.DA Silva	MCIA /DNPRB	Staff
Luçia Lemos Salsinha	MCIA-DNPRB	Staff
Manuel Madeira Savio	Quarantine -MAP	Staff
Clementino J.B	MCIA –DGA	Staff
Mario Ximenes	MCIA-DNAC	Staff National Focal Point for Timor-Leste to the Montreal Protocol on Substances that Deplete the Ozone Layer
Arsenia da Cruz	MCIA-DNAC	Staff
Aurelia da Silva Amaral	MCIA –DNPRB	Staff
Raimundo Mau	Conservation International	SPM
Carlos Ximenes	MCIA	Staff
Armando Bareto	MCIA-DNPRB	Staff
Elvira das N. Boavida	MCIA-DNPRB	Staff
Andre Soares	MCIA-DNPRB	Head of Department
Aliança Fatima Maia	MCIA -DNPRB	Staff
Henry.G.Monossoh	MCIA-DNPRB	Staff
Olderita Marques	MCIA-DNPRB	Staff
Euzinho T.S.Borges	MCIA-DNPRB	Staff
Aurelia da Silva Amaral	MCIA-DNPRB	Staff
Joselino G.R. Da Silva	MCIA-DNPRB	Staff

## Appendix 3 – Workshop Programme

<b>Tuesday, 6 September</b>	
9 a.m. to 9.30 a.m.	<p><b>Agenda Item 1. Opening</b></p> <ul style="list-style-type: none"> <li>▪ Representative of the Government of Timor-Leste</li> <li>▪ Representative of the Executive Secretary of the CBD</li> </ul>
9.30 a.m. to 9:45 a.m.	<p><b>Agenda Item 2. Workshop background, objectives, scope and expected outputs.</b></p> <p>2.1 Presentation by Joe Appiott (CBD Secretariat)</p> <ul style="list-style-type: none"> <li>• Global context (Convention on Biological Diversity, Aichi Biodiversity Targets; Sustainable Development Goals)</li> <li>• Workshop background, objectives and scope</li> </ul>
9:45 a.m. to 10:15 a.m.	<p><b>Agenda Item 3. Identifying a shared vision of marine and coastal biodiversity in Timor-Leste towards achieving the Aichi Biodiversity Targets.</b></p> <p>3.1 Roundtable introduction of participants</p> <p>3.2 Plenary discussion on the needs and expectations of participants for the workshop</p>
10:15 a.m. to 10:30 a.m.	<i>Coffee/tea break</i>
10:30 a.m. to 10:45 a.m.	<p><b>Agenda Item 4. National policy context for management of marine and coastal biodiversity in Timor-Leste.</b></p> <p>4.1 National context</p> <ul style="list-style-type: none"> <li>• Presentation on national context by Augusto Pinto (Timor-Leste) <ul style="list-style-type: none"> <li>○ National priorities for marine biodiversity</li> <li>○ Institutional framework for ocean resources</li> </ul> </li> </ul>
10:45 a.m. to 12 p.m.	<p>4.2 Presentation by Piers Dunstan (CSIRO)</p> <ul style="list-style-type: none"> <li>• Workshop approach</li> <li>• Marine spatial planning (MSP) and integrated management</li> </ul> <p>4.3 Group exercise on identifying complementary and conflicting priorities for marine resources in Timor-Leste</p>
12 p.m. to 1 p.m.	<i>Lunch</i>
1 p.m. to 2 p.m.	<i>Agenda item 4.3 continued</i>
2 p.m. to 3 p.m.	<p><b>Agenda Item 5. Understanding the different uses, values and pressures related to marine and coastal biodiversity in Timor-Leste and the interactions among them.</b></p> <p>5.1 Group exercise on identifying the important and valuable areas in Timor-Leste for social, cultural, environmental and economic reasons</p>

3 p.m. to 3:30 p.m.	<i>Coffee/tea break</i>
3:30 p.m. to 5 p.m.	<i>Agenda item 5.1 continued</i>

<b>Wednesday, 7 September</b>	
9 a.m. to 10.30 a.m.	5.2 Group exercise on critical issues related to marine resource management in Timor-Leste <ul style="list-style-type: none"> <li>• How and where are people using Timor-Leste's marine resources in different ways?</li> </ul>
10.30 a.m. to 10:45 a.m.	<i>Coffee/tea break</i>
10:45 a.m. to 12:30 p.m.	<i>Agenda item 5.2 continued</i>
12:30 p.m. to 1:30 p.m.	<i>Lunch</i>
1:30 p.m. to 2:45 p.m.	<b>Agenda Item 6. Enhancing cross-sectoral planning and management of marine and coastal biodiversity in Timor-Leste through marine spatial planning.</b> 6.1 Group exercise on identifying management options in the context of the values and uses identified in previous exercises
2.45 p.m. to 3 p.m.	<i>Coffee/tea break</i>
3 p.m. to 5 p.m.	<i>Agenda item 6.1 continued</i>

<b>Thursday, 8 September</b>	
9 a.m. to 10:30 a.m.	<b>Agenda Item 7. Monitoring and evaluation: How to tell if you are doing well.</b> 7.1 Group exercise on developing and implementing effective monitoring and evaluation
10.30 a.m. to 11 a.m.	<i>Coffee/tea break</i>
11 a.m. to 12:30 p.m.	<i>Agenda item 7.1 continued</i>
12:30 p.m. to 1:30 p.m.	<i>Lunch</i>
1:30 p.m. to 3 p.m.	<b>Agenda Item 8. Conclusion and next steps</b> <ul style="list-style-type: none"> <li>• Starting a marine spatial planning (MSP) process: Identifying potential first steps for Timor-Leste</li> </ul>
3 p.m. to 3:30 p.m.	<i>Coffee/tea break</i>
3:30 p.m. to 4:30 p.m.	<i>Agenda item 8 continued</i>
4:30 p.m. to 5 p.m.	<b>Agenda item 9. Closure of the workshop</b>