#### **Coral Friangle Initiative** ON CORAL REEFS, FISHERIES AND FOOD SECURITY

# RIES AND FOOD SECURITY





## Indonesia NATIONAL PLAN OFACTIONS



#### **FOREWORD**

This Indonesian National Plan of Actions of Coral Triangle Initiative on coral reef, fisheries and food security (CTI-CFF) has been constructed through series of workshops attended by relevant sectors both at the national and local levels since May 2008. The NPOA was developed in line with the Regional Plan of Actions which was agreed by six coral triangle countries and based on Government of Indonesia's long term strategic plan and policies related to CTI-CFF.

As a new initiative which has been prepared in a relatively short time, it is realized that this NPOA on CTI-CFF still needs to be further developed and by no means final. However, this NPOA will be used as the bases for implementing CTI-CFF programs in Indonesia. This document will continue to be improved timely, adapting changes and corrections based on national priorities. Therefore, constructive comments, critics, and suggestions from all parties and stakeholders are always welcome.

Jakarta, May 2009

National Secretariat of CTI-CFF Indonesia

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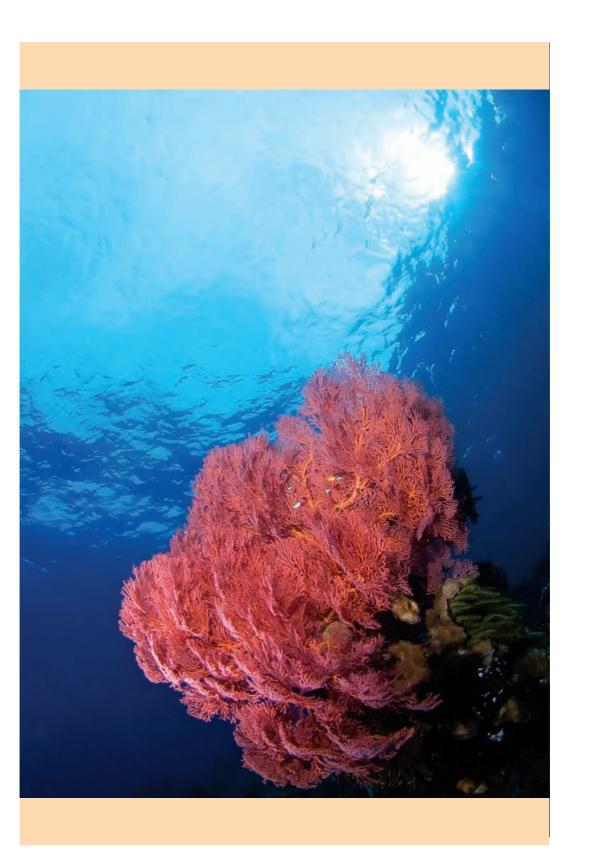
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## SECTION 1

#### CONTEXT

#### Introduction

The extent of Indonesia's ocean that reaches 5.8 sq.km, with about 81,000 km of coastline, has made Indonesia the world's largest archipelago. Around 85,000 sq of coral reef area and around 24,000 sq.km of mangrove, bestowed Indonesia with an exceptionally high coral and fish diversity as well as the abundance of other marine resources. People of Indonesia depended to fish and other marine resources for their livelihood and main food source. With 60% of Indonesian population live within 50 km of the coast, other services given by marine resource such as coral reef are increasingly understood as safeguards to the society, economically and culturally. Twenty percent of the Indonesian's GDP is derived from marine and fishery industries.

The invaluable marine resources, as true with elsewhere in the world, Indonesia's marine resources are under a serious threat. As fishing is an occupation of last resort due to population growth, limited employment opportunities, lack of land and financial resources as well as open access fisheries, the number of Indonesian coastal fishers has increased by



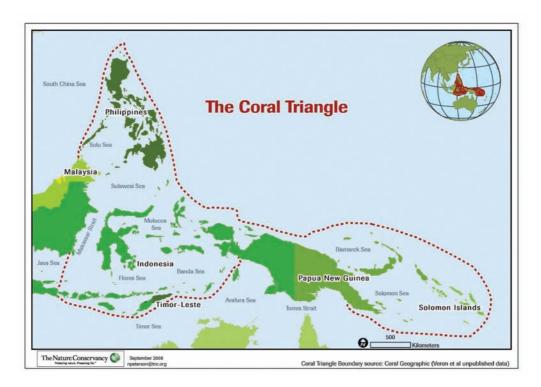
Indonesia National Plan of Actions | SECTION 1

more than 40% over the last 10 years. This has triggered overfishing and destruction to the resources through cyanide and blast fishing. Global climate change and physical development have added complications to the condition of coastal marine resource, such that it has increased the vulnerability of coastal fisheries, hence the survival of coastal communities.

President Susilo Bambang Yudhoyono understood that to overcome the tremendous challenge, Indonesia could not work alone. To resolve the crisis of this magnitude will require Indonesia and other five Coral Triangle countries to work together in approach that transformational and collaborative in nature. The CTI has become the common ground in which the governments and partners are working together to



ensure regional level protection of marine resources. The six governments are finalizing a 10-year CTI Plan of Action that reflects their common priorities and commitments as well as inputs from partners.



SECTION 1 | Indonesia National Plan of Actions

#### **The National Plan of Action**

The implementation of Coral Triangle Initiative in Indonesia will be directed towards the accomplishment of the five goals agreed upon in the first Senior Official Meeting in Bali, December 2007. Such goals and targets developed are then tied to the medium- and

long-term government strategies related to coral reef, fisheries, and food securities. Such implementation plan is laid out in the National Plan of Action, which will guide and streamline Indonesia's effort on the ground to the achieve conservation of coral reef for the sustainability of fisheries and food security.

Indonesia's Plan of Action mirrors the layout, structure, as well as targets laid out in the Regional Plan of Action. As with the Regional Plan of Action, the National Plan of Action consists of



two major section; the first covers the overarching commitments specific to Indonesia' position and conditions and the second lays out specific commitments related to priority actions aims to achieve targets agreed in the RPOA. The Plan of Action provides rationale for targets in each goal; priority actions committed by the government of Indonesia and are translated into series of activities, measures of outcome and time line. Priority actions and tangible activities contained in the national plan of actions were identified and agreed through a series of stakeholder consultations at the national and local level. Related to targets in each goal, such activities become the backbone in achieving each goal. The scope under which activities are set up includes assessment, monitoring, and research, capacity building, public/private partnerships, and enabling laws and policies.

#### **The National Coordination Committee and Working Groups**

Five working groups were established aiming to ensure a consistency of implementation to the regional goals and target. The working groups also strive to maintain each activity set is scientifically defendable, implementable and yielding positive tangible result for communities and Indonesia's society at large.

Different institutions appointed as a lead to facilitate dialogues and discussions within each goal. Ministry of Marine Affairs and Fisheries; Ministry of Forestry, particularly

Directorate of Forest Protection and Nature Conservation that deals with conservation areas and biodiversity conservation at the national level; and Ministry of Environment hold important roles in the working groups. The working groups work hand-in-hand with other stakeholders including international, national and local Non-Governmental Organizations, provincial and district governments, universities and experts in developing activities indicators, based on common indicators established at the regional level, against which the activities will be measured.

#### **Commitment to Actions**

As one of Coral Triangle initiators, Indonesia has committed a large sum of its national budget for the Initiative's implementation. The budgeting plan has already underway to make sure that after the Coral Triangle Summit in Manado in May 2009 initial activities can be executed. In addition, some on-going activities closely related to achieving some goals, will give a head start to the implementation activities, particularly such that give framework and reference of enabling laws and policies in different level of government to be enforced on the ground.

Indonesia's CTI Plan of Actions will become a guidance and reference to which the activities on the ground are implemented. Such Plan of Action is also a living document that can be adjusted and adapted regularly to accommodate the needs of the people of Indonesia to achieve the success of conservation of coral reef for the sustainable fisheries and food security.

## SECTION 2

#### **GUIDING PRINCIPLE**

The following principles will guide our actions under the Coral Triangle Initiative process:

**Principle #1: CTI should support people-centered biodiversity conservation, sustainable development, poverty reduction and equitable benefit sharing.** CTI goals and actions should address both poverty reduction (e.g. food security, income, and sustainable livelihoods for coastal communities) and biodiversity conservation (e.g. conservation and sustainable use of species, habitats, and ecosystems).

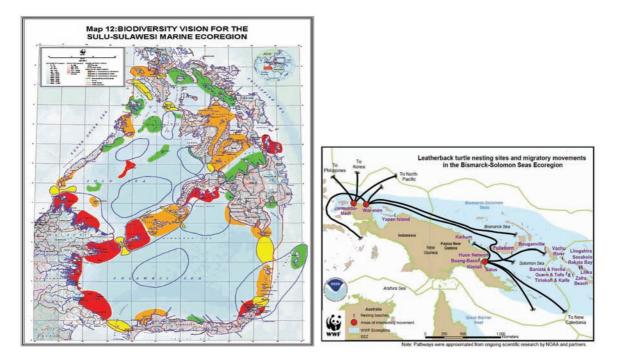


Indonesia National Plan of Actions | SECTION 2

**Principle #2: CTI should be based on solid science.** Solid science and data on fisheries, biodiversity, natural resources, and poverty reduction benefits should form a basis for establishing goals and implementation activities. In the absence of conclusive scientific information, the precautionary principle/approach will apply.

**Principle #3: CTI should be centered on quantitative goals and timetables adopted by governments at the highest political levels.** Concrete, quantitative goals should be established that are measurable and linked to specific and realistic timetables for achievement. Specific milestones should be adopted that define progress toward achieving these goals. Goals should cover both national and regional levels. Indicators should be adopted for the targets and timeframes.

**Principle #4: CTI should use existing and future forums to promote implementation. Relevant existing forums should be used to implement actions under the CTI.** These include, for example, tri-national commissions on the Sulu Sulawesi Seas (SSME) and Bismarck Solomon Seas (BSSE); APEC; ASEAN; Secretariat for the South Pacific Regional Environment Program (SPREP); the Brunei, Indonesia, Malaysia and Philippines East ASEAN Growth Area (BIMP-EAGA); Arafura and Timor Seas Experts Forum (ATSEF); and Program for the Environmental Management of the Seas of East Asia (PEMSEA).



SECTION 2 | Indonesia National Plan of Actions

**Principle #5: CTI should be aligned with international and regional commitments.** Goals and activities should be supportive of international and regional commitments already made under relevant legal instruments and multilateral processes (e.g., SSME, Convention on Biological Diversity, Millennium Development Goals, ASEAN, APEC, Pacific Islands Forum, CITES, UNCLOS, Regional Fisheries Management Organizations, and UNFCCC).

**Principle #6: CTI should recognize the transboundary nature of some important marine natural resources.** Goals / activities should take into account the trans-boundary nature of some marine resources & threats (land- and sea-based) to these resources (e.g., shared fish stocks, migratory sea turtles and marine mammals, IUU fishing, live reef fish trade). Trans-boundary activities under CTI should not prejudice recognized boundaries or ongoing negotiations on legal boundaries between nations.

**Principle #7: CTI should emphasize priority geographies.** Goals / activities should help focus resources and investments on priority geographies (e.g., large-scale "seascapes" requiring prioritized attention, identified through ecoregional assessment processes).

**Principle #8: CTI should be inclusive and engage multiple stakeholders.** Multiple stakeholder groups should be actively engaged in the CTI, including other national governments, local governments, NGOs, private sector companies, bilateral donor agencies, multilateral agencies, indigenous and local communities, coastal communities, and the academic and research sector.

Principle #9: CTI should recognize the uniqueness, fragility and vulnerability of island ecosystems.

## SECTION 3

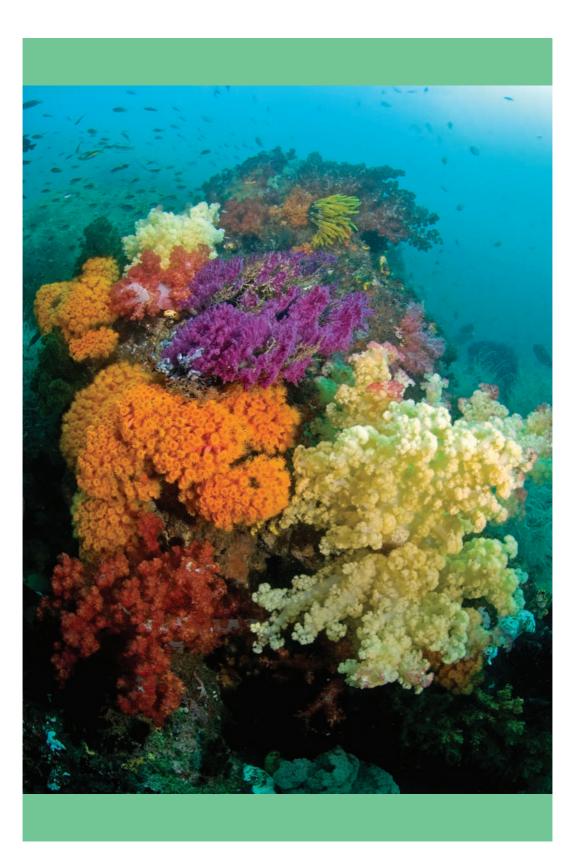
#### INDONESIA'S COMMITMENT TO ACHIEVE THE SUCCESS OF CORAL TRIANGLE INITIATIVE ON CORAL REEFS, FISHERIES AND FOOD SECURITY

The Coral Triangle countries had agreed upon the Regional Plan of Action as a reference for implementation of the Initiative in the respective countries. In particular, the CT countries are in agreement of the five goals to achieve the ultimate objective of the Coral Triangle Initiative. The development of National Plan of Action CTI Regional Plan of Action RPOA

In Indonesia, the five agreed goals directly related to actions to achieve specific target laid out in the Regional Plan of Action. Each goal contains rationales of actions that will be taken, prior, on-going, and planned activities and programs closely related to the goals.

SECTION 3 | Indonesia National Plan of Actions





Indonesia National Plan of Actions

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## **Goa**#1 "PRIORITY SEASCAPES" DESIGNATED AND EFFECTIVELY MANAGED

### Target #1 : "Priority Seascape" Designated, with Investment Plans Completed and Sequenced.

A set of priority seascapes is designated and will serve as the geographic focus of major investments and action during 2010 – 2020. Comprehensive Seascape Investment Plans for each priority seascape are completed, along with an overall Investment Sequencing Plan for each country that outlines a chronological sequencing of major actions and financial investments across the 10-year timeframe of the CTI Plan of Action.

#### **Rationale:**

The management of coastal and marine resource is by its nature spanned beyond administrative boundaries. The governance of such resource will require a comprehensive approach that sound ecologically and, at the same time, practical, so as to achieve the largest impact of better resources for human welfare.

Seascapes have increasingly been recognized as a potentially effective approach for the improvement of ocean and marine resource governance. Specifically strengthening the management of marine resources at sufficiently large spatial scale, seascape will generate significant ecological outcomes and hence, increasing the benefit to human well-being (insert references).

#### **PRIORITY ACTIONS**

**Action 1**. Seascape designated will be streamlined with the existing fisheries management areas (*wilayah pengelolaan perikanan* - WPP) (By 2014).

**Action 2.** Indonesia will finish conducting series of scientific characterization to identify and delineate several new seascapes within Indonesia's jurisdiction, for example: Sunda-Banda and Sawu Seascapes (By 2010).

**Action 3.** Indonesia will conduct series of scientific characterization to identify and delineate seascapes with potential trans-boundary issues (By 2010)



Indonesia National Plan of Actions | GOAL 1

#### Target #2 : Marine and Coastal Resources within All "Priority Seascapes" are Being Sustainably Managed

#### **Rationale:**

Coral Triangle Initiative recognizes the importance seascape for long term sustainability that ensure the achievement of ecological outcomes, i.e., better coral reef condition, hence, fish resources, and long term human well being.

#### **PRIORITY ACTIONS:**

**<u>Action 1.</u>** Indonesia will maintain the on-going management of existing seascapes for improved quality of marine and coastal resources.

<u>Action 2.</u> Lesson learned mechanism from existing seascape for replication in Indonesia will be in place (By 2010).

**Action 3.** Mobilize new and additional funding to support priority seascape program.

<u>Action 4.</u> Implementation of existing regional seascapes (SSME and BSSE) program within Indonesian jurisdiction

**Action 5.** Conduct periodic monitoring and evaluation on the effectiveness of seascapes.

#### **Goa** #2 ECOSYSTEM APPROACH TO MANAGEMENT OF FISHERIES (EAFM) AND OTHER MARINE RESOURCES FULLY APPLIED

#### **Rationale:**

As with oceans elsewhere, Indonesia's oceans are at or near maximum sustainable fisheries yields. Although fisheries provide direct and indirect employment to about 5 millions people in Indonesia, overfishing is the most commonly observe result of fisheries development. The consequences of overharvesting are particularly obvious in social, economic, cultural and ecological. The ecological consequences of overfishing often are undocumented and unless we use a comprehensive approach that places an importance on ecological system the



prospect of increasing total sustained yield unlikely. EAFM approach in fisheries management is considered a compliment to the existing approaches.

EAFM approach, particularly to fisheries management in Indonesia, is called for through Law No. 31/2004 on Fisheries; Law No. 27/2007 on Coastal Management; and Government Regulation No. 60/2007 on Fish Resources Conservation. While policy and regulatory frameworks is in place, its implementation of such frameworks are partial.

#### Target #1 : Strong Legislative, Policy and Regulatory Frameworks in Place for Achieving an Ecosystem Approach to Fisheries Management (EAFM)

#### **PRIORITY ACTIONS:**

**Action 1.** Develop regulations related to the EAFM supporting Law No. 27/2007 on coastal and small island management and Law No. 31/2004 on Fisheries

**<u>Action 2.</u>** Address and enforce legislation and regulations in combating IUU fishing and related issues

**<u>Action 3.</u>** Adoption of various international commitments (Such as Resolution and Management Measure adopted by RFMOs).

<u>Action 4</u>. Implement National Plan of Action derived from international Plan of Actions such as IPOA on Fishing Capacity

#### Target #2 : Improve the Income, Livelihoods and Food Security of 50 Million People Living in Coastal Communities Across the Region Through a New CTI Sustainable Coastal Fisheries and Poverty Reduction Initiative ("COASTFISH")

#### **PRIORITY ACTIONS:**

**Action 1.** Continue existing and, as needed, develop alternative income generating program, including capacity building and support for the small-scale enterprise at the community level (e.g., marketing).

Action 2. Additional funds and/or capital small-scale enterprise at the community level

Action 3. Develop integrated coastal fisheries communities to achieve sustainable fisheries

Action 4. Develop certifications schemes for fisheries best fisheries practice and products

#### Target #3 : Sustainable Management of Shared Tuna Stocks Achieved for All Species of Tuna Commercially Exploited in the Region

#### **PRIORITY ACTIONS:**

**Action 1**. Revitalize tuna fisheries through increasing capital, technical capacity of actors at different level, marketing, field monitoring, processing, as well as cold chain system.

#### Target #4 : A More Sustainable Trade In Live-Reef Fish And Reef-Based Ornamental Achieved

#### **PRIORITY ACTIONS:**

<u>Action 1.</u> Develop baseline data of aquarium fish and promote standard of Marine Aquarium Fish

Action 2. Develop strategic plan of sustainable fisheries for live reef fish trade

<u>Action 3.</u> Develop comprehensive management plan of Banggai Cardinal Fish

GOAL 2 Indonesia National Plan of Actions

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## Goa #3 MARINE PROTECTED AREAS (MPAs) ESTABLISHED AND EFFECTIVELY MANAGED

#### **Rationale:**

Marine protected areas hold an important role in implementing the precautionary approach and in mitigating the effects of fishing in an ecosystem (Yoklavich 1998). MPA should be established with the understanding that ecosystems change overtime and such natural variability is addressed in the planning, design and management process. This is because MPAs represents a form of insurance against excessive exploitation and



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other threat that would jeopardize the sustainability of fisheries and other resources upon which the communities are depended. A particular concern arises over the lack of protection for marine systems, in both sovereign (or national) and international waters. Less than 1% of the ocean is protected. The World Summit on Sustainable Development, the World Parks Congress, and the Convention on Biological Diversity have all committed to a goal of establishing a global network of marine protected areas by 2012, including on the high seas. Priorities include conservation of biodiversity through completion of systems of protected areas, particularly in the marine biome, as well as promotion of ecological networks and the ecosystem approach to enhance biodiversity conservation.

Indonesia had established and is currently developing MPAs and networks of MPA system with various objectives and sizes through government projects, by NGOs and local communities. To date, Indonesia had achieved around 11 hectares MPA and plans to establish and 20 millions hectares by 2020. This achievement and target should be linked closely to the effectiveness of the MPA and MPA networks established and implementation. In addition, while information, knowledge and science for MPA is abundant, emphasis needs to be placed in synthesizing such information to provide a lesson-learned mechanism for the effectiveness of management of the MPA networks.

#### Target #1 : Region-Wide Coral Triangle MPA System (CTMPAS) in Place and Fully Functional

#### **PRIORITY ACTIONS:**

**Action 1.** Establish and strengthen national system (grand strategy) of Marine Protected Areas integrated into regional and global networks to contribute to meet global agreed goals

**Action 2.** Establish and strengthen trans-boundary protected areas and collaboration between neighboring protected areas across national boundaries

**Action 3.** Improve MPA planning and management that address local and global key threats to marine resources

<u>Action 4.</u> Enhance and ensure involvement of local communities and relevant stakeholders in MPA planning and Management

Action 5. Provide an enabling policy and institutional environment for MPA

<u>Action 6.</u> Build capacity and strengthen institution for the planning, establishment and management of MPA

Action 7. Ensure funding sustainability for MPA and district and national system of MPAs

Action 8. Strengthen communication, education and public awareness on MPA

Action 9. Evaluate and improve effective management of national MPA systems

Action 10. Assess and monitor MPA status and trends

## **Goa#4 CLIMATE CHANGE ADAPTATION MEASURES ACHIEVED**



#### **Rationale:**

As with other archipelagic countries, climate change has imposed a defining challenge for policy makers and civil society in Indonesia. The length and timing of seasons are changing, the frequency and severity of floods, cyclones, along with the sea level rise are increasing. The vulnerability of coastal and marine resources is very important in the context of adaptation to the climate change impact.

Adapting to climate change will require concerted actions by local governments and their partners to manage a changing and more invasive environment. The need to promote changes in technologies, citizen participation, and coastal growth pattern are equally important parts of the behavior of coastal populations that contribute to global warming and create vulnerabilities to disaster.

#### Target #1 : Region-Wide Early Action Climate Adaptation Plan for the Near-Shore Marine and Coastal Environment Developed and Implemented

#### **PRIORITY ACTIONS**

**Action 1.** Identify and map Indonesian CT areas on their susceptibility levels on climate change impacts and link the information to biodiversity and socioeconomic value

**Action 2.** Produce national general guideline on adaptation measures on the potential of climate change impacts on marine and coastal ecosystem and communities based on synthesis and understanding of available science, information and knowledge.

**Action 3.** Formulate early warning system and response to weather variability, temperature variability and to changes storm phenomenon, including in coral bleaching and formulate immediate strategy or response on potential impacts of climate change on fishermen, such as impact of changes in weather pattern and season, sea temperature and storm.

**<u>Action 4.</u>** Conduct and develop strategic research that provides information critical to reducing key threats to coral reef ecosystems.

**<u>Action 5.</u>** Capacity building on education, research, and information system on climate change issues, related consequences and adaptation measures

### Target #2: Networked National Centers of Excellence on Climate Change Adaptation for<br/>Marine and Coastal Environments are Established and in Full Operation

#### **PRIORITY ACTIONS:**

**Action 1.** Develop and conduct various researches on climate change impact to biodiversity and socioeconomic, cost and benefit of actions and inactions and feed the result into policy processes.

**<u>Action 2.</u>** Develop National Center of Excellence on Climate Change Adaptation for Marine and Coastal Ecosystems.

Action 3. Develop national network on climate change research stations, sharing information

**Action 4.** Develop communication strategies for biodiversity and socio economic effect of climate change and synthesize existing information and knowledge (e.g. economic valuation/opportunity, connectivity, etc) to develop recommendation based on information.

GOAL 4 | Indonesia National Plan of Actions

## Goal#5 THREATENED SPECIES STATUS IMPROVING

#### **Rationale:**

The vast size and depth of Indonesia's marine resources has brought the perception of the ocean as source of infinite resources. This has lead to the view that ocean is invulnerable to overexploitation. The The truth is that the populations of many species are decreasing at an unsustainable rate, and the number of species listed as endangered from marine life families such as whales, dugong, manatees and turtle to name a few, are on the rise. The threats to marine species are difficult to perceive because marine animals are not as visible as animals on land. Unfortunately, marine creatures are equally, if not more, vulnerable to problems such as habitat destruction and overexploitation. Example for this is the dramatic decrease in population of certain species sharks in Indonesia due to excessive consumption of its fin. Species such as turtles that lay their eggs on land often lose their nurseries due to coastal development. Animals that have taken millions of years to evolve, that are invaluable to all ecosystems, have and continue to vanish from places where they once flourished. While these problem are directly related to the actions of humans and recovery from these problems is rarely straightforward.

The following actions aims to improve the status of such threatened marine resources for the betterment of the function of marine ecosystem

#### Target#1 : Improved Status of Sharks, Sea Turtles, Seabirds, Marine Mammals, Corals, Seagrass, Mangroves

#### **PRIORITY ACTIONS**

**Action 1.** Support assessment of sharks, sea turtles and cetaceans and selected marine invertebrate and plants.

**<u>Action 2.</u>** Strengthen the implementation of CITES through management and scientific authorities.

Action 3. Implement the National Plan of Action for shark.

**<u>Action 4.</u>** Implement the Ministerial Regulations on Napoleon Wrasse.

**Action 5.** Implement and enforce the Government Regulation No. 7/1999 on Marine Mammals.

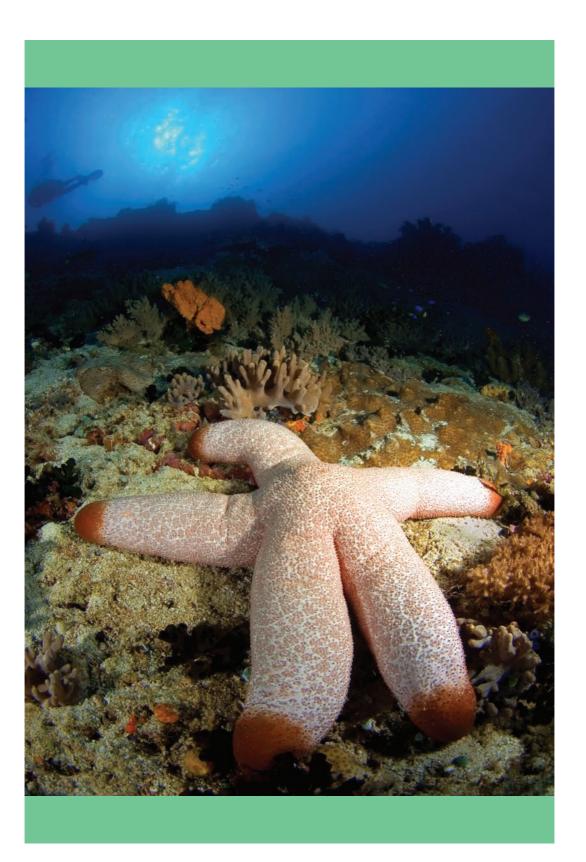
Action 6. Implement the National Plan of Action for turtle.







Indonesia National Plan of Actions | GOAL 5



Indonesia National Plan of Actions

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## Appendix of Indicative Activities

## **Goa**#1 "PRIORITY SEASCAPES" DESIGNATED AND EFFECTIVELY MANAGED

### Target#1 : "Priority Seascape" Designated, with Investment Plans Completed and Sequenced.

#### **PRIORITY ACTIONS**

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**Action 1.** Seascape designated will be streamlined with the existing fisheries management areas (*wilayah pengelolaan perikanan* - WPP) (By 2014).

| Detailed Activities  | Output  | Timeline |
|--|---|----------|
| Conduct scientific assessment on<br>the fisheries management areas,<br>its management and governance<br>and possible integration with the<br>seascape approach | Documentation on scientific assessment on the<br>fisheries management areas, its management and<br>governance as a basis for streamlining the two<br>approaches | 2009     |
| Develop/ conduct delineation<br>of seascape related to existing<br>fisheries management areas<br>through out Indonesia   | Seascape through out Indonesia delineated   | 2009     |
| Identify priority fisheries<br>management areas for program<br>implementation  | Priority fisheries management areas identified  | 2009     |
| Optimize the use of<br>communication forum of<br>fisheries resources utilization<br>and management (FKPPS) in the<br>provincial and national level             | Fluid communication through FKPPS at provincial and national level  | 2009     |

**Action 2.** Indonesia will finish conducting series of scientific characterization to identify and delineate several new seascapes within Indonesia's jurisdiction, for example: Sunda-Banda and Sawu Seascapes (By 2010).

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| Detailed Activities   | Output   | Timeline |
|---|--|----------|
| Desktop studies on Sunda-Banda and<br>Sawu Seascapes to compile basic<br>information on the area.                     | Basic information on population, socio-<br>economy, administrations and governance<br>issues, resources abundance and uses, hydro-<br>oceanography, biodiversity, etc. | 2009     |
| Survey for Sunda-Banda, Sawu<br>Seascapes on social-economic and<br>cultural issues, marine ecology, MRAP             | Data and information on social-economic<br>and cultural issues<br>Data and information on biophysic, biology,<br>ecology and geophysics.                               | 2009     |
| Develop communications and<br>outreach strategy based on the study<br>result  | Strategy for communications and outreach as the basis for enabling condition   | 2009     |
| Conduct series of scientific workshop<br>and public consultation on the<br>seascape delineation                       | Seascape boundaries delineated   | 2009     |
| Develop a needs assessment for<br>capacity building on aspects of marine<br>resource management at the local<br>level | Capacity building needs for management of marine resource at the local level   | 2009     |
| Develop implementation plan for<br>functional Sunda-Banda and Sawu<br>Seascapes                                       | Implementation plan for Sunda-Banda and<br>Sawu Seascape   | 2010     |

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GOAL 1 | Indonesia National Plan of Actions

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<u>Action 3.</u> Indonesia will conduct series of scientific characterization to identify and delineate seascapes with potential trans-boundary issues (By 2010)

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#### Detailed activities, output and timeline

| Detailed Activities  | Output  | Timeline |
|--|---|----------|
| Studies on different aspect of<br>jurisdiction and governance of<br>marine resources in the border areas<br>countries in Sawu and Sulu Sulawesi<br>Seascapes | Knowledge and alternative of aspects of<br>governance of marine resource in the<br>border areas countries in Sawu and Sulu<br>Sulawesi Seascape | 2009     |

#### Target #2 : Marine and Coastal Resources within all "Priority Seascapes" are being Sustainably Managed

#### **PRIORITY ACTIONS:**

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**Action 1.** Indonesia will maintain the on-going management of existing seascapes for improved quality of marine and coastal resources.

| Detailed Activities  | Output   | Timeline |
|--|--|----------|
| Adopt a functioning seascape as<br>a model for the management of<br>seascape in Indonesia (for example<br>Birds' Head Seascape in Papua) | A model for the management of seascape in Indonesia in place   | 2011     |
| Study on governance and legal aspect for functioning seascape in Indonesia   | Knowledge and information on governance issues and legal aspect for functioning seascape is in place | 2010     |
| Study on governance and legal<br>aspects in the Indonesian part of Sulu<br>Sulawesi Marine Ecoregion                                     | Information on governance and legal aspect<br>on Sulu Sulawesi Marine Ecoregion is in<br>place       | 2010     |

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Action 2. Lesson learned mechanism from existing seascape for replication in Indonesia will be in place (By 2010).

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| Detailed Activities   | Output  | Timeline |
|---|---|----------|
| Synthesize and translate the existing information and knowledge to build seascape strategies  | Documentation of information and<br>knowledge of seascape that feeds into the<br>recommendation and policy guidance | 2010     |
| Develop series of training for<br>replication of the functioning seascape<br>based on Bird's Head, Sulu Sulawesi,<br>and BSSE seascapes   | Documentation on syllabus and standard methods for functioning seascape   | 2010     |
| Development of national policy<br>on seascapes consistent with<br>decentralization of governance of<br>marine and coastal resources, this<br>should include identification of legal<br>basis, in all level of governance,<br>institutional framework, and capacity<br>assessment. | Policy on seascape is in place  | 2012     |

Action 3. Mobilize new and additional funding to support priority seascape program

| Detailed Activities   | Output  | Timeline |
|---|---|----------|
| Identification of funding needs and appropriate source to support priority seascape | Funding needs and appropriate funding source in place | 2009     |
| Fundraise for the funding needs identified in the prior activities                  | Funding source identified<br>Funding secured          | 2010     |

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<u>Action 4.</u> Implementation of existing regional seascapes (SSME and BSSE) program within Indonesian jurisdiction

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| Detailed Activities   | Output  | Timeline |
|---|---|----------|
| Continue monitor and evaluation of SSME and BSSE within Indonesian jurisdiction | SMME and BSSE within Indonesian jurisdiction monitored and evaluated periodically | 2009     |
| Implementation of SSME and BSSE within Indonesian jurisdiction                  | SMME and BSSE within Indonesian jurisdiction implemented                          | 2010     |

Action 5. Conduct periodic monitoring and evaluation on the effectiveness of seascapes.

| Detailed Activities  | Output   | Timeline |
|--|--|----------|
| Develop integrated monitoring<br>program for Sulu Sulawesi, Sunda-<br>Banda, and Sawu Seascapes                                  | Integrated monitoring program is in place                        | 2010     |
| Develop specific criteria and indicator<br>for Sulu Sulawesi, Sunda-Banda, and<br>Sawu Seascapes for reference and<br>evaluation | Criteria and indicator for reference and evaluation are in place | 2010     |
| Conduct regular monitoring for<br>ecological as well as economic aspects<br>of seascape  | Regular monitoring activities in place                           | 2011     |

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#### **Goa** #2 **ECOSYSTEM APPROACH TO MANAGEMENT OF FISHERIES (EAFM)** AND OTHER MARINE RESOURCES FULLY APPLIED

#### Target #1 : Strong Legislative, Policy And Regulatory Frameworks In Place For Achieving An Ecosystem Approach To Fisheries Management (EAFM)

#### **PRIORITY ACTIONS:**

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**Action 1.** Develop series of regulations related to the EAFM supporting Law No. 27/2007 on coastal and small island management and Law No. 31/2004 on Fisheries

| Detailed Activities  | Output                                  | Timeline |
|--|---|----------|
| Develop further and implement<br>effectively regulation for optimizing<br>fishery resource management areas<br>(FMA) | Fisheries resource management optimized | 2011     |
| Develop and implement fisheries<br>management plan for each FMA  |   | 2011     |

Action 2. Address and enforce legislation and regulations in combating IUU fishing and related issues

| Detailed Activities  | Output   | Timeline |
|--|--|----------|
| Initiate collaborative patrols and surveillance on IUU Fishing   | Collaborative patrol and surveillance on IUU fishing in place  | 2012     |
| Initiate collaborative training for local community to look after their resources  | Collaborative training for local community on fisheries  | 2012     |
| Provide technical assistance to<br>strengthen the community capacity<br>in fisheries resource monitoring and<br>surveillance | Technical assistant to strengthen the capacity of local community in fisheries resource monitoring and surveillance in place | 2010     |

**Action 3.** Adoption of Various international commitments (Such as Resolution and Management Measure adopted by RFMOs)

| Detailed Activities   | Output   | Timeline |
|---|--|----------|
| Evaluate and enforce series of<br>government regulation, ministerial<br>regulation, decree pertaining to<br>international commitment on fisheries<br>issues | Series of government regulations pertaining to<br>international commitment on fisheries issues<br>enforced and evaluated | 2014     |

**Action 4.** Implement of National Plan of Action derived from international Plan of Actions such as IPOA on Fishing Capacity

| Detailed Activities                              | Output  | Timeline |
|--|---|----------|
| Develop National Action Plan on fishing capacity | National Action Plan on fishing capacity in place | 2012     |

#### Target #2 : Improve the Income, Livelihoods and Food Security of 50 Million People Living in Coastal Communities Across the Region Through a New CTI Sustainable Coastal Fisheries and Poverty Reduction Initiative ("COASTFISH")

#### **PRIORITY ACTIONS:**

**Action 1.** Continue existing and, as needed, develop alternative income generating program, including capacity building and support for the small-scale enterprise at the community level (e.g., marketing).

| Detailed Activities   | Output  | Timeline |
|---|---|----------|
| Develop small/medium scale enterprise for capture fisheries and aquaculture.  | Small/medium scale enterprise for capture fisheries and aquaculture developed                     | 2012     |
| Develop village surveillance systems:<br>based on aquaculture, capture fisheries<br>and home industry for fish products | Village food resilience established   | 2012     |
| Establish capacity building on management of capture fisheries and aquaculture in coastal areas                         | Capacity building on management of capture fisheries and aquaculture in coastal areas established | 2012     |

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| Detailed Activities   | Output   | Timeline |
|---|--|----------|
| Develop community based capture<br>fisheries and aquaculture enterprise in<br>the border and remote areas | Community based capture fishery and aquaculture enterprise in border and remote area developed | 2010     |
| Develop fisheries business partnerships for small scale fisheries   | Fisheries business partnership for small scale fisheries established                           | 2010     |
| Develop productive economic activities for fisherwomen  | Productive economic activities for women in the coastal areas development                      | 2010     |

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Action 2. Additional funds and/or capital small-scale enterprise at the community level\_

Action 3. Development integrated coastal villages to achieve sustainable fisheries

| Detailed Activities   | Output  | Timeline |
|---|---|----------|
| Develop certification schemes for aquaculture products        | Certification schemes for aquaculture products                  | 2011     |
| Conduct monitoring and evaluation for aquaculture             | Monitoring and evaluation for aquaculture conducted             | 2011     |
| Establish recovery program for critical habitat for fisheries | Recovery program for critical habitat for fisheries established | 2012     |

Action 4. Develop certifications schemes for fisheries best fisheries practices and products

| Detailed Activities   | Output   | Timeline |
|---|--|----------|
| Develop fisheries product standard  | Standard for fisheries products established  | 2011     |
| Establish capacity building for certification board and institution                   | Capacity building for certification board and institution established                    | 2011     |
| Establish capacity strengthening for testing laboratory                               | Capacity strengthening for testing laboratory established                                | 2011     |
| Establish capacity strengthening for reference laboratory                             | Capacity strengthening for reference laboratory established                              | 2011     |
| Establish capacity building for capture fisheries workforce and foreign labor control | Capacity building for capture fisheries work force and foreign labor control established | 2012     |

### Target #3 : Sustainable Management of Shared Tuna Stocks Achieved for All Species ofTuna Commercially Exploited in the Region

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#### **PRIORITY ACTIONS:**

**Action 1.** Revitalize tuna fisheries through increasing capital, technical capacity of actors at different level, marketing, field monitoring, processing, as well as cold chain system.

| Detailed Activities   | Output   | Timeline |
|---|--|----------|
| Develop cold chain system (CCS)   | Cold Chain System<br>developed   | 2011     |
| Establish quality and safety control on fisheries product   | Quality and safety control on fisheries product established  | 2011     |
| Establish capacity building<br>through transfer of technology on<br>processing and infrastructure | Capacity building through<br>transfer of technology on<br>processing and infrastructure<br>established | 2011     |
| Develop fishery product<br>processing centers   | Fishery product processing centers developed   | 2014     |
| Restructure and revitalize processing industries  | Processing industries<br>restructured and revitalized  | 2014     |

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### Target #4 : A More Sustainable Trade in Live-Reef Fish and Reef-Based Ornamental Achieved

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#### **PRIORITY ACTIONS:**

Action 1. Develop baseline data of aquarium fish and promote standard of Marine Aquarium Fish

| Detailed Activities   | Output   | Timeline |
|---|--|----------|
| Develop Indonesia Marine Ornamental<br>Fish database  | Indonesia Marine ornamental fish database in place   | 2012     |
| Development of Indonesian Marine<br>Aquarium Database, including<br>spatial database for trade; Data and<br>information through chain of trade<br>(collection areas, number and location<br>of collectors, local traders, exporters,)<br>daily harvest data per collection areas<br>and monthly export data per species | IMAD developed and quarterly analysis available for fisheries managers   | 2012     |
| Development of Indonesian Marine<br>Aquarium Database, including<br>spatial database for trade; Data and<br>information through chain of trade<br>(collection areas, number and location<br>of collectors, local traders, exporters,)<br>daily harvest data per collection areas<br>and monthly export data per species | Rade data on Marine Aquarium available online  | 2012     |
| Train staff of DKP at district level to use webbased data to help for the fisheries management  | DKP Staff (capture fisheries and statistic staff trained to use data base via webbased)                                  | 2012     |
| Develop standard for environmentally<br>friendly fishing gear and develop new<br>methods and gear for certain target<br>species   | Standard for environmentally friendly fishing gear and develop new methods and gear for certain target species developed | 2012     |
| Establish lesson learned replications<br>in other utilization zone in Eastern<br>Indonesia  | Lesson learned replications in other utilization zone in Eastern Indonesia established                                   | 2012     |

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| Develop new techniques for certain fish species | New techniques for certain fish species developed | 2012 |
|---|---|------|
| Develop standard for coral-reef condition       | Coral reef standard condition established         | 2012 |

#### Action 2. Develop strategic plan of sustainable fisheries for live reef fish trade

| Detailed Activities  | Output  | Timeline |
|--|---|----------|
| Identify National Strategy and road<br>map of the sustainable fisheries for live<br>reef fish trade  | National strategy and road map identified   | 2012     |
| Develop live reef fish trade<br>management plan guidelines at the<br>National level  | Guidelines on the development of Fisheries<br>Management plan developed   | 2012     |
| Conduct series of training targeted<br>at fishermen, local traders for the<br>implementation of best practices<br>(w.g collecting and post harvest and<br>business training) | Fishermen and traders trained to implement best practices   | 2012     |
| Facilitate on the establishment of trade association   | Trade associations established  | 2012     |
| Facilitate dialogues between industries<br>and government (such as in able both<br>parties to develop trade promotion,<br>discuss management issues)                         | Communication and link established  | 2012     |
| Encourage development of legal documents at district level   | Development of legal document on live reef fish in place  | 2012     |
| Monitor implementation and document evaluation at district level   | Implementation and evaluation at district level monitored and documented  | 2012     |
| Develop manuals for ornamental fish<br>(capture and handling, etc.)  | Manuals for ornamental fish (capture and handling, etc.) developed  | 2012     |
| Develop Ornamental Fish<br>Management Plan in various District   | Ornamental fish management plan in various districts developed  | 2012     |
| Develop national guideline for reef fish management  | National guideline for reef fish management developed   | 2012     |
| Develop programs to reduce level of capture from the wild  | Programs related to reduce level of capture<br>(such as hatchery, larval grows outs and<br>breeding program) in the wild are in place | 2012     |

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| Establish campaign on Hookah diving safety  | Campaign on Hookah diving safety established   | 2012 |
|---|--|------|
| Develop best practices for LRFFT, wild capture or aquaculture                               | Best practices for LRFFT, wild capture or<br>aquaculture developed                         | 2012 |
| Develop surveillance mechanism for<br>international trade life reef fish and life<br>corals | Surveillance mechanism for international trade<br>life reef fish and life corals developed | 2012 |

Action 3. Development of comprehensive management plan of Banggai Cardinal Fish

| Detailed Activities   | Output   | Timeline |
|---|--|----------|
| Develop management plan on<br>Banggai Cardinal fish   | Management plan for Banggai Cardinal Fish<br>established               | 2012     |
| Population assessment surveys of BCF<br>in Banggai areas and outside Banggai<br>suspected species occurred.                                       | Estimated population of BCF Known                                      | 2012     |
| Develop of BCF Trade database (link to 1)   | Trade database of BCF developed  | 2012     |
| Develop BCF certification Scheme  | Only certified/labeled BCF for trade                                   | 2012     |
| Develop responsible market chain of BCF   | Responsible market chain fishermen-local traders-exporters established | 2012     |
| Develop trade monitoring and enforcement  | Trade monitored  | 2012     |
| Develop marine Conservation areas in<br>Banggai Islands   | KKLD established   | 2012     |
| Conduct capacity building for<br>fishermen and local traders to<br>implement best practices (collecting<br>and post harvest) toward certification | Fishermen and traders trained to implement best practices              | 2012     |
| Conduct capacity building for<br>fishermen and local traders to<br>implement best practices (collecting<br>and post harvest) toward certification | Fisheries Management Plan of Banggai areas<br>developed                | 2012     |

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# Goa #3 MARINE PROTECTED AREAS (MPAs) ESTABLISHED AND EFFECTIVELY MANAGED

#### Target #1 : Region-Wide Coral Triangle MPA System (CTMPAS) in Place and Fully Functional

#### **PRIORITY ACTIONS:**

**Action 1.** Establish and strengthen national system (grand strategy) of Marine Protected Areas integrated into regional and global networks to contribute to meet global agreed goals

| Detailed Activities   | Output   | Timeline |
|---|--|----------|
| Complete gap assessment for Indonesia's MPA system  | Document on MPA gap assessment   | 2009     |
| Develop national grand strategy for<br>networks of MPAs that is synchronized<br>with Indonesia's Fishery Management<br>Area (Wilayah Pengelolaan Perikanan/<br>WPP) | Document that describes national system of MPA networks                        | 2010     |
| Conduct Marine Rapid Ecological<br>Assessments (REAs) at potential areas for<br>MPAs  | Various REAs conducted to further inform marine biodiversity of selected areas | 2012     |
| Designate new MPAs identified by gap<br>analyses and REA results  | New individual and networks of MPAs established                                | 2012     |
| Conduct a national review of existing and potential forms of MPA governance   | Options for potential forms of MPA governance in Indonesia                     | 2009     |

Action 2. Establish and strengthen transboundary protected areas and collaboration between neighbouring protected areas across national boundaries

| Detailed Activities   | Output  | Timeline |
|---|---|----------|
| Support development of map of Coral<br>Triangle MPA System (CTMPAS) as<br>described at CTI Regional Action Plan | Maps for CTMPAs                                 | 2011     |
| Collaborate with other parties and partners to establish and manage MPA in areas beyond national jurisdiction   | Transboundary MPAs that are affectively managed | 2012     |

Action 3. Improve MPA planning and management that address local and global key threats to marine resources

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| Detailed Activities   | Output  | Timeline |
|---|---|----------|
| Ensure highly participatory process for<br>MPA zoning plan and use ecological<br>and socioeconomic data to develop<br>zoning plan | MPA zoning plan that is supported by stakeholders                                       | 2015     |
| Develop and/or update MPA<br>management plan that include MPA<br>zoning plan  | MPA management plan   | 2011     |
| Assess key threats to MPAs and implement strategies to prevent such threats   | National strategy to abate key threats to MPA is in place                               | 2010     |
| Ensure enforcement of urgent<br>measures that can halt illegal<br>exploitation of resources within MPAs                           | Regular enforcement of MPAs is in place   | 2011     |
| Integrate climate change adaptation<br>measure in MPA planning,<br>management strategies and design                               | MPAs that are resilient and resistant to climate change that are ecologically connected | 2014     |

Action 4. Enhance and ensure involvement of indigenous and local communities and relevant stakeholders in MPA planning and Management

| Detailed Activities  | Output  | Timeline |
|--|---|----------|
| Conduct national reviews of mechanism<br>for stakeholder participation in MPA<br>policy and management | Review and mechanism to increase<br>stakeholder participation in MPA management | 2009     |
| Engage local communities and relevant<br>stakeholders in MPA participatory<br>planning and governance  | MPAs that are co-managed by stakeholders  | 2010     |

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Action 5. Provide an enabling policy and institutional environment for MPA

| Detailed Activities   | Output  | Timeline |
|---|---|----------|
| Promote enabling policy for involvement<br>of local communities and relevant<br>stakeholders in MPA planning and<br>management                | National and district government policies that<br>enables local community participation on MPA<br>planning and management | 2009     |
| Assess legislative and institutional gaps<br>that hinder effective establishment and<br>management of MPA and address the<br>gaps             | Legislative and institutional arrangement to support effective MPA establishment and management                           | 2010     |
| Identify and remove perverse incentives<br>(subsidies) that increase pressure on MPA<br>and take action to mitigate their perverse<br>effects | Perverse incentive is removed and redirected to positive incentives for conservation                                      | 2010     |

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Action 6. Build capacity and strengthen institution for the planning, establishment and management of MPA

| Detailed Activities   | Output  | Timeline |
|---|---|----------|
| Establish a School/Training Center for<br>Marine Environmental Conservation<br>Management | A School/Training Center for Marine<br>Environmental Conservation Management<br>established | 2011     |
| Establish an MPA training center for MPA managers/staffs and other relevant stakeholders  | MPA Training Center established   | 2009     |
| Establish an MPA national Leadership networks   | National MPA Leadership networks established  | 2011     |

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Develop relevant trainings such as Release ecotourism guides, to improve skills and of local people and other relevant stakeholders to sustainably utilize goods and services provided by MPA

Relevant trainings provided to local people 2010 and relevant stakeholders

Action 7. Ensure funding sustainability for MPA and district and national system of MPAs

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| Detailed Activities   | Output   | Timeline |
|---|--|----------|
| Establish national level sustainable<br>financing plans that support national<br>and district system (strategy) of<br>MPA, including needed regulatory,<br>legislative, policy, and institutional<br>measures in collaboration with other<br>countries and donor agencies | National sustainable financing mechanism is in place                           | 2012     |
| Redirect perverse subsidies (on<br>fisheries, oils, etc) to support<br>MPA establishment and effective<br>management  | More in-country funding sources to support<br>MPA establishment and management | 2011     |

Action 8. Strengthen communication, education and public awareness on MPA

| Detailed Activities                      | Output                                    | Timeline |
|--|---|----------|
| Identify themes for education and public | Major themes identified for education and | 2010     |
| awareness relating to MPA                | public awareness nationwide               |          |

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| Establish or strengthen strategy and<br>programs of education and public<br>awareness on the importance of MPA for<br>biodiversity conservation and sustainable<br>development | Availability of strategy on public awareness<br>and extention to promote the importance<br>of MPA for biodiversity conservation and<br>sustainable development | 2011 |
|--|--|------|
| Incorporate the subject of MPA as<br>an integral component of the school<br>curricula as well as in informal education   | MPA subject is incorporated into school curricula  | 2009 |
| Develop mechanism for constructive<br>dialog and exchange of information and<br>experiences among MPA managers and<br>practitioners  | Exchange mechanism among MPA managers is in place  | 2010 |

Action 9. Evaluate and improve effective management of national MPA systems

| Detailed Activities   | Output  | Timeline |
|---|---|----------|
| Develop and adopt appropriate methods,<br>standards, criteria and indicators for<br>evaluating the effectiveness of MPA<br>management and governance and set up<br>a related database | Methods, standards, criteria and indicators<br>for MPA management and governance<br>effectiveness is in place including their format<br>database. | 2010     |
| Develop and implement an efficient, long<br>term MPA monitoring system to evaluate<br>achievement and improve adaptive<br>management  | Monitoring system is in place and contribute to adaptive MPA adaptive management  | 2011     |
| Implement management effectiveness<br>evaluation of at least 30% of existing<br>MPAs in Indonesia   | Effectiveness of at least 30% of MPAs in<br>Indonesia is determined   | 2012     |

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#### Action 10. Assess and monitor MPA status and trends

| Detailed Activities   | Output  | Timeline |
|---|---|----------|
| Measure progress towards achieving MPA<br>targets based on periodic monitoring<br>program | Periodic information on the MPA achievement against agreed-upon targets | 2012     |
| Improve and update national MPA database system   | MPA database system is in place and functioning                         | 2012     |
| Participate in the World Database on PA maintained by UNEP-WCMC                           | Link to World database to exchange information on MPA                   | 2013     |

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# Goa #4 CLIMATE CHANGE ADAPTATION MEASURES ACHIEVED

#### Target #1 : Region-Wide Early Action Climate Adaptation Plan for the Near-Shore Marine and Coastal Environment Developed and Implemented

#### **PRIORITY ACTIONS:**

**Action 1.** Identify and map Indonesian CT areas on their susceptibility levels on climate change impacts and link the information to biodiversity and socioeconomic values

| Detailed Activities  | Output   | Timeline |
|--|--|----------|
| Conduct series of surveys related to<br>weather variability, change in temperature<br>(e.g. using temperature log for coral<br>resilience data) for development of<br>database on climate change vulnerability | Information on climate change variation in<br>relation to coral, fisheries and food security<br>in place<br>Profile on hazard and vulnerability in place | 2010     |
| ldentify susceptibility levels on climate change impact in relation to biodiversity  | Susceptibility levels on climate change impact in relation to biodiversity in place  | 2010     |
| Identify susceptibility level in relation to socioeconomic value   | Susceptibility levels on climate change impact in relation to socio economic value in place  | 2010     |
| Conduct series of trend analysis on climate variability  | Climate variability trend in place   | 2010     |

**Action 2.** Produce national general guideline on adaptation measures on the potential of climate change impacts on marine and coastal ecosystem and communities based on synthesis and understanding of available science, information and knowledge.

| Detailed Activities   | Output  | Timeline |
|---|---|----------|
| Develop pilot activities in the most<br>vulnerable areas based on the<br>vulnerability analysis through rescue<br>approach  | Pilot activities in the most vulnerable areas is in place | 2011     |
| Develop pilot activities in the most<br>resilient areas based on the vulnerability<br>analysis through the investment approach<br>and link that to spatial planning process | Pilot activities in the resilient areas is in place       | 2011     |

| Implementation of coastal areas<br>protection measures by coastal<br>rehabilitation e.g. mangrove planting   | Coastal area with high vulnerability protected   | 2015 |
|--|--|------|
| Integration of coastal rehabilitation as part of national disaster management strategies and mitigation plan | Coastal rehabilitation integrated within national disaster management strategies and mitigation plan | 2015 |

**Action 3.** Formulate early warning system and response to weather variability, temperature variability and to changes storm phenomenon, including in coral bleaching and formulate immediate strategy or response on potential impacts of climate change on fishermen, such as impact of changes in weather pattern and season, sea temperature and storm .

| Detailed Activities  | Output   | Timeline |
|--|--|----------|
| Improve database for coral resilience as<br>the basis for future MPA development<br>(link to Goal #3), in response to coral<br>bleaching, weather variability, sea<br>temperature change and storm pattern | Database for coral resilience in place                                       | 2012     |
| Develop strategy on coral bleaching response   | Responsive strategy for coral bleaching in place                             | 2012     |
| Develop fisheries facilities resilient to climate change and high wave   | Fisheries facilities resilient to climate change in place                    | 2020     |
| Develop early warning system and strategy for potential impact on fishermen  | Early warning system and strategy for potential impact on fishermen in place | 2014     |

**Action 4.** Conduct and develop strategic research that provides information critical to reducing key threats to coral reef ecosystems.

| Detailed Activities  | Output   | Timeline |
|--|--|----------|
| Develop a toolbox of management<br>actions to minimize the potential risk<br>to coral reefs associated with climate<br>changes, building <i>on A Reef Manager's</i><br><i>Guide to Coral Bleaching</i> ; | A tool box of management action to minimize<br>potential risk to coral reefs in place. This should<br>be built on <i>A Reef Manager's Guide to Coral</i><br><i>Bleaching</i> | 2011     |
| Improve understanding of<br>the potential impacts of, and<br>management responses to, ocean<br>acidification;  | Better understanding on potential impact and management response to ocean acidification  | 2013     |

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| Expand education and outreach<br>efforts to include climate change and<br>its impacts on coral reefs;   | Outreach and education efforts expanded to include climate change and its impacts on coral reefs | 2014 |
|---|--|------|
| Identify and engage in cooperative<br>efforts with other climate-focused<br>groups such as the National<br>Council on Climate Change, and<br>local governments, academia, and<br>nongovernment organizations; | Cooperative effort identified and engaged  | 2012 |

Action 5. Capacity building on education, research, and information system on climate change issues, related consequences and adaptation measures

| Detailed Activities   | Output   | Timeline |
|---|--|----------|
| Development of<br>technology and institutional systems that<br>can use climate information to manage<br>the present and future climate risk;        | The system in place  | 2013     |
| Develop general guidance and awareness<br>programs for the fishermen and coastal<br>communities in response to climate<br>change adaptation         | Guidance and awareness program in place  | 2011     |
| Capacity building through<br>communications and outreach to coastal<br>communities on climate change impact<br>and its adaptation                   | Increased capacity in coastal community pertaining to climate change impact and adaptation | 2013     |
| Development of national strategy for<br>coral reef resilience and fisheries win<br>coordination with the Indonesia Climate<br>Change National Board | National strategy for coral reef resilience  | 2010     |

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### Target #2: Networked National Centers of Excellence on Climate Change Adaptation for<br/>Marine and Coastal Environments are Established and in Full Operation

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#### **ACTIONS:**

**Action 1.** Develop and conduct various researches on climate change impact to biodiversity and socioeconomic, cost and benefit of actions and inactions and feed the result into policy processes.

| Detailed Activities   | Output  | Timeline |
|---|---|----------|
| Conduct research on the influence of climate change to capture and culture fisheries                                      | Research result on influence of climate change to capture and culture fisheries   | 2014     |
| Develop weather prediction and climate modeling   | Weather prediction and climate modeling in place  | 2012     |
| Conduct research on the impact of<br>climate change on coastal area especially<br>on brackish water and agriculture areas | Comprehensive information on impact<br>of climate change on brackish water and<br>agriculture areas in coast lands in place | 2014     |
| Conduct a research on the impact of marine acidification on marine biota  | Marine acidification impact on marine biota information in place  | 2013     |

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Action 2. Develop network of national center of excellence on climate change adaptation for marine and coastal ecosystems, research and sharing information

| Detailed Activities   | Output   | Timeline |
|---|--|----------|
| Establish institutional systems in response to climate change risks   | Institutional system in response to climate change risks in place    | 2013     |
| Improve national reseach station on<br>climate change (potential stations: Bali-<br>Bitung-Ambon-Tual-Biak) | National research station on climate change developed and functional | 2015     |

**Action 3.** Develop communication strategies for biodiversity and socio economic effect of climate change and synthesize existing information and knowledge (e.g. economic valuation/opportunity, connectivity, etc) to develop recommendation based on information.

| Detailed Activities   | Output  | Timeline |
|---|---|----------|
| Synthesize and translate climate<br>information and knowledge to manage<br>present and future risks | Information and knowledge to manage present and future risks available  | 2012     |
| Develop communications strategy for<br>biodiversity and socio economic effect of<br>climate change  | Communication and outreach strategy for<br>climate change effect on biodiversity and socio<br>economic in place                         | 2014     |
| Develop recommendation based on the synthesis and understanding existing information and knowledge  | Recommendation on the effect of climate<br>change on various subject such as fisheries,<br>coral reef, and coastal communities in place | 2015     |

# <sup>50</sup> Goal#5 THREATENED SPECIES STATUS IMPROVING

#### Target #1 : Improved Status of Sharks, Sea Turtles, Seabirds, Marine Mammals, Corals, Seagrass, Mangroves

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#### **PRIORITY ACTIONS**

Action 1. Support assessment of sharks, sea turtles and cetaceans and selected marine invertebrate and plants.

| Detailed Activities  | Output   | Timeline |
|--|--|----------|
| Develop database for turtle movement                               | Database on turtle movement database in place                      | 2013     |
| Identify measure needed for the survival of marine organism        | Availability of measure system for the survival of marine organism | 2015     |
| Conduct gap analysis for Sharks, Turtles and Red List invertebrate | Early profile in place   | 2012     |
| Develop database for shark, Cetaceans and red list invertebrate    | Database in place and recommendations for management are in place  | 2014     |
| Develop a capacity building program on<br>IUCN Red List            | Training on IUCN Red List in place and delivered                   | 2010     |

Action 2. Strengthen the implementation of CITES through management and scientific authorities.

| Detailed Activities   | Output  | Timeline |
|---|---|----------|
| Develop trade database of live reef fish<br>trade (Food and Aquarium)                               | Database developed  | 2012     |
| Capacity building for CITES authorities on identification of species in trade                       | Staff trained   | 2012     |
| Develop of monitoring and enforcement mechanism involving trade associations                        | Monitoring in placed and enforced   | 2012     |
| Develop identification manual for CITES<br>Appendices species                                       | Species identification manual developed   | 2011     |
| Develop recommendation for national<br>quota management to Management and<br>Scientific Authorities | Recommendation for national quota<br>management to Management and Scientific<br>Authorities developed | 2012     |

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| Develop standard mechanism of CITES,<br>based on PP 60 / 2007 | Standard mechanism of CITES, based on PP<br>60 / 2007 developed | 2012 |
|---|---|------|
| Develop regulation on implementation for CITES                | Regulation on implementation for CITES in place                 | 2012 |
| Develop certifications for BCF management                     | Certifications for BCF management developed                     | 2012 |
| Develop a scientific review group for fisheries               | scientific review group for fisheries in place                  | 2012 |

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Action 3. Implement National Plan of Action for shark conservation and management

| Detailed Activities   | Output   | Timeline |
|---|--|----------|
| Develop National Plan of Action for shark conservation and management | National plan of action for shark conservation<br>and management in place, published, and<br>legalized | 2009     |

Action 4. Implement the Ministerial Regulations on Napoleon Wrasse

| Detailed Activities  | Output  | Timeline |
|--|---|----------|
| Implement and revise of Ministerial<br>Regulation on Napoleon Wrasse | Ministerial Regulation on Napoleon Wrasse revised and implemented | 2011     |

Action 5. Implement and enforce Government Regulation No. 7/1999 on Marine Mammals

| Detailed Activities  | Output   | Timeline |
|--|--|----------|
| Implement and enforce of Government<br>Regulation No. 7/1999 on Marine<br>Mammals  | Government Regulation No. 7/1999 on Marine<br>Mammals implemented and enforced                                 | 2010     |
| Initiate regional cooperation on illegal<br>trade reduction in Singapore and other<br>Non CITES countries  | Regional cooperation on illegal trade of<br>wildlife in Singapore and other Non-CITES<br>countries established | 2015     |
| Outreach on the enforcement of<br>Government Regulation No. 7/1999 and<br>Government Regulation No. 60/2007 on<br>Fisheries resources conservation | Agreement by law enforcer in the local level   | 2014     |
| Develop a wildlife crime unit  | Wildlife crime unit operasional  | 2015     |

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Action 6. Implement the National Plan of Action for turtle

| Detailed Activities   | Output   | Timeline |
|---|--|----------|
| Conduct public and legal consultation of<br>the draft National Plan of Action for Turtle<br>Conservation and Management | Public and legal consultation of the<br>National Plan of Action for Turtle<br>Conservation and Management<br>conducted | 2009     |
| Finalize, legalize, and enforce National<br>Plan of Action for Turtle Conservation and<br>Management                    | National Plan of Action for Turtle<br>Conservation and Management finalized,<br>legalized and enforced                 | 2009     |
| Enforce turtle by-catch reduction program using circular hook   | Turtle by-catch reduction program enforced   | 2010     |
| Initiate regional cooperation on<br>elimination of turtle hunting by foreign<br>fishing fleets                          | Regional cooperation on elimination of<br>turtle hunting by foreign country fishing<br>fleets initiated                | 2009     |
| Development of Wildlife Crime Unit  | Wildlife Crime Unit in place   | 2012     |
| Increase the level of reproduction success on turtle nesting beach  | Increase in hatching success increased<br>and the number of hatchlings into the<br>sea                                 | 2012     |
| Develop a nest adoption program in the<br>nesting beaches as one of alternative<br>income generation                    | Increase in the community awareness and income   | 2012     |

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