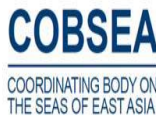




**COBSEA-SIDA Project (Phase 3) on
SPATIAL PLANNING IN THE COASTAL ZONE-DISASTER
PREVENTION AND SUSTAINABLE DEVELOPMENT**



**PROJECT COMPLETION REPORT
(PHILIPPINES)**



Sangley Point, Manila Bay (www.myspace.com)



Department of Environment and Natural Resources
ENVIRONMENTAL MANAGEMENT BUREAU

PHILIPPINES, May 2013

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List of Acronyms

ADSDPP	Ancestral Domain Sustainable Development Protective Plan
BFAR	Bureau of Fisheries and Aquatic Resources
CADT	Certificate of Ancestral Domain Title
CCA	Climate Change Adaptation
CC	Climate Change
CCC	Climate Change Commission
CDP	Comprehensive Development Plan
CEP	Coastal Environment Program
CLUP	Comprehensive Land Use Plan
CMSP	Coastal Marine Spatial Planning
CRMP	Coastal Resources Management Project
CRM	Coastal Resources Management
COBSEA	Coordinating Body on the Seas of East Asia
DENR	Department of Environment and Natural Resources
EMB	Environmental Management Bureau
FMB	Forest Management Bureau
LMB	Lands Management Bureau
MGB	Mines and Geo-science Bureau
NAMRIA	National Mapping and Resources Information Administration
PAWB- CMMO	Protected Areas and Wildlife Bureau-Coastal and Marine Management Office
DILG	Department of Interior and Local Government
DOT	Department of Tourism
DPWH	Department of Public Works and Highways
DRR	Disaster Risk Reduction
EBM	Ecosystem-based Management
eCLUP	Enhanced CLUP
EO	Executive Order
FLA	Fishpond Lease Agreement
GIS	Geographic Information System
GIZ	German Technical Cooperation Agency
HLURB	Housing and land Use Regulatory Board
PDG	Planning Development Group
ICRM	Integrated Coastal Resources Management
IP	Indigenous People
LDIP	Local Development Investment Plan
LGU	Local Government Unit

List of Acronyms

MCEP	Municipal Coastal Environment Profile
NCIP	National Commission on Indigenous People
NIPAS	National Integrated Protected Areas
PCRA	Participatory Coastal Resources Assessment
PCUP	Presidential Commission on Urban Poor
PNC	Project National Coordinator
PNFP	Project National Focal Point
PRA	Philippine Reclamation Authority
RA	Republic Act
R2RM	Ridge to Reef Management
RDC	Regional Development Council
SIDA	Swedish International Development and Cooperation Agency
SSFA	Small Scale Funding Agreement
SLR	Sea Level Rise
UNEP	United Nation Environment Programme
UP-MSI	University of the Philippines-Marine Science Institute
WQMA-GB	Water Quality Management Area-Governing Board
ZO	Zoning Ordinance

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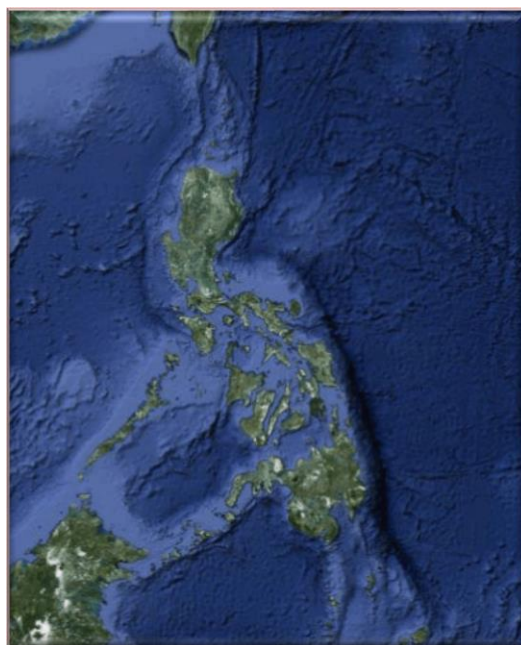
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This document describes the accomplishments of the “country specific” Phase 3 activities of the project entitled “Spatial Planning in the Coastal Zone-Disaster Prevention and Sustainable Development”. The project is being implemented by the United Nation Environment Programme (UNEP)-Coordinating Body on the Seas of East Asia (COBSEA) and Swedish International Development Cooperation Agency (SIDA) in cooperation with the UNEP-COBSEA member countries. The project’s Phase 3 activities in the Philippines were spearheaded by the Environmental Management Bureau (EMB) in collaboration with the Housing and Land Use Regulatory Board (HLURB) thru a small scale funding from COBSEA-SIDA.

Chapter 1 Background

Country Background

The Philippines is a tropical maritime country located in Southeast Asia with geographical coordinates of 11.8728° (north latitude) and 122.8613° (east longitude) and is positioned between the Pacific and Eurasian tectonic plates in the Pacific Ocean; an area called the “Ring of Fire”. Being positioned in the “Ring of Fire” makes the Philippines susceptible to volcanic activity, earthquakes, tsunamis, and recurrent typhoons. The Philippine archipelago is surrounded by four tropical seas: West Philippine Sea (South China Sea) to the west and north, Philippine Sea to the east, Sulu Sea to the southwest, and Celebes Sea to the south. Its neighbor countries include Taiwan and China to the north, Malaysia and Indonesia to the south, and Vietnam to the west. The country’s natural landscape consists of volcanic islands with mostly mountainous interiors, narrow coastal plains, and several river systems and lakes.



Google Earth

The Philippine is composed of 7,107 island with a total area of 300,000 square kilometer (115,830 mi²) and coastline of approximately 17,000 kilometers (10,557 mi). As almost all major cities and more than 50 percent of the municipalities are coastal, 60-80 percent of the country's population resides within the coastal zone.

Philippine law defines the coastal zone as an area one kilometer inland from the shoreline at the highest water mark during high tide and to seaward area covered within the 200 meter isobaths. The area 15 kilometers seaward from the low water mark are under the jurisdiction of the local government (municipal waters), while the national jurisdiction extends from 15 kilometers from the shore up to 200 nautical miles.

Philippine coastal areas are experiencing severe pressures due to unsystematic development and haphazard uses of their resources, not to mention the occurrences of natural disasters and other phenomena, such as; climate change, and sea-level rise, etc. The absence of a rational and sensible physical plans to serve as planning and management tools to achieve a sustained development of these coastal areas and their resources further aggravates the situation.

Project Background

The Philippines along with the other COBSEA member countries such as; Cambodia, China, Indonesia, Malaysia, Thailand, and Vietnam were part of the UNEP project entitled “COBSEA-SIDA Spatial Planning in the Coastal Zone-Disaster Prevention and Sustainable Development”. The three year project focused on the importance of coastal and marine spatial planning (CMSP) with a general goal of reducing if not to completely prevent the impacts of natural disasters, climate change, and sea level rise in the coastal areas; and promote sustainable development and ecosystem-based management. The project was implemented in three phases: Phase 1 (Producing a Regional Resource and Guidance Document (RRD) for the integration of new concepts, i.e., climate change adaptation, disaster risk reduction, ecosystem based management, etc. into existing coastal spatial planning policies and procedures); Phase 2 (National Consultation and Planning for National Adaptation of the RRD); and Phase 3 (Capacity Building and National Adaptation, Demonstrations).

During the “Regional Workshop on Spatial Planning in the Coastal Zone” held last November 29 to December 02, 2010 in Bangkok, Thailand, the Philippine representative, Director Nora L. Diaz of the Policy Planning Group (PDG) of HLURB informed the Panel that the Philippines has existing guidelines on local development planning. Specifically, Director Diaz mentioned the Comprehensive Land Use Plan (CLUP) Guidebooks that guide the local government units (LGUs) of the country in preparing their respective CLUPs, a physical planning document.

Likewise, Director Diaz acknowledged that the same CLUP Guidebooks, though used to guide local planners in planning the land and water resources of cities and municipalities, are inadequate in terms of coastal and marine spatial planning. In this context, Director Diaz stressed that the same CLUP Guidebooks need enhancement by strengthening the water or coastal zone planning component of the Guidebooks. Thus, this Project was viewed as an opportunity to facilitate the integration of the coastal sector in the CLUP Guidebooks thereby mainstreaming coastal and marine spatial planning in local development planning.

Chapter 2 Project's Phase 3 Activities: Capacity Building, National Adaptation, Demonstrations

Overview

The Phase 3 component of this COBSEA-SIDA project aimed to capacitate the COBSEA member countries on the application of CMSP as a tool to realize the overall goal of the project. The priority activities for this project phase as pronounced during the project's regional workshop and officially identified during the Country Consultation and Planning for National Adaptation of the RRD Workshop (project's Phase 2 activities) held in Manila in November 2011 are shown in *Table 1*.

To facilitate and support the implementation of the Phase 3 "country specific" activities, the COBSEA-SIDA provided for to the EMB of the Department of Environment and Natural Resources (DENR), a project fund thru a small scale funding agreement (SSFA). Likewise, COBSEA engaged the services of a local expert to serve as the National Coordinator (NC). The NC will provide technical inputs, coordinate the project's activities, and guide and assist the national authorities in the attainment of the project's outputs. The major outputs of the Phase 3 project activity as specified in the SSFA are (1) national guidebook or companion document on CMSP integrating emerging issues, such as; climate change, sea-level rise, etc., and new management approaches such as; ecosystem-based, reef to ridge, etc.; (2) national training manual for CMSP; (3) national consultation workshop; and (4) training courses for national and local authorities. The Phase 3 activities commenced on March 01, 2012 and was concluded on April 30, 2013.

<i>Table 1</i> Priority Activities for Capacity Building and National Adaptation	
Activity	Purpose
Amend the current CLUP Guidebooks	Integrate water use and emerging issues and modern management approaches in the current CLUP
Development of CMSP training manual	Generate instructional materials for CMSP training courses
Conduct of national Consultation for coastal sector guidebook	Present, discuss, review, and agree on the new guidebook on coastal sector
Conduct of CMSP national train-the-trainer course	Create a pool of lecturers and trainers
Conduct of CMSP national training course	Train local planners on the CMSP/application of "new guidelines" on coastal sector

Project Implementation

Since the inception of the Phase 1 activities (Producing a Regional Resource and Guidance Document) of the COBSEA-SIDA project on spatial planning in the coastal zone, the EMB has been closely coordinating with the HLURB, particularly with the PDG of the Board. The rationale was to directly involve the national land use planning agency in the drafting of the national guidebook on CMSP to facilitate the integration and mainstreaming of this document in the HLURB CLUP Guidebooks. Accordingly, Director Nora L. Diaz of the PDG was designated as the Project National Focal Point (PNFP) and likewise, served as the NC.

Coincidentally, the HLURB has initiated the amending of the current CLUP Guidebooks (2007 Edition). The enhancement of the current CLUP (*eCLUP*) Guidebooks is being initiated to improve current land use guidelines and to respond to new national policy issuances. Specifically, the *eCLUP* Guidebooks aimed to (1) integrate land and water uses; (2) include other sectors and concerns (i.e., coastal sector, forest sector, national heritage, urban greening, etc.); and (3) consider the relevant provisions of new national legislations (i.e., Bio-diversity Act, National Disaster and Preparedness Act, etc.) in the whole gamut of the physical planning processes. The HLURB's initiative to amend the current CLUP Guidebooks is being supported by the German Technical Cooperation Agency (GIZ) and has engaged a local consulting group, CONCEP Incorporated, to organize the preparation of the *eCLUP* Guidebooks.

Of the five priority activities under the Project's SSFA, three activities were completed. These activities were (1) guidelines for the Coastal Sector (Volume 2: Coastal Toolkit and Reference Guidebook) for inclusion in the *eCLUP* Guidebooks and the first draft *eCLUP* Guidebooks; (2) national consultation workshop to review, discuss, and agree on the draft coastal sector toolkit and guidebook; and (3) conduct of the National Train-the-Trainer Course on CMSP. Other activities in relation to the amendment of the current CLUP were organized and carried out, such as; consultation meetings and pre-consultation workshop on the *eCLUP* Guidebooks preparation (the details of these activities are described in the succeeding Chapters).

Regarding the non-completion of the two other priority activities (1) development of CMSP training manual; and (2) national training course on CMSP, the reasons and circumstances resulting to their non-completion are elucidated in Chapter 9.

Chapter 3 Philippine Planning System

This Chapter provides a snapshot of the country's physical planning system and the important role of the local government in the entire System and its connection to the CLUP.

Introduction

The Local Government Code of the Philippines (Republic Act 7160) characterizes the administrative system of local government in the Philippines as three-tiered, consisting of (1) provinces and highly urbanized cities; (2) cities ("component cities") and municipalities; and (3) barangays (the smallest administrative unit). The country's planning system in relation to land use policies and programs, from the national to regional levels entails spatial planning and socioeconomic development planning (*Table 2* shows the level of planning system in the Philippines).

Level	Physical Plan	Socio-Economic Plan
National	National Framework for Physical Planning	Medium-term Philippine Development Plan
Regional	Regional Physical Framework Plan	Regional Development Plan
Provincial	Provincial Development and Physical Framework Plan	
City/Municipality	Comprehensive Land Use Plan	Comprehensive Development Plan

Role of Local Government Units

The role of LGUs in the Philippine planning system is vital as they assumed a dual role, being a political unit and corporate entity. As a political unit, LGUs act as administrative subdivisions of the national government, hence they are mandated (RA 7160, Sections 2a, 15, and 3i) to manage their territorial jurisdictions for and on behalf of the national government. In addition, being a part of the State, LGUs are expected to be effective partners of the national government in the realization of national goals and visions. As a corporate entity, LGUs represent their respective constituents. Similarly, LGUs are provided with authority and resources necessary (RA 7160, Sections 2a, 15, 16 and 17) to efficiently and effectively govern their respective territorial jurisdictions and deliver basic services, infrastructures, and facilities to enable their respective constituents to progress into independent communities and promote their general wellbeing (*Source: Rationalizing the Local Planning System, 1st Edition 2008*).

The Comprehensive Land Use Plan

The CLUP serves as the physical planning tool of the LGUs in managing their respective territories. The management of local territories through the planning system is the function of the LGUs, being political units. The adoption of the CLUP and its enactment into local zoning ordinances are planning functions exercised exclusively by the local legislative council or Sanggunian (RA 7160, Section 20c, 447, 458, 468) on behalf of the national government (a devolved function mandated by the Philippine Constitution) (*Source: Rationalizing the Local Planning System, 1st Edition 2008*). The development of local CLUP emanates from the national, regional and provincial framework plans. With regard to the guidelines and standards in crafting the CLUP and the enactment of local zoning ordinances, city and municipal planners are guided by the established land use guidelines and standards contained in the HLURB's CLUP Guidebooks.

The Comprehensive Development Plan (CDP)

The CDP is the socio-economic planning tool of the LGUs and serves as the roadmap for the promotion of the general wellbeing of their respective constituents in their capacity as corporate entities. The responsibility for the CDP is given to the local development council (RA 7160, Sec. 106 and 109). It must include all the development sectors to be comprehensive; hence, the CDP is a consolidation of all programs and projects of a certain LGU to effectively and efficiently implement and realize the objectives of the various development sectors. The CDP of each LGU is based and should be consistent with the national and regional development goals and visions. The involvement of the LGUs in the CDP process is an exercise that can translate these territories into self-reliant communities (*Source: Rationalizing the Local Planning System, 1st Edition 2008*).

Land Use Planning Agency

The HLURB is the national government agency tasked to plan, regulate, and act as the quasi-judicial body for land use development and real estate, and housing regulation. These roles are done via a triad of strategies namely: policy development, planning, and regulation. Pursuant to Executive Order No. 72, land use controls and standards and zoning guidelines promulgated by the Agency and referred to as the CLUP Guidebooks shall govern the physical planning systems and zoning ordinances of the country's LGUs.

Chapter 4 Amendment of the Current CLUP Guidebooks

Enhancement of the CLUP Guidebooks

As of this reporting, the enhancement of the CLUP Guidebooks is on-going; the five-volume guidelines on CLUP preparation and updating are already “final draft documents” (the titles of these CLUP guidebooks are shown in *Table 3*). Other sectoral concerns such as; forest land use, coastal zone spatial planning, heritage conservation, biodiversity, climate change adaptation (CCA) and disaster risk reduction (DRR),



Figure 1 **eCLUP Framework** (source: HLURB)

among others; were integrated in the preparation of the *eCLUP* (*Figure 1* shows the *eCLUP* framework). The HLURB through Director Diaz had furnished the Project, copies of Volume 1-3 of the first draft *eCLUP* guidebooks (courtesy of CONCEP, Inc. and GIZ). These draft documents (Volume 1-3) will be transmitted together with this Project Completion Report, to the COBSEA Secretariat as part of the outputs of this Project (for the purpose of this Report, the title covers of these draft guidebooks are attached as *Annex 1*). Likewise, copies of the approved *eCLUP* Guidebooks will be transmitted to the COBSEA Secretariat once these documents are made available to the EMB.

Table 3 **Titles of Final Draft eCLUP (Volume 1-5) Guidebooks**

Volume	Title
1	Comprehensive Guide to Comprehensive Land Use Plan Preparation (Procedures or Planning Steps)
2	Guide to Sectoral Studies
3	A Guide To Comprehensive Land Use Data Management (GIS Cookbook)
4	Model Zoning Ordinance
5	Planning Strategically

A series of consultation workshops (April to June 2013) is being conducted by the HLURB to present and review each sectoral concerns vis-à-vis *eCLUP* Guidebooks preparation (the coastal sector consultation workshop through the

initiative and support of the COBSEA-SIDA project on coastal spatial planning was conducted in March 2013, ahead of the scheduled activities; thus, facilitating the integration of the coastal sector guidelines in the *eCLUP* Volume 2 Guidebook). Accordingly, the enhanced CLUP Guidebooks are envisioned to be approved by the HLURB Board of Commissioners in July 2013.

