



# NATIONAL PLAN OF ACTION FOR THE CORAL TRIANGLE INITIATIVE ON CORAL REEFS, FISHERIES AND FOOD SECURITY

Republic of the Philippines. National Plan of Action for the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security

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# section 1 BACKGROUND

FIGURE 1: CORAL TRIANGLE



Source: TNC Coral Triangle Center

## APEX OF THE CORAL TRIANGLE

The Philippines is the second largest archipelagic nation in the world after Indonesia. It is bounded in the north by the Bashi Channel, in the east by the Pacific Ocean, in the south by the Celebes Sea and in the west by the South China Sea. It is comprised of more than 7,100 islands that cover an estimated land area of about 300,000 km<sup>2</sup> and an estimated 2.2 million km<sup>2</sup> of archipelagic waters. The coastline covers about 33,900 km with an extensive marine area that includes coral reef systems covering about 27,000 km<sup>2</sup>.

The entire country serves as the apex of the "Coral Triangle" (CT), which is known as the world's center of marine biodiversity (Figure 1). The CT region is located along the equator at the confluence of the Western Pacific and Indian Oceans. Using coral and reef fish diversity as the two major criteria, the boundaries of this region are defined by scientists as covering all or part of the exclusive economic zones of six countries: Indonesia, Malaysia, Papua New Guinea, the Philippines, the Solomon Islands and Timor-Leste. Covering only 1.6% of the planet's oceanic area, there is broad scientific consensus that the CT represents the global epicenter of marine life abundance and diversity -- with 76% of all known coral species, 37% of all known coral reef fish species, 33% of the world's coral reefs, the greatest extent of mangrove forests in the world, and spawning and juvenile growth areas for the world's largest tuna fishery. Moreover, the biogeographical conditions within the CT may also enable the region to maintain its exceptional productivity in the face of future impacts of climate change, making it potentially the world's most important "refuge" for marine life (CTI RPOA 2008).

Due to its rich biodiversity, the Philippines is included as one of the 18-megadiversity countries that contain 75% of the global biodiversity (Heaney and Mittermeier, 1997). A recent study by Carpenter and Springer (2005) analyzed 2,983 Geographic Information System overlays of marine species distributions in the Indo-Malay-Philippines Archipelago and found higher concentrations of species-per-unit-area in the Philippines. Carpenter and Springer contend that the results of these studies indicate that special attention is needed for conservation action in the Philippines and the rest of the Indo-Malay-Philippines Archipelago (CI-P 2006).

Coastal and marine areas are recognized as vital sources of food, minerals and raw materials, as well as natural settings for sports, recreation, and other social and cultural activities. In the Philippines, marine-related economic activities, including fisheries, marine transportation, tourism, coastal mining and offshore oil and gas development make significant contributions to GDP as well as provide livelihood and employment opportunities to coastal communities (EO 533 2006).

## **THREATS TO MARINE AND COASTAL RESOURCES**

As the coastal population of an area increases, so does the level of threat and pressure on the marine ecosystem. These pressures include unsustainable fishing, destructive fishing techniques, negative impacts from aquaculture practices, sedimentation and siltation from coastal development and land-based activities, pollution, and poorly planned and inappropriate land use (CI-P 2006). The rapid increase in urbanization, industrialization and population in the coastal and marine areas leading to multiple use conflicts has severely affected the state of the country's coastal and marine resources and habitats. Remaining mangrove area is less than 24%; between 30% and 50% of seagrass beds have been lost (Fortes, 1994) and only about 4% of the country's coral cover is in excellent status, making the Philippines the "hottest of the marine biodiversity hotspots in the world" (Roberts et al. 2002). On top of all of these, climate change is seen to adversely affect marine biodiversity and livelihoods of the coastal population.

Barriers that limit the local ability to address these threats include insufficient understanding of the connectivity of marine biodiversity and the ecological processes that support it, generally ineffective and under-supported conservation management and enforcement regimes, limited capacity, lack of coordination among natural resource managers, and economic incentives that favor short-term resource exploitation over long-term sustainable use. All these have resulted in losses of millions of US dollars annually and a fisheries industry that is now characterized as pursuing illegal, unreported and unregulated activities (CI-P 2006).

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

### **BACKGROUND**

In response to alarming trends permeating throughout the coral triangle, in August 2007, President Yudhoyono of Indonesia proposed to other CT leaders a new multilateral partnership to safeguard the region's marine and coastal biological resources: the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF). This initial proposal set in motion a series of events that has advanced this effort quickly and decisively. CTI has been formally declared at the APEC, ASEAN and BIMP-EAGA Summits held in 2007. CTI Senior Officials Meetings have been conducted along with CTI Coordinating Committee Meetings to develop a joint CTI Plan of Action and Roadmap to be adopted at the highest levels. GEF funding has been secured, with ADB as the implementing agency. Other major development partners such as AUSAID, GTZ, USAID and WB and international NGOs such as CI, TNC and WWF are joining forces to work with the CTI governments in pursuing the Regional Plan of Action.

A CTI Organizing Committee (OC) was formed at the senior level of government in the Philippines to provide the roadmap towards developing the country's national action plan. The OC is chaired by both the Department of Environment and Natural Resources and the Department of Agriculture (through the Bureau of Fisheries and Aquatic Resources), with CI, WWF, GMSA and other national government agencies (DFA, etc.) and academic institutions (UP-MSI, etc.) composing its membership. Since its formation, it has provided the leadership and guidance in drafting the national action plan and complying with the regional roadmap process.

In pursuit of a bottom-up approach in planning, multi-sectoral workshops were held in the major island groups of Luzon, Visayas and Mindanao during the first half of 2008. The workshop results were consolidated and subjected to a thorough review by chosen experts in the field of CRM. Technical Working Groups were formed in the second half of 2008, again composed of representatives from the government, NGOs, natural and social scientists, and major players in law enforcement. The final draft of the NPOA was then submitted to a final public consultation for validation, approval and dissemination in the first and second quarter of 2009.

## CTI NATIONAL PLAN OF ACTION

The Coral Triangle governments have now finalized an ambitious and visionary 10-year Plan of Action. It captures the joint priorities and commitments of all six governments, and reflects extensive inputs over the past year from many partners. The Regional Plan of Action has been translated into National Action Plans by each of the six CT countries. For the Philippine National Plan of Action (NPOA), Integrated Coastal Management (ICM) serves as the overall framework in pursuing the five regional CTI goals. It draws heavily from the inputs provided by CRM practitioners representing public, private and NGO sectors all over the country. A bottom-up approach was utilized in coming up with the final list of actions and targets, most of which are cross-cutting and are representative of lessons learned in the course of implementing coastal resources management.

Broad stakeholder alliances exist in many parts of the country. Still, there is a need to collaborate even further to generate needed impacts on-the-ground. Coordination mechanisms are being established to help catalyze this collective action, connect key actors, and maintain momentum (see Section IV). Ongoing programs and projects will be mapped out to determine how to link implementing partners together to avoid duplication and to realize economies of scale.

One of the platforms for the Coral Triangle Initiative (CTI) Program is the Sulu Sulawesi Marine Ecoregion (SSME) Project, followed by the Sulu Sulawesi Seascape (SSS) Project. Realizing the importance of conserving the few remaining resources of the Seascape, the three countries, Indonesia, Malaysia and the Philippines entered into a Memorandum of Understanding (MOU) in 2004 adopting the Ecoregion Conservation Plan (ECP). The MOU led to the creation of the Tri-National Committee and three sub-committees, namely: Sustainable Fisheries; Endangered, Charismatic and Migratory Species; and MPAs and Networks. On the ground, MPA networks are now being mapped out and delineated in three marine biodiversity conservation corridors of the seascape. Experiences in drafting the ECP, working towards the signing of the MOU, organizing the sub-committees and establishing MPA networks will help jumpstart future and similar programs of the CTI in other parts of the country.

Financial resources will have to be raised to achieve the ambitious targets of the NPOA. To this end, our development partners have been assiduously assisting all CTI countries by pooling their resources together and working with each other as much as possible. Simultaneously, the NPOA realizes the need to come up with sustainable financing mechanisms that will allow the country

to independently carry out its plans and programs for the CTI, and increasingly rely more on its local expertise and resources as it builds its capacity towards this end (see Section V).

The last section of the NPOA outlines a set of indicators that will help the country monitor and evaluate its progress over the next decade (see Section VI). Quantitative targets for some actions still need to be set, and this will be done when the NPOA is translated into an implementation plan that will detail the annual tasks and responsibilities to be performed by all major stakeholders and players in CRM.

## **NPOA VISION STATEMENT**

*A highly productive archipelagic state:*

*That is globally unique, resilient and a center of diversity, with vibrant ecological integrity, including all species assemblages, communities, habitats and ecological processes;*

*That sustainably and equitably provides for the socio-economic and cultural needs of human communities dependent on it, and adaptive to extreme weather events due to climate change; Whereby biodiversity and productivity are sustained through the generations by collaborative and adaptive management across all political and cultural boundaries contributing to the vision, goals and objectives of the Sulu-Sulawesi Marine Eco-region/ Seascape and the Coral Triangle.*

## **NPOA MISSION STATEMENT**

*To arrest the accelerating degradation of the natural environment and to conserve the country's biodiversity, in order to maintain ecosystem services, ensure food security, and improve human well-being through effective governance across all geo-political and cultural boundaries.*





## section 2 GUIDING PRINCIPLES

The Government of the Republic of the Philippines adopts the Guiding Principles of the Coral Triangle Initiative laid out in the Regional Plan of Action agreed by the Coral Triangle Countries (Philippines, Indonesia, Malaysia, Papua New Guinea, Timor Leste and Solomon Islands) during the CTI Leaders' Summit in May 2009. These 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).

***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 time-tables 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, the tri-national committee on the Sulu Sulawesi Marine Ecoregion (SSME) and the multi-national commission of the Bismarck Solomon Seas (BSSE); Asia Pacific Economic Cooperation (APEC); Association of Southeast Asian Nations (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 Partnerships for the Environmental Management of the Seas of East Asia (PEMSEA).

***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, Convention on International Trade on Endangered Species (CITES), United Nations Convention on the Law of the Sea (UNCLOS), Regional Fisheries Management Organizations (RFMOs), and United Nations Forum on Combating Climate Change (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, Illegal, Unreported and Unregulated (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.***



# COMMITMENTS TO ACTION *section 3*

The commitments to action outlined in this section form the heart of the Coral Triangle Initiative. There are three major sub-sections. The first sub-section provides the overall framework, i.e. Integrated Coastal Management (ICM) that guides all actions and targets of the Philippine CTI NPOA.

The second sub-section contains the specific commitments to action, organized according to the five goals and targets enumerated in the CTI Regional Plan of Action.

The five overall goals as originally agreed at the SOM1 meeting in December 2007 cover the following: (1) priority seascapes are designated and effectively managed; (2) ecosystem approach to management of fisheries (EAFM) and other marine resources fully applied; (3) marine protected areas (MPAs) established and effectively managed (including community-based resource management); (4) climate change adaptation measures achieved; and (5) threatened species status improving.

Regional targets for each goal are time-bound, several of which have a quantitative dimension, allowing for more objective measurement and monitoring of progress.

Under each target is a list of specific prioritized national actions that will be completed by 2020. Sub-actions indicated do not preclude other relevant actions. The Plan is meant to be adaptive and flexible, at the same time useful enough for various government levels to harmonize with their respective sectoral and economic development plans. The list of national actions will be further refined as the Philippine government subjects the NPOA to further validation across the country, and as implementation gets underway.

The third sub-section contains a list of overarching commitments to action that are cross-cutting in nature, spanning multiple goals and issues. Strategies contained in this sub-section are lessons learned through years of implementing marine and coastal conservation programs across the various regions and provinces of the country. Island-wide workshops across the three major island groups were conducted to solicit inputs from CRM practitioners in both public and private sectors. Results were enriched and validated by national specialists from all major fields of expertise concerned with CRM.

This final document thus represents a consolidation of strategies and targets that were generated by a bottom-up approach, hopefully ensuring wide acceptance and participation in implementing the CTI NPOA. A more detailed implementation plan will be formulated immediately after the NPOA has been subjected to the approval process of the government.

## FRAMEWORK FOR INTEGRATED COASTAL MANAGEMENT

Integrated coastal management (ICM) is a dynamic process of planning and management involving stakeholders, and requiring the analysis of the environmental and socio-economic implications of development, the ecosystem processes, and the inter-relationships among land-based and marine-based activities and jurisdictions. It is recognized as an effective approach to sustainable coastal and marine development with demonstrated benefits in enhancing economic growth, ecosystem protection, promotion of social equity and quality of life. The ICM process tries to break down the barriers erected by traditional sectoral management of natural resources as well as the divide that exists among local government, national agencies, community groups, and non-government organizations (NGOs)<sup>1</sup>. It emphasizes the integration of management across both environmental and human realms to solve complex problems that span sectoral concerns, ecosystems, institutions and political boundaries<sup>2</sup>.

International guidelines on ICM have been developed by various international agencies such as the United Nations Environment Programme (1995), Food and Agriculture Organization (1991), World Bank (1993), and World Coast Conference Report (1993), among others.

Through Executive Order 533 (2006) entitled "Adopting Integrated coastal management as a national strategy to ensure sustainable development of the country's coastal and marine environment and resources and establishing and supporting mechanisms for its implementation", ICM has been legally declared as the national management policy framework to promote sustainable development of the country's coastal and marine resources in order to achieve food security, sustainable livelihood, poverty alleviation, and reduction of vulnerability to hazards, while preserving ecological integrity.

Coastal management programs in the Philippines have been implemented for over three decades beginning with the creation of the National Environmental Protection Council in 1976. Under the Council was a Coastal Zone and Management Committee, which was later renamed as Inter-Agency Committee on Coastal Zone Management (CZM). The CZM provided policy recommendations and formulated a long term program for CZM. The Fisheries Act of 1975 passed on the responsibilities for fisheries management to both national and municipal governments. Recognizing an increase in community based management initiatives, the government devolved control over fisheries to local communities under the Local Government Code of the Philippines. The primary element of reform of the Local Government Code is the devolution of the management of near shore fisheries to municipalities in local fishing communities. Implementation of various ICM projects and programs followed and an ICM framework with a benchmark system was introduced.

There is a host of other national and local laws, ordinances and policies that directly relate to ICM. Annex A contains a partial list of national laws relating to biodiversity conservation that have been passed, some of which are already being implemented in some parts of the country. The list will be enriched as soon as NPOA implementation gets underway.

ICM will be implemented in all coastal and marine areas, addressing the inter-linkages among associated watersheds, estuaries and wetlands, and coastal seas, by all relevant national and local agencies. It will be used as the overarching framework in all endeavors relating to marine

<sup>1</sup> White, A.T., P.M. Allño, and A.T. Meneses. 2006. Creating and managing marine protected areas in the Philippines. Fisheries Improved for Sustainable Harvest Project, Coastal Conservation and Education Foundation, Inc., and University of the Philippines Marine Science Institute, Cebu City, Philippines. 83 p.

<sup>2</sup> Department of Environment and Natural Resources, Bureau of Fisheries and Aquatic Resources of the Department of Agriculture, and Department of Interior and Local Government. 2001. Philippine Coastal Management Guidebook No. 1: Coastal Management Orientation and Overview. Coastal Resource Management Project of the Department of Environment and Natural Resources, Cebu City, Philippines. 58 p.

and coastal conservation in the country. As such, it will encompass the five major goals of the CTI. Strategies for seascape designation, application of the ecosystem approach to fisheries management, MPA establishment, climate change adaptation, and improvement of threatened species status will all be guided by the ICM framework. Implementation of the ICM Program will take into account the following:

- An interagency, multi-sectoral mechanism to coordinate the efforts of different agencies, sectors and administrative levels;
- Coastal strategies and action plans that provide a long-term vision and strategy for sustainable development of the coastal area, and a fixed term program of actions for addressing priority issues and concerns;
- Public awareness programs to increase the level of understanding of, and appreciation for, the coastal and marine resources of the area, and to promote a shared responsibility among stakeholders in the planning and implementation of the ICM program;
- Mainstreaming ICM into the national and local governments' planning and socio-economic development programs and allocating adequate financial and human resources for implementation;
- Capacity building programs to enhance required human resource skills, scientific input to policy and planning processes, and enforcement mechanisms to ensure compliance with adopted rules and regulations;
- Integrated environmental monitoring for the purpose of measuring the status, progress and impacts of management programs against sustainable development indicators, as may be established, and for use in decision-making, public awareness and performance evaluation; and
- Investment opportunities and sustainable financing mechanisms for environmental protection and improvement and resource conservation.

ICM Programs will promote the application of best practices such as, but not limited to the following:

- Investment opportunities and sustainable financing mechanisms for environmental protection and improvement and resource conservation.
- Coastal and marine use zoning as a management tool;
- Sustainable fisheries and conservation of living resources;
- Protection and rehabilitation of coral reefs, mangroves, seagrass, estuaries and other habitats, particularly through the implementation of marine protected areas, nature reserves and sanctuaries;
- Development of upland, watershed, catchment areas and basin wide management approaches
- Integrated waste management, including sewage and solid, hazardous, toxic and other wastes by major sources;
- Integrated management of port safety, health, security and environmental protection; and Involvement of the private sector/ business sector as a partner in ICM.

All concerned national agencies are expected to support the implementation of the ICM Program and promote best practices that fall within their respective mandates. The Department of Agriculture, Department of Interior and Local Government, Department of Transportation and Communication, Department of Finance, Department of Tourism, Department of Health, Department of Education, Department of Foreign Affairs, Department of Science and Technology, Department of Energy, Department of National Defense, National Economic and Development Authority, Department of Social Welfare and Development, Department of Labor and Employment, and Department of Justice will provide policy guidance and technical and resource assistance to the Department of Environment and Natural Resources and local government units (LGUs) in the implementation of national and local ICM programs and enforcement of relevant

coastal and marine policies and regulations. LGUs, on the other hand, will serve as the frontline agencies in the formulation, planning and implementation of ICM programs in their areas. Barangays will be directly involved with municipal and city governments in prioritizing coastal and marine issues and identifying and implementing solutions. Municipal and city governments shall consider ICM as part of their regular functions. Provincial governments may provide technical assistance, training, enforcement and information management in support to municipal and city ICM. Inter-LGU collaboration shall be maximized in the conduct of activities related to sustaining the country's coastal and marine resources.

In the development and implementation of the ICM program, non-government organizations (NGOs), civic organizations, academe, people's organizations, the private and corporate sectors and other concerned stakeholder groups shall be engaged in activities such as planning, community organizing, research, technology transfer, information sharing, investment and training programs.

Supporting activities and mechanisms include the following:

- Investment opportunities and sustainable financing mechanisms for environmental protection and improvement and resource conservation.
- ICM integrated into primary and secondary education curricula and/or subjects, including textbooks, primers and other educational materials, basic principles and concepts of conservation, protection and management of the country's marine resources;
- ICM training program for LGUs, through the Local Government Academy, building upon existing ICM expertise and experiences;
- Environmental and natural resource accounting and valuation for ICM planning, with NEDA and NSCB incorporating coastal and marine resource accounting in the national and regional accounts; and
- Coastal and marine management information system, with DENR to oversee the establishment and maintenance of a coastal and marine environmental management information system and network, in collaboration with other concerned national agencies, institutions and LGUs.



DENR-PAWB

# SPECIFIC COMMITMENTS TO ACTION



Sterling Zumbrunn

## **GOAL NO. 1 "PRIORITY SEASCAPES" DESIGNATED AND EFFECTIVELY MANAGED (LARGE-SCALE GEOGRAPHIES PRIORITIZED FOR INVESTMENTS AND ACTION, WHERE BEST PRACTICES ARE DEMONSTRATED AND EXPANDED)**

### **TARGET #1 "PRIORITY SEASCAPES" DESIGNATED, WITH INVESTMENT PLANS COMPLETED AND SEQUENCED**

*By 2012, a set of priority seascapes across the Coral Triangle are designated, to 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 scheme for the sequencing of investments across the 10-year timeframe of the CTI Plan of Action.*

**ACTION 1.** Conduct prioritization exercise in support of selecting a new candidate seascape from South China Sea, Northeast Philippine Pacific Seaboard and Southeast Philippine Pacific Seaboard

- Map out the boundaries of each seascape, with corresponding coordinates and landmarks
- Indicate initiatives covering existing zones of the priority seascapes, such as areas covered by the SSME

**ACTION 2.** Develop a master plan from which an investment plan will be prepared for the priority seascape

- Investment opportunities and sustainable financing mechanisms for environmental protection and improvement and resource conservation.
- Investment opportunities and sustainable financing mechanisms for environmental protection and improvement and resource conservation.

- Conduct biophysical and socio-economic assessments of the priority seascape
- Based on biophysical and socio-economic assessments, delineate coastal management zones/ use boundaries within each seascape
- Review and revise existing policies related to protected areas that are not in consonance with the seascape strategy
- For seascape plans, use the SSME template for drafting the plans
- Formulate appropriate Investment Plans linked with Management Plans
- Develop sustainable financing mechanisms for CTI through legislative measures, public-private partnerships, market-based instruments, among others
- Plan for seascape management in an integrated manner, by harmonizing the General Management Plan with other plans (e.g. Medium-Term Philippine Development Plan (MTPDP), Comprehensive Land Use Plan (CLUP), Provincial Physical Framework Plans)
- Identify appropriate institutional mechanism for implementing the Plan
- Conduct public consultations
- Formally declare the seascape through legal instruments

ACTION 3. Document best practices for sharing with other CT6 countries

## **TARGET #2 MARINE AND COASTAL RESOURCES WITHIN ALL "PRIORITY SEASCAPES" ARE BEING SUSTAINABLY MANAGED**

*By 2020, marine and coastal resources within all identified priority seascapes are being sustainably managed (as measured by agreed criteria and progress toward established quantitative targets), and are contributing significantly to environmentally sustainable development benefitting coastal communities and broader economies dependent upon these resources.*

ACTION 1. Align existing seascape models with policy and legal framework of the Philippines, such as the NIPAS Act

ACTION 2. Implement Executive Order #533, integrating the following:

1. Sustainable marine resource management objectives into regional and sectoral planning
2. Land and water use plans and programs
3. Population and reproductive health issues
4. Vulnerability assessment and adaptive management strategies on climate change
5. Tourism impacts
6. Delineation of municipal waters nationwide

ACTION 3. Develop and implement an IEC campaign incorporating best practices in the SSME corridors

1. Network with stakeholders and existing platforms in the country
2. Popularize information and disseminate lessons learned from SSME and other CRM/ICM programs

ACTION 4. Support the coordination and joint implementation of the SSME Conservation Plan (CP) and other priority seascape plans

1. Conduct needs assessment among seascape and MPA managers
2. Develop capacity in implementing SSME CP and other seascape plans
3. Perform regular updates on existing and new policies
4. Conduct regular consultations among stakeholders
5. Develop, implement and constantly update SSME action plans for fisheries, threatened species and MPA sub-committees



ACTION 5. Promote multi-sectoral participation in the development, adoption and implementation of the Seascape Management and Investment Plans at varying levels of governance

ACTION 6. Promote and market seascape plans and component activities to draw support and funding



Jurgen Freund

## **GOAL No. 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)**

*At the national and regional levels, a strong legislative, policy, and regulatory framework is in place for achieving an Ecosystem Approach to Fisheries Management (EAFM). The purpose of an ecosystem approach to fisheries is to plan, develop and manage fisheries in a manner that addresses the multiple needs and desires of societies, without jeopardizing the options for future generations to benefit from the full range of goods and services provided by marine ecosystems (FAO 2003).*

*By 2012, EAFM is one of the key steps toward addressing common trans-boundary policy and regulatory concerns, such as (i) over-fishing of shared pelagic fish stocks; (ii) illegal cross-border fishing by small-scale fishers (stimulated by depletion of local coastal fisheries), commercial-scale fishing operations, and trans-shipment; and (iii) overcapacity; (iv) by-catch of protected and endangered species.*

ACTION 1. Review and update existing policies, e.g. Republic Act 8550 (Fisheries Code of the Philippines), RA 7586 (National Integrated Protected Areas System (NIPAS) Act), RA 7160 (Local Government Code), National Marine Policy taking into consideration the Archipelagic Development Framework (ArcDev) and Integrated Coastal Management (ICM) to achieve EAFM

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1. Assess existing policies and map out conflicts
2. Harmonize policies with short and long-term objectives of CTI, and resolve jurisdictional conflicts
3. Formulate new policies as deemed necessary

**ACTION 2. Adopt and Implement Comprehensive National Fisheries Industry Development Plan (CNFIDP)**

1. Secure endorsement of the National Fisheries Council / National Fisheries and Aquatic Resources Management Council of the CNFIDP
2. Develop/ Adopt specific fisheries management plan e.g. for small pelagics
3. Formulate Plan of Action for Fishing Capacity

**ACTION 3. Undertake relevant research that will feed into EAFM policy processes**

1. Studies on carrying capacity of the ecosystem and rate of acceptable change
2. Biological and socio-economic and critical threat assessments to determine baseline conditions
3. Resource valuation studies
4. Research on iconic groups and habitats, e.g. tuna, threatened species, mangroves
5. Regular on-board monitoring to validate catch from landing sites and by-catch
6. Manage knowledge, e.g. meta-database development
7. Institutionalization and improvement of the National Stock Assessment Program (NSAP)
8. Develop and adopt a national policy on Fish Aggregating Devices (FADs)

**ACTION 4. Formulate appropriate strategies or enabling mechanisms to address critical threats and implement viable fisheries management mechanisms by working closely with municipal and commercial fishers, local government units, national government agencies and other key stakeholders**

1. Establish appropriate economic incentives/ disincentives for capture fisheries
2. Build capacity for fish catch and by-catch monitoring in municipal waters

**ACTION 5. Finalize, adopt and implement the National Plan of Action for IUU fishing and contribute to regional efforts addressing IUU fishing**

- Formulate laws to address IUU fishing

**ACTION 6. Conduct an IEC campaign and disseminate lessons learned, e.g. best aquaculture practices, green technologies, etc.**

**ACTION 7. Adopt and enforce pertinent fishery and environmental policies**

1. Formulate laws to address IUU fishing
2. Fast track the implementation of Monitoring, Control and Surveillance as provided under RA 8550, against e.g. poaching, destructive fishing, etc.
3. Finalize the Commercial and Municipal Fishing Vessel Licensing Systems
4. Strengthen monitoring and surveillance of industrial and domestic waste water discharge
5. Strengthen the litigation system to prosecute violations of fishery and environmental laws
6. Institutionalize CRM certification and support codification of environmental policies by coastal LGUs

**TARGET #2 IMPROVED INCOME, LIVELIHOODS AND FOOD SECURITY OF AN INCREASINGLY SIGNIFICANT NUMBER (TREND) OF COASTAL COMMUNITIES ACROSS THE REGION THROUGH A SUSTAINABLE COASTAL FISHERIES AND POVERTY REDUCTION INITIATIVE ("COASTFISH")**

*By 2020, through a new collaborative Sustainable Coastal Fisheries and Poverty Reduction Initiative ("COASTFISH") designed to apply an EAFM, a significant improvement has been achieved in the incomes, livelihoods and food security of an estimated 50 million people living in targeted coastal communities.*

ACTION 1. Document and review lessons learned from past and current projects on coastal and marine resources management

ACTION 2. Conduct value chain analysis of fishery products, e.g. tuna, reef fish and small pelagics

ACTION 3. Design and implement programs contributing to the COASTFISH initiatives

1. Develop sustainable coastal livelihoods
2. Enhance non-resource based livelihoods and income generating opportunities
3. Conduct and update socio-economic assessments covering relevant human, social, gender, financial, physical assets of communities
4. Undertake social science research and capacity building on appropriate fishing methods
5. Conduct sustainability assessment of aquaculture production to attain twin objectives of food security and provision of livelihood opportunities
6. Resolve tenure and resource-use conflicts based on best practices and lessons learned

ACTION 4. Develop and implement capacity building activities on mainstreaming EAFM for local government leagues and community-based organizations

1. Enhance capacity building program of the LGU leagues on EAFM
2. Support capability-building efforts for community-based organizations

**TARGET #3 EFFECTIVE MEASURES IN PLACE TO HELP ENSURE EXPLOITATION OF SHARED TUNA STOCKS IS SUSTAINABLE, WITH TUNA SPAWNING AREAS AND JUVENILE GROWTH STAGES ADEQUATELY PROTECTED**

*By 2020, effective national and regional measures developed using an ecosystem approach to fisheries management -- will be in place to help ensure that exploitation (through appropriate mechanisms) of shared stocks for all species of tuna is sustainable and that, in particular, tuna spawning areas and juvenile growth stages are adequately protected. Such measures will help ensure long-term contributions of tuna fisheries to economic growth, incomes, employment, and food security.*

ACTION 1. Implement the National Tuna Management Plan and develop management plans for other species e.g. small pelagics, etc.

ACTION 2. Formulate national implementing rules and regulations on fishing capacity, vessel monitoring system (VMS), fish aggregating device (FAD), observer program, by-catch monitoring, etc.

ACTION 3. Improve the national vessel registry system

ACTION 4. Identify and improve the management and protection of tuna spawning areas and fish refugia

ACTION 5. Strengthen the existing National Tuna Industry Council and other tuna industry organizations

ACTION 6. Build capacity for tuna stock assessment, e.g. Multi-Frequency Analysis (FAN)

**TARGET #4 A MORE EFFECTIVE MANAGEMENT AND MORE SUSTAINABLE TRADE IN LIVE-REEF FISH AND REEF-BASED ORNAMENTALS ACHIEVED**

*By 2020, a more effective management and more sustainable trade in live reef fish and reef-based ornamentals, with the following objectives achieved: a substantial reduction -- across the CTI Implementation Area -- from the baseline level (year) of destructive fishing practices linked to the live-reef food fish (LRF) and ornamentals trade for identified "LRF and ornamental priority areas" that provide significant supply for international trade, an increasing number of these priority areas will achieve viable population levels for selected targeted species (species to be determined).*

ACTION 1. Develop and implement sustainable live reef fish trade (LRFT) management plans particularly in the northwestern Sulu Sea, which includes the island province of Palawan; southeastern Sulu Sea, including the province of Tawi Tawi; and northeastern Mindanao which includes Surigao

ACTION 2. Update RA 8550 that will reflect a sustainable live reef fish trade (LRFT) in the Philippines

ACTION 3. Conduct studies on and mapping of reef fish spawning aggregation and implement seasonal closure of spawning areas

ACTION 4. Develop full-cycle mariculture projects for live reef fish species, especially high value species

ACTION 5. Strictly enforce fishing laws that affect the live reef food fish industry

1. Fully implement policy on establishing Police Environment Desk Officers
2. Strengthen local and regional enforcement teams (eg. Fishery Law Enforcement Teams (FLET), Coastal Law Enforcement Teams (CLET)) Regional Law Enforcement Coordinating Committee (RLECCs))
3. Improve capacity for cyanide detection test laboratories
4. Create incentive schemes for volunteer law enforcers, mainstreamed in LGU budgets
5. Build capacity on law enforcement for the whole enforcement chain including the prosecution service
6. Institutionalize and professionalize Bantay Dagat teams such as registration as community-based organization

ACTION 6. Create the live reef food fish trade council

ACTION 7. Conduct assessment and develop management schemes for reef-based ornamentals



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### GOAL No. 3 MARINE PROTECTED AREAS (MPAS) ESTABLISHED AND EFFECTIVELY MANAGED (INCLUDING COMMUNITY-BASED RESOURCE UTILIZATION AND MANAGEMENT)

#### TARGET #1 REGION-WIDE CORAL TRIANGLE MPA SYSTEM (CTMPAS) IN PLACE AND FULLY FUNCTIONAL

*A comprehensive, ecologically representative and well-managed region-wide Coral Triangle MPA System (CTMPAS) in place -- composed of prioritized individual MPAs and networks of MPAs that are connected, resilient, and sustainably financed, and designed in ways that (i) generate significant income, livelihoods, and food security benefits for coastal communities; and (ii) conserve the region's rich biological diversity. In accordance with emerging scientific consensus, the CTMPAS will include the following quantitative targets for the region as a whole:*

*Ultimate targets: Significant percentage of the aggregate total for the Coral Triangle region derived from each coastal habitat e.g coral reefs, seagrass beds, mangroves, beach forests, wetland areas and marine/offshore habitat will be in some form of designated protected status, with 20% of each major marine and coastal habitat type in strictly protected "no-take replenishment zones" (to ensure long-term, sustainable supplies of fisheries).*

*Interim targets for 2020. Significant percentage of total marine areas across the region in some form of designated protected status, and at least 10% of each major marine and coastal habitat type across the region in strictly protected "no-take replenishment zones".*

ACTION 1. Implement the Philippine marine sanctuary strategy

ACTION 2. Implement the SSME MPA Sub- Committee Work Plan

**ACTION 3.** Identify priority marine key biodiversity areas (mKBAs) in the Philippines with at least one operational MPA network in each mKBA

1. Establish MPA networks based on science
2. Establish governance mechanisms
3. Form MPA networks in priority biogeographic regions and identify relevant components, including social networks and alliances such as Bantay Dagat networks
4. Formalize the network of MPAs
5. Develop management plans and necessary policy studies and recommendations

**ACTION 4.** Link, network and develop new National Marine Centers of Excellence

1. Establish a multidisciplinary experts group to develop the CTI Strategic Research Agenda
2. Strengthen institutional and human capacity to conduct natural and social research through formal educational institutions

**ACTION 5.** Strengthen capacity of local government units and support services of the national government agencies on MPA management

1. Review existing policies, plans and programs and their implication on MPA management
2. Promote participatory MPA management, including women and youth
3. Promote reciprocal learning and capacity building initiatives among MPAs to gain insights, learn lessons, share best practices including sustainable financing and cost recovery mechanisms
4. Coordinate research and studies on MPAs to enhance understanding and factors affecting them
5. Implement tools for assessing management effectiveness
6. Increase capacity building for Green Courts and prosecution service
7. Increase financial resources to conduct Biodiversity Monitoring System (BMS) for its full implementation and to become a regular activity of the DENR

**ACTION 6.** Establish appropriate economic instruments for regulatory and revenue generating objectives

1. Use economic valuation studies as basis for policies, fines, fiscal and other economic instruments
2. Impose environmental user fee systems
3. Develop incentive systems for good performing sectors and disincentive systems for those that are performing otherwise using valuation study results

**ACTION 7.** Rehabilitate and manage mangrove forests

1. Reforest and rehabilitate degraded mangrove areas to achieve 4:1 ratio of mangrove-pond based on precautionary principle
2. Revisit the FLA Policies in terms of duration and area through the Fisheries Code
3. Implement and disseminate FAO 214 entitled the Code of Practice for Aquaculture
4. Strictly enforce RA 8550 and PD 705 regarding mangroves conversion and cutting, reversion of abandoned and illegal fishponds, and prosecute illegal fishpond owners

**ACTION 8.** Develop, adopt and implement the national seagrass strategy





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## **GOAL No. 4 CLIMATE CHANGE ADAPTATION MEASURES ACHIEVED**

### **TARGET #1 REGION-WIDE EARLY ACTION FOR CLIMATE CHANGE ADAPTATION PLAN FOR THE NEAR-SHORE MARINE AND COASTAL ENVIRONMENT AND SMALL ISLAND ECOSYSTEMS DEVELOPED AND IMPLEMENTED**

*By 2012, a region-wide Early Action for Climate Change Adaptation Plan for the near-shore marine and coastal environment and small island ecosystems is completed, followed by full implementation in 2015 - addressing economic and livelihood needs of coastal communities heavily dependent on marine and coastal resources, and biodiversity conservation objectives.*

**ACTION 1.** Conduct vulnerability and risk assessments due to climate change impacts such as extreme weather events, sea level rise, flooding, storm surges, etc.

1. Determine impacts of extreme weather events due to climate change on biodiversity, fisheries productivity, ecology of coastal and marine habitats and ecosystem services
2. Identify coastal areas and communities that are most at risk to climate change impacts and determine type and magnitude of impacts on coastal communities with emphasis on the poor and vulnerable sectors, the fisheries sector, and livelihood, commerce/trade
3. Compute for benefits and costs of action and inaction in addressing climate change impacts

**ACTION 2.** Identify, document and implement immediate climate adaptation measures

1. Document best practices on the conservation of marine and coastal resources in response to climate change pressure, for replication and expansion
2. Establish fisherfolk resettlement areas for those that are most at risk due to climate change
3. Provide alternative livelihood and enterprise development for populations most at risk due to climate change impacts

ACTION 3. Mainstream early warning systems for vulnerable coastal settlements as a result of impacts of climate change

1. Build capacity on disaster risk management and preparedness
2. Perform geo-hazard assessment and mapping

ACTION 4. Formulate a Climate Change Adaptation Plan consistent with AO 171 (Creating the Presidential Task Force on Climate Change or PTFCC) and EO 774 (Reorganizing the PTFCC) and mobilize resources for implementation. The Plan should be consistent with other national policies on foreshore management, population management, watershed management, ICM, solid waste management, and resettlement of coastal communities. It should likewise contain sustainable financing strategies for climate change adaptation measures.

ACTION 5. Engage the private sector in improving disaster risk management and develop economic incentives for entities using climate friendly technologies

ACTION 6. Implement laws on prevention of marine pollution by garbage, sewage, oil and other harmful substances and biota from land and ship-based sources

ACTION 7. Develop infrastructure designs and technologies to adapt to climate change, in partnership with government instrumentalities (i.e. Phil. Ports Authority, DPWH, HLURB, etc.)

ACTION 8. Mainstream ICM and climate change in formal educational institutions

**TARGET #2 NETWORKED NATIONAL CENTERS OF EXCELLENCE ON CLIMATE CHANGE ADAPTATION FOR MARINE AND COASTAL ENVIRONMENTS ARE ESTABLISHED AND IN FULL OPERATION**

*By 2013, a regional network of National Centers of Excellence on Climate Change Adaptation for Marine and Coastal Environments is established, with national centers operational in each CT country, designed to (i) improve understanding of future climate change impacts and related issues; and (ii) support comprehensive application of effective adaptation measures to mitigate these impacts, with a focus on biodiversity conservation and economic and livelihood needs of communities heavily dependent on marine and coastal resources.*

ACTION 1. Identify the appropriate institutional mechanism to coordinate and network activities on climate change adaptation

ACTION 2. Mobilize financial and technical resources to support the national center of excellence, if needed

ACTION 3. Develop appropriate communication messages on climate change adaptation and incorporate these in formal and non-formal education channels.





Jurgen Freund

## GOAL No. 5 THREATENED SPECIES STATUS IMPROVING

### TARGET #1 IMPROVED STATUS OF SHARKS, SEA TURTLES, SEABIRDS, MARINE MAMMALS, CORALS, SEAGRASS, MANGROVES AND OTHER IDENTIFIED THREATENED SPECIES

*By 2015, populations of sharks, sea turtles, marine mammals, corals, seagrass, mangroves and other threatened marine species on the IUCN Red List of Threatened Species will no longer be declining, followed by a clear trend towards an improved status by 2020, as key steps for preventing their extinction and supporting healthier overall marine ecosystems.*

**ACTION 1.** Conduct red list assessments of priority marine species in the Philippines under Global Marine Species Assessment (GMSA)

1. Conduct Red Listing of Marine Endemic Bony Fishes of the Philippines
2. Conduct Global Red List Assessment of Wrasses and Blennies
3. Conduct species assessments for Philippine mKBA refinement and prioritization
4. Conduct Red List Assessment of coral reef-fishes
5. Conduct Red List Assessment of commercially important fish species
6. Conduct IUCN Red List training for local/national experts and species specialists from academe and government agencies

**ACTION 2.** Endorse and implement the National Plan of Action for the Conservation and Management of Sharks and other Cartilaginous Fishes

1. Finalize the Philippine NPOA-Sharks
2. Conduct local and national consultations on NPOA-Sharks
3. Work towards NFARMC endorsement of the NPOA-Sharks
4. Conduct IEC on Philippine NPOA-Sharks
5. Implement the NPOA with proper monitoring, data collection and analysis, and research

**ACTION 3.** Support the establishment of the National Committee on marine turtles and dugong, and adopt National Plans of Action for the Conservation and Management of Marine Turtles and Dugong (NPOA-MT/D)

1. Create a National Committee on MT/D
2. Develop, endorse, approve, adopt and implement the NPOA-MT/D

**ACTION 4.** Conduct surveys and monitor seabirds in priority marine key biodiversity areas (mKBAs) in the Philippines

1. Monitor bird population in Ramsar sites, e.g. Olango Bird Sanctuary
2. Monitor and implement tagging programs in UNESCO Heritage Sites, e.g. Tubbataha Reefs Marine Park and World Heritage Site (TRMP)

**ACTION 5.** Support the establishment of the National Red List Committee on cetaceans and adopt a National Plan of Action for the Conservation and Management of Cetaceans

1. Create the National Red List Committee on cetaceans
2. Conduct Red List assessments
3. Refine Philippine mKBAs for cetaceans
4. Develop, endorse and implement the Philippine NPOA for cetaceans

**ACTION 6.** Conduct stock assessments, evaluate catch trends of commercially important species, and propose management recommendations for over-exploited fish species/ populations by BFAR/NFRDI/ NSAP

1. Conduct threats assessment against priority marine taxa, e.g. reef fishes, seasnakes, invertebrates (holothurians, echinoderms, gastropods, etc.)
2. Monitor by-catch involving threatened species
3. Conduct research on economic values, traditional harvests, population threats and value-chain analysis on threatened species
4. Develop standard research and monitoring protocols for threatened populations and habitats
5. Pursue research on captive breeding of identified threatened species with commercial value

**ACTION 7.** Develop a National Plan of Action on Invasive Alien Species (IAS)

1. Create a committee on aquatic IAS
2. Apply the precautionary principle, strict quarantine controls in introducing species that may pose a threat to the ecology and biodiversity
3. Develop and implement policies preventing the introduction of marine species known from and proven to be invasive

**ACTION 8.** Implement the Wildlife Act and establish the necessary institutional mechanisms to manage wildlife trading

3. Develop incentive systems for good performing sectors and disincentive systems for those that are performing otherwise using valuation study results
1. Create anti-wildlife trafficking bodies, and deputize and build capacity of wildlife enforcement officers
2. Strengthen monitoring of entry and exit points for wildlife trade
3. Strengthen Regional Wildlife Management Committees
4. Increase networking and develop coordination with trade partners
5. Support the strengthening of ASEAN Wildlife Enforcement Network (WEN)
6. Identify points of intervention to reduce illegal wildlife trade
7. Finalize the implementing guidelines for aquatic wildlife

# OVERARCHING COMMITMENTS TO ACTION

The general approach to implementing the CTI NPOA rests on a number of cross-cutting components needed to implement the different actions under each regional target and goal: research requirements, enabling policy, planning based on best practices and lessons learned, capacity building, enforcement of ENR laws, and IEC campaigns. These components ensure consistency with the ICM framework and may contribute to achieving more than one goal. They emanated from a series of sub-national consultation workshops. They will serve as basis in developing implementation guides and a more detailed implementation plan for the NPOA.

## I. RESEARCH REQUIREMENTS

### 1. *Conduct research in the natural sciences.*

Detailed biophysical assessments periodically need to be undertaken to support information needs for decision-making. Natural science research will cover baseline research such as oceanographic studies, connectivity studies, red list assessments and resource profiling. Ongoing stock assessment studies will be continued, while long-term monitoring research on habitats, fisheries and threatened species will be developed. Targeted research for tuna will focus on determining and mapping spawning areas, implementing a tagging program, and determining impacts and dynamics of gear interaction. Meanwhile, research for threatened and/or legally protected species will focus on identifying critical habitats, population and distribution, and mapping of genetic relationships among populations. Biodiversity checklists in the CT will be updated.

Research on fisheries/ aquaculture will tackle biophysical impacts of fishing gears that should lead to appropriate policy recommendations. The full cycle of aquaculture of reef food fish and high value mariculture invertebrates for stock enhancement and trade will be determined, along with their environmental and social impacts.

Emerging research requirements include studies related to adapting to global climate change, e.g. resilience of critical habitats, best crops and species suited for climate change, establishment of gene banks, and models simulating the impacts of climate change on the marine environment. Other research requirements include the following:

1. Conduct of research on coastal and marine ecosystem carrying capacities at varying scales (including for aquaculture)
2. Conduct research to show link between natural and social sciences
3. Review current knowledge on Exotic/ Invasive Alien Species (IAS) that threaten ecosystem, habitats, species and human communities.
4. Develop research on endemic marine species.
5. Ecological interactions of Artificial Reefs with natural systems
6. Impact of infrastructures and development projects on natural systems
7. Formulate and implement non-detrimental finding (NDF) protocol and guidelines for commercially exploited species.

Mechanisms to standardize research methods and monitoring protocols and guidelines, as well as long term monitoring programs for key species will be developed.

## **2. *Conduct social science research***

Social science research will be undertaken to provide more information on resource composition, economic resource uses and users, and establish trends to provide proper direction in succeeding interventions. Socio-economic assessments covering relevant human, social, financial and physical assets of communities will be undertaken and used together with the results for bio-physical assessments for carrying capacity and rates of acceptable change studies. Fisheries-related social science research will determine adaptive fishing methods and best practices in aquaculture. Resource valuation studies will be carried out to determine appropriate incentive and disincentive schemes for coastal and marine resource management. In relation to this, social research related to endangered flagship species will determine their cultural and traditional values and economic uses, and assess the level and impact of traditional harvest rates and practices. Value chain analysis will show trends and projections on trading of priority marine taxa. Cost benefit analyses for sea ranching, farming and full-cycle mariculture will be conducted.

Waste management practices will be assessed and evaluated, and appropriate policies will be formulated. Conflict resolution on tenurial instruments and trade-offs for coastal communities will be undertaken using existing case studies.

Climate change vulnerability assessments will include studies on the impacts of extreme weather events on fisheries, livelihood, commerce and trade, with emphasis on poor and marginal communities in the coastal area.

## **3. *Embark on knowledge management***

National and sub-national fora will be conducted to disseminate studies and research results, particularly best practices on the conservation of marine and coastal resources especially in response to climate change pressure. Meta-databases and management information systems will be developed for efficient information exchange on stock assessment studies, gear inventory, and status of aquatic resources, and for feeding into the monitoring and evaluation system. A Philippine CTI website will be developed which will contain all CTI-related information and progress online.

## **4. *Establish a multidisciplinary experts group to develop the CTI Strategic Research Agenda***

The experts group will collaborate with other research institutions and related organizations to develop a unified or agreed research agenda for CTI. It will serve as the clearing house not just for research topics but also to encourage harmonization and complementation of funding. Consequently, science-management-stakeholder linkages will be strengthened through regular feedback and response mechanisms, such as bi-annual stakeholder conferences and publication of research results.

# **II. ENABLING POLICY**

## **1. *Assess existing policies and map out conflicts***

A technical working group will be created to assess existing policies and conflicts and make recommendations on harmonizing overlapping and conflicting policies. The group will review existing policies and their implication on the management of existing MPAs, biodiversity conservation, climate change impacts, harvest and trade. Policy reviews will initially focus on RA 8550 (Fisheries Code), RA 7586 (NIPAS Act) and RA 7160 (Local Government Code).

## **2. *Formulate new policies to fill in policy gaps***

New policies will be formulated, that will complement and support effective implementation of existing policies and promote best management practices. Guidelines for delineating waters of municipalities with islands will be formulated. Policies on fines, fiscal and other economic instruments based on economic values of environmental goods and services will be drafted. Policy development to look into fish farming or establishment of mariculture parks will be carried out, building on on-going programs on mariculture.

Policies towards the use of environment-friendly technologies, such as the Juvenile and Trash Fish Excluder Device (JTED) and the Turtle Excluder Device (TED), and circle hooks for Tuna-Longline Fishing will be developed. An international MPA network to support reduction of by-catch will be created.

### **III. PLANNING BASED ON BEST PRACTICES AND LESSONS LEARNED**

#### **1. *Spatial Planning***

a) Identify and enhance management of coastal areas at the seascape level.

Seascapes refer to large marine areas that have been designated as units for ecosystem-based resource management and/or biodiversity conservation. Philippine waters have been subdivided into six biogeographic regions, namely: South China Sea, Sulu Sea, Northeastern Philippine Pacific Seaboard, Visayan Sea, Celebes Sea and the Southeastern Philippine Pacific Seaboard (see Figure 2). These biogeographic regions were determined through a series of oceanographic, resource assessment and other scientific studies and nationwide consultations, and are now being proposed as seascapes in the country. Biogeographic marine regions with active conservation and management interventions can be prioritized as Philippine seascapes under the CTI. Maps will be produced from the data generated, including from carrying capacity studies to be conducted in the area. From these, boundaries can be delineated for various management zones in the seascapes.

b) Establish and implement MPA networks.

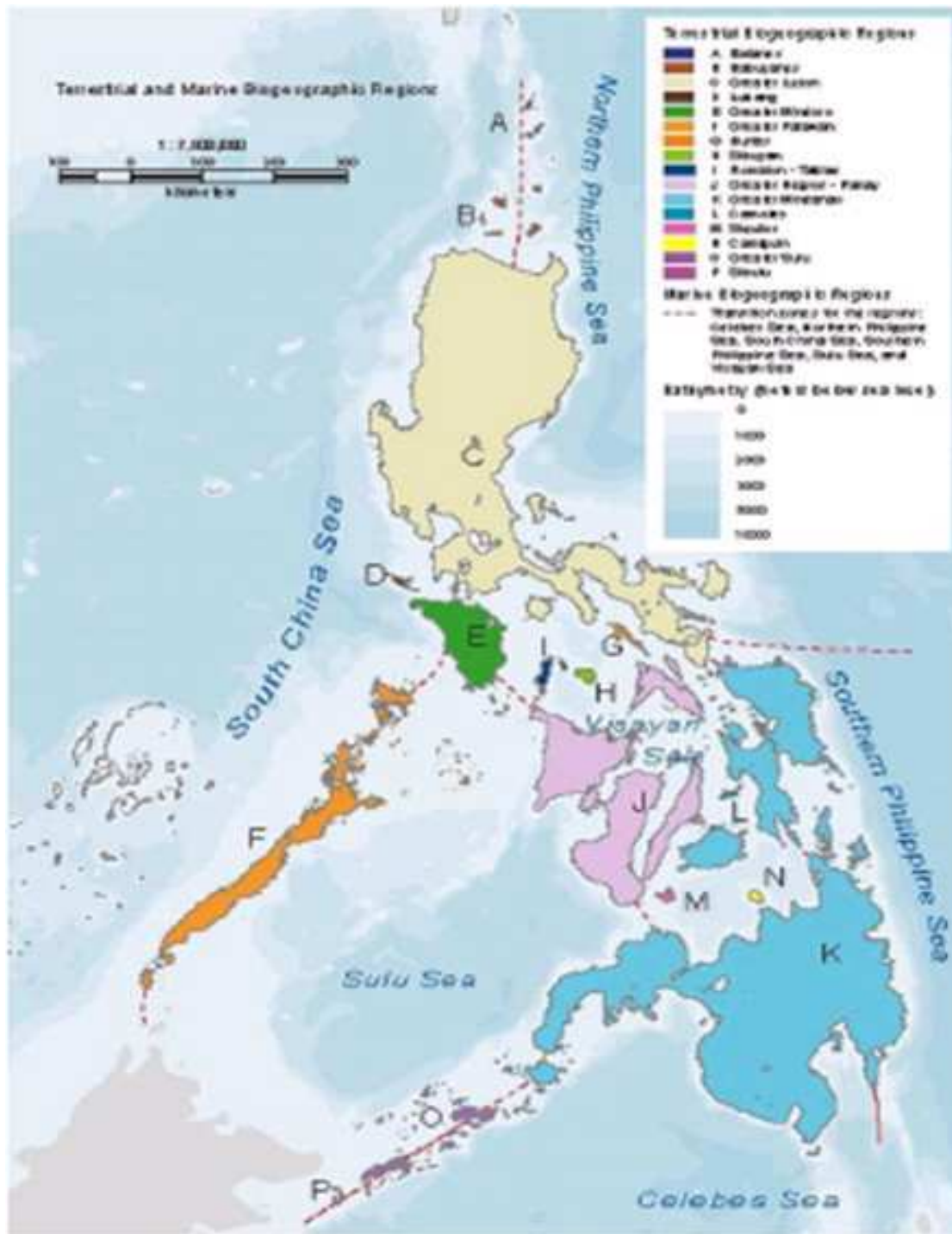
MPA networks are defined as both ecologically and functionally linked institutional and social networks (NOAA 2007). The Philippine Marine Sanctuary Strategy (Philmarsast), including presence of threatened and charismatic species, the Philippine Key Biodiversity Areas (KBA) criteria will guide the identification, establishment, rectification and management of MPAs throughout the country. Establishment of MPA Networks will likewise be based on scientific evidence such as larval sources and sinks, migratory patterns, and/or vulnerability assessments, among others. These networks will be formalized through legal instruments the soonest time possible.

Special attention will be accorded to enhancing mangrove MPAs. To achieve the desired mangrove-fishpond ratio of 4:1 from the current ratio of 0.5:1, mangrove forests in the country will be restored and rehabilitated. Abandoned fishponds will be reconverted back to mangrove forests through a thorough review of existing Foreshore Lease Agreements (FLAs) and related policies and implementation of existing arrangements on reconversion.

#### **2. *Adopt integrated approaches (ICM, Waste and Pollution, Watershed, EBM, Climate Change Adaptation etc.)***

An integrated approach to planning will be undertaken, wherein lessons learned and best practices in managing MPAs and implementing ICM will be considered. Land and water use plans will be integrated along with sectoral and regional plans. Watershed management, wildlife conservation and management, disaster and risk management, pollution control and waste management, and population and health management will be integrated into one framework

**FIGURE 2. BIOGEOGRAPHIC REGIONS OF THE PHILIPPINES**



Source: The Philippine Biodiversity Conservation Priorities Final Report, DENR-PAWB, 2002

under ICM. Adaptive management strategies for the private sector will be included, as well as management of tourism impacts. Results from vulnerability assessments will feed the major ICM plans and programs.

### **3. *Draft appropriate General Management Plans (GMP) and Investment Plans***

Based on biophysical and socio-economic assessments, coastal management zones/ use boundaries within each seascape will be delineated, and areas with existing initiatives will be included. The SSME template will be used for drafting seascape plans. For mangroves in particular, the Code of Practice for sustainable use of mangrove ecosystems for aquaculture will be adopted. Seascape and MPA plans will be harmonized with existing MTPDP, CLUPs, and PPFPs. Approval and implementation of the NPOAs for IUU fishing, sharks, fishing capacity, sardine management and tuna management will be sought. The Plan for live reef food fish trade will be in line with the ASEAN standards for the sector.

Each GMP will be translated into an Investment Plan containing sustainable financing mechanisms for CTI through legislative measures, public-private partnerships, and market-based instruments such as eco-certification and Payments for Environmental Services. Best conservation and management practices on economic incentives for the conservation of endangered flagship species will be adopted, and incentive systems for good performing LGUs will be developed.

Sustainable financing schemes may take the form of regular budget allocations for national government agencies and LGUs. The budgeting process of the national government will be reconfigured based on the CTI NPOA requirements, which in turn will be based on cost-benefit studies. A Trust Fund for Climate Change will be established, partially sourced from economic instruments set up for seascape and MPA management.

Incentive systems will be provided for LGUs, communities and the private sector that practice ICM/CRM. Awards will be given for those that demonstrate best practices in watershed, MPA, business or plant operations. A watershed certification system will thus be developed, especially at the local level. Economic incentives will be provided for climate-friendly operations in the business sector. On the other hand, appropriate disincentives will be designed for would-be violators of environmental laws and regulations, such as market-based fines and penalties. Stakeholders will be engaged towards a common vision and adoption of the GMPs at varying levels of governance. Regular feedback with the general public will be established, and appropriate governance mechanisms will be set in place.

## **IV. CAPACITY BUILDING**

### **1. *Strengthen Institutional and Human Capacity to Conduct Natural and Social Research***

Centers for excellence for marine science and technology, fisheries and coastal management research will be identified, developed and strengthened. The centers will include development and expansion of local managers for ICM and local CTI initiatives.

### **2. *Develop capacity in implementing existing laws***

Capacity-building activities aimed at implementing the policies at various levels of management will be continued based on a needs assessment. Stakeholder consultations will be held to determine needs and to regularly update them on new policies and review of existing ones.

### **3. *Build Capacity in Managing MPAs and Seascapes***

Training needs will be determined and assessed, and an appropriate and programmatic training program will be developed. Community efforts for capability-building will be encouraged and supported, while management and coordination mechanisms at the local and national levels will be strengthened. Capacity building for monitoring tools using biodiversity indicators such as status of threatened species within MPAs, mKBAs and seascapes will be undertaken.

### **4. *Build capacity in developing sustainable livelihoods***

Environment-friendly livelihood opportunities will be introduced particularly to areas that are most at risk due to climate change. Potential alternative livelihoods will be explored, preferably those that make use of indigenous technology or at least technology that is easily transferred, and is capable of weaning people away from unsustainable resource extraction and harvesting. Alternatives should ensure the integrity of the ecosystems being conserved, and should not just replace the destructive methods being replaced in terms of impacts on the environment. In particular, ecotourism will be explored as one source of non-extractive livelihood opportunities while simultaneously promoting conservation to keep areas as viable ecotourism attractions. In the area of aquaculture, technologies that are both environment-friendly and equitable will be promoted, following the Code of Conduct for Responsible Fisheries in Aquaculture and Fisheries Management.

### **5. *Build Capacity of Law Enforcement Agencies***

The inter-agency enforcement task force and regional law enforcement coordinating committees will be strengthened.

An overall national enforcement plan will be drafted. The Plan will include ways on how to improve the capacity of cyanide detection test laboratories on land, and development of a portable cyanide test kit as support to enforcement. Implementation of the Coast Watch South will be pursued.

Incentive schemes for local law enforcement teams, e.g. Bantay Dagat, will be developed and mainstreamed into LGU plans and budgets. Equipment and logistics for rescue, treatment and rehabilitation of stranded mammals will be secured. Bantay Dagat teams will be registered as community-based organizations with the relevant national agencies, and Bantay Dagat members will be deputized as fish wardens. Success stories will be documented and replicated in other parts of the country. Disincentive schemes for violators will likewise be developed, such as market-based fines and penalties, and implementation of registration and licensing schemes for municipal and commercial fisherfolk.

Training programs will be developed for all parts of the enforcement chain, i.e. patrolling and detection, arrest, prosecution, conviction and payment of fines and penalties. For the prosecution system and judiciary, existing training programs will be replicated and the establishment of Green Courts will be fast-tracked.

To combat poaching, capacity will be beefed up by providing additional aircraft and patrol vessels for the implementation of the Vessel Monitoring System (VMS) and the Regional Observer Program.

## **V. ENFORCEMENT OF ENR LAWS**

Anti-wildlife trafficking bodies and wildlife enforcement officers will be deputized to implement the Wildlife Act. Monitoring of entry and exit points for wildlife trade will be strengthened. National and Regional Wildlife Management Committees, pursuant to R.A. 9147 will be created and strengthened which in turn will network and develop coordination with trade partners.



Policies on establishing Police Environment Desk Officers will be fully implemented, along with fishery law enforcement teams, coastal law enforcement teams and Bantay Dagat teams (Sea Guardians).

PCSD, ARMM and Regional Committees will be strengthened. Quick response mechanisms to address unforeseen threats and opportunities for enforcement, funding and partnership will be developed and implemented. Surveillance and patrol of coastal areas and "hot spots" for smuggling of CITES listed species will be increased.

With respect to mangrove conservation laws, an inventory of fishponds illegally located in mangroves will be conducted, and illegal fishpond owners will be prosecuted accordingly. Provisions in RA 8550 and PD 705 on mangrove conversion and cutting will be strictly enforced. In relation to this, Fishpond Lease Agreements (FLAs) and Mangrove Stewardship Agreements (MSA) regulations against conversion of mangroves for other purposes will be strictly enforced. Cases of private titles in public lands will be investigated, particularly those that are located in wetlands and near coastal areas.

FAO 208 will be enforced and breeding protocols will be developed.

LGUs that do not create their respective Fisheries and Aquatic Resources Management Councils (FARMCs) will be sanctioned accordingly.

Fines for the Marine Pollution Law will be reviewed and revised accordingly.

Dedicated navigational routes and sea lanes will be designated within seascapes, especially for tankers passing through, ensuring consistency with seascape plans.

Debris that impedes turtle nesting and hatchlings production will be removed and recovery of degraded marine habitats for turtle nesting will be enhanced.

The Baselines Law will be implemented.

## **VI. INFORMATION, EDUCATION AND COMMUNICATION (IEC) CAMPAIGN**

### **1. *Promote seascapes to draw support and funding***

Management and investment plans and their component activities will be promoted, marketed and disseminated to achieve a multi-sectoral buy-in for the adoption of the Plans.

### **2. *Conduct IEC campaign on relevant CTI concerns***

IEC campaigns will be conducted for the following, but not limited to:

- a) best aquaculture practices
- b) green technologies
- c) benefits of CRM certification
- d) climate change
- e) CITES listed and protected species

### **3. *Network with Stakeholders in the Region***

CTI activities will be discussed in regional fora. Multi-sectoral stakeholders' consultations will be conducted to develop national positions, including the formulation of a strategy on marine IAS. Study tours, campaigns, road shows, exhibits and symposia will be conducted periodically, and a tri-media campaign will be made use of.

**4. *Popularize information within the country***

Existing literature will be translated into more local-friendly format and language for dissemination across the country. Exposure trips within the CTI region will be held from time to time.

**5. *Mainstream ICM and Climate Change in Formal Educational Institutions***

ICM and climate change will be integrated into primary and secondary education curricula and/or subjects, including textbooks, primers and other educational materials, basic principles and concepts of conservation, protection and management of the country's marine resources. The ICM training program for LGUs will be developed through the Local Government Academy, building upon existing ICM expertise and experiences.



# *section 4* COORDINATION MECHANISMS AND IMPLEMENTING PARTNERS

The National CTI Coordination Committee (NCCC) will guide the overall implementation of the NPOA and shall be the focal point of contact for the Regional CTI processes. The NCCC will lead multi-stakeholder processes to coordinate and promote country-level implementation of the national and local plans of action.

It will be jointly facilitated by the Department of Environment and Natural Resources (DENR) and the Department of Agriculture -Bureau of Fisheries and Aquatic Resources (DA-BFAR). Members will be composed of the following:

- a) Department of Foreign Affairs (DFA)
- b) Department of Finance (DOF)
- c) National Economic and Development Authority (NEDA)
- d) Two (2) representatives from the Non-Government Organizations (NGOs)
- e) Two (2) representatives from the Academic Institutions
- f) one (1) representative from the Business Sector

Representatives from the NGOs, academic and business sectors shall be appointed by the NCCC. The NCCC may call upon on other agencies/organizations/institutions for advice and technical support, as needed.

The CTI NPOA intends to build on past and ongoing ICM/CRM programs that have proven to be successful and provide lessons in managing coastal and marine resources. The experience of the country has spanned over roughly three decades, and various institutional mechanisms have evolved in the process. These mechanisms will be utilized to implement the CTI NPOA to the extent possible. When necessary, new coordinating mechanisms will be formed. Annex B contains a partial list of ICM-related programs that have been introduced in the country. The list will be enriched as soon as arrangements to implement the NPOA are finalized.

A mapping exercise will be conducted to determine exactly who is implementing what in the country. The initial list of ICM programs will be mapped out, including the implementing partners for each project. A generic table of implementing partners is presented in Annex C to start the mapping process.

Upon completion of the CTI annual implementation plan, specific coordination mechanisms at the local level will be identified. Activities that can be carried by existing partnerships will be pursued, while new local coordinating mechanisms will be developed for those that need special focus.

# FINANCIAL RESOURCES *section 5*

## Context

The implementation of the CTI NPOA will have the following features:

- 1 Simultaneous actions by several national government agencies encompassing the five goals of CTI through existing and planned activities.
- 2 Implementation of CTI goals by various players including national agencies, local governments and their aggrupations, academic sector, private sector, local and international NGOs, community-based organizations (CBOs) and people's organizations (POs).
- 3 External funding support. A group of external funding institutions investing in the Plan of Action, likely to be significant in size.
- 4 Funding support from the public sector at the national and local levels to include deployment of personnel, use of government facilities, and support for travel and consultations/meetings,
- 5 Funding support from the private sector through engagement in any of the five CTI goals.

## Elements of the general approach to financial resources

This section discusses the financial resources required to implement the actions enumerated in Section 3. Part 1 provides a template to indicate costs required for implementation of each action, as enumerated in the column on "financial estimates" (Table 1). Some of these actions are already being undertaken by various government agencies and non-government organizations, as indicated in the column on "implementing agency". Existing sources for these funds will be shown in the column on "source of funds". Funding gaps will be indicated by a question mark in this column, and will be tabulated at the end of each goal. These will indicate the amount of funds needed to be raised in the short and medium-term in order to implement the action statements. The amounts will be indicative in nature, and should not be treated as final and absolute. Detailed implementation plans crafted immediately after approval of the NPOA are expected to contain more realistic amounts and finalize said Table.

**Table 1**

<b>Goal/ Target/ Action</b>	<b>Implementing Agency</b>	<b>Financial Estimate (US\$)</b>	<b>Timeframe/ Duration</b>	<b>Source of Funds</b>

The funding arising from various modalities and sources already existing or identified as supportive of the CTI Goals is complemented by Part 2 which creates a stream of funding that is internally generated by the implementation of the CTI goals (Table 2). Except for Goal 5, the four other goals of CTI include actions that create a funding architecture either through macro-level funding strategies such as that of seascapes or micro-level financing strategies arising mainly from market and non-market based instruments that reflect ecosystem values and services.

**Table 2. Sustainable Financing Strategies in the NPOA**

<b>Goal 1</b>	<ol style="list-style-type: none"> <li>1. Develop a master plan from which an investment plan will be prepared for the priority seascape</li> <li>2. Conduct needs assessment among seascape and MPA managers</li> <li>3. Promote seascapes to draw support and funding</li> </ol>
<b>Goal 2</b>	<ol style="list-style-type: none"> <li>1. Conduct resource valuation studies that will feed into EAFM policy processes</li> <li>2. Establish appropriate economic incentives/ disincentives for capture fisheries</li> <li>3. Mobilize financial and technical resources to support design and implementation of COASTFISH initiatives <ol style="list-style-type: none"> <li>a) Enhance environmentally-sustainable livelihood opportunities</li> <li>b) Establish incentives or trade-offs for coastal communities</li> </ol> </li> </ol>
<b>Goal 3</b>	<ol style="list-style-type: none"> <li>1. Establish appropriate economic instruments for regulatory and revenue generating objectives <ol style="list-style-type: none"> <li>a) Use economic valuation studies as basis for policies, fines, fiscal and other economic instruments</li> <li>b) Impose environmental user fee systems</li> <li>c) Develop incentive systems for good performing sectors and disincentive systems for poor performing sectors using valuation study results</li> </ol> </li> </ol>
<b>Goal 4</b>	<ol style="list-style-type: none"> <li>1. Engage the private sector in improving disaster risk management and develop economic incentives for entities using climate change-friendly technologies</li> <li>2. Mobilize financial and technical resources to support the national center of excellence, if needed</li> </ol>

### Short term next steps

- 1 Development of implementation strategy with actions prioritized and financial requirements validated
- 2 Secure start up funding for NPOA implementation through the allocation of funds pursuant to the Executive Order Adopting the CTI (Philippines) Plan of Action and Creating the National Coral Triangle Initiative Coordination Committee
- 3 Establishment of a CTI-NPOA Financial Resources Working Group under the NCC to assist in the formulation of programs and projects

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# MONITORING AND EVALUATION *section 6*

## PURPOSE

The Monitoring and Evaluation (M&E) system for the NPOA will provide data and information for the following purposes:

- To report on progress and performance
- To report on results
- To report on effectiveness
- To report on the contribution to national agenda
- To report on the change of state of the Philippine environment
- To report back to and respond to queries from the stakeholders
- To promote accountability
- To promote learning and lessons learned among partners, as a basis for decision making on policies, strategies, program management and projects
- To improve knowledge

## PLATFORM

The development of the NPOA M&E system builds on existing M&E frameworks and systems especially of the projects and programs being implemented in the CTI covered areas, including the current efforts to draw the annual Philippines Country Environment Analysis report and the Philippines report on its international commitments.

Process:

The Philippines NCCC CTI Technical Working Group conducted a series of technical workshops, basically one for each goal, to consult the local experts in identifying a set of quantitative indicators. One primary consideration in drawing the set of quantitative indicators is prioritizing information on data that are currently being collected and data collection tools already being used in drawing these data. The list of indicators was subjected to stakeholders' feedback and comments through the sub-national validation workshops.

## PRODUCT

A set of indicators to monitor and evaluate the progress of the NPOA implementation has been identified in Annex D. The quantitative elements for each of the indicators will be determined and finalized during the preparation of the NPOA implementation plan.

Assessment of management effectiveness will be carried out using existing tools such as the MEA, while the Biodiversity Monitoring Survey (BMS) of the DENR will be implemented regularly. These tools will be replicated in existing MPAs and seascapes, as well as those that will be set up in the course of CTI implementation. Monitoring will be participatory and standard across the country, to the extent possible.

Regular monitoring reports will be prepared and submitted to the NCC and their local counterparts. LGUs will be mobilized to participate in M&E systems, as well as in the development of quantitative targets.

In monitoring climate change impacts, indicators will include, but not limited to the following:

- a) Sea temperature rise and sea level rise
- b) Disaster monitoring
- c) Impacts of upland run-off to coastal areas
- d) Compliance with Environmental Compliance Certificates (ECCs)

In addition to setting indicators for each of the targets, the NPOA through the Implementation Plan will also list impact level indicators such as marine ecosystem biodiversity indices and fish catch levels.





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# Annex A

## NATIONAL POLICIES ON BIODIVERSITY CONSERVATION

The Philippine Constitution provides for the protection and advancement of the right of the people to a balanced and healthful ecology (Article 2, Section 16). This declaration has been translated into various laws with comprehensive and specific purposes. Among the comprehensive national laws are **Republic Act (RA) No. 7586**, also known as the **National Integrated Protected Areas System (NIPAS) Act** and **Republic Act 9147 (Wildlife Act)**.

**RA No. 7586** aims to protect and maintain the biological diversities and secure for the perpetual existence of all native animals and plants through the establishment of integrated protected areas. RA No. 9147 sets four objectives: (1) to protect and conserve wildlife species and their habitat; (2) to regulate the collection and trade of wildlife; (3) to pursue with due regard to the national interest, the country's commitments to international conventions, protection of wildlife and their habitats; and (4) to initiate or support scientific studies or conservation of biodiversity.

The policy to conserve biodiversity is also provided in various national laws. The most prominent are the following:

**RA No. 7160 (Local Government Code)** mandates the local government units to ensure and support the right of the people to a balanced ecology.

**RA No. 8550 (Fisheries Code)** calls for the management and conservation of fishery and aquatic resources to maintain sound ecological balance.

**RA 8371 (Indigenous People's Rights Act)** guarantees the rights of the Indigenous People or cultural communities to their ancestral domain, but with the responsibility to manage and conserve the natural resources for the future generation.

**Executive Order (EO) No. 578** was issued by the President in 2006 establishing the national policy on biological diversity, prescribing its implementation throughout the country particularly in the Sulu-Sulawesi Marine Ecosystem (SSME) and the Verde Island Passage Marine Corridor. This policy likewise provides for the review and to update the ECP; create and organize a Task Force on Verde Island Passage (VIP) to ensure sustainable use of its resources; and identify other marine biodiversity corridors within the SSME that require urgent attention and formulate appropriate conservation and management strategies.

**Presidential Proclamation No. 1028** was issued in June 1997 declaring the entire Sulu and Celebes Seas as an integrated conservation and development zone. The primary purpose of the proclamation is to conserve the rich biodiversity of the Sulu and Celebes seas while implementing sustainable development activities particularly in the fisheries and tourism sectors, thus ensuring the economic well being of coastal communities surrounding the Sulu and Celebes Seas.

The Proclamation likewise provides for the creation Presidential Commission for the Integrated Conservation and Development of the Sulu and Celebes Seas, with the Department of Environment and Natural Resources as the Chairman. The Commission is mandated to formulate, recommend and implement programs aimed at ensuring the conservation of the rich marine biodiversity while providing income-generating opportunities to coastal communities through sustainable development activities.

**EO No. 533** was issued by the President in 2006 adopting the Integrated Coastal Management (ICM) as a national strategy to ensure the sustainable development of the country's coastal and marine environment and resources and establishing supporting mechanisms for its implementation. The Order likewise provides that ICM and related approaches, such as coastal resource management or coastal zone management, shall be the national management policy framework to promote sustainable development of the country's coastal and marine environment and resources in order to achieve food security, sustainable livelihood, poverty alleviation and reduction of vulnerability to natural hazards, while preserving ecological integrity.

The Task Force for VIP has been created composed of representatives from various sectors having stake with the VIP including LGUs, NGOs, Business Sector, POs, etc. The Management Framework Plan has been approved by the PCICDSCS.

**DENR Administrative Order No. 2007-17** was issued to provide guidelines regarding special uses in protected areas. These guidelines provide, among others the allowable special uses, the requirements and process for applying for the special use agreement in protected areas.

**EO 774** reorganized the Presidential Task Force on Climate Change (PTFCC) and was issued on Dec. 26, 2008.

**RA 8435**, or the **Agriculture and Fisheries Modernization Act (AFMA) (1997)**, seeks to modernize the agriculture and fisheries sector by transforming the sector from a resource-based to a technology-based sector. RA 8435 envisions increased profitability for farm and fishery operators, enhanced food security for the populace, and improved market competitiveness. An important feature of RA 8435 is the identification of Strategic Agriculture and Fisheries Development Zones (SAFDZ), spanning various LGU territories. SAFDZ will feature an integrated development plan consisting of production processing, investment, marketing, human resources and environmental protection components. RA 8435 shall also develop medium to long-term Agriculture and Fisheries Management Plans, rationalize credit delivery, improve irrigation services delivery, and provide adequate and timely information for marketing support.

**RA 6969 is the Toxic Substances, Hazardous and Nuclear Wastes Control Act** which implements the country's commitments to the Basel Convention.

**RA 9522** otherwise known as the **Baselines Law** defines the baselines of the territorial sea of the Philippines. It was signed into law on February 17, 2009.

Various Bills for the establishment of MPAs have been filed in the House of Representatives and the Senate. Among these Bills are for Tubbataha Reefs NP, Apo Reefs NP, Turtle Island Wildlife Sanctuary that are all within the SSME.

**Fisheries Administrative Orders (FAOs)** have been issued by the DA-BFAR in pursuit of fisheries management.

The country is signatory to a number of international conventions that relate to fisheries and coastal resources management, some of which are mentioned below.

The earliest convention is the **Indo-Pacific Fisheries Commission Agreement** adopted in 1948, later on amended first in 1952 and latest in 1996. Its principal objective is to promote the full and proper utilization of living aquatic resources by the development and management of fishing and culture operations and by development of related processing and marketing activities.

The **Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES)** was adopted in 1973, and later on amended in 1979. It contains a list of species that are considered endangered, hence are restricted in being traded across countries. The list is constantly

being updated as new species are either classified as endangered, or as formerly endangered ones become delisted because of increases in their population.

The **Convention on Biological Diversity, or CBD**, was ratified by the Philippines in October 1993. Its objectives include the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

The **Code of Conduct for Responsible Fisheries** was signed in the country in 1995, while the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean was signed in September 2000. Its principal objective is to ensure the long-term conservation and sustainable use of highly migratory fish stocks in the Western and Central Pacific Ocean. A related Convention ratified in 2003 is the Convention on the Conservation of Migratory Species of Wild Animals, which recognizes and takes into account the transboundary nature of the migration patterns of some species, such as tuna, mackerel, etc.

The **United Nations Convention on the Law of the Sea, or UNCLOS**, provides guidelines in determining the extent of territorial waters and exclusive economic zones, and rules applicable to ships traversing through international waters and straits used for international navigation, among others.

Other pertinent international conventions include:

- International Convention for the Regulation of Whaling
- International Plant Protection Convention
- International Convention for the Prevention of Pollution of the Sea by Oil
- Convention on Wetlands of International Importance especially as Waterfowl Habitat
- Convention Concerning the Protection of the World Cultural and Natural Heritage
- Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal
- Vienna Convention on the Protection of the Ozone Layer
- Montreal Protocol on the Substances that Deplete the Ozone Layer
- Fund Protocol Relating to the International Convention on the Establishment of an International Oil Pollution Compensation Fund
- Global Programme for the Protection of the Marine Environment from Land-Based Activities, UNEP, 1995

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# Annex B

## PROGRAMS AND PROJECTS IMPLEMENTED

### 1. *Integrated Coastal Resource Management Project (ICRMP)*

ICRMP is currently implemented for sustainable management of the country's coastal resources and to increase the income of the coastal communities. The project is being implemented in seventy (70) municipalities and six (6) provinces, four (4) of which are within the SSME.

It has four (4) components namely: (a) Policy and Institutional Strengthening and Development; (b) ICRM and Biodiversity Conservation; (c) Enterprise Development and Income Diversification; and (4) Social and Environmental Services and Facilities.

### 2. *USAID's EcoGov Project Phase 2 (EcoGov2)*

EcoGov2 in collaboration with the Department of Environment and Natural Resources (DENR), various leagues of local government units (LGUs), DENR-Autonomous Region in Muslim Mindanao (ARMM), and the Department of Interior and Local Government (DILG) is strengthening LGUs to respond to various challenges through localized but strategic actions that aim to: a) Reduce overfishing and the use of destructive fishing practices; b) Reduce illegal logging and conversion of natural forests; and c) Improve the management of solid wastes and wastewater.

### 3. *Fisheries Improved for Sustainable Harvest (FISH) Project*

The FISH Project aims to address a variety of fisheries management issues in four ecologically and economically significant marine ecosystems in the Philippines. Among these issues, and a greater emphasis will be focused on those relating to overfishing, illegal fishing, and habitat destruction combined with increased demand for fish and high population growth, which continue to drive fisheries productivity into deeper decline.

The FISH Project is a 7-year technical assistance project consisting of a 5-year period that commenced in September 22, 2003 and will end September 21, 2008. The Project has a 2-year option for extension until September 21, 2010.

### 4. *Sustainable Coastal Tourism Project in Asia (SCOTIA) 2003-2008*

The over-riding objective of the Project is the protection of the coastal and marine ecology in the project sites to promote tourism and increase the capability of the local community and tourism industry to manage these resources. The SCOTIA project aims to build local capability to increase sustainability, reduce the negative "ecological footprint" of the local community and the tourism industry, and increase the positive and sustainable aspects of coastal tourism through an alliance of conservation advocates and local and international tourism operators.

The Project assist hotels, resorts and dive shop operators to commit to specific activities and improvements to reduce their environmental impacts and to increase efficiency; support Local Government Units, communities and other local stakeholders to increase recycling and composting in their areas and identify and implement affordable waste treatment and disposal systems; and, assist hotels, resorts, dive shop operators, LGUs, communities, and other stakeholders to develop and implement "user fees" to help fund conservation and management of coastal and marine resources, including improvement of capacity of local communities to enforce and effectively manage their marine protected areas (MPAs).

Six areas are under the SCOTIA, namely, Balayan Bay in Batangas, Puerto Galera in Mindoro, El Nido in Northern Palawan, Moalboal and Mactan in Cebu, and Panglao in Bohol.

5. *Mindanao Rural Development Project (MRDP) 2*

MRDP APL Program was designed as a poverty reduction intervention for the rural poor and IP communities of Mindanao in 4 phases (APLs). It provides an opportunity for reinforcing the Local Government Code (LGC) and the Agriculture and Fisheries Modernization Act (AFMA).

It supports community-based approaches and engage LGUs and rural communities in designing and implementing sub-projects to address priority rural concerns.

6. *Sustainable Management of Coastal Resources in the Bicol and Caraga Regions (SUMACORE)*

The main objective of SUMACORE is for poverty alleviation in the areas of intervention and to improve the management of coastal fisheries resources. It is being implemented by the Department of Agriculture through the Bureau of Fisheries and Aquatic Resources (DA-BFAR) in collaboration with the LGUs. The Project components are: Coastal Resource Management (CRM), Livelihood, Capacity Building and Information and Education Campaign.

7. *Southern Mindanao Integrated Coastal Zone Management Project (SMICZP)*

SMICZP is supported by the Overseas Economic Cooperation Fund and implemented by the Department of Environment and Natural Resources in Southern Philippines (Region XI). It aims to enhance the strategic integration of the management of the coastal and watershed ecosystems to assure the sustainable development of the Mt. Matutum Protected Landscape and Sarangani Bay Protected Seascape, Balasiao Watershed and Malalag Bay. The Project was implemented by the Department of Environment and Natural Resources in Southern Philippines. The Project's main objective is to implement an integrated environmental protection and management for critical ecosystems as imperative to sustainable development.

8. *Sulu-Sulawesi Seascape Project (SSSP)*

The Sulu Sulawesi Seascape Program (SSS) strives to translate site-scale coastal management initiatives into an effective seascape-wide governance regime supported by a consortium of committed partners that provide technical expertise and institutional support and recognize stakeholder realities in the SSS.

The SSSP is being implemented in Verde Island Passage, Cagayan Ridge and Balabac Strait Marine Biodiversity Conservation Corridors to assess state of coastal habitats and provide scientific basis for network of MPAs in support of municipal fishery management and marine biodiversity conservation. The scientific research results from SSS have been consolidated to identify the areas within each corridor with the greatest potential for marine biodiversity conservation when considering both ecological and threat parameters. The consolidated results have been used to identify priority areas for strengthening and expanding no-take zones and marine protected areas (MPAs).

CI and partners have conducted outreach activities and training in each corridor to increase local support for marine conservation and management, targeting local communities, educators and students, government agencies and local government units, and media groups. Combined resources from CI and the local government units ensured enforcement operations in the municipality are conducted diligently.

## 9. *The Coastal Resources and Fisheries Conservation Project (CRFC)*

CRFC is a USAID-funded project, aimed to strengthen the management of marine ecosystems and resources through improved participation of local partners in MPA management; establish new and strengthening the management of existing MPAs; and increase support involvement in for the protection and management of coastal and marine resources. The project was implemented in Mabini and Tingloy, Batangas; El Nido, Palawan; Lapu-Lapu, Cebu; Panglao and Dauis, Bohol and Sitangkai, Mapun and Languyan, Tawi-Tawi province.

### a) Tawi-Tawi Coastal Resources and Fisheries Conservation Project

A total of 650 hectares of marine protected areas spanning four municipalities of the province of Tawi Tawi. Management boards were duly created for each of the marine protected area, with the municipal governments taking leadership. Parallel to the initiatives at the municipal level, the project facilitated and assisted in the passage of a Provincial Environment and Management Policy Framework which would serve as a guide in the development of environmental and fisheries laws for the province. This framework would facilitate mainstreaming the environmental management in the executive and legislative agenda both at the municipal and provincial level.

### b) Lapu-Lapu, Cebu Coastal Resources and Fisheries Conservation Project

Lapu-Lapu, Cebu is considered the center of coastal tourism in the Philippines. Millions of tourists both local and foreign flock to the island city of Lapu Lapu, Cebu whose main attraction are white sandy beaches and coral reef areas. A total of three marine protected areas were established with a total area of 33 ha. The project assisted the City government establish a tourist fee system in 2007. Logistical and technical support was also provided for the enhancement of the City's law enforcement groups.

### c) Panglao, Dauis and Baclayon Bohol, Coastal Resources and Fisheries Conservation Project

The municipalities of Panglao, Dauis and Baclayon are known for its beaches and dive sites and are popular tourism destination. The project focused its support in strengthening management capacities for marine protected areas that were already established prior to the project. The project organized and supported local government units in the development of policies and passage of ordinance related to coastal resources management, marine protected areas, and Solid Waste Management. Direct support to enforcement groups was also provided by the project.

### d) Mabini and Tingloy, Batangas: Coastal Resources and Fisheries Conservation Project; and Enforcing Water Use Zone Project

Technical researches were conducted to support improved marine protected areas management in Mabini and Tingloy municipalities in the province of Batangas. These studies include Soil Erosion studies in Mabini, fish catch monitoring in Mabini and Tingloy. With these inputs and the application of GIS mapping, a water use zone was developed for both Mabini and Tingloy. Parallel to these studies community volunteers from both municipalities were trained to conduct fish catch and coral monitoring. Cross visits to study sites was supported by the project on the topics related to law enforcement, sustainable financing and tourism services. Logistical support to law enforcement activities was also provided by the project.

### e) El Nido Coastal Resources and Fisheries Conservation Project and Marine Environmental Protection Project, Northern Palawan

Support to policy processes to enhance the existing sustainable financing mechanism was the core of the project's support to El Nido in Palawan. The project built on existing sustain-

able financing mechanism of the Integrated Protected Area Fund under the National Integrated Protected Area system. The project facilitated workshops to develop mechanisms to establish a user fee system that would be locally managed for improved efficiency and access to support the community based law enforcement program in the area. To date mechanisms to establish a tourist fee system managed by the Local Government is still in the process. The project also provided logistical support for the improvement of mooring buoys in the protected area and provided support to conduct capacity building activities for the LU and the Protected Area Office.

WWF-Philippines is also extending support to the Marine Law Enforcement activities in El Nido under the bigger biodiversity conservation project being implemented by the El Nido Foundation, with funding from the Global Environment Facility and Ten Knots Corporation. In 2007, El Nido Environmental Law Enforcement Council (ENELEC) spearheaded by the local government unit in collaboration with the Protected Area office established a Command Post Unit through an Executive Order. The creation of the Command Post resulted in more efficient and streamlined enforcement operations which conducted 184 patrols and resulted in the apprehension of 43 cases of violations both in the marine and terrestrial areas. Surveillance and intelligence units were also organized and trained at the Barangay level to facilitate the gathering and transmission of relevant information on environmental crimes to the enforcement units.

#### *10. Sulu Sulawesi Marine Ecoregion -Partnership for Sustainability*

The SSME matching grants program was designed to develop conservation technologies from learning sites in the Philippines and Indonesia as well as to increase the capacity of WWF and collaborators to implement regional conservation work. The sites in the Philippines are considered marine biodiversity significant areas namely: Apo Reef in Sablayan, Occidental Mindoro; Puerto Galera, Oriental Mindoro and Donsol, Sorsogon.

##### *a) Apo Reef-Sablayan Occidental Mindoro*

This project is aimed at integrating the efforts of the municipal government of Sablayan in the management of its municipal waters and the adjoining waters of the Apo Reef protected area some 35 kms from its shores.

The Matching Grants project has supported law enforcement activities in the park as well as in the municipal waters. Increased support of the local government unit to park management was also realized within the tenure of project term. The participation of local people's organizations in law enforcement both in municipal waters and park waters was instrumental in improved coastal management. Also in 2007, a Municipal Ordinance concurred with a Protected Area Management Board declared the waters of Apo Reef a "no take zone". This declaration made Apo Reef National Park as the 2nd no take zone MPA in the Philippines next to Tubbataha Reef. In support with this policy the municipal government also provided livelihood projects to lessen the impact of local fishers who used to fish in the regulated areas of Apo Reef.

##### *b) Puerto Galera, Oriental Mindoro*

The Project was able to make great gains the setting up of institutional framework to support coastal resources management in the area such as the development of a Coastal Resources Management Plan, organization of the Tourism Sector Coordinating Association, creation of a Coastal Resources Management Plan, Upland Tourism Council, establishment of network of MPAs a network of covering 4000 hectares and the development of a marine protected area management plan which is up for consultation for relevant stakeholders. Before the project

ended in Dec 2007, the initial phase of the Environmental User Fee was implemented. In the first 24 days of implementation more than Php 800,000.00 was collected by the LGU. The project is also coordinating with the Provincial Government to upscale and integrate CRM activities at a larger scale.

c) Whaleshark and CRM in Donsol, Sorsogon

Donsol is now considered as one of the most popular destinations for whaleshark interaction in the world. Owing to the high concentrations of feeding whalesharks in the waters of Donsol, substantial economic benefits have been realized by the stakeholders from the recently developed tourism activity. The initial engagement of WWF focused on whaleshark tourism, the project through the Matching Grants program directed its attention from tourism to fisheries management. As indicated in a 2006 study, the fisheries of Donsol is 32% over fished and is attributed to the encroachment of commercial fishing vessels in its municipal waters. To address this situation, a Fisheries Management Ordinance was enacted which included a percentage allotment of municipal income for the implementation of the Fisheries Management Ordinance. Capacities of local fishers to monitor fish catch were also undertaken. Parallel to fish management ordinance, MPAs was established along with the development its management plans.

A whaleshark research was also conducted last year. This involved the application of satellite tags to monitor movement of whalesharks beyond Donsol, while the other aspect of the study is to undertake photo identification of individual animals to monitor numbers of whalesharks frequenting the area. Based on the satellite data, one whaleshark was monitored to have shed its PATH tag as far north as Taiwan, while the other two tags that was installed was monitored moving around Ticao and Burias Straits. For the photo identification studies, from a total of 189 water encounters, 129 suitable photos was used to record 72 distinct individuals monitored in Donsol waters through the efforts of the initiative.

Meanwhile, tourism arrival is leveling off at 9255 visitors in the previous season with 5294 foreign and 3961 local residents. A total of 1.7 million pesos was generated by the LGU from tourism fees last year.

11. *Tubbataha Reef National Park and Cagayancillo*

Tubbataha Reef National Marine Park is one of the best managed marine parks globally, being the first "no take zone" MPA in the Philippines. The area of the park was expanded from 32,000 ha. to 92,828 ha. by virtue of a presidential proclamation in 2006 and the program is in the process to institutionalize the expanded park through a decentralized governance structure through a bill to be passed by Congress.

Through the effective management of the area, the hard coral cover values breached the pre-bleaching event in 1997 of 45% to 46% in 2007. This is a manifestation that recovery and resiliency corals affected by extreme climate patterns can be addressed by implementing no take zones in the park.

In terms of the fish biomass, 210 mt/km<sup>2</sup> were recorded in the area. This value is more than four times average biomass of a good coral reef. With these figures, we can consider Tubbataha reefs as one of the most productive reefs in the world.

Starting in 2007, the Petron Foundation supports conservation of the rich biodiversity in the Tubbataha Reefs and island municipality of Cagayancillo through its support to improving livelihoods and the summer fellowship program.



12. *Population, Health and Environment Project, Roxas, Palawan*

An emerging approach to conservation is the integration of population and health initiatives in a given area. Green Island Bay in Roxas, Palawan a known dugong habitat was chosen as a pilot site for WWF-Philippines to implement this new approach given the high population densities, migration rates and deteriorating fisheries. The project provided for technical trainings and helped set up the institutional mechanisms that resulted to improved fish catch from .7 to 2.4 kg/hr in 2005 to 1.0 to 3.0 kg/hr. The Bantay Dagat was organized with the deputation of 32 fish wardens and made operational with 21 apprehensions of violators last year.

In terms of contraceptive prevalence rate, an increase of 1% was realized from 32% to 33% of total reproductive was reported over a period of one year. This increase in CPR is quite modest given the fact that portions of the initial 32% was provided for free of charge by other initiatives, while the existing rate of use is solely based on purchased commodities by the communities given that no commodity are provided free of charge. The distribution of family planning commodities was facilitated through the Botica sa Barangay outlets. In the recently concluded 3rd National Population Health and Environment Forum, this project was acknowledged as a model site for PHE initiative in the country.

13. *Malampaya Sound - Irrawaddy Dolphin Conservation Project*

The Malampaya Sound is the only known habitat of the endangered Irrawaddy dolphin (*Orcaella breirostris*) in the Philippines. An estimated 77 individuals of dolphins remain based on the 2001 baseline survey. Given the status of the population, the project was able to list the Irrawaddy dolphins of Malampaya as critically endangered under the National Red Data List. However, seven years after the program was initiated a total of 43 dolphin mortalities were documented. This was attributed to a series of events that led to the breakdown of enforcement activities thereby resulted in continued mortalities of the dolphins attributed to incidental catches from fishing gears.

In 2007, the project initiated activities to revitalize law enforcement activities through the Barangay government and protected area office. With a re-organized enforcement patrols five fishing boat violators were apprehended and appropriate cases were also filed in court. In conjunction with the Fisheries Management Ordinance enacted in 2006, a registration of fishers and boats was undertaken for coastal communities within the sound in 2007. The registration of fishers and boats from the area would provide a basis to regulate fishing activities only for qualified residents based on the Fish Ordinance of Taytay.

14. *Sustainability of fisheries through the protection of spawning aggregations in Palawan*

In collaboration with local fishers, local government units and the Palawan Council for Sustainable development, this project seeks to identify important spawning aggregations in southern Palawan. Last year a number of Spawning Aggregation Sites (SAS) were identified and are now in the process of being established as MPAs. The project is also working with the PCSD to establish a provincial wide quota system for the LRFT to ensure sustainability of the LRFT in the province. Currently about 750 mt of LRFT is collected in Palawan per year. Based on scientific models volume has to be reduced to 140 mt per year to sustain the industry. This is based on the condition and areas of reefs found in Palawan. Mechanism on how to implement this scheme is now in the process of being developed.

15. *Turtle By-catch Reduction Program on Long-line Fleets in the Pacific*

This project works to engage long-line fishing fleets to reduce sea turtle by-catch. To this end, the project includes three key elements: (1) Training Workshops, (2) Cooperative Research, and

(3) Analysis and Information Sharing. Collectively the project aim to test the effectiveness of circle hooks and a variety of measures for reducing long-line by-catch of sea turtles. In March 2007, the test fishing on circle hooks was carried out and was made possible through the partnership with East Asia Fish Company, Inc (EAFCI), a Philippine subsidiary of the Hong Kong-based Luen Thai Fishing Ventures (LTFV) and the Bureau of Fisheries and Aquatic Resources (BFAR). This first leg of trials undertook 44 sets and deployed a total of 26,386 hooks. The two boats had a combined catch record of 429 individuals. Notably, nearly 90% of the total combined catch was by-catch and no turtles were caught during the operations, with 24% of the by-catch species being sharks. Of the total catch, the targeted catch (tuna, swordfish, and blue marlin) comprised only 11%.

The project is currently in the process of engaging local long-line fleets to test circle hooks.

#### 16. *International Coral Reef Initiative (ICRI)*

ICRI is a partnership among governments, international organizations, and non-government organizations to preserve coral reefs and related ecosystems by implementing Chapter 17 of Agenda 21, and other relevant international conventions and agreements. Under the auspices of then DENR Secretary Dr. Angel Alcala, the Philippines hosted the founding Congress in 1994 and local and international experts have contributed to the growth of literature related to coral reef management since then.

The International Tropical Marine Ecosystem Management Symposium (ITMEMS) is a major activity of the International Coral Reef Initiative. It brings together managers of coral reefs and related ecosystems from around the world to review progress in management of these systems, to set an agenda for their future conservation and sustainable use and to build the capacity of practitioners and policy makers to manage these ecosystems.

ITMEMS provides an opportunity to exchange lessons learned, good practices, and effective local solutions amongst peers and to develop communication networks within the tropical ecosystem management community. The meetings facilitate productive discussion and information sharing by people involved in management of coral reef ecosystems, and the implementation of the ICRI Framework for Action.

#### 17. *Partnerships in Environmental Management for the Seas of East Asia (PEMSEA)*

PEMSEA is a regional mechanism based in the Philippines that aims to build and strengthen coastal and ocean governance in the seas of East Asia through intergovernmental, interagency and multi-stakeholder partnerships. Over its 14-year existence, it has evolved from a regional project into a regional operating mechanism focused on the environmental challenges and sustainable development of the Seas of East Asia.

# Annex C

## PARTIAL LIST OF CTI IMPLEMENTING PARTNERS

Strategies	Local	National	Regional	Implementing Partners
<i>I. Determine geographical areas for protection for varying levels of intervention</i>				
A. Identify and enhance management of coastal and marine areas at the seascape level in the country	X	X - PCAs/ corridor	X - PCAs/ corridor	Provincial/ regional bodies; management councils; mandated government agencies; NGO projects
B. Establish and implement MPA networks	X	X	X	LGUs; DENR, BFAR; PAMBs; CRM Boards; FARMS; NGOs; POs; academic/ research institutions
C. Establish appropriate governance mechanisms	X	X		LGUs; DENR, BFAR; PAMBs; CRM Boards; FARMS; NGOs; POs; academic/ research institutions
D. Restore and rehabilitate degraded habitats	X	X		LGUs; DENR, BFAR; PAMBs; CRM Boards; FARMS; NGOs; POs; academic/ research institutions
E. Draft and implement management and investment plans				
<i>II. Conduct Scientific Studies in the Natural and Social Arenas</i>				
A. Conduct Natural Science/ Edological Research	X	X	X	Academic/ research institutions; relevant government agencies and NGOs; private sector

Implementation Partners	Local	National	Regional	Implementing Partners
B. Conduct Social Science Research	X	X	X	Academic/ research institutions; relevant government agencies and NGOs; private sector
C. Embark on Knowledge management	X	X	X	Academic/ research institutions; relevant government agencies and NGOs; existing institutions maintaining relevant databases, e.g. UP-MSI, WorldFish
D. Establish a multidisciplinary experts group to develop the CTI Strategic Research Agenda				
E. Strengthen Institutional and Human Capacity to Conduct Natural and Social Research				
III. Perform Appropriate Policy Work				
A. Assess existing policies and map out conflicts	X	X	X	National agencies; LGUs; environmental lawyers and NGOs; enforcement groups; Legislative bodies; local governing bodies, eg. PAMBs, private sector
B. Formulate new policies as deemed necessary	X	X	X	National agencies; LGUs; environmental lawyers and NGOs; enforcement groups; Legislative bodies; local governing bodies, eg. PAMBs, private sector
E. Develop capacity in implementing existing laws				
IV. Plan for Conserving ENR and Implement Plans Based on Best Practices and Lessons Learned				

Strategies	Local	National	Regional	Implementing Partners
A. Adopt Integrated approaches (ICM, Waste and Pollution, Watershed, EBM, Climate Change Adaptation etc.)	X	X	X	National agencies; LGUs; environmental lawyers and NGOs; enforcement groups; Legislative bodies; local governing bodies, eg. PAMBs, private sector; academic/research institutions; relevant regional and sub-regional groups, e.g. BIMP-EAGA
B. Draft appropriate General Management Plans (GMP) and Investment Plans	X	X	X	National agencies; LGUs; environmental lawyers and NGOs; enforcement groups; Legislative bodies; local governing bodies, eg. PAMBs, private sector; academic/research institutions; relevant regional and sub-regional groups, e.g. Tri-National Committee for SSME
C. Ensure Participatory Management and Adaptive Government Structure	X	X		National agencies; LGUs; enforcement groups; governing bodies, eg. PAMBs, private sector; academic/research institutions
D. Build Capacity in Managing MPAs and Seascapes	X	X		National agencies, LGUs; training providers; NGOs; enforcement groups; local governing bodies, eg. PAMBs/councils, private sector; academic and research institutions; donors/development partners; maritime groups
V. Address the Human Dimension linking ENR Conservation and Poverty Reduction				
VI. Ensure Consistent and Steadfast Enforcement of ENR Laws				
A. Implement Laws for Marine and Coastal Conservation	X	X	X	National agencies; LGUs; environmental lawyers and NGOs; maritime enforcement groups; local governing bodies, eg. PAMBs, private sector; relevant bi-lateral and sub-regional bodies

Implementation Partners	Local	National	Regional	Implementing Partners
B. Build capacity of enforcement agencies	X	X	X	National agencies; LGUs; environmental lawyers and NGOs, enforcement groups (eg. Bantay Dagat, Coast Watch South), judiciary, local governing bodies, eg. PAMBs, private sector
C. Reduce by-catch and debris that impede turtle nesting and hatchling production	X	X	X	National agencies; LGUs; maritime groups; environmental lawyers and NGOs, enforcement groups (eg. Bantay Dagat), judiciary local governing bodies, private sector, bilateral bodies
D. Delineate and designate Philippine waters accordingly				
VIII. Conduct Intensive IEC to Complement Enforcement of ENR laws				
A. Promote seascape to draw support and funding				
B. Conduct IEC Campaign on specific issues				
C. Network with Stakeholders in the Region				
D. Popularize information within the country				
E. Mainstream MPA Management and Climate Change in Formal Educational Institutions				

# ANNEX D

## MONITORING AND EVALUATION INDICATORS

	Goals, Targets, Indicators	Philippine Targets
<b>Goal 1</b>	Priority Seascapes Designated and Effectively Managed	
<b>Target 1.1</b>	(Intermediate Result): "Priority Seascapes" designated, with investment plans complemented and sequenced by 2012	
<b>Indicator 1.1.1</b>	Number/area (in sq.km.) of priority seascapes designated	2 - 2 actual (South China Sea, SSME, 0 new)
<b>Indicator 1.1.2</b>	Number/area (in sq.km.) of priority seascapes with investment plans completed	2 - 2 actual (South China Sea, SSME, 0 new)
<b>Target 1.2</b>	(Intermediate Result): Marine and coastal resources within all "Priority Seascapes" are being sustainably management	
<b>Indicator 1.2.1</b>	Number/area (in sq.km.) of priority seascapes under sustainable management 1.2.1.1 presence of a management body 1.2.1.2 policies and laws 1.2.1.3 capacity 1.2.1.4 Financial resources leveraged through sustainable financing schemes and private sector partnerships relative to the investment plan requirements 1.2.1.5 M&E system in relation to indicators of 4 other goals	1- 0 actual
<b>Goal 2</b>	Ecosystem approach to management of fisheries and other marine resources is fully applied	
<b>Target 2.1</b>	(Intermediate Result): Strong legislative, policy and regulatory frameworks in place for achieving an ecosystem approach to fisheries management	
<b>Indicator 2.1.1</b>	Number of CT6 countries with a national policy on EAFM that harmonize existing laws and policy frameworks supporting EAFM	1 EO by 2015 - 0 actual
<b>Indicator 2.1.2</b>	Area (in sq.km.) of management units with operational and effective coastal law (fisheries) enforcement units)	
<b>Target 2.2</b>	(Intermediate Result): Improved income, livelihoods and food security of people in coastal communities across the region through a new sustainable coastal fisheries and poverty reduction initiative ("COASTFISH")	
<b>Indicator 2.2.1</b>	Nutritional status of coastal families. (quality of food)	to be determined
<b>Indicator 2.2.2</b>	Annual per capita food thresholds and subsistence of population (availability of food)	to be determined
<b>Indicator 2.2.3</b>	Per capita consumption of fish.	to be determined
<b>Indicator 2.2.4</b>	Annual per capita poverty threshold and poverty incidences	to be determined

	Goals, Targets, Indicators	Philippine Targets
Target 2.3	(Intermediate Result): Effective measures in place to help ensure exploitation of shared tuna stocks is sustainable, with tuna spawning areas and juvenile growth stages adequately protected	To be determined
Indicator 2.3.1	National policies, laws, agreements or regulations adopted on allowable size limits for tuna species	
Indicator 2.3.2	Number of sites and areas (sq.km.) covered by temporal closed season of tuna spawning grounds (tuna spawning grounds are assumed to be known)	
Indicator 2.3.2	Change in conservation status of tuna based on IUCN-red list criteria assessment	
Target 2.4	(Intermediate Result): A more effective management and more sustainable trade in live-reef fish and reef-based ornaments achieved	To be determined
Indicator 2.4.1	Number of national policies, laws, agreements or regulations adopted on live reef fish trade	
Indicator 2.4.2	Number and area (sq.km.) of locally managed areas for live reef fish trade	
Indicator 2.4.2	Number of key "demand" countries that adopt live-reef food and ornamental fish supply-to-consumption standards agreed upon by CT6 countries	
	Change in conservation status of live reef fish species on IUCN-red list criteria assessment	
Goal 3	Marine Protected Areas (MPAs) established and Effectively Managed	
Target 3.1	(Intermediate Result): Region-Wide Coral Triangle MPA System (CTMPAS) in place and fully functional by 2020.	To be determined
Indicator 3.1.1	Percent /area of total marine habitat area in CT region in some form of protected status	Actual: Coral reefs: 0.1%=270,000 has. under some form of protection (estimated total is 17,000 to 27,000 sq.km. of coral reefs) Mangrove: estimated total is 80,000 has. primary, total remaining is 140,000 has. Seagrass: to be determine. Complete baseline figures by 2010. 2% of coral reefs by 2015 10% of each habitat type Coral reef and mangrove - by 2020
Indicator 3.1.2	Percent /area of each major marine and coastal habitat type in strictly protected "no-take replenishment zones." (Note-fully protected, i.e. no dumping also)	Current- mangroves -100% fully protected (on paper) 10% of the 2% targets by 2015 fully protected reefs; 10% of the 10% target by 2020 fully protected coral reefs



	Goals, Targets, Indicators	Philippine Targets
<b>Indicator 3.1.3</b>	Percent/Area (in sq.km.) of marine protected areas under “effective” management (Note - eg. WCPA mgt effectiveness tool of IUCN)	10% of the 2% target by 2015 fully protected coral reefs; 10% of the 10% target by 2020 fully protected coral reefs; Mangroves-to be determined Seagrass- to be determined
<b>Goal 4</b>	Climate Change Adaptation Measures Achieved	
<b>Target 4.1</b>	(Intermediate Result): Region-wide early action for climate adaptation plan for the near-shore marine and coastal environment developed and implemented	
<b>Indicator 4.1.1</b>	Number of CT6 countries with national climate change adaptation plan or framework	Actual - 0 by 2010 - 1 (PTFCC)
<b>Indicator 4.1.2</b>	Area (in sq.km.) covered by climate change vulnerability assessments on and identified early actions to address climate change impacts	Actual-to be determined By 2010-115 million ha. (Verde Island Passage, Apo Reef)
<b>Indicator 4.1.3</b>	Land and water areas (in sq.km.) that have integrated climate adaptation into local governance (plans and actions)	By 2015-to be determined
<b>Target 4.2</b>	(Intermediate Result): Networked national centers of excellence on climate change adaptation for marine and coastal environments are established and in full operation	
<b>Indicator 4.2.1</b>	Number of institutions and networks addressing climate change adaptation coordinated with national government support	Actual-1 network (inter-agency); at least 10 institutions (KLIMA) Target-6 networks; 18 institutions (3 per biogeographic zone)
<b>Goal 5</b>	Threatened Species Status Improving	
<b>Target 5.1</b>	(Intermediate Result): Improve status of sharks, sea turtles, marine mammals and other identified threatened species	
<b>Indicator 5.1.1</b>	Number of species action plans and policies developed	Actual - 1 (shark) Target - 2 (turtle, marine mammals by 2010) Seabirds, wrasses and reef fishes - by 2015
<b>Indicator 5.1.2</b>	Area (in sq.km.) of protected marine habitat that contributes to conservation of threatened species	SPAGS for fishes and nesting sites for turtles and birds-to be determined by 2010 10% of the 2% target by 2015 fully protected coral reefs; 10% of the 10% target by 2020 fully protected coral reefs; Mangroves-to be determined; Seagrass-to be determined
<b>Indicator 5.1.3</b>	Change in conservation status of threatened marine species assessed under IUCN red-list criteria	by 2009-Philippine marine endemic bony fishes, wrasses assessed by 2010-baseline established for priority taxa

# ANNEX E

## ACRONYMS

ADB	Asian Development Bank
AFMA	Agriculture and Fisheries Modernization Act
AO	Administrative Order
APEC	Asia Pacific Economic Cooperation
APL	Adaptable Program Loan
ArcDev	Archipelagic Development
ARMM	Autonomous Region in Muslim Mindanao
ASEAN	Association of South East Asian Nations
ATSEF	Arafura and Timor Seas Experts Forum
AusAID	Australian Agency for International Development
BFAR	Bureau of Fisheries and Aquatic Resources
BIMP	Brunei Indonesia Malaysia Philippines - East Asia Growth Area
BMS	Biodiversity Monitoring System
BSSE	Bismarck Solomon Seas
CBD	Convention on Biological Diversity
CBO	community-based organizations
CCAP	Climate Change Adaptation Plan
CCRF	Code of Conduct for Responsible Fisheries
CI	Conservation International
CITES	Convention on International Trade on Endangered Species
CLET	Coastal Law Enforcement Teams
CLUP	Comprehensive Land Use Plan
CNFIDP	Comprehensive National Fisheries Industry Development Plan
COASTFISH	Coastal Fisheries and Poverty Reduction Initiative
CP	Conservation Plan
CRFC	Coastal Resources and Fisheries Conservation
CRM	Coastal Resource Management
CT	Coral Triangle
CTI	Coral Triangle Initiative
CTI-CFF	Coral Triangle Initiative-Coral Reefs, Fisheries and Food Security
CTMPAS	Coral Triangle Marine Protected Areas System
CZM	Coastal Zone Management
DA	Department of Agriculture
DECS	Department of Education
DENR	Department of Environment and Natural Resources
DFA	Department of Foreign Affairs
DILG	Department of Interior and Local Government
DND	Department of National Defense
DOE	Department of Energy
DOF	Department of Finance
DOH	Department of Health
DOJ	Department of Justice
DOLE	Department of Labor and Employment
DOST	Department of Science and Technology
DOT	Department of Tourism
DOTC	Department of Transportation and Communication
DPWH	Department of Public Works and Highway
DSWD	Department of Social Welfare and Development
EAFCI	East Asia Fish Company, Inc.

EAFM	Ecosystems Approach to Fisheries Management
EBM	Ecosystem-Based Management
ECC	Environmental Compliance Certificates
EcoGov	Environmental Governance
ECP	Ecoregion Conservation Plan
ENELEC EI	Nido Environmental Law Enforcement Council
ENR	Environmental and Natural Resources
EO	Executive Order
FAD	Fish Aggregating Devices
FAN	Frequency Analysis
FAO	Fisheries Administrative Order
FAO	Food and Agriculture Organization
FARMC	Fisheries and Aquatic Resources Management Councils
FISH	Fisheries for Improved Sustainable Harvest
FLA	Fishpond Lease Agreement
FLA	Foreshore Lease Agreement
FLET	Fishery Law Enforcement Teams
GEF	Global Environment Facility
GIS	geographic information system
GMP	General Management Plans
GMSA	Global Marine Species Assessment
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit (German Agency for Technical Cooperation)
HLURB	Housing and Land Use Regulatory Board
IAS	Invasive Alien Species
ICM	Integrated Coastal Management
ICRI	International Coral Reef Initiative
ICRMP	Integrated Coastal Resource Management Project
IEC	Information, Education and Communication
IPRA	Indigenous People's Rights Act
ITMEMS	International Tropical Marine Ecosystem Management Symposium
IUCN	International Union for Conservation of Nature
IUU	Illegal, Unreported and Unregulated
JTED	Juvenile and Trash Fish Excluder Device
KBA	Key Biodiversity Areas
LGA	Local Government Academy
LGC	Local Government Code
LGU	Local Government Units
LRF	live reef food fish
LRFT	live reef fish trade
LTFV	Luen Thai Fishing Ventures
M&E	Monitoring and Evaluation
mKBA	marine key biodiversity areas
MOU	Memorandum of Understanding
MPA	Marine Protected Areas
MRDP	Mindanao Rural Development Project
MSA	Mangrove Stewardship Agreement
MSI	Marine Science Institute
MT/D	Marine Turtle and Dugong
MTPDP	Medium-Term Philippine Development Plan
NAMRIA	National Mapping and Resource Information Authority
NCCC	National CTI Coordination Committee
NDF	non-detrimental finding
NEDA	National Economic and Development Authority
NEPC	National Environmental Protection Council

NFARMC	National Fisheries and Aquatic Resources Management Council
NFRDI	National Fisheries Research and Development Institute
NGO	Non-Governmental Organization
NIPAS	National Integrated Protected Areas System
NOAA	National Oceanic and Atmospheric Administration
NPOA	National Plan of Action
NSAP	National Stock Assessment Program
NSCB	National Statistic Coordination Board
OC	Organizing Committee
PAMB	Protected Area Management Board
PCICDSCS	Presidential Commission for the Integrated Conservation and Development of Sulu-Celebes Sea
PCSD	Palawan Council for Sustainable Development
PD	Presidential Decree
PEDO	Police Environment Desk Officers
PEMSEA	Partnership for the Environmental Management of the Seas of East Asia
PhilMarSast	Philippine Marine Sanctuary Strategy
PIF	Pacific Islands Forum
PO	people's organizations
PPA	Philippine Ports Authority
PPFP	Provincial Physical Framework Plans
PTFCC	Presidential Task Force on Climate Change
RA	Republic Act
RFMOS	Regional Fisheries Management Organizations
RLECC	Regional Law Enforcement Coordinating Committee
RPOA	Regional Plan of Action
SAFDZ	Strategic Agriculture and Fisheries Development Zones
SAS	Spawning Aggregation Sites
SCOTIA	Sustainable Coastal Tourism in Asia
SMICZP	Southern Mindanao Integrated Coastal Zone Management Project
SOM	Senior Officials Meeting
SPREP	South Pacific Regional Environment Program
SSME	Sulu Sulawesi Marine Ecoregion
SSS	Sulu-Sulawesi Seascape
SSSP	Sulu-Sulawesi Seascape Project
SUMACORE	Sustainable Management of Coastal Resources in the Caraga and Bicol Regions
TED	Turtle Excluder Device
TNC	The Nature Conservancy
TRMP	Tubbataha Reefs Marine Park
TRNMP	Tubbataha Reef National Marine Park
TWG	Technical Working Groups
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Programme
UNFCCC	United Nations Forum on Combating Climate Change
UP-MSI	University of the Philippines-Marine Science Institute
USAID	United States Agency for International Development
VIP	Verde Island Passage
VMS	Vessel Monitoring System
WB	World Bank
WCPA	World Commission on Protected Areas
WEN	Wildlife Enforcement Network
WWF	World Wide Fund