Planning Guidelines for the Coastal Sector

As mentioned in the previous Section, the HLURB is amending the current CLUP Guidebooks to include planning guidelines for the coastal sector. The planning guidelines for the coastal sector are contained in the draft “Volume 2 *eCLUP* Guidebook: Toolkit and Reference Guidebook for the Coastal Sector” (*attached as Annex 2: Draft Coastal Sector Toolkit and Reference Guidebook*) to be integrated in the *eCLUP*. Again, upon approval of the *eCLUP* by the HLURB Board of Commissioners, this document or sets of documents shall serve as the national planning guidebooks that will be adopted by the LGUs in the preparation of their respective CLUPs and relevant zoning ordinances.

In developing the CMSP guidelines, the ridge to reef management (R2RM) and community-based approach, as espoused by the Philippines’ Coastal Environment Program (CEP) and Coastal Resources and Management Project (CRMP) was adopted in the entire phases of the planning processes. Likewise, emerging issues and concerns were considered and integrated in the process, such as; impacts of natural disaster, CCA and sea-level rise (SLR), and DRR.

Orientation Meeting: *eCLUP* Preparation and Development of Coastal Sector Guidelines

An orientation meeting was held on January 18, 2013 at the HLURB Office in Kalayaan Avenue, Quezon City to present and discuss the (1) procedural steps for developing “new guidelines” for the *eCLUP*; and (2) development of the coastal sector planning guidelines. The meeting was participated in by the technical and planning staff from the PDG-HLURB and EMB, and experts from CONCEP, Inc. In this forum, Director Diaz and the EMB staff was given the opportunity to officially present



and discuss the initiatives and purpose of the COBSEA-SIDA spatial planning project, and its relevance to the purpose of the *eCLUP*; to the PDG-HLURB Commissioner and the CONCEP staff.

The summary of major points of discussion (proposed procedural steps) in developing the “new guidelines”, including those for the coastal sector for integration in the *eCLUP* are described in the succeeding sections.

1. Basically, the *eCLUP* processes will be the same as the CLUP processes, but in reverse form. The *eCLUP* processes will consider the importance of the coastal habitat taking into consideration the aspects of the watershed ecosystem. Unlike, the current CLUP which gives weight on land use.
2. First and foremost is to review the current guidelines of the CLUP to determine if this serves the objective, goals, and visions of the coastal community. If the current CLUP is already serving these purposes, the management of coastal area is an add-on, if not; the whole CLUP processes will be revised and will include planning procedures and processes for coastal area management.
3. The review process of the current CLUP will involve the stakeholders/constituents as CRMP approach is participatory. The R2RM approach should be discussed thoroughly with the LGUs and conduct intensive information and education campaign (IEC) for the benefit of the concerned community. Identify and re-orient target stakeholders in order to help the whole community to achieve target visions.
4. The collection of data will start only after the current CLUP evaluation and IEC. This will facilitate the setting of priorities and re-setting of visions and objectives.
5. The data collected will undergo spatial analysis/visualization, data validation and re-analysis. Based on the results of data analysis and interpretation, the applicable zoning guidelines will be developed and these will be presented in a public hearing for proper consultation. Upon approval of the applicable zoning guidelines, this will translate into the *eCLUP*.
6. Implementation and monitoring of the *eCLUP*: Monitoring and evaluation of the *eCLUP* are necessary to assess the effectiveness of the plan and its implementation. The scheme is similar to the CRMP wherein a “report card system” is being used for evaluation purposes and to assess the performance of the LGU concerned. Likewise, this system will be the basis for incentives and other benefits of the concerned LGUs.

Chapter 5 Pre Consultation Workshop on the eCLUP Guidebooks

Overview

The consultation cum workshop was held on February 11, 2013 at the Cocoon Boutique Hotel in Scout Tobias Street, Quezon City and participated in by representatives from the Department of Environment and Natural Resources (DENR) and its attached agencies such as the EMB, Protected Areas and Wildlife Bureau (PAWB), Lands Management Bureau (LMB), Mines and Geo-science Bureau (MGB), etc., Department of Tourism (DOT), Department of Interior and Local Government (DILG), Department of Public Works and Highways (DPWH), Philippines Reclamation Authority (PRA), Climate Change Commission (CCC), HLURB-PDG, and selected technical planning staff from HLURB Regional Offices (Southern Tagalog, Western Visayas, Northern Mindanao, and Bicol).



A total of 50 participants including the resource persons participated in this consultation workshop. The preliminary output of the eCLUP process was presented in three parts 1) process; 2) tools and techniques; and 3) implementation mechanisms and arrangements. A buzz group was conducted prior to the main workshop to provide interaction among participants after which, three break-out groups were created to discuss the possible questions and concerns for each component of the three main parts of the eCLUP process. The break-out groups' outputs were presented in the panel discussion. The Workshop's Program Flow is shown in *Table 4*.



Table 4 Program Flow: Pre Consultation Workshop on eCLUP Guidebooks

Time	Topics/Activities	Objectives	Methodologies
8:00 am	Registration and Opening Ceremonies		
9:30 am	Objectives of the Consultation cum Workshop	<ul style="list-style-type: none"> • Present and discuss the initiatives to enhance the current CLUP 	
9:45 am	Overview of the Presentation and Expected Outputs	<ul style="list-style-type: none"> • Guide the participants on the workshop program flow 	Lecture
10:15 am	AM Coffee Break		
	Session 1: eCLUP Formulation Process		
10:30 am	<ul style="list-style-type: none"> • 12 Step CLUP Process • Integration of CCA, DRR, CMSP, forest land use, etc. 	<ul style="list-style-type: none"> • Present and discuss the current CLUP process vis-à-vis eCLUP process 	Lecture & Discussion
11:30 am	Session 2: eCLUP Tools and Techniques		
12:30 pm	Lunch Break		
1:30 pm	Session 3: eCLUP Implementation Mechanisms and Arrangements		
		<ul style="list-style-type: none"> • Review and discuss the details of the eCLUP outline and content • Obtain feedback/ identify gaps and needs to improve the initial draft of the eCLUP 	Group Discussion
2:30 pm	Break-out Session (3 Groups)		
4:00 pm	Presentation of Group Outputs	Discuss and harmonize groups' outputs	Presentations & Panel Discussion
5:00 pm	Next Steps		
5:15 pm	Closing Ceremonies		

Objective

The main objective of this forum is to review the 12 Steps preparation process of the CLUP vis-à-vis the eCLUP process. Specifically, this forum aimed to (1) present and obtain feedback from key agencies and implementing bodies on the preliminary outline, content, and changes/enhancement in the CLUP process, inputs, data set requirements, methodologies and presentations; and (2) identify other relevant guidelines, materials, standards, references, resources, and framework for integration and/or complementation into the proposed eCLUP Guidebooks.

Main Output

The main output of this forum was the leveling off of the preliminary outline, content and proposed changes and enhancement in the current CLUP process. This forum likewise, identified key agencies that should be involved in the CLUP process, such as the National Commission on Indigenous People (NCIP), PRA, National

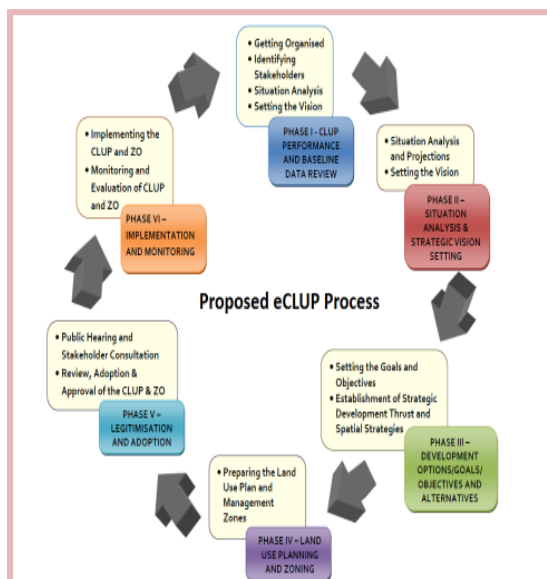


Figure 2 **Proposed eCLUP Process**

Mapping Resources and Information Administration (NAMRIA), etc. Other source data requirements vital in situation analysis and land use preparation and priority action areas were identified such as; Participatory Coastal Resources Assessment (PCRA), Municipal Coastal Environment Profile (MCEP), Certificate of Ancestral Domain Title (CADT), etc. In general, the expected draft eCLUP Guidebooks are set within the ambit of the current CLUP guidelines given that these guidelines are still relevant in plan updating. Accordingly, the outputs of this consultation workshop had provided significant change approach to the draft eCLUP documents.

As a next course of action for the eCLUP initiatives, the group agreed to conduct a series of “focus group” consultation workshop, including the coastal sector; to review the draft Coastal Sector Tool Kit and Reference Guidebook.

Major Points of Discussion

The summaries of major points of discussion vis-à-vis the three major components of the eCLUP preparation are enumerated in the succeeding sections.

Formulation Process

1. Guidelines on disaster risk reduction (DRR) and climate change adaptation (CCA) should be integrated and mainstreamed in the eCLUP formulation process.
2. The “ecological town” approach being advocated by the CCC should be considered in the process.

3. Refer to the National Climate Change Action Plan (NCCAP) in formulating CC adaptation and mitigation guidelines.
4. The rights of the indigenous people (IP) should be given emphasis in the *eCLUP* process and the NCIP should be considered as the key agency in this respect.
5. Civil society organizations, people organization, and other relevant advocacy groups should be allowed to participate in the *eCLUP* review, monitoring, evaluation, and assessment processes.

Tool and Techniques

1. The official spatial data and information for mapping purposes should be sourced from the NAMRIA of DENR. Likewise, NAMRIA should be the key agency with regard to the official delineation of administrative boundaries.
2. Guidelines on CC capacity assessment should not be limited to “adaptation measures” but should include “mitigation measures” as well.
3. The Multi-sector approach should be applied in the situation analysis both for progress review and vision setting.
4. Include data from CRMP, PCRA, MCEP, and Alliance Plans in the Coastal Sector Checklist for determining uses and priority action areas in the coastal zones vis-à-vis preparation of the land use plan and management zones.
5. The rights of the IPs should be considered in determining the heritage areas and priority actions zones. Refer to the Ancestral Domain Sustainable Development and Protective Plan (ADSDPP) and CADT vis-à-vis preparation of the land use plan and management zones. Likewise, concerned IPs should be included in Public Hearing and Consultation.
6. Include the population development criteria in situation analysis and vision setting.

Implementation Mechanisms and Arrangements

1. Review Section 23 of the Subdivision and Condominium Buyer Protective Decree (Presidential Decree No. 957) in drafting the model zoning ordinance (ZO).
2. Include data on capacity of land limits, height, and weight of structure in drafting the model ZO.

3. In the ZO guidelines, give emphasis on the importance of issuing zoning certification prior to issuance of regulatory permits and requirements.
4. Include guidelines for road right of way (RROW) in the ZO, especially for road projects that abut coastal shoreline.

Chapter 6 Focus Group (Coastal Sector) Consultation Workshop

Overview

This “focus group” (coastal sector) consultation workshop was held on March 12, 2013 at the Luxent Hotel in Timog Avenue, Quezon City. The forum was participated in by representatives and local experts from the following national authorities and concerned agencies: Coastal and Marine Management Office (CCMO)-PAWB, DILG; PDG-HLURB, MGB, DOT; PRA, Presidential Commission on the Urban Poor (PCUP), University of the Philippines-Marine Science Institute (UP-MSI), LMB, and EMB. A total of 45 participants including the resource persons participated in this “focus group” consultation workshop. The “Focus Group” Workshop Flow is shown in *Table 5*.



The participants were divided in six groupings to discuss and review the “14 Procedural Steps” of the draft Coastal Sector Toolkit and Reference Guidebook vis-à-vis relevant guidelines of the current CLUP (Volume 2). The technical soundness and resource limitation of the draft document and its applicability in the ground level were also discussed.

Objective

The main objective of this workshop was to review the draft coastal sector tool kit and reference guidebook. Specifically, the workshop aimed to provide a forum to (1) understand the proposed enhancements in integrating coastal ecosystem in land use planning and zoning; (2) clarify basic principles and concepts in coastal resource management and spatial environment upon which CRM is undertaken; (3) appreciate the relationship of the upland-lowland ecosystem with the coastal and other land-based water resources as well as its uses and benefits; (4) identify data requirements essential to coastal and water use planning and zoning; and (5) grasp the tools to derive the data requirements and analysis particularly for climate change (CC), sea-level rise (SLR), disaster risk reduction (DRR) management.

Table 5 Program Flow: “Focus Group” (Coastal Sector) Consultation Workshop

Time	Topics/Activities	Objectives	Methodologies
8:00 am	Registration and Opening Ceremonies		
9:30 am	Overview and Objectives	<ul style="list-style-type: none"> • Present and discuss the draft Coastal Sector Toolkit and Guidebook • Leveling-off of expected outputs 	Lecture
10:00 am	Review of draft Coastal Toolkit and Guidebook	Understand the content and purpose of the draft coastal sector toolkit vis-à-vis relevance to the <i>eCLUP</i>	Individual Review
10:15 am	AM Coffee Break		
10:30 am	Review of document (continuation)		Individual Review
12:00 pm	Lunch Break		
1:00 pm	Session Instruction/ Guide Questions Presentation	Guide participants on the major issues to be discussed	Lecture & Presentation
1:30 pm	Break-out Session (6 Groups)	<ul style="list-style-type: none"> • Discuss the outline and content of the coastal sector toolkit • Obtain feedback/ identify gaps and needs to improve the draft toolkit 	Group Discussion
2:30 pm	Presentation of Groups’ Outputs	Discuss and harmonize groups’ outputs	Presentations & Panel Discussion
4:15 PM	PM Coffee Break		
4:30 pm	Core Group Meeting	Review the group’s output	Discussion
5:00 pm	Next Steps		
5:15 pm	Closing Ceremonies		

Main Output

The main output of this activity was the refinement of the draft coastal sector toolkit and guidebook (the consolidated inputs from the group discussion were evaluated and if these inputs were deemed appropriate vis-à-vis the objectives and procedural and operational requirements of the *eCLUP*, were included and/or harmonized with the draft coastal sector tool kit and reference guidebook).

Major Points of Discussion

The major points of discussion vis-à-vis the “14 Procedural Steps” of the draft Coastal Sector Toolkit and Reference Guidebook are enumerated in the succeeding Sections (*the italicized statements were the suggested modifications in the procedural steps for coastal sector of the proposed eCLUP*).



Phase I (Step 1-4): CLUP Performance and Baseline Data Review

1. As a guidebook, the eCLUP is too technical and prescriptive. This may hinder understanding the intent of the document and discourage intended users (local government units) to use the guidebook.

The document should be structured and presented in “layman’s term”. Include Annexes for Acronyms and Definition of Terms to facilitate understanding of combined and abbreviated words or terms. Declined endorsing the use of specific mapping software as this will limit the capability of the end user with respect to developing a GIS based mapping system.

2. The role of the Planning Team (PT) and Technical Working Group (TWG) is not clearly defined. This will cause confusion vis-à-vis authority and responsibilities among members of the groups. Likewise, the proposed compositions of these groups are “experts based” (i.e., GIS specialist, lawyer, etc.). The LGUs with no financial resources will be constrained in organizing a team of experts. (The technical and descriptive soundness of the other procedures and their respective intentions of Phase I were accepted without modification.)

Defer limiting the members of the PT and TWG. Although the core team members should be identified, options to include representatives from other concerned national authorities (DOT, NCIP, etc.) or organizations is at the discretion of the LGU concerned. Likewise, provision for capacity building for specific field of expertise should be included in the guidelines.

Phase II (Step 5-6): Situational Analysis and Strategic Vision Setting

1. Retain the procedural flow of Step 5-6 of the current CLUP in the *eCLUP*. The draft *eCLUP* should avoid or lessen the use of technical and scientific terms. The technical and descriptive soundness of the other procedures of Phase II and their respective intentions were accepted with some modification. These modifications are summarized in the succeeding sections.

Modify the diagram for data requirement (Figure 13 of the coastal sector toolkit) to include current data (in the CLUP) requirement for land reclamation. Engage other stakeholders by including steps or provision for organizing stakeholder consultation. This is to provide transparency that can facilitate collaboration and partnership between LGUs and stakeholders.

Phase III (Step 7-8): Development Options/ Goal/ Objectives and Alternatives

1. The technical and descriptive soundness of the procedures of Phase III and their respective intentions were accepted with some modifications. These modifications are summarized in the succeeding sections.

*Give emphasis on the protection and conservation of existing mangrove areas and rehabilitation of degraded mangrove areas in the strategic setting of development goals and spatial strategies of the *eCLUP*.*

Phase III should provide a definitive spatial strategic setting on (1) cancellation and reversion of abandoned, underdeveloped, and underutilized fishpond lease areas (FLAs); (2) coastal structures covered by reclamation and tourism activities; (3) land-based sources of pollution, siltation, sedimentation and coastal erosion; establishment of “no-take” and production zones within the municipal waters; and (4) enforcement mechanism.

Phase IV (Step 9-10): Land Use Planning and Zoning

1. The technical and descriptive soundness of the procedures of Phase IV and their respective intentions were accepted with some modifications. These modifications are summarized in the succeeding sections.

To best represent the concerns of the coastal sector, it is more technically appropriate to designate a planning officer for the coastal regime, hence; consider the provision of two planning officers in the LGUs zoning department (one for land regime and one for coastal regime).

Zoning strategies or arrangements between inland and coastal waters should complement each other.

Consider adoption of land reclamation as zoning strategy for coastal rehabilitation.

Include descriptions for zoning boundaries.

Include mitigating measures for water/coastal zones and tourism structures in the zoning regulation.

Phase V (Step 11-12): Legitimation and Adoption

1. The technical and descriptive soundness of the procedures of Phase V and their respective intentions were accepted with some modifications. These modifications are summarized in the succeeding sections.

If existing in the area of concerned the following offices and entities should be included in the Public Hearing Board (1) Water Quality Management Area Governing Board (WQMA-GB); (2) Regional Development Council (RDC); and (3) Protected Areas and Wildlife Management Board (PAMB). Likewise, include the following entities in public hearing, if warranted (1) Multipartite Monitoring Team (MMT) of environmentally critical projects; and (2) industry association.

Re-phrase the paragraph describing the conduct of Public Hearing (PH). Retain the “PH paragraph” as described in the current CLUP as this is more straight forward and easily understood.

Provide legal parameters for CLUP review such as National Integrated Protected Areas System (NIPAS) Act (Republic Act 7586), Toxic Substances and Hazardous and Nuclear Wastes (RA 6969) and other relevant laws.

Phase VI (Step 13-14): Implementation and Monitoring

1. Provisions for the development of the required monitoring and evaluation (M&E) system are not included in the current document (a possible oversight on the part of the consultant).

The following provision should be included in M&E system (1) budget and disbursement audits in the integrated coastal management (ICM) plans; (2) coastal strategy and action plans; (3) enabling legislation; (4) report system on number of violations, environmental cases filed/resolved (fishery, zoning, and

pollution related); (5) water quality monitoring; (6) data on fishery production; and (7) coastal profile.

2. Apply the ecosystem-based approach in evaluating the LGU Report Card System to harmonize the evaluation process with the R2RM approach.
3. Develop or add core indicators for integrated coastal management/coastal resources management (ICM/CRM).
4. Clarify criteria/parameters when to “re-plan” or “re-zone”. (The technical and descriptive soundness of the other procedures and their respective intentions of Phase VI were accepted without modification.)

The following criteria guidelines for CLUP Re-zoning should be modified (1) revise the >50% criteria non-conformance to 0%; (2) change non-Local Development Investment Program (LDIP) implementation from 20% to 50%; (3) merge VI and VII (pp. 197) into “Re-Plan”; and (4) Re-plan or re-zone if necessary based on detailed climate and disaster risk assessment.

Chapter 7 National Train-the-Trainer (TTT) Course on CMSP

Overview

The National TTT course on CMSP was held on March 20-22, 2013 at the Vista Venice Resort in Morong, Bataan. A total of 35 (including the Course’s resource persons, experts, and facilitators) participants participated in the training course. Most participants came from the HLURB’s “pool of trainers” and some representatives from DENR (EMB, PAWB, and LMB), Bureau of Fisheries and Agrarian Reform-Department of Agriculture, DILG, PRA, and other relevant national/sub national agencies and authorities.

The training course employed a combination of lectures and presentations, question and answer sessions, group discussion, a half-day field trip to Las Casas Filipinas (a heritage conservation coastal resort) and Pawikan (Sea Turtle) Conservation Center, hands-on-exercises, and case studies; including opportunities



for informal discussion and exchanges of experiences. The three resource persons/experts worked closely with the course participants throughout the duration of the course to impart the essential training needs, maximize understanding of the key concepts, and to demonstrate effective teaching techniques. The training course agenda is shown in *Table 4*.

In particular, the participants were guided through the basic principles and components of the draft Tool Kit and Reference Guidebook on Coastal Sector (Volume II) developed by the HLURB (the draft document gave emphasis on the components and steps involved in mainstreaming emerging issues such as climate change adaptation and integration of disaster risk management into current spatial planning processes and how to develop the plan, taking into consideration the reef to ridge approach). In addition, the participants were made to appreciate the various components involved in developing an integrated CRM program giving emphasis on the (1) importance and role of the coastal ecosystems (i.e., mangrove forest, seagrass beds, coral reefs, etc.) and their interconnectivity to the land regime; (2) data collection and analysis; (3) monitoring and evaluation; and (4) stakeholders’ involvement (the Bataan CRMP initiative was presented as case study for this purpose).

Objectives

The general objective of this Course was to enhance the perception, experiences, attitudes, knowledge, and skills (PEAKS) of the participants on CMSP. Specifically, at the end of this activity; the participants should be able to (1) understand the basic components and steps involved in mainstreaming emerging issues, such as; CCA, disaster risk management into current spatial planning processes; (2) appreciate the coastal ecosystem and its link to broader spatial planning, taking into consideration the R2RM approach; (3) clarify basic principles and concepts in coastal resource management (CRM) vis-à-vis spatial environment; and (4) handle and organize local training courses on CMSP.



Outputs and Outcomes of the Course

The major outcome of the national TTT course is the participants' increased awareness and understanding vis-à-vis the key and emerging issues and modern management approaches that are being advocated for an effective coastal and marine spatial planning. In essence, this approach will allow the national authorities involved in spatial planning processes to expand and develop a more capable “pool of trainers and trainees” that understand and know how to integrate the emerging issues and modern management approaches in the spatial planning regimes.



Table 6 Training Course Agenda: National Train-the-Trainer Course on CMSP

Schedule	Topics/Activities	Objectives	Methodologies
<i>Day 1: March 20, Wednesday</i>			
8:00:am	Trip to Morong Bataan		
11:00 am	Lunch		
12:00 pm	Registration and Open Ceremonies		
1:00 pm	Course Overview and Objectives	Guide the participants on the Course program flow and approach	Lecture
1:30 pm	Course's Methodological Approach		
2:00 pm	Levelling off of Expectations	Ascertain participants' expectations	Lecture
2:30 pm	Overview of COBSEA-SIDA Project on Spatial Planning in the Coastal Zones of East Asia	Understand the role of COBSEA in the East Asia Sea Regional Programme	
3:00 pm	Afternoon Break		
3:15 pm	Overview of Training Modules	Familiarize the participants on how to develop CMSP training modules	Lecture, Discussion & Exercise
3:45 pm	Group Exercise		
4:30 pm	Session 1: Orientation on Coastal Fisheries Resources Mgt. in ICM and CRM	Clarify basic principles and concepts in ICRM vis-à-vis spatial environment	Lecture & Discussion
5:15 pm	Session 2: Delineation and Delimitation of City/Municipal Waters	Clarify basic principles and concepts in ICRM vis-à-vis spatial environment	Lecture, Discussion & Table Exercise
6:00 pm	Group Exercise		
6:45 pm	Session 3: Participatory Coastal Resources Assessment including Coastal Vulnerability Assessment		
7:00 pm	Group Exercise		
7:45 pm	Synthesis		
8:15 pm	Dinner/ Cocktails		

Table 6 Training Course Agenda: National TTT Course on CMSP (continuation)

Schedule	Topics/Activities	Objectives	Methodologies
<i>Day 2: March 21, Thursday</i>			
6:00:am	Breakfast		
8:00 am	Recap/ Briefing-Field Trip		
8:15 am	Session 4: CRM Initiatives of Bataan Province	Appreciate the coastal ecosystem and its link to broader spatial planning (Bataan Experience)	Lecture & Discussion
9:15 am	Session 5: CFRM in CLUP-Coastal Development Plan		Lecture & Discussion
10:15 am	Workshop using Bataan CRM Plan		Group Workshop
11:15	Morning Break		
11:30 am	Presentation of Workshop Outputs		Presentations & Panel Discussion
12:30 pm	Lunch Break		
1:30 pm	Assembly-Field Trip	Gain information and evaluate existing situation and trend of development	
<i>Day 3: March 22, Friday</i>			
6:00 am	Breakfast		
8:00 am	Recap		
8:15 am	Session 6: Coastal Zoning	Clarify basic principles and concepts in coastal resource management (CRM) vis-à-vis spatial environment	Group Workshop
10:00 am	Morning Break		
10:15	Continuation of Workshop		
11:15 am	Presentation of Workshop Outputs		Group Presentation and Panel Discussion
12:15 pm	Synthesis		
12:30 pm	Lunch Break		
1:30 pm	Creative Evaluation of the Training Course	Critiquing and improvement of course	Lecture
2:30 pm	Afternoon Break		
2:45 pm	Closing Ceremonies		
3:30 pm	Check-out/ Return to Manila		

Key Agreements and Next Steps

The participants are expected to be involved and consulted in the development of the CMSP training manual in relation to the enhancement of the HLURB's *eCLUP*. Accordingly, the participants will be capable to handle and organize similar CMSP (basic and advance) training course for sub-national and local spatial planners, aimed to strengthen the capacity of the sub-national and local spatial planners to plan and manage their respective coastal zones in a more sustainable approach. The following are some of the actions and next steps agreed upon during this activity.

1. The national TTT course participants will be involved and consulted in the finalization of the draft *eCLUP* training manual on CMSP. The consultation workshop or series of workshops for this purpose will be organized by the HLURB in collaboration with the EMB-DENR.
2. To continue strengthening the awareness and understanding of the key emerging issues and management approaches through the continuous conduct of basic and advance training of CMSP courses. The training courses will be provided to the concerned local government units by the HLURB as part of the Agency's mandate.
3. The possibility to conduct a second CMSP national TTT course or an orientation workshop. This will depend on the availability of funds.
4. The possibility to "pilot test" the coastal and marine spatial planning guidelines of the *eCLUP* Guidebooks in selected coastal areas. This proposed activity will be discussed among the COBSEA Secretariat, EMB, and HLURB.

Chapter 8 Project Expenditures

Summary of Project Expenditures

Under the project's SSFA, the UNEP-COBSEA provided for to EMB a direct fund amounting to USD 42,800.00 (Forty Two Thousand Eight Hundred US Dollars) to pursue the project's Phase 3 objectives and activities. As of this reporting, only the first installment in the amount of USD 21,400.00 (50%) was transferred to the EMB. Of this amount, USD 15,146.06 was utilized to defray the expenses of the project's completed activities as mentioned in this Report (the summaries of the Project's Statement of Sources and Uses of Fund and Financial Statement are shown in Table 7 and Table 8, respectively). The certified correct and approved copies of these documents are attached as *Annex 3*.

Table 7 **Statement of Sources and Uses of Funds (in USD)**

A.	Sources of Funds	
	Initial Release	21,400.00
B.	Uses of Funds	
	Sub Contracts	2,640.27
	Trainings	10,224.74
	National Consultation	2,281.05
	Bank Charges	8.31
C.	Net Sources of Funds as of April 30, 2013	6,245.63

Table 8 **Financial Statement (in USD)**

UNEP Code	Activity	Amount Allocated	Actual Expenditures	Unspent Balance
2100	Sub Contracts	20,000.00	2,640.27	17,359.73
3100	Training	16,800.00	10,224.74	6,575.26
3300	National Consultation	3,000.00	2,281.05	718.95
5200	Reporting	3,000.00	-	3,000.00
	Total	42,800.00	15,146.06	27,653.94

Chapter 9 Conclusion and Recommendation

Integrating CMSP in the CLUP Guidebooks: An Imperative for Sustainable Coastal Zone Management

The country's policy and management tools giving emphasis toward the sustainable development of the country's coastal and marine environments; such as; Fisheries Code of the Philippines, Executive Order No. 533 (Adopting an Integrated Coastal Management as a National Strategy), Coastal Environment Program (DENR Administrative Order No. 19-93), institutionalization of the CRMP, among others; are mostly focused on the habitat conservation and protection. To fully achieve the intentions of these policy and management tools, these should be supported with clear and specific guidelines and standards on the rational uses and allocation of the coastal and marine spatial and temporal environments.

The Philippines is experiencing 15 to 20 typhoons a year and is one of most vulnerable countries with regard to climate change and sea-level rise. As the impacts of these phenomena are mostly felt in the coastal areas, which in turn; will affect the lives and properties of 60 to 80 percent of the country's population, the physical planning and development of these areas should be given considerable emphasis. Hence, it is essential to consider a holistic spatial planning and management approaches, integrating R2RM, EBM, CCA, DRR, and so forth; and other management approaches in the traditional CMSP.

The current CLUP Guidebooks which establish the country's land use guidelines and zoning standards and likewise, govern the preparation of CLUP (a vital component of the local planning system) have limited guidelines on the spatial and temporal uses and allocation of the coastal areas. In most cases, this has caused jurisdictional conflicts (especially in the delineation of municipal waters), land and water use conflicts, flawed local zoning standards, and so forth. Likewise, the current Guidebooks, last revised in 2007 lack provisions on emerging issues, such as climate change and sea-level rise, biodiversity lost; and so forth. The integration of CCA and DRR in the *eCLUP* Guidebooks can guide and prepare the LGUs to adapt and response to hazards and risks posed by the increasing and abnormal natural occurrences. The ultimate goal is to make both the water and land regimes and those residing within these regimes, adaptable to the impacts of these natural disasters and minimize if not, prevent the loss of lives and properties.

In this context, the implementation of the COBSEA-SIDA coastal spatial planning project was timely and relevant to the enhancement of the current CLUP Guidebooks as the Project had advocated the need for the Philippines and other COBSEA member countries to sustainably and wisely develop and manage their

respective coastal and marine environments through the application of a “multi-sectoral and ecosystem-based approach” CMSP.

Importance of the Project

The Project provided a window of opportunity for the Philippine representatives to engage other representatives from the COBSEA member countries, COBSEA consultants, and CMSP experts to discuss, comment, and share their respective country experiences in the development of the UNEP-COBSEA CSMP RRD (the basic document intended to guide the COBSEA member countries in developing their respective CMSP guidelines). Likewise, the Phase 2 activities of the Project served as a venue to identify the (1) country’s capacity building gaps and needs vis-à-vis CSMP application, and (2) Phase 3 project priority activities and future activities, through the conduct of the country specific “National Consultative Workshop”.

On the other hand, the implementation of the “country specific” Phase 3 activities of the COBSEA-SIDA project on coastal spatial planning had raised awareness among the concerned national authorities on the role and initiatives of the COBSEA regarding the UNEP East Asia Seas Programme. Specifically, the implementation of the Phase 3 project activities was beneficial and timely as this served as an avenue to:

1. Capacitate and raise awareness among concerned national institutions, specifically the DENR, HLURB, DILG, DOT, etc., on modern management approaches (R2RM, EBM, DRR, etc.) and emerging issues (climate change, sea-level rise, etc.) vis-à-vis CMSP application through the conduct of the regional and national train-the-trainer course.
2. Support and facilitate the integration of the coastal sector guidelines in the *eCLUP* Guidebooks preparation through the conduct of orientation meeting and focus group consultation workshop.
3. Support the on-going initiative of the HLURB in amending the current CLUP through the conduct of pre-consultation workshop on the enhancement of the CLUP.
4. Strengthen the institutional networking and partnership among the concerned national agencies through the conduct of the abovementioned fora (this was advantageous to the preparation of the *eCLUP* as most of the required data and information were sourced from these agencies and institutions).

Non-completion of the Two Priority Activities

The circumstances and reasons regarding the non-completion of the two priority activities (1) development of training manual on CMSP; and (2) conduct of national training course on CMSP, are elucidated in the succeeding sections.

1. The training manual on CMSP will be developed as part of the *eCLUP* training manual as indicated in the *eCLUP* Framework. This training manual is a “stand alone” document that integrates all the training syllabi and requisites of all concerned sectors (coastal, forest, biodiversity, etc.) involved in the CLUP processes and preparation. In view of this, the EMB and the Project’s NC deemed it unnecessary and considered it a duplication of effort to develop a separate CMSP training manual. As of this reporting, the draft *eCLUP* Training Manual is being finalized and will be part of the documents subject for approval by the HLURB Board of Commissioners. This training manual will be transmitted to the COBSEA Secretariat once this document is made available to the EMB.
2. The *eCLUP* Training Manual, once approved will serve as the basis for conducting training courses for local planners for the CLUP preparation. Again, as this training document has yet to be officially approved, the EMB and Project’s NC deemed it untimely to conduct the CMSP national training course.
3. The timeframe in the approval of the *eCLUP* Guidebooks (July 2013) influenced the timely completion of the two priority activities. However, upon approval of the *eCLUP* Guidebooks, this will cause the mainstreaming of the CMSP training program in the CLUP process and preparation that will guide the local trainers in conducting training courses aimed to capacitate the local planners with respect to the CMSP application.

Way Forward

As a continuing activity regarding the enhancement of the current CLUP, the HLURB will organize a “Planners’ Forum” in August 2013 after the Board’s approval of the *eCLUP* Guidebooks. The main objectives of this Forum are to (1) train the HLURB technical planning staff (involved in providing assistance to the country’s LGUs in preparing their respective CLUPs) on the various enhancements made on the Guidebooks; and (2) further strengthen the technical capabilities of these planners to ably assist the LGUs in the CLUP preparation. Other than the HLURB

technical staff, representatives from partner agencies, such as; the DENR agencies (EMB, PAWB, FMB, LMB, MGB), DILG, DPWH, among others will be invited to participate in the “Planners Forum”.

On the part of EMB-DENR, specifically the Research and Development Division (RDD); intends to pilot test/demonstrate the CMSP guidelines of the *eCLUP* Guidebooks to assist selected coastal municipalities in the preparation of the CLUP. This is envisioned to be part of the Bureau’s research agenda on the R2RM and other ecosystem-based management approaches, climate change adaptation, and disaster risk reduction and prevention. As the preparation of the CLUP usually takes six months to complete, this activity will be pursued in CY 2014. The proposed pilot testing of the coastal sector guidebook for the CLUP preparation will be conducted in collaboration and assistance of the PDG-HLURB. Initially, the identified LGU is the Municipality of Taytay, a coastal municipality in the Province of Palawan. As a preliminary activity and to facilitate the pilot testing/demonstration of the CMSP guidelines, the EMB, as recommended by the Project’s NC; intends to organize and conduct a training or orientation workshop on the CLUP preparation vis-à-vis CMSP application. The target participants will be the local officials and planners of the target coastal municipality and its adjacent localities.



Recommendation

Given the planned activities and initiatives enumerated above and to further strengthen the awareness of the country’s national and local planners on CMSP, the EMB-DENR recommends that the COBSEA-SIDA coastal planning project in the Philippines be extended until November 2013; utilizing the Project’s unspent funds. This is to support the implementation of the following activities (1) conduct of the Planners’ Forum scheduled in August 2013; and (2) proposed local workshop on the CMSP guidelines for CLUP preparation to be scheduled in September 2013 (the Implementation Plan for the proposed project extension is shown in *Table 9*). The Philippines will appreciate any support that can be provided by UNEP-COBSEA or SIDA in pursuing the actual pilot testing/demonstration of the CMSP guidelines in selected coastal municipalities in the country.

UNEP-COBSEA should continue supporting the COBSEA member countries in strengthening their institutional capabilities in the sustainable development of their respective coastal and marine resources. Equally, the Philippines through the

EMB-DENR should support the initiatives of UNEP-COBSEA and closely coordinate all activities being implemented by UNEP-COBSEA in the country.

Table 9 Implementation Plan (Proposed Project Extension)

Activity	Comments	Time Frame	Responsibility	EMB Activity Budget	COBSEA Activity Budget	Total Budget ¹ (USD)
A	Select sites for eCLUP pilot testing	Jun 2013	PNFP, NC, EMB, & National Experts	0	0	0
B	Signing of new SSFA	Jul 2013	COBSEA, EMB	0	0	0
C	Planner's Forum	Aug 2013	EMB-DENR, HLURB	10,000	0	10,000
D	Preparation of workshop program (CMSP for coastal municipalities)	Aug 2013	EMB, HLURB	1,500	0	1,500
E	Workshop/ Training on CLUP preparation (CMSP for coastal municipalities)	Sept 2013	EMB, HLURB	13,000	0	13,000
F	Final Report and Outputs	Oct 2013	PNFP, NC & EMB	3,153.94	0	3,153.94
Total				27,653.94	0	27,653.94

ANNEX 1

**TITLE COVERS: 1st DRAFT of eCLUP
GUIDEBOOKS (VOLUME 1-3)**

Volume 1: eCLUP Preparation Guidebook (1st Draft)

**Enhancement of CLUP Guidelines and Model Zoning Ordinance:
Mainstreaming Climate Change Adaptation (CCA) and Disaster
Risk Reduction (DRR) and Integrating Land Uses of Forest, Coastal,
Ancestral Domain, Heritage Conservation and Green
Growth/Urbanism**



CONCEP Inc.

March 2013

Volume 2: eCLUP Toolkit & Reference Guidebook (1st Draft)

Enhancement of CLUP Guidelines and Model Zoning Ordinance:
Mainstreaming Climate Change Adaptation (CCA) and Disaster
Risk Reduction (DRR) and Integrating Land Uses of Forest, Coastal,
Ancestral Domain, Heritage Conservation and Green
Growth/Urbanism



CONCEP Inc.
March 2013



Volume 3: eCLUP Implementation Tools & Mechanisms (1st Draft)

**Enhancement of CLUP Guidelines and Model Zoning Ordinance:
Mainstreaming Climate Change Adaptation (CCA) and Disaster
Risk Reduction (DRR) and Integrating Land Uses of Forest, Coastal,
Ancestral Domain, Heritage Conservation and Green
Growth/Urbanism**



CONCEP Inc.

March 2013

ANNEX 2

**VOLUME 2: TOOLKIT AND REFERENCE
GUIDEBOOK (COASTAL SECTOR)**

VOLUME 2 – TOOLKIT AND REFERENCE GUIDEBOOK (COASTAL SECTOR)

INTRODUCTION

Checklist for CLUP Enhancement

Does your LGU face the ocean or do you have a nearby river? If yes, then you need to include the Coastal and Marine Sector in your eCLUP

PHASE I – CLUP PERFORMANCE AND BASELINE DATA REVIEW

STEP 1: GETTING ORGANIZED

Proposed Changes or Additions to Organizational Structure of Planning Team and TWGs (changes or additions)

The planning team will be involved in the whole CLUP process. The team should work in close coordination with the city or municipal council and the office of the mayor to ensure that the LGU is informed and involved on the details of the processes and the eCLUP. The following composition for the planning team has the necessary capacity to carry the task with support from Technical Working Groups (TWG) as needed.

Planning Team	
Chairperson(s)	City or Municipal Planning and/or Development Officer
Members	GIS Specialist
	Lawyer (Environmental and Public Land)
	Representative from the City or Municipal Engineering Department
	Representative from the C/MPDRRMC or PDRRMC
	Economist
	Public Admin Specialist
	Representatives from the C/MFARMC, C/MENRO and BFAR

The Technical Working Group (TWG) will be tasked to gather the data and do the necessary data processing and analyses. For the coastal and marine sector various TWG are required depending on the vision and objectives of the city or municipality and the presence or absence of an existing updated PCRA. In the absence of an existing updated PCRA, Technical Working Groups are required to gather and analyse data for the CCA-DRRM/coastal integrity, critical habitats, and private and public land data.

An RS-GIS specialist could be an important member of the team in order to translate the data into maps for visualization and will serve as input for spatial planning. The RS-GIS specialist should also be capable of implementing the necessary tasks stated in the thematic area assessment guide of this document. A marine geologist, oceanographer, and marine ecologist should be members of the team to guide the team in the gathering/sampling as well as to analysis and processing of data.

Capacity Assessment Checklist

- Do you regularly conduct a PCRA? If yes, use the data gathered there in answering the questions related to the Coastal and Marine Sector.
- Is your MFARMC and BFARMC active and functional? If yes, gather their collective knowledge through an FGD in answering the questions related to the Coastal and Marine Sector.
- Do you have a GIS specialist? A GIS technician can be valuable in assisting you in the preparation of your eCLUP
 - Has your municipal waters been defined by NAMRIA?

Planning Timeline

- If you do not have a CRA, you need to allot an additional 3 months to gather the necessary data to answer the questions related to the Coastal and Marine Sector.

Basic Principles and Concepts

The boundary of the current CLUP extends only to the first kilometer of the coastal zone while the municipal coastal resource management (CRM) plan extends from this first kilometer of the coast until the fifteen kilometer boundary of the municipal waters. In the light of a ridge-to-reef concept and the fact that the Philippines is an archipelagic country, it is compulsory that new enhanced CLUP should integrate the municipal CRM plan to the current CLUP.

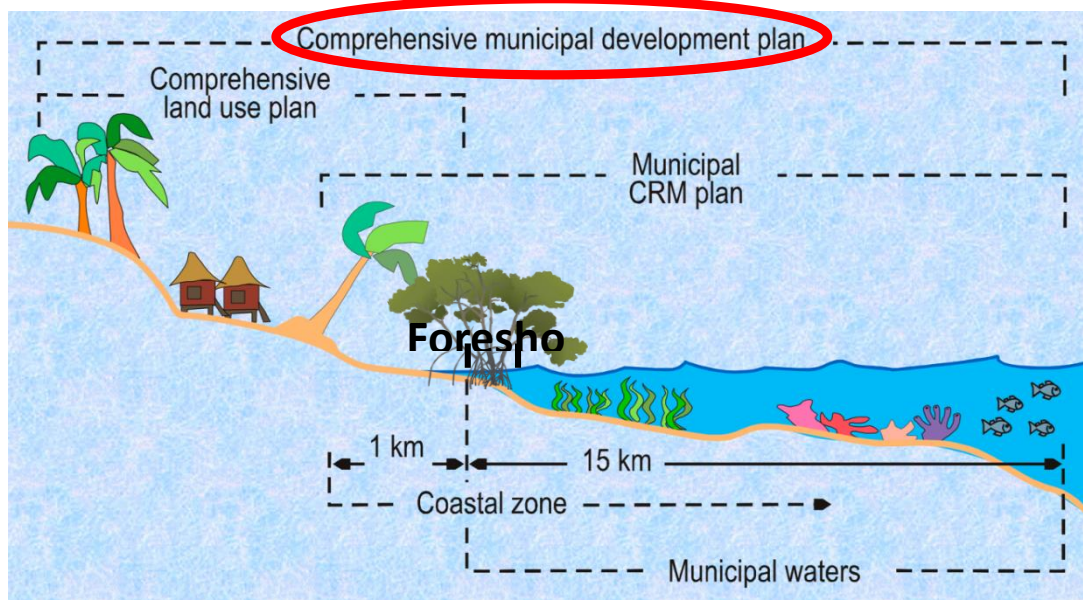


Figure 1. Modified from : *Mainstreaming CRMP in Local Governance: CRMP Experience*,

An important concept that has to be relayed to the municipality is how upland watershed activities greatly affect the coastal areas, even if these activities may be kilometers away from the coast. Activities, such as mining and lumbering, may cause high sedimentation downstream which will eventually perturb coastal waters. This has been shown to be detrimental to coastal habitats like coral reefs and seagrass meadows with dire consequences to fisheries.



Figure 2: Illustrative example of consequences of upland erosion to coastal habitats

Furthermore, studies such as that by Villanoy et al (2012), have proven that coastal habitats such as coral reefs, seagrasses and mangroves, protect the coast from strong waves by buffering the high energy from oncoming waves. As living seawalls, these habitats may also provide added protection against sea level rise and high energy storm events.

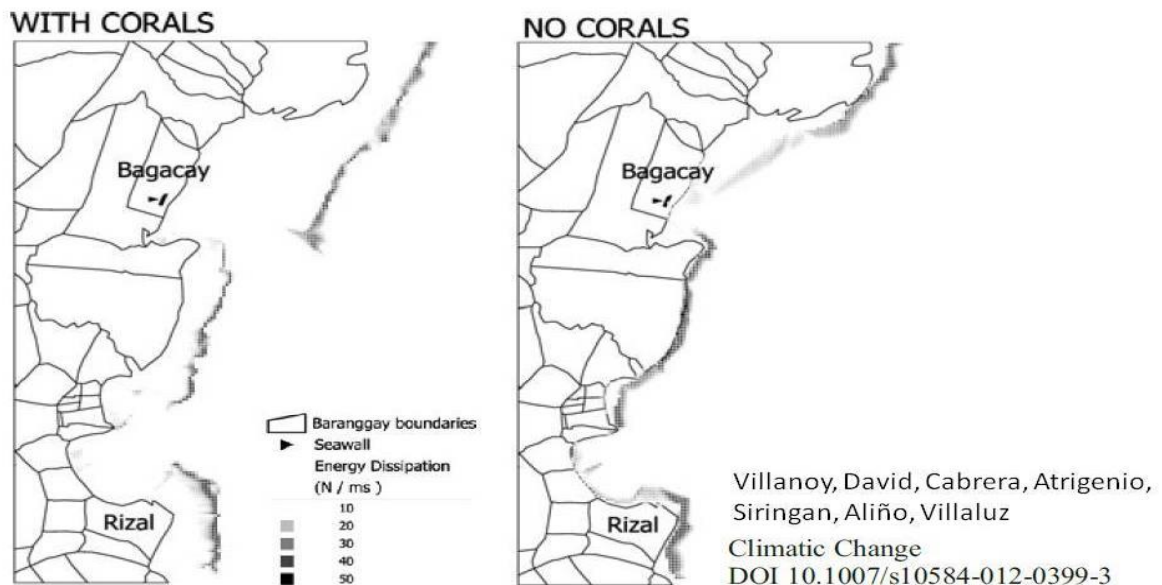


Figure 3: Illustrative example of role of coastal habitats in shoreline protection

IEC Materials

Refer to ANNEX 1 for Powerpoint presentation for IEC.

STEP 2: IDENTIFYING STAKEHOLDERS FOR EXISTING CLUP REVIEW AND ASSESSMENT

List of Stakeholders

Prior to the selection of stakeholders the GIS specialist of the planning team should be able to delineate the watershed boundaries and overlay it with an admin boundary map to determine the neighbouring LGUs that should be part of the consultation of stakeholders. If the watershed boundary includes other LGUs, it should be noted that their activities might also have potential impact to the whole watershed up to the coastal areas. The CCA-DRRM zone boundaries should also be delineated to determine the stakeholders that will be affected.

Coverage Area/ Theme	Stakeholder	At what stage should be involved?	How best to engage?
	The target stakeholders should also include existing industries at the coast and up the watershed; MFARMC and BFARMC; the MAO and the Municipal CRM Office; PG-ENRO; PENRO, MENRO, CENRO; BFAR-RFO; NAMRIA; PDRRMC; PPA; and SUCs in the Province or LGU-accredited NGOs engaged in marine/coastal related work	They should be involved at each of these stages: Target Consultation Stakeholder’s Meeting Public Hearing	Through spatial surveys, FGDs, and IEC.

STEP 3: SITUATION ANALYSIS – PROGRESS REVIEW OF CURRENT CLUP AND ACCOMPLISHMENTS

Baseline Indicators and Standards

To establish the baseline information for an LGU, we suggest encouraging the local community to create a map of their municipality. Mapping is a very useful tool in coastal resource management (CRM) as the community can easily visualize where the resources are as well as their condition. Such maps may also be used to identify issues, problems and conflicts and eventually aid in the zoning of various uses. They can also reveal the socioeconomic conditions through the eyes of the community. Various information that can be mapped include boundaries, roads, settlements, other infrastructures, natural resources, land use, zonation and other special interests.

To facilitate the community in the resource mapping exercise, symbols taken from the Integration and Application Network (IAN) shall be used. These symbols have been globally accepted to represent processes that may affect the community, taking into consideration of a ridge-to-reef context. The participants should be oriented on the mapping activity in the following mapping sequence (adapted from Deguit et al. 2004) :

➤ General information/features

- Landmarks in the community, roads, infrastructure, boundaries, etc.



➤ Habitats

- Habitats, both coastal and terrestrial, are the next features to be mapped.



➤ Resources

- Elements that provide food and other materials from the coastal ecosystem.
- May also include ecologically important species found in the area such as sea turtles, sea birds, etc.



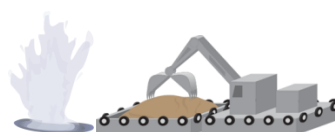
➤ Uses, livelihood, opportunities

- Sites or locations where activities are conducted or where opportunities provide existing or potential benefits to the community.



➤ Problems, issues and conflicts

- This is the last to be mapped as this may be difficult to express by the community due to their sensitive nature.



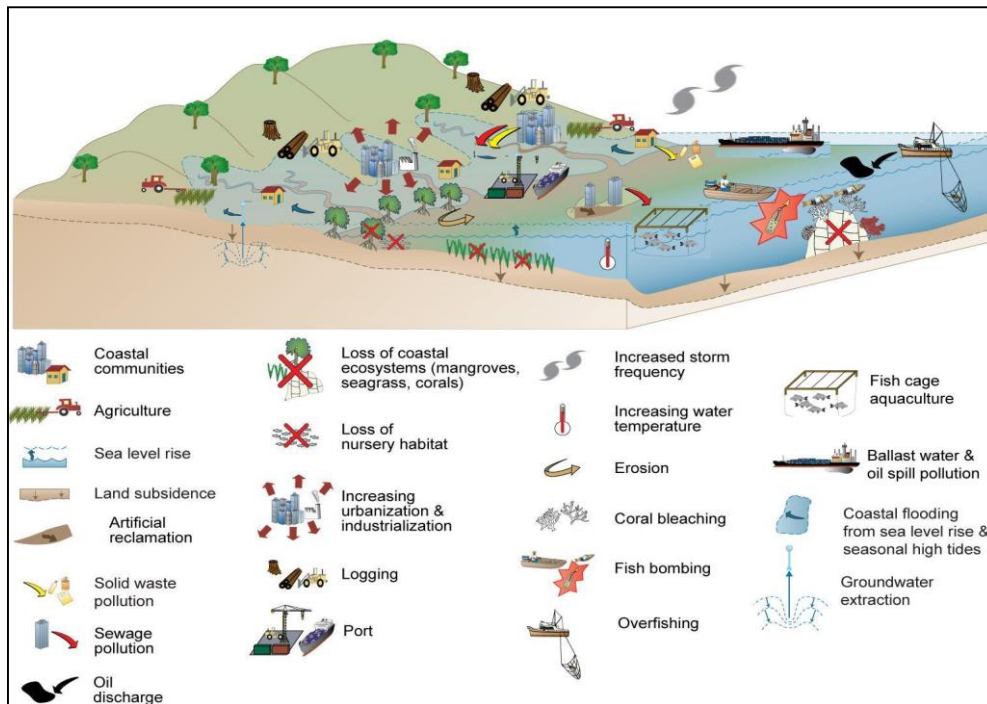


Figure 4. Sample map showing issues affecting coastal resources

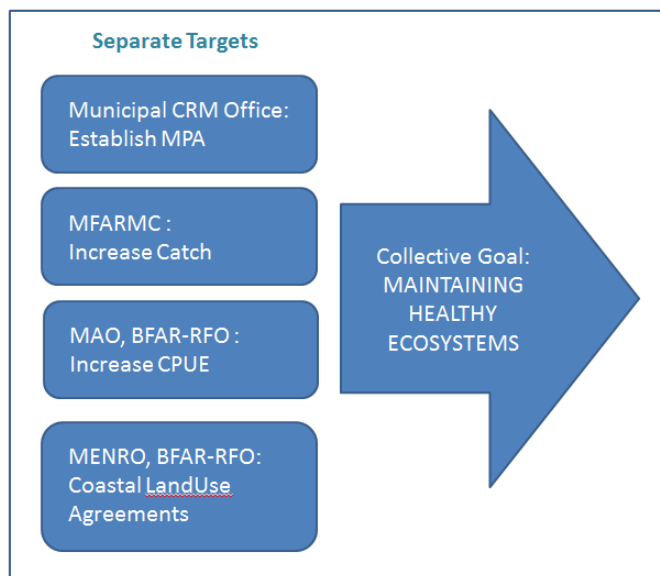
The symbol libraries may be downloaded from <http://ian.umces.edu/symbols/#> Download. The easiest option is to print the symbols in small sheets of paper and the participants may be asked to paste the symbols on a base map representing the location, following the aforementioned mapping sequence. Maps produced by these exercises may then be digitized by the local planning officer and used in the zonation of the land use plan.

Target Consultation

Effectual implementation of any policy hinges on engagement of the stakeholders from the beginning of the decision making process. In terms of the existing CLUP assessment, the target stakeholders should also include existing industries at the coast and up the watershed; MFARMC and BFARMC; the MAO and the Municipal CRM Office; PG-ENRO; PENRO, MENRO, CENRO; BFAR-RFO; NAMRIA; PDRRMC; PPA; and SUCs in the Province or LGU-accredited NGOs engage in marine/coastal related work. Results of these consultations will form the backbone of the eCLUP.

The goal of the initial consultation is to find out what the locals envision for the future of the municipality. Consultation can be in the form of FGDs, interviews, surveys, or part of a regular multi-sectoral meeting. It will then be up to the Planning Officer to summarize the results of the various consultations to formulate the Municipal's collective goals.

Figure 5. Illustrative sample of data gathered from the stakeholder consultations and how the LGU can use these to formulate a collective goal.



Prioritization of Objectives

The next step is then for the LGU to use the synthesis of the stakeholder consultation to prioritize the collective goals of the municipality. For these the LGU will first need to explicitly list the criteria that they typically use to approve or disapprove any proposal. For example, the total number or beneficiaries versus the cost of a project might be typical criteria for the approval or disapproval of proposals. The same can be used for prioritizing the collective goals. In addition other criteria relevant to land use or DRR may be used.

Criteria	Collective Goal #1	CG#2	CG#3
#Beneficiaries	4	4	2
Supported by existing policies	4	4	2
Cost	3	4	3
High acceptance by other stakeholders	2	4	4
...	3	3	2
...	2	2	2
TOTAL	18	21	15

Illustrative sample of scoring and prioritizing the collective goals.

The LGU can then use the total score to objectively rank and prioritize the collective goals of the municipality. These are what will be used in both the assessment of the existing CLUP and the development of the eCLUP.

Assessment of Existing CLUP

The existing CLUP is reviewed vis-à-vis the prioritized collective goal(s). If the existing CLUP is already positively contributing to the collective goal, then all that needs to be done is an addition of the Coastal and Marine Sector to the existing CLUP to obtain the eCLUP. Otherwise, identified shortcoming of the existing CLUP will also need to be addressed.

Thematic Area Assessment Guide

Minimum Data Set/ Map Requirements and Data Sources

To achieve an accurate visualization of the coastal environment, there are readily available data that may be downloaded for integration in the assessment of the coastal area.

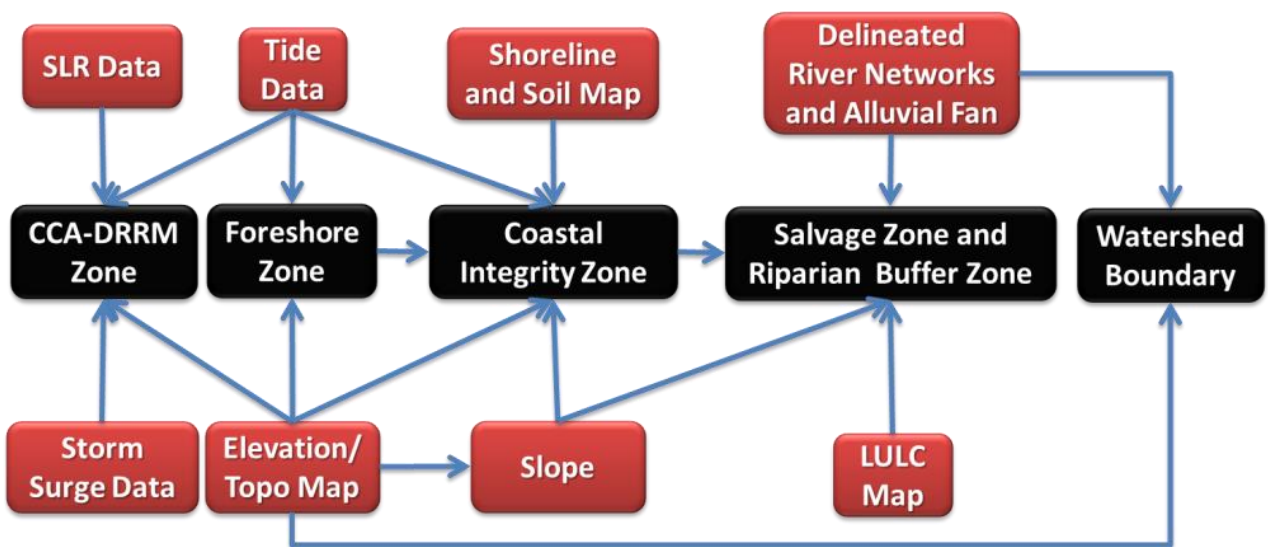


Figure 6. Data Requirements for mapping

CCA-DRRM Zone

Data Collection

The CCA-DRRM Zone delineation considers the following events: Storm surge/tsunami and sea level rise to attain a goal of minimizing the impact and damages of storm events/tsunami and climate change to coastal properties and lives. Thus, data requirement includes the following with their respective potential data sources.

Data	Format	Remarks	Data Source
Elevation	Printed topographic maps DEM (tiff) DEM (tiff)	1:50,000 scale; refer to NAMRIA for pricing 90m spatial resolution; free data 30m spatial resolution; free data	NAMRIA SRTM DEM (http://srtm.csi.cgiar.org/) ASTER GDEM (http://gdem.ersdac.ispacesystems.org/)
Tide Level	Tabular	Daily temporal resolution; refer to NAMRIA for pricing	NAMRIA Hydrographic Survey Office
Storm Surge	Tabular		PAGASA
Sea Level Rise	SLR Trend (GIS)	Projection can be derived for 5 or 10 years; free data	UP MSI: MIDAS (Physical Oceanography and E. Salamante) (http://midas.mandaragat.com)

Spatial Analysis and Visualization

Prior to spatial analysis of the CCA-DRRM zones, determination of sea level rise projections and elevation threshold will be done. The equations for the determination of sea level rise projections and the zone's elevation threshold values are given below.

SLR Projection

SLR Projection = base trend value*n,

Where n = number of years projected from the year the base trend value was measured

Elevation Thresholds

CCA-DRRM Zone 1: Historically Highest High Tide + SLR projection

CCA-DRRM Zone 2: Historically Highest High Tide + SLR projection + storm surge

CCA-DRRM Zone 3: > CCA-DRRM Zone 2 elevation threshold

Subsequently, spatial analysis can be done in two ways—using a printed NAMRIA topographic map and using a digital elevation model from SRTM DEM or ASTER GDEM. In the first method, you just need to delineate the three zones using the following conditional statements as guide.

Zone 1 = Elevation < CCA-DRRM Zone 1 threshold

Zone 2 = CCA-DRRM Zone 2 threshold < Elevation > CCA-DRRM Zone 1 threshold

Zone 3 = Elevation > CCA-DRRM Zone 2 threshold

In the second method, you will just apply the same conditional statement to the digital elevation model using a raster calculator in a GIS platform.

FORESHORE ZONE

Data Collection

The foreshore zone is defined in the water code as the land area that are covered by water at high tide and exposed at low tide. For the delineation of this zone, it requires the following data.

Data	Format	Remarks	Data Source
Elevation	Printed topographic maps DEM (tiff) DEM (tiff)	1:50,000 scale; refer to NAMRIA for pricing 90m spatial resolution; free data 30m spatial resolution; free data	NAMRIA SRTM DEM (http://srtm.csi.cgiar.org/) ASTER GDEM (http://gdem.ersdac.jspacesystems.or.jp/)
Tide Level	Tabular	Daily temporal resolution; refer to NAMRIA for pricing	NAMRIA Hydrographic Survey Office

Spatial Analysis and Visualization

The reference line for the determination of boundary of the foreshore zone should be determined during the lowest low tide of the year and the highest high tide of the year which occurs near spring equinox (March during full moon and new moon) and near autumn equinox (September during full moon and new moon). With these data, the foreshore zone can be delineated from an elevation map using the following conditional statement.

$$\text{Foreshore Zone} = \text{Highest High Tide Level} < \text{Elevation} > \text{Lowest Low Tide Level}$$

The delineation can be done either manually on a printed map or digitally in a GIS platform on a digital elevation model.

COASTAL INTEGRITY ZONE

The coastal integrity zones requires identification of coastal erosion potential and extent in order to classify the area as high, medium and low risk zone. Initially, the LGU during the stakeholders' consultation, can make use of the modified Coastal Integrity Vulnerability Assessment described below (Siringan and Santamaria in Alino et al., 2012). If the assessment identifies medium to high vulnerability then it is recommended that further in-depth assessment be undertaken by a Technical Working Group (TWG) led by a coastal geological oceanographer. The fourth zone, which covers all accreted lands, requires a historical shoreline analysis.

SALVAGE ZONE

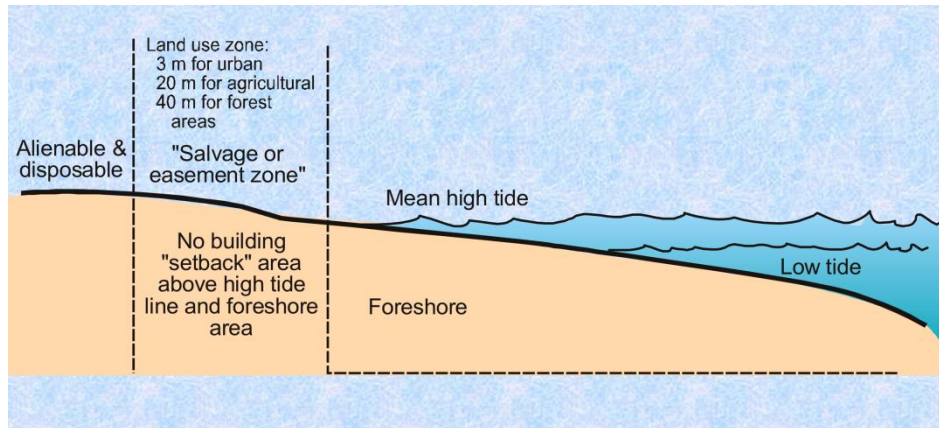


Figure 7. Existing provision on salvage and easement zone on coastal area in the Water Code.

Data Collection

In order to delineate the salvage or easement buffer, data is needed on the existing land use land cover type that are adjacent to the foreshore zone boundary.

Data	Format	Remarks	Data Source
Elevation	Printed topographic maps DEM (tiff) DEM (tiff)	1:50,000 scale; refer to NAMRIA for pricing 90m spatial resolution; free data 30m spatial resolution; free data	NAMRIA SRTM DEM (http://srtm.csi.cgiar.org/) ASTER GDEM (http://gdem.ersdac.jspacesystems.or.jp/)
Foreshore boundary	Polygon/shapfile	This will be derived from previous process	Foreshore zone delineation process
Land Use Land Cover Map	Polygon/raster/shapfile	Printed/digital maps are available from NAMRIA although if updated version is needed, remote sensing can be done.	NAMRIA or through remote sensing/image analysis

Spatial Analysis and Visualization

A 3-meter, 20-meter and 40-meter no-building buffer shall be maintained at the fringe of the Foreshore Sub-Zone if the adjacent land use is residential land, agricultural land and forest, respectively. The reference line for the determination of easement should be determined during the highest high tide of the year which occurs near spring equinox (March during full moon and new moon) and near autumn equinox (September during full moon and new moon)

RIPARIAN BUFFER ZONE

The delineation of riparian buffer zone requires delineated river network boundaries and its changes before during and after major flood events. A technical working group headed by a geologist and a hydrologist should conduct the data requirements, gathering and analysis.

Zone 1: Easement/Setback buffer

The following strip of land measured from the fringe of the riverbed during the highest discharge can define the boundary of the area.

- 30m strip of land from the fringe of riverbed during the highest discharge if current adjacent land use is residential land.
- 20m strip of land from the fringe of riverbed during the highest discharge if current adjacent land use is agricultural land.
- 40m strip of land from the fringe of riverbed during the highest discharge if current adjacent land use is forest.

Zone 2: Flood plain Area

The boundary can be delineated using images of previous major flood events or using a flood hazard map.

Zone 3: Alluvial Fan

The boundary will be delineated by doing a historical analysis of the river pathway using photographs or satellite imageries.

Zone 4: Accreted land

The boundary can be delineated by doing a historical shoreline analysis using photographs or satellite imageries.

WATERSHED BOUNDARY

Most GIS platforms include a set of tools in delineating watershed boundaries using digital elevation model. This process only requires a digital elevation model with at least modest spatial resolution as much as possible.

Data	Format	Remarks	Data Source
Elevation	Printed topographic maps DEM (tiff) DEM (tiff)	1:50,000 scale; refer to NAMRIA for pricing 90m spatial resolution; free data 30m spatial resolution; free data	NAMRIA SRTM DEM (http://srtm.csi.cgiar.org/) ASTER GDEM (http://gdem.ersdac.jspacesystems.or.jp/)

The figure below summarizes the flow of processing of digital elevation model to delineate the watershed boundaries in ArcGIS. The process starts with filling process where errors/"sink" in the DEM is removed or fixed. Then, the flow direction and flow accumulation is determined. Subsequently the stream networks will be delineated and linked by applying a threshold on a conditional statement. The delineated stream network together with the DEM and flow direction will serve as input to the watershed boundary delineation. A trained personnel or a technical working group can do the whole process.

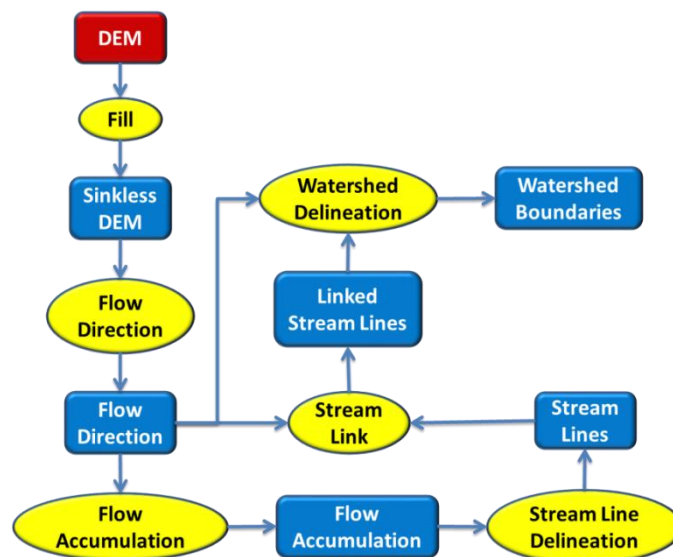


Figure 8. Workflow for the watershed boundary delineation in GIS.

CRITICAL COASTAL HABITATS

Delineation of the spatial boundary of coastal habitats is necessary prior to the stakeholders meeting. These habitats include estuaries, wetlands and mangrove forest, reef systems, seagrass beds, beach forest and biodiversity conservation sites. The spatial extent of all of these habitats except for the latter can be delineated by doing an image analysis/remote sensing or ground/sea survey. The community structure of these habitats can be determined from coastal resource profile from the municipal CRM office. The biodiversity conservation sites can be determined by either referring to secondary literature such as published records of sightings, collections and published literatures or by doing a survey before or during the stakeholder's meeting. The biodiversity conservation sites will be

represented, as a point feature in GIS and buffer will be applied based on the extent of its niche/habitat.

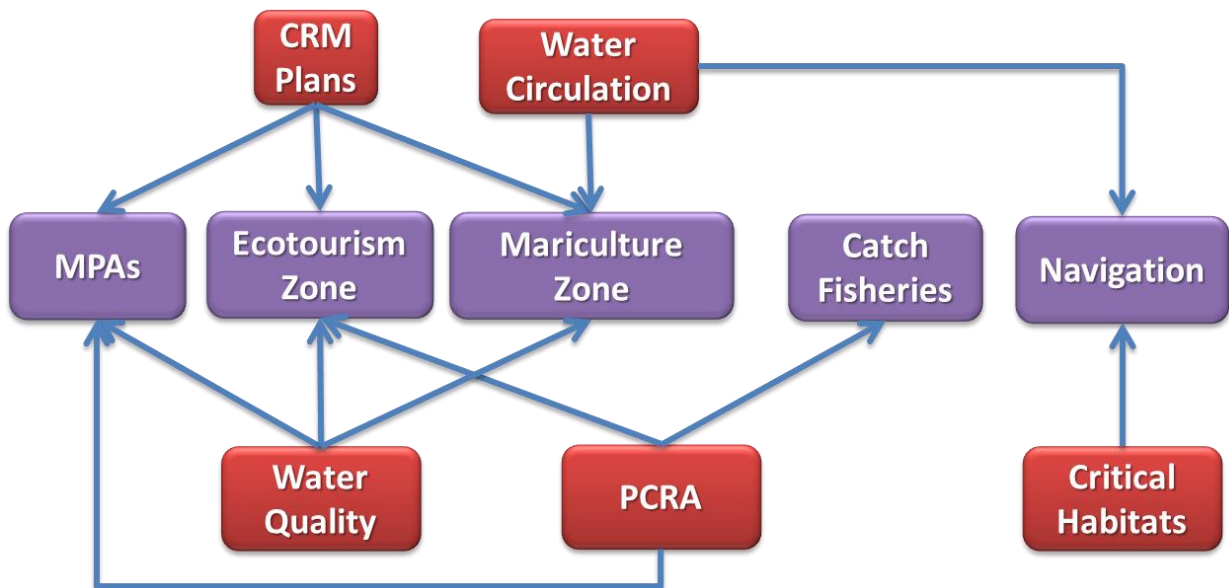


Figure 9. Summary of the data collection and visualization/spatial analysis of production and public/private boundaries.

MARINE PROTECTED AREAS (MPAs)

The sites for existing MPAs also need to be taken into consideration. The boundaries of the existing MPAs can typically be found in the office of the MAO or CRM officer. Establishment of MPAs requires a study to be conducted by a technical working group typically composed of a marine resource ecologist, the MAO, the CRM planning officer, MFARMC, and a RS-GIS specialist.

MARICULTURE ZONE

Monitoring existing activities in terms of extent and expansion and legal and environmental implications can be done either by a survey or through remote sensing/image analysis. For the proposed establishment of a mariculture zone or expansion activities please refer to BFAR/PEMSEA guidelines, policies, implementing rules and regulations. This process can be achieved with a help of a technical working group headed by a physical oceanographer, an ecologist and a fishery expert. It should be noted that carrying capacity, in terms of number and spatial distribution of mariculture activities in the area, can be inferred from the water quality and residence time/renewal of water.

INLAND AQUACULTURE ZONE

Monitoring existing activities in terms of extent and expansion and legal and environmental implications can be done either by a survey or through remote sensing/image analysis. For the proposed establishment of an inland aquaculture zone or expansion activities please refer to FAO and BFAR guidelines, policies, implementing rules and regulations. This process can be achieved with a help of a technical working group headed by a hydrologist, an ecologist and a fishery expert.

CATCH FISHERIES

The boundaries of the catch fisheries can be determined during the stakeholder's meeting and a buffer of the pointed areas will represent this zones. It is also important to note potential regulatory policies like close and open seasons per designated area or species in order to manage the supply or source of each fisheries species.

ECOTOURISM ZONE

The process of establishment of these zones is under the supervision of the Tourism Infrastructure and Economic Zone Authority, which is mandated by the Philippine Tourism Act. The authority has the role of providing the implementing rules and regulations for the establishment of these zones. The process also includes participation of the community and/or stakeholders. A technical working group can conduct the study on the establishment of these zones. However, it should be noted that during the stakeholder's consultation, the plans that will be decided on these zones should be in accordance to other CLUP guidelines and regulations and upholds sustainable development.

NAVIGATION

Sea navigation is under the supervision of the MARINA or Marine Navigation Authority and Philippine Ports Authority under the DOTC. A technical working group headed by the MARINA, PPA and with a physical and geological oceanographer could do a study to identify areas where navigation lanes can be established. The studies should have special considerations to the critical habitats, ports location, coastal integrity, water circulation and water quality, tide/sea level dynamics and sediment transport.

Case Examples

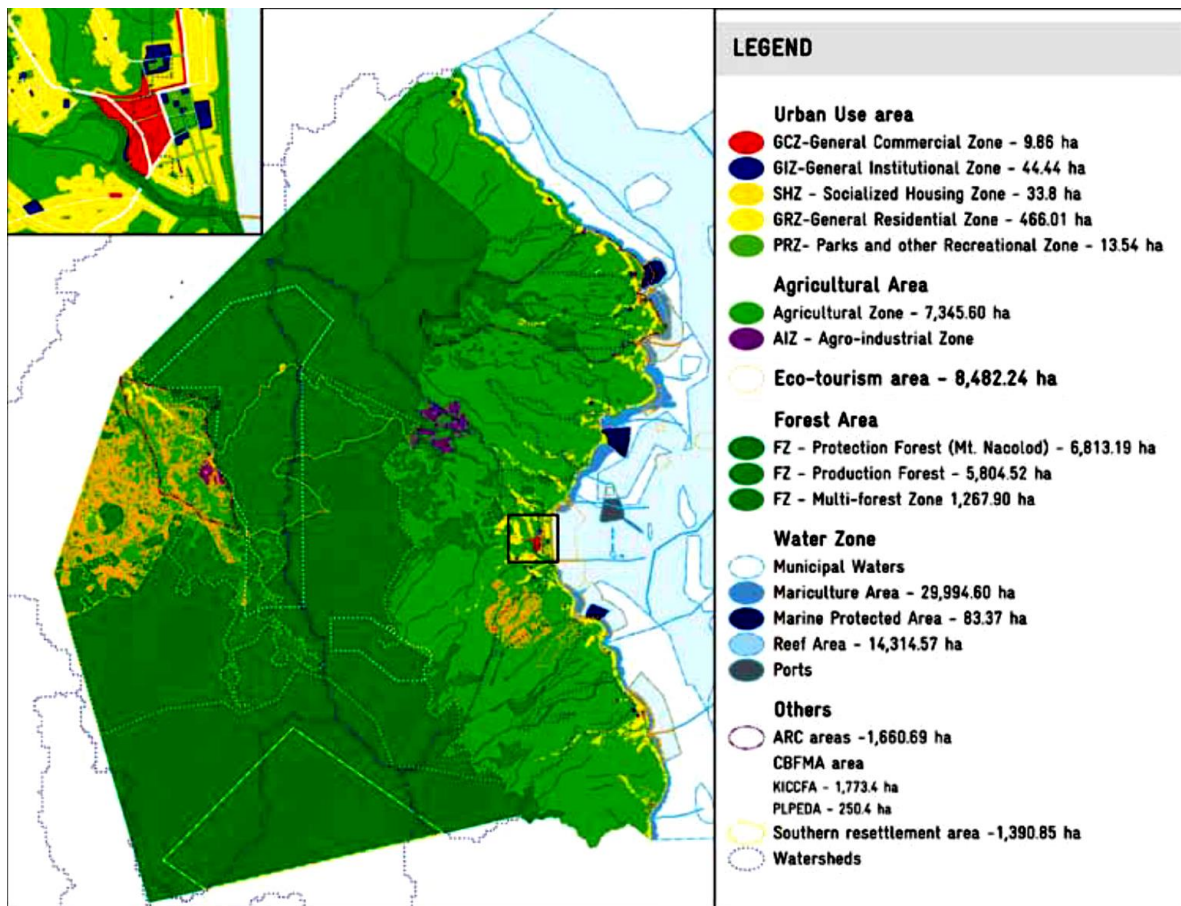


Figure 11. Silago, Southern Leyte Zoning map with ridge-to-reef approach (Lange et al. 2012)

Tips: Shown below is an example of coastal development that had dire consequence to regional progress.

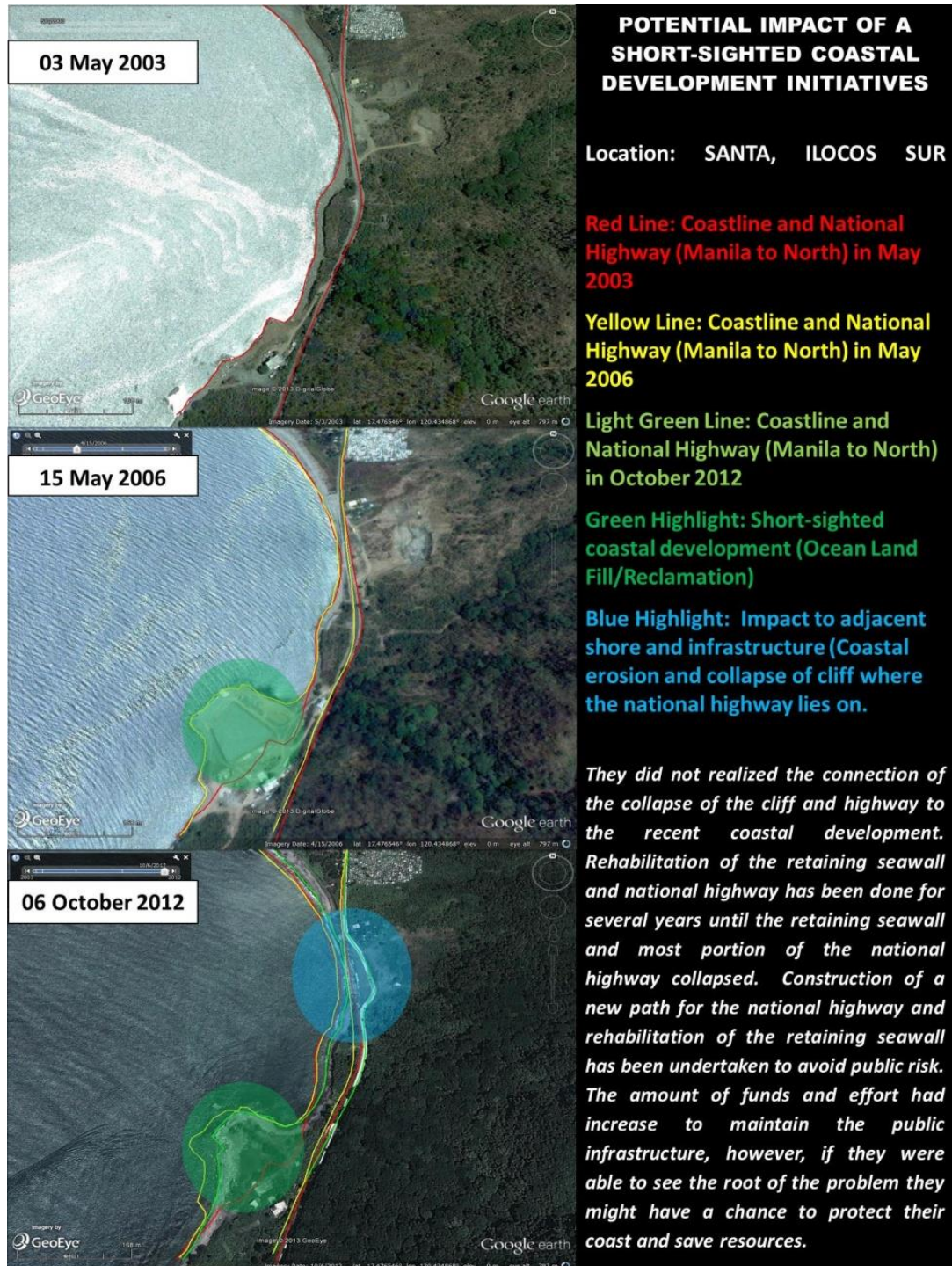


Figure 12. Consequence of ill-planned coastal development (Santa, Ilocos Sur)

PHASE II – SITUATION ANALYSIS AND STRATEGIC VISION SETTING

STEP 5: SITUATION ANALYSIS AND PROJECTIONS (NEXT 10-15 YEARS)

Processing/ Analysis of Thematic Area Assessment in Phase I

The crucial input of stakeholders at this step involves directly assessing the coastal habitats following the procedural tools that are introduced here. The coastal and marine assessment tool has been adapted from Alino et al. (2012) and the stakeholders should respond to these questions to the best of their ability. If they are unable to do so, participatory community resource assessment (PCRA) tools (adapted from Deguit et al. 2004), focusing specifically on coral, seagrass and mangrove habitats will assist the stakeholders in determine the state of the habitats. PCRA protocols are attached as ANNEX 2.

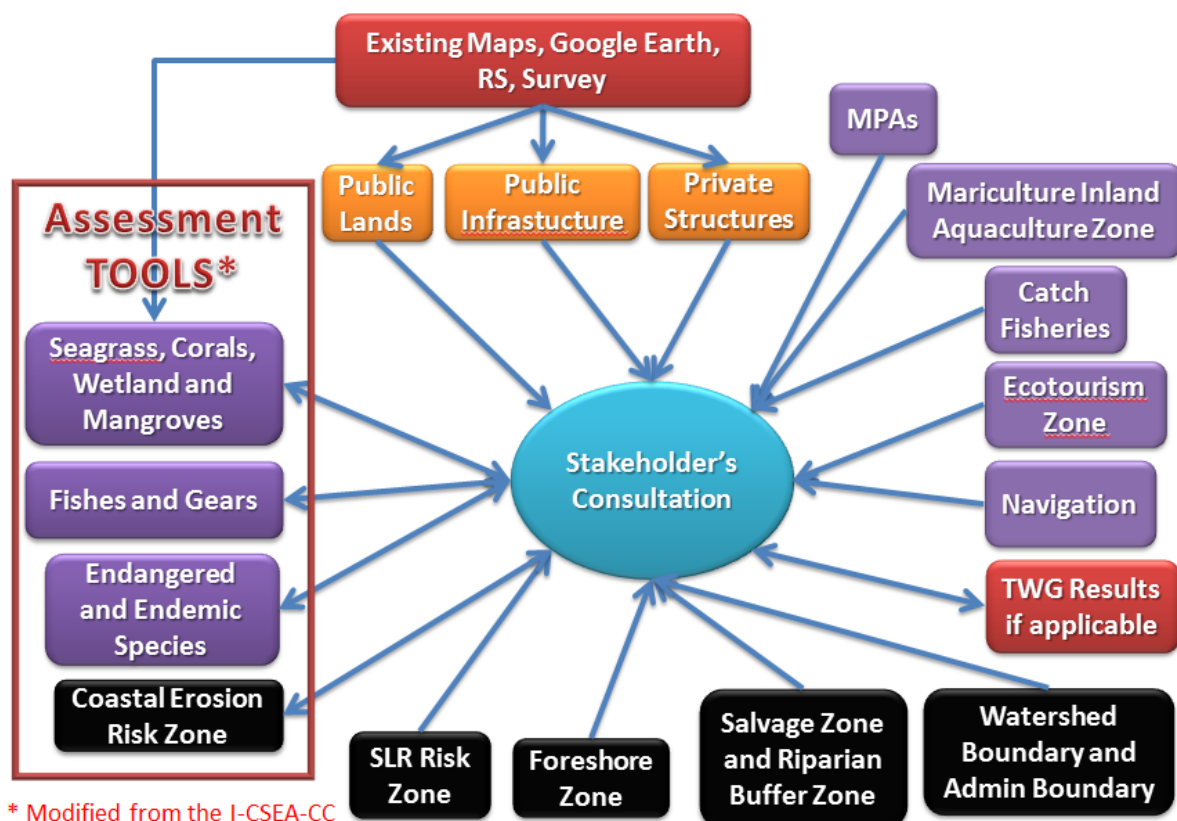


Figure 13. Additional data needed for Coastal and Marine Assessment

DATA NEEDS AND POSSIBLE DATA SOURCES FOR COASTAL AND MARINE ASSESSMENT (adapted from Alino et al. 2012)

COASTAL EROSION RISK ZONE

Results of the assessment can be the basis for restriction for development.

Coastal Integrity Vulnerability Assessment

	CRITERIA	DATA NEEDS	SOURCE
1	Is the coastline prone to erosion?	Lithology/rock or sediment types	<ul style="list-style-type: none"> ▪ Topographic map (NAMRIA) ▪ Google Earth ▪ Geologic map (MGB) ▪ Field observations
2	Has the beach changed much in the last 12 months?	Shoreline trends	<ul style="list-style-type: none"> ▪ Field observations ▪ Anecdotal accounts
3	Width of reef flat or shore platform (m)	Width of reef flat	<ul style="list-style-type: none"> ▪ Topographic map (NAMRIA) ▪ Google Earth
4	Are there any coastal and offshore mining activities? (includes removal of fossilized corals on the fringing reef and beach)	Coastal activities	<ul style="list-style-type: none"> ▪ Field observations ▪ Anecdotal accounts
5	Are there are structures on the foreshore present?	Foreshore structures	<ul style="list-style-type: none"> ▪ Field observations ▪ Anecdotal accounts
6	Is there any beach forest or vegetation?	Beach vegetation	<ul style="list-style-type: none"> ▪ Field observations ▪ Anecdotal accounts
7	Is the coastline highly exposed to strong wave action?	Wave exposure	<ul style="list-style-type: none"> ▪ Field observations ▪ Anecdotal accounts

Disaster Risk Reduction and Climate Change Adaptation

	CRITERIA	DATA NEEDS	SOURCE
1	Is the coast steep (landward slope; rise over run)	Coastal slope	<ul style="list-style-type: none"> ▪ Topographic and bathymetric maps (NAMRIA) ▪ Google Earth
2	How much of the coastline is lined by coral reefs/ communities?	Reef extent	Topographical maps from NAMRIA and satellite images (i.e. Google Earth); mapping exercises
3	What is the highest hard coral cover (%)?	Coral cover	PCRA

4	How much of the shallow areas are covered by seagrass?	Seagrass extent	Topographical maps from NAMRIA and satellite images (i.e. Google Earth); mapping exercises
5	How much of the coastline is lined by mangroves?	Present mangrove extent	Topographical maps from NAMRIA and satellite images (i.e. Google Earth); mapping exercises
6	What kind of mangrove forest is left?	Forest type	PCRA

WATER QUALITY

Result of this assessment is necessary for the continued protection of the culture fisheries productions.

	CRITERIA	DATA NEEDS	SOURCE
1	Is the water murky/ silty in most of the year?	Water clarity	Personal observation; water quality monitoring
2	Does solid waste accumulate in this coastal area?	Garbage/ solid waste mapping	Solid waste monitoring
3	Does the area experience warm still water?	Sea surface temperature	Personal observation; water quality monitoring
4	Are there any adjacent coral and/or seagrass habitats?	Presence of habitats	PCRA
5	Does water flow freely at intended culture site?	Water flow	Personal observation

FISHES AND GEARS

Results of this assessment are necessary input for the protection of catch fisheries production.

	CRITERIA	DATA NEEDS	SOURCE
1	What is the dominant catch composition?	Fish catch composition	Focus Group Discussion (FGD)
2	What is the average catch rate?	CPUE	Focus Group Discussion (FGD)
3	Has there been a change in catch composition?	Fish catch composition	Focus Group Discussion (FGD)

4	What are the size and amount of fish caught?	Fish catch composition	Focus Group Discussion (FGD)
5	Population density	Population census	NSO, Municipal socio-economic profile
6	Fisheries ecosystem dependency	Number of fishers per barangay	Focus Group Discussion (FGD)
7	What is the contribution of fisheries to the per capita consumption of the area?	Municipal/ provincial poverty thresholds	LGU, NSCB
8	Is fishing the only source of livelihood?	Sources of income	PCRA, LGU
9	Are fishery resource management plans effective?	Evaluation of fishery management efforts	LGU

SEAGRASS, CORALS, WETLANDS AND MANGROVES

Result of this analysis is necessary for the protection of the site's biodiversity.

	CRITERIA	DATA NEEDS	SOURCE
1	Are there more massive corals compared to branching ones?	Lifeforms	PCRA
2	Is the coral diversity much reduced?	Species composition	PCRA
3	What type of seagrass dominate the meadows	Species composition	PCRA
4	Are there more barren areas within the seagrass meadow?	Seagrass extent	Topographical maps from NAMRIA and satellite images (i.e. Google Earth); mapping exercises
5	Are the slow growing, slow colonizing species most common in the area?	Species composition	PCRA
6	Are there more large trees than small propagules (in terms of density)?	Community structure	PCRA
7	How much is the need to expand the MPA?	Description of restoration, rehabilitation efforts	LGU
8	Was the MPA design and management focussed on fishery enhancement alone?	Description of restoration, rehabilitation efforts	LGU




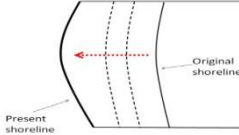

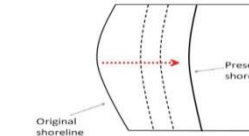

9	To what extent do protected areas focus on single habitats (mangrove, seagrass, coral) alone?	Description of restoration, rehabilitation efforts	LGU
10	Are there any endangered, endemic or key biodiversity species present?	Marine key biodiversity species	PCRA

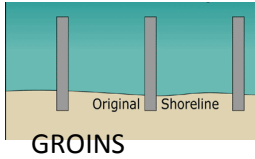




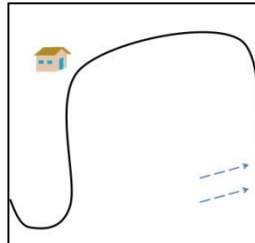
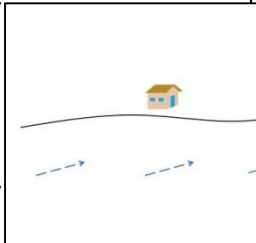
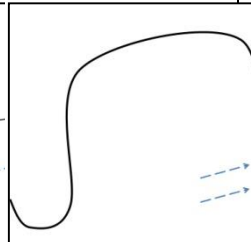
COASTAL AND MARINE ASSESSMENT
(adapted from Alino et al., 2012)

COASTAL EROSION RISK ZONE

Results of the assessment can be the basis for restriction for development.

Coastal integrity Vulnerability Assessment (modified from Siringan and Santamaria)

	CRITERIA	SCORE		
		LOW	MEDIUM	HIGH
1	Is the coastline prone to erosion?	Rocky, cliffed coast; beach rock 	Low cliff (<5m high); Cobble/gravel beaches; alluvial plains; fringed by mangroves 	Sandy beaches; deltas; mud/sandflat 
2	Has the beach changed much in the last several years?	Land Gain/ accreting 	Stable/no change 	Eroding 
3	Average width of reef flat or shore platform (m) 	>100m	[50, 100]	<50m

4	Are there any coastal and offshore mining activities? (includes removal of fossilized corals on the fringing reef and beach)	None to negligible amount of sediments being removed (i.e., sand and pebbles as souvenir items)	Consumption for household use	Commercial scale
5	Are there structures on the foreshore present?	None; one or two short groins (i.e., <5m long) and/or few properties on the easement with no apparent shoreline modification  GROINS	Short groins & short solid-based pier (5 to 10m long); seawalls and properties with aggregate length of less than 10% of the shoreline length of the barangay	Groins and solid-based pier > 10m long; seawalls and other properties with aggregate length of more than 10% of the shoreline length of the barangay 
6	Is there any beach forest or vegetation?	Continuous and thick with many creeping variety 	Continuous and thin with few creeping variety 	Very patchy to none 
7	Is the coastline highly exposed to strong wave action?	No	Slightly	Yes
				
			<i>Longshore drift will eventually cause coastal erosion</i>	<i>Sandy headlands are prone to high wave energy</i>












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Implications:

If mostly LOW, minimal restrictions on coastal development.
 If mostly MEDIUM, a technical working group (TWG)* should be consulted before coastal development is allowed.
 If mostly HIGH, no coastal development should be allowed.

*Technical working group should be led by a coastal geologist and/or hydrologist

Disaster Risk Reduction and Climate Change Adaptation (modified from Licuanan, Rollon, and Samson)

	CRITERIA	SCORE		
		LOW	MEDIUM	HIGH
1	Is the coast steep (landward slope; rise over run)	<p>>1:50</p> <p><i>Effects of sea level rise (SLR) are less prominent on steep coasts</i></p>	<p>1:50-1:200</p> 	<p><1:200</p>  <p><i>A coastline with gentle slopes are more prone to inundation due to rising sea levels</i></p>
2	How much of the coastline is lined by coral reefs/ communities?	<p>More than 50% is lined by coral reefs/ communities</p>  <p><i>Coral reefs help in minimizing wave energy on the coast</i></p>	<p>Between 25 to 50% is lined by coral reefs/ communities</p>	<p>Less than 25% is lined by coral reefs/ communities</p>  <p><i>Lack of coral reefs expose the coast to higher wave action</i></p>
3	What is the highest hard coral cover (%)?	<p>over 50%</p> <p>51-75% </p> <p>76-100% </p>	<p>between 25 to 50%</p> <p>31-30% </p> <p>31-50% </p>	<p>less than 25%</p> <p>0% </p> <p>1-10% </p> <p>11-30% </p>

4	How much of the shallow areas are covered by seagrass?	seagrasses cover more than half of the reef flat	seagrasses cover more than 1/8 to 1/2 of of the reef flat	seagrasses cover less 1/8 of the reef flat
5	How much of the coastline is lined by mangroves?	More than 50% is lined by mangroves	Between 25 to 50% is lined by mangroves	Less than 25% is lined by mangroves
6	What kind of mangrove forest is left?	More than 3 mangrove species with <i>Avicenna</i> and <i>Sonneratia</i>	Mostly <i>Avicenna</i> and <i>Sonneratia</i> 	Predominantly <i>Rhizophora</i> <i>These species may drown as they cannot keep with the increase in sea level</i>

Implications:


If mostly LOW, municipality may be able to face coastal changes due to climate change and should protect coastal habitats.

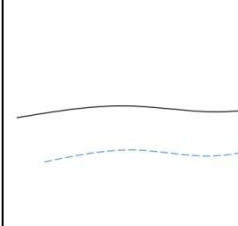
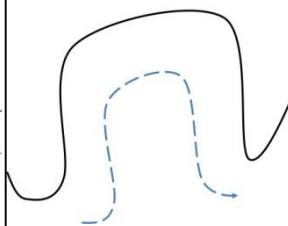
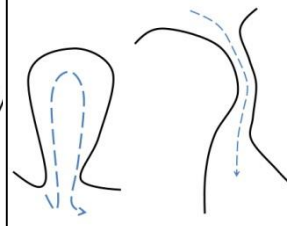
If mostly MEDIUM and HIGH, a TWG* should be consulted on adaptation options to better mitigate coastal changes due to climate change.

*TWG should be lead by a coastal habitat specialist.

WATER QUALITY

Result of this assessment is necessary for the continued protection of the culture fisheries productions.

	CRITERIA	SCORING		
		LOW	MEDIUM	HIGH
	Is the water murky/ silty in most of the year?	Water is clear all year round	Water is observed to be murky for 1 to 2 quarters a year	Water is observed to be murky/ silty for three quarters a year 
2	Does solid waste accumulate in this coastal area?	No	solid waste are observed in this coastal area between 1 to 4 months every year	solid waste are observed in this coastal area between 4 to 8 months every year
3	Does the area experience warm still water?	No	short periods of warm still water prevails and is related to tides	periods of warm still water prevails for several days or weeks at a time

4	Are there any adjacent coral and/or seagrass habitats?	No	Either coral reefs or seagrasses are present nearby	Both coral reef and seagrass habitats are present nearby
5	Does water flow freely at intended culture site?	Yes		No
				

Implications:

If mostly LOW, no restrictions for culture production apply.

If mostly MEDIUM, semi-intensive and seasonal culture production is allowed. A TWG* should be consulted to find carrying capacity and ideal area to put up culture structures.



Monitoring of dissolved oxygen should be regular.

If mostly HIGH, sources of siltation should be identified and mitigated. Culture production should be kept at the minimal allowable by law with stringent monitoring.

* TWG should be headed by a physical and a chemical oceanographer.

FISHES AND GEARS (modified from Mamaoag and Alino)

Results of this assessment are necessary input for the protection of catch fisheries production.

	CRITERIA	SCORE		
		LOW	MEDIUM	HIGH
1	<p>What is the dominant catch composition?</p>	<p>predominantly of pelagic types (e.g. tuna, mackerel, roundscad).</p>  <p><i>These fish taxa are highly mobile and migratory in the pelagic realm that it would be less likely that they will be affected by land use impacts.</i></p>	<p>a mixture of pelagic and demersal fishes.</p>	<p>demersal fishes that are mostly associated with nearshore habitats (e.g. coral reefs, seagrass beds and mangrove areas).</p>  <p><i>Demersal species are highly vulnerable to land use impacts.</i></p>
2	<p>What is the average catch rate?</p>	<p>Average catch rate is greater than 8 kg/ fisher/ day</p>	<p>Average catch rate is greater than 3 but less than 8 kg/ fisher/ day</p>	<p>Average catch rate is less than 3 kg/ fisher/ day</p>

3	Has there been a change in catch composition?	Very minimal change in the last two decades	Few changes in the last two decades (e.g. still catching same types of fish but now also additionally catching demersal fish or non-fish like squid and octopus)	Considerable change in the last two decades (e.g., dominant catch replaced; loss of previously common fishes; etc.)
4	What are the size and amount of fish caught?	Most catches are large, mature fishes	Mix of small and large fishes	Small, immature fishes are abundant; few large spawners caught
5	Population density	Population of less than 200 per square kilometer in a fishing village/town; not crowded	200-400 persons per square kilometer	Greater than 500 persons per square kilometer; very crowded
6	Fisheries ecosystem dependency	Around one-fourth (25%) or less of the adult population are full-time fishers	Greater than 25% up to 50% of the adult population are full-time fishers	Majority in the adult population (> 50%) are full-time fishers
7	What is the contribution of fisheries to the per capita consumption of the area?	less than 20%	between 20 to 60%	More than 60%

8	Is fishing the only source of livelihood?	More than 3 other sources of livelihood	Fishing plus another source of livelihood	Yes
9	Are fishery resource management plans effective?	Yes		No



Implications:



If mostly LOW, fisheries supply is sufficient. No restrictions necessary.
 If mostly MEDIUM, fishery resource management plans should be reviewed. A TWG* should be consulted on how catch fisheries can be made more sustainable.
 If mostly HIGH, a Marine Protected Area (MPA) is required to protect and enable recovery of coastal habitats. Fishery resource management plans are necessary to enable recovery of fisheries and secure sustainability.

*TWG should be headed by a fisheries specialist.

SEAGRASS, CORALS, WETLANDS AND MANGROVES (modified from Licuanan, Rollon and Samson)

Result of this analysis is necessary for the protection of the site's biodiversity.

	CRITERIA	SCORING		
		LOW	MEDIUM	HIGH
	<i>Health of coral communities</i>			
1	Are there more massive corals compared to branching ones?	more branching than massive corals 	as many branching as massive corals	more massive than branching 
2	Is the coral diversity much reduced?	more than 100 species remaining	between 50 to 100 species remaining	less than 50 species remaining

<i>Health of seagrass meadows</i>				
3	What type of seagrass dominate the meadows	Multi-species with at least 5 species present	<i>Thalassia</i> OR <i>Cymodocea- Halodule</i> – <i>Halophila</i> dominated meadow 	<i>Enhalus acoroides</i> dominated meadow  <i>This species thrive in areas with high sedimentation/ nutrient input</i>
4	Are there more barren areas within the seagrass meadow?	Meadow is continuous and barren area is less than 20%	Barren area is between 20 to 60% of the meadow	Barren area is more than 60% of the meadow
<i>Health of mangroves</i>				
5	Are the slow growing, slow colonizing species most common in the area?	presence of more than 5 mangrove species capable of colonizing newly available habitat at a rate that keeps pace with the rate of relative sea-level rise	presence of 1 to 4 mangrove species capable of colonizing newly available habitat at a rate that keeps pace with the rate of relative sea-level rise	Yes, all species are slow growing, slow colonizing
6	Are there more large trees than small propagules (in terms of density)?	seedlings and propagules observed between 6 to 12 months every year	seedlings and propagules observed between 1 to 6 months every year	Yes, all trees are large, seedlings and propagules are absent

<i>Marine Protected Areas</i>				
7	How much is the need to expand the MPA?	Almost none; MPAs are 15% or more of municipal waters	Total MPA areas is between 1 to 15% of the municipal waters	Total MPA areas is less than 1% of the municipal waters
8	Was the MPA design and management focussed on fishery enhancement alone?	No, biodiversity and tourism aims also considered	Fisheries and tourism were considerations	Yes
9	To what extent do protected areas focus on single habitats (mangrove, seagrass, coral) alone?	No; all habitats represented in the MPA	Only one or two habitat was included in the MPA	No habitats were included in the MPA
<i>Biodiversity species</i>				
10	Are there any endangered, endemic or key biodiversity species present? (Refer to Marine Key Biodiversity Areas listing, attached as ANNEX 3)	No	A few	Yes, many

Implications:

If mostly LOW, MPA enforcement is sufficient to protect biodiversity.

If mostly MEDIUM, more protection is required on the coastal habitats. A TWG* should be consulted to expand MPA.

If HIGH for SEAGRASS, sources of high sedimentation needs to be identified and mitigated.

If HIGH for MANGROVES, back forest should be vacated and reforestation of fast-growing species should be introduced.

If mostly HIGH, a TWG* should be consulted for establishment of MPA.

*TWG should be lead by a fisheries and ecology specialist.

Reference:

Aliño, P.M., W.R.Y. Licuanan, S.S. Mamauag, F.P. Siringan, C.L. Villanoy, et al. 2012. **Vulnerability Assessment for Coastal Ecosystems: A Guidebook.** Marine Environment & Resources Foundation and Conservation International – Philippines, Quezon City, Philippines.

STEP 6: SETTING THE VISION – STRATEGIC VISIONING AND LOOKING FORWARD

Visioning Workshop

Sample Guide Question for Coastal and Marine

- (1) How many times do you eat fish? Is the fish from mariculture, from the coral reefs /seagrass/mangroves, or from the open sea
- (2) Aside from being a source of food, what else can the ocean and coastal area give as a source of livelihood for you?
- (3) Are you sometimes afraid of living too close to the sea? Have you ever been affected by a storm? Do you think a it is possible for your area to have a tsunami?
- (4) Do you sometimes wish you can do more to protect yourself and your family? What do you want to do?
- (5) Have you ever observed your ocean or coastal area becoming dirty? In what way? What do you think is the source of this dirtiness?
- (6) Do you sometimes wish you can do more to protect your environment? What do you want to do?
- (7) For you, what is the worst thing that can happen to the ocean and the coast?

PHASE III – DEVELOPMENT OPTIONS/GOALS/OBJECTIVES AND ALTERNATIVES

STEP 7: SETTING THE STRATEGIC DEVELOPMENT GOALS AND OBJECTIVES AND KEY OUTCOME AREAS

The framework is a "no regrets zoning" under the umbrella of climate adaptation and risk reduction and management. At the same time, the proposed zoning guidelines also foster the conservation priorities on the marine key biodiversity areas (MKBA) identified in the Philippine Biodiversity Conservation Priority-setting Program (PBCPP).

Goals and Objective Formulation

The following question may be used as guide to the goals and objective formulation:

- (1) How much did the LGU spend in disaster relief and operation during the last big storm event? Which areas were the most affected?
- (2) How much of your food supply comes from local sources? Is there a way to make yourselves more self-sufficient or better yet to be able to export to neighbouring LGUs and beyond?
- (3) What is your tourism potential? Do you have unique seascapes or are your waters home to unique species that would be of interest? Has these been fully utilized/advertised and protected?

Establishing Development Thrust and Strategies

The following question may be used as guide in establishing development thrust and strategies

- (1) What is your battle cry with respect to Disaster Risk Reduction? "Rapid Relief?"; "Rapid Recovery?"; "Zero Casualty?". How have you made this possible? Is there a way to improve your adaptive capacity?
 - (2) What CCA-DRR measures are currently in place?
- (3) What sustainable opportunities of development do you see for your locale? How many different opportunities are there for your future work force?
- (4) Have you been able to identify unique natural features that distinguish your locale from other tourism sites? Have these been ensured protection? Is being a eco-tourism site amenable to your stakeholders?
- (5) What is your current food, energy and water production capability? Are there resources that you still can sustainably tap? Have any of these resources been compromised in any manner?

Preparation of Structure/ Conceptual Plan

Crucial in the development of a development options plan are inputs from the situation analysis (STEP 3 and STEP 5) and the results of the above objective formulation and development thrust. The plan must be analysed holistically and the inter-connectedness of the different activities within the watershed and municipal waters must be taken into consideration. Conflict resolution of multiple-use must take into account the development thrust of the municipality.

STEP 8: IDENTIFICATION AND ESTABLISHMENT OF STRATEGIC DEVELOPMENT THRUST, OPTIONS AND SPATIAL STRATEGIES

Areas of priority action include those which if not protected under the eCLUP could result in loss of lives, loss of investments, loss of biodiversity, and loss of food security. Taking all these into consideration, the following areas are identified to be strategic in inclusion in the eCLUP for sustainable development of coastal LGUs.

- High risk zone: Coastal areas of low slopes (e.g. sandy beaches, deltas, mudflats/sandflats), especially if they are observed to have very patchy or have no existing vegetation are highly prone to erosion. No coastal development should be allowed in these areas. Moreover, any coral reefs, seagrass meadows or mangrove forests found in the vicinity of these high risk areas should be protected as these habitats may play a crucial role in the protection of these coasts under a climate change scenario.
- Newly accreted land: Coastal areas that are newly accreted should also not be developed. These are unconsolidated terrain and any development here may easily be lost in the next storm that passes thru. A better option for these areas is mangrove afforestation.
- Critical Marine Habitats: Habitats identified as home to endangered/threatened or endemic species should be conserved. In addition, habitats identified by the local fishers as nursery for the fish they catch should also be protected to ensure future harvest. Finally, the role of coral reefs, seagrass meadows, and mangrove forests to keeping coastal integrity needs to be emphasized especially under the umbrella of climate adaptation and risk reduction and management.
- Mariculture: Mariculture was meant to supplement the available food resource. Therefore, it should be the priority of the LGU to locate mariculture structures in sites where (1) water quality is maintained to be good with fast flowing water away from possible sources of contamination and (2) where by-products from the mariculture (such as excess feeds) will not impact any of the critical marine habitats (the primary source of food fish).
- Coastal Structures such as ports and marinas: It is imperative that any coastal structure development take into consideration the sediment dynamics in the area otherwise progress is hampered if not reversed. At the bare minimum ALL ports and marinas have to be floating or on stilts to allow free flow of water and sediment otherwise erosion potential is enhanced for downstream coastal areas (see Figure 12).

PHASE IV – LAND USE PLANNING AND ZONING

STEP 9 + 10: PREPARING THE LAND USE PLAN AND ZONING ARRANGEMENTS (DETAILING OF PREFERRED DEVELOPMENT STRATEGIES)

In the land use plan and zoning arrangements, establishment of the spatial zones is necessary. The zones could be categorized as basic and overlay zones. The basic zones are zones that represent the land cover and physical land use (e.g. forest, coral reef, seagrass areas, etc). The overlay zones provides zones that could cover basic zones or other overlay zones. Overlay zones provides added restrictions or regulation to the basic zone/overlay zone it overlaps. The following table summarized the zones into the two categories (please refer to Volume 5 for the complete list of zones).

BASIC ZONES	OVERLAY ZONES
No build Zone (Buffer and easement zones) foreshore Accreted land MPA Critical coastal habitats Biodiversity zone Private and public zones Production zones	CCA-DRRM zones Coastal Integrity Zones except accreted land Ecotourism zone

Determining Land Use, Zones and Development Regulations

The definition of use and delineation of boundaries of each zones are elaborated in volume 5. The volume 5 also shows the development restriction and regulations that could be guide in policy-making. It is also important to note that the development regulations should be guided by the principles of ecological carrying capacity, not only risk management but risk reduction and sustainable development (linked between development and social, economic and ecological impact of the area). It should be noted that the eCLUP development planning should be harmonized with all the strategic and development plans of the LGU.

PHASE V – LEGITIMISATION AND ADOPTION

STEP 11: PUBLIC HEARING AND STAKEHOLDER CONSULTATION (C/O SB)

Proposed Composition of Public Hearing Board

Should include the MFARMC and BFARMC; the MAO and the Municipal CRM Office; MENRO, and SUCs in the Province or LGU-accredited NGOs engaged in marine/coastal related work.

Proposed Conduct of Public Hearing

The first order to presenting the draft eCLUP and zoning ordinances to the public is setting the criteria for approving or disapproving elements of the plans. There are many considerations and for each consideration, there are different levels of involvement. The core of decision making should always be guided by (1) the vision and objectives set by the municipality and (2) the ridge-to-reef framework.

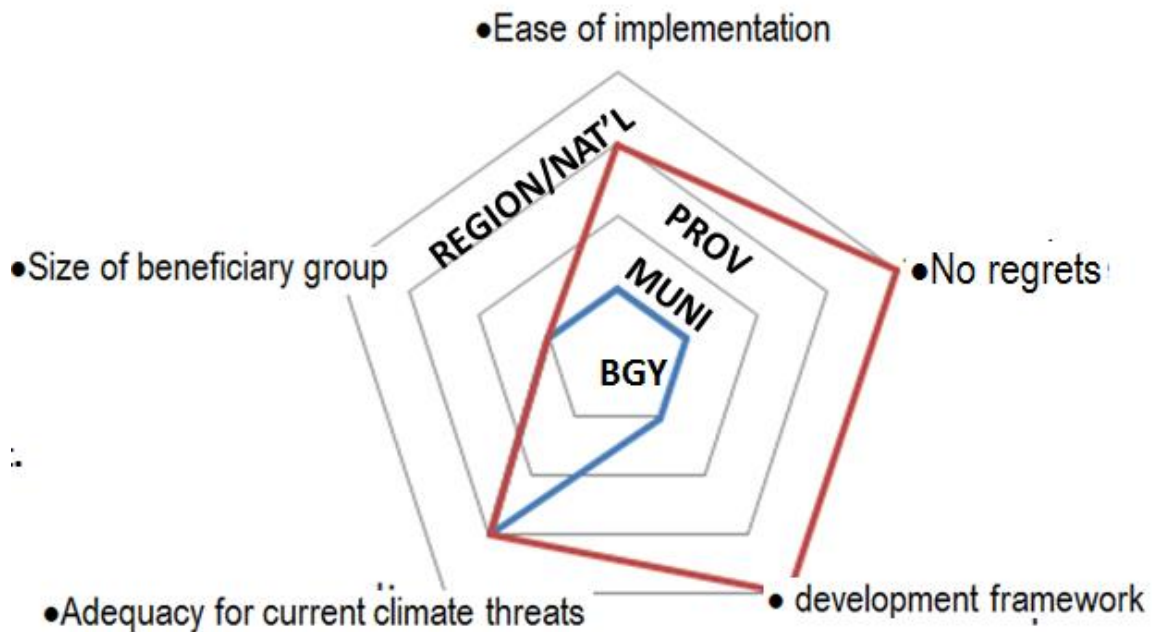


Figure 14. Illustrative example of criteria for approval or disapproval of plans in public hearing

After the assessment criteria are set both the eCLUP is presented to the public for discussion and final endorsement.

STEP 12: REVIEW, ADOPTION AND APPROVAL OF THE CLUP AND ZO

Proposed Composition of PLUC and RLUC

RLUC and PLUC must take into account the eCLUP of each municipality, especially as it addresses areas of priority action. It would therefore be progressive for the Provincial Land Use Committee and Regional Land Use Committee to include each municipal planning officer to be part of the committees.

Proposed Parameters for Approval of CLUP

If the municipality faces the ocean then a marine and coastal component has to be included in their eCLUP. Crucial land use plans have to be set-up at the very least to address the areas of priority action (STEP 9).

PHASE VI – IMPLEMENTATION AND MONITORING

STEP 13: IMPLEMENTING THE CLUP AND ZO

Capacity Assessment for Implementation

The following questions for LGU can be used to assess if they are capable of implementing provisions in the CLUP related to coastal and marine:

- (1) Is the strategic and development plan of the city/municipal and provincial harmonized with the eCLUP?
- (2) Are there existing instruments/modes of enforcing and monitoring the zoning ordinance and eCLUP?
- (3) Is there political will on the ground to prioritize disaster risk reduction? To prioritize food self-sufficiency? To harmonize ridge-to-reef activities in light of these 2 crucial priorities?

Institutional Mechanisms for Implementation

To effectively implement the CLUP, there should be a veto power of the (LGU based solely on the CLUP alone. All developments within the LGU should be in compliance with the eCLUP.

Partnership and Co-Management Agreements

The LGU should work hand-in-hand with the following agencies to effectively implement the CLUP and ZO:

- For the management of mangrove forests: Dept. of Environment and Natural Resources (DENR) and PAWB
- For mariculture farms: Bureau of Fisheries and Aquatic Resources (BFAR)
 - For port development: Philippine Port Authority (PPA)
- For ecotourism : Tourism Infrastructure and Enterprise Zone Authority (TIEZA)
- For navigational lanes : Dept. of Transport and Communications (DOTC) and Maritime Industry Authority (MARINA)
- For foreshore management: Dept. of Environment and Natural Resources (DENR) and Land Management Bureau (LMB)
 - For marine protected areas: Bantay Dagat
- For disaster risk reduction and management: National Disaster Risk Reduction and Management Council (NDRRMC) and Regional Disaster Risk Reduction and Management Council (RDRRMC)

Other Modalities for Implementing CLUP

(4) **Consultative Meeting with Concern Gov't Agencies and other Stakeholders**

(5) **IEC on the existing ZO and eCLUP**

(6) **Enforcement**

- a. **Punishment or Fines through Zoning Ordinances**
- b. **Application of existing National and International regulations and Laws**
 - c. revenue and fiscal incentives
- d. if inter-LGU alliance is needed, shared revenue and fiscal incentives and shared enforcement body
- e. permits, licensing and regulatory mechanics

STEP 14: MONITORING AND EVALUATION OF CLUP AND ZO

To encourage the proper implementation of the eCLUP, report cards with a defined rating system to assess the municipality's compliance should be introduced. Examples of this are the State of the Coast (SOC) Reporting system (PEMSEA 2011) and the Marine Protected Area Management Effectiveness Assessment Tool (MPA MEAT) (MSN 2011). Ideally, this reporting should be done every two to three years. Incentives in terms of awards or recognition ("Best Municipality"), property rights, skills development and livelihood assistance, social/financial assistance and other forms of support should be launched to entice the municipality to follow their eCLUP.

Proposed Members to CLUP Multi-Sectoral Monitoring Body

Please refer to ANNEX 4.

Proposed Report Card Performance Indicators

Please refer to ANNEX 4.

GLOSSARY

APPLICABLE LAWS

Majority of the bases of the zoning regulatory guidelines are already stated in various national policies and laws listed below.

RA 7160	An act providing for a Local Government Code of 1991
PD 1096 (1977)	Adopting a National Building Code of the Philippines (NBCP) thereby revising Republic Act numbered sixty-five hundred forty-one (RA 6541)
RA 8550	An act providing for the development, management and conservation of the fisheries and aquatic resources, integrating all laws pertinent thereto, and for other purposes
Commonwealth Act 141 Sect 59 and 61	An act to amend and compile the laws relative to lands of the public domain
DENR Dept Order 34 (1990)	Revised water usage and qualification/water quality criteria amending Section nos. 8 and 69, Chapter III of 1978 NPCC rules and regulations
DENR-DILG Joint Memorandum Circulars 98-01	Manual of procedures for DENR-DILG-LGU partnership on devolved and other forest management functions
DENR-DILG Joint Memorandum Circulars 2003-01	Strengthening and institutionalizing the DENR-DILG-LGU partnership on devolved and other forest management functions.
RA 1899	An act authorize the reclamation of foreshore lands by chartered cities and municipalities
PD 1084 (1977)	Creating the public estates authority, defining its powers and functions, providing funds therefore and for other purposes
RA 1273 Sec I	An act to amend section ninety of commonwealth act numbered one hundred forty-one, otherwise known as the "public land act"
PD 705 Sec 16.7-16.8	Revising Presidential Decree no. 389, otherwise known as the forestry reform code of the Philippines
PD 1067 Art 51	A decree instituting a water code, thereby revising and consolidating the laws governing the ownership, appropriation, utilization, exploitation, development, conservation and protection of water resources

REFERENCES

Aliño, P.M., W.R.Y. Licuanan, S.S. Mamauag, F.P. Siringan, C.L. Villanoy, et al. 2012. **Vulnerability Assessment for Coastal Ecosystems: A Guidebook**. Marine Environment & Resources Foundation and Conservation International – Philippines, Quezon City, Philippines.

Lange, A., C. Astilla, D. Nuevas and M.T. Moyano. 2012. SIMPLE: Sustainable Integrated Management and Planning for Local Government Ecosystems. Environment and Rural Development Program. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. Manila, Philippines. MPA Support Network (MSN). 2011. Marine Protected Area : Marine Effectiveness Assessment Tool (MPA MEAT). MSN, National CTI Coordinating Committee, Quezon City, Philippines.

PEMSEA. 2011. Guidebook on the State of the Coasts Reporting for Local Governments Implementing Integrated Coastal Management in the East Asian Seas Region. Partnerships in Environmental Management for the Seas of East Asia (PEMSEA), Quezon City, Philippines. <http://www.scribd.com/doc/78115291/Guidebook-on-the-State-of-the-Coasts-Reporting>

ANSWERS TO FREQUENTLY ASKED QUESTIONS

ANNEX 3

PROJECT FINANCIAL STATEMENT



STATEMENT OF SOURCES AND USES OF FUND

COBSEA-SPATIAL PLANNING PROJECT
United Nation Environment Programme (UNEP)

A. SOURCES OF FUNDS

Initial Release	\$	21,400.00
	\$	<u>21,400.00</u>

B. USES OF FUNDS

Sub Contracts	\$	2,640.27
Trainings		10,224.74
National Consultation		2,281.05
Bank Charges		8.31

C. NET SOURCES of FUND as of April 30, 2013

	\$	<u>15,154.37</u>
	\$	<u><u>6,245.63</u></u>

*See the attached certified copy of the bank statement for this project per LBP Savings
Account No. 3212-1033-05

Certified Correct:


GLORIA D. MENDOZA
Chief Accountant



LANDBANK

ELLIPTICAL ROAD

PAGE 1 OF 1

PERIOD COVERED: MAR 31, 2013 - APR 30, 2013 CURRENT ACCOUNT NO: 3212-1033-05

DATE	DESCRIPTION	REF	CHECK NO.	DEBIT AMOUNT	CREDIT AMOUNT	BALANCE
	BAL LST STM					617,481.12
0404	CA CASH DEP				279.25	617,760.37
0417	CA LOCAL IC	0000251	608	309,375.00		308,385.37
0424	CA LOCAL IC	0000251	609	45,428.57		262,956.80
	BALANCE THIS STATEMENT					262,956.80
	TOTAL DEBIT/CREDIT			354,803.57	279.25	
	# OF CHECKS = 2			# OF DEBIT MEMOS = 0	# OF CREDIT MEMOS = 0	

10 321C-0430-103305

COBSEA SPATIAL PLANNING PROJECT
EMB G/F HRD BLDG DENR CMPD
VISAYAS AVE DILIMAN
QUEZON CITY

1101

PLEASE EXAMINE THIS STATEMENT AND THE ENCLOSED PAID CHECKS AND IMMEDIATELY REPORT ANY DISCREPANCY TO THE INTERNAL AUDITOR. IF NO ERROR IS REPORTED WITHIN 10 DAYS FROM RECEIPT HEREOF, THE STATEMENT WILL BE CONSIDERED CORRECT.

EFFECTIVE APRIL 1, 2013, THE NEW INTEREST RATE FOR SAVINGS ACCOUNTS AND INTEREST BEARING CURRENT ACCOUNTS (REGULAR AND WITH ATM ACCESS) SHALL BE 0.250% PER ANNUM



LAND BANK OF THE PHILIPPINES

1598 M.H. Del Pilar cor. Dr. J. Quintos Sts., Malate, Manila



MEMBER: PDIC

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and 05/30/2013



LANDBANK

ELLIPTICAL ROAD

PAGE 1 OF 1

PERIOD COVERED: FEB 28, 2013 - MAR 31, 2013 CURRENT ACCOUNT NO: 3212-1033-05

DATE	DESCRIPTION	REF	CHECK NO.	DEBIT AMOUNT	CREDIT AMOUNT	BALANCE
	BAL LST STM					879,338.37
0308	CA LOCAL IC	0000251	603	89,887.50		789,450.87
0311	ENCASHMENT	0000251	604	30,000.00		759,450.87
0315	CA CASH DEP				4,280.25	763,731.12
0315	ENCASHMENT	0000251	606	30,000.00		733,731.12
0319	CA LOCAL IC	0000251	605	70,312.50		663,418.62
0322	CA LOCAL IC	0000251	607	45,937.50		617,481.12
BALANCE THIS STATEMENT						617,481.12
TOTAL DEBIT/CREDIT				266,137.50	4,280.25	
# OF CHECKS = 5		# OF DEBIT MEMOS = 0			# OF CREDIT MEMOS = 0	

10 321C-0331-103305

 COBSEA SPATIAL PLANNING PROJECT
 EMB G/F HRD BLDG DENR CMPD
 VISAYAS AVE DILIMAN
 QUEZON CITY

1101

PLEASE EXAMINE THIS STATEMENT AND THE ENCLOSED PAID CHECKS AND IMMEDIATELY REPORT ANY DISCREPANCY TO THE INTERNAL AUDITOR. IF NO ERROR IS REPORTED WITHIN 10 DAYS FROM RECEIPT HEREOF, THE STATEMENT WILL BE CONSIDERED CORRECT.

EFFECTIVE AUGUST 1, 2012, THE NEW INTEREST RATE FOR CURRENT ACCOUNTS (E.A.S.Y. CHECK AND CHECK WITH ATM ACCESS) SHALL BE 0.375% ANNUM.



LAND BANK OF THE PHILIPPINES
 1598 M.H. Del Pilar cor. Dr. J. Quintos Sts., Malate, Manila



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ELLIPTICAL ROAD

PAGE 1 OF 1

PERIOD COVERED: JAN 31, 2013 - FEB 28, 2013 CURRENT ACCOUNT NO: 3212-1033-05

DATE	DESCRIPTION	REF	CHECK NO.	DEBIT AMOUNT	CREDIT AMOUNT	BALANCE
	BAL LST STM					900,956.12
0207	CA DM ORD			350.00		900,606.12
0208	ENCASHMENT	0000251	602	30,000.00		870,606.12
0221	CA CASH DEP				8,732.25	879,338.37
BALANCE THIS STATEMENT						879,338.37
TOTAL DEBIT/CREDIT				30,350.00	8,732.25	
# OF CHECKS = 1		# OF DEBIT MEMOS = 1			# OF CREDIT MEMOS = 0	

10 321C-0228-103305

 COBSEA SPATIAL PLANNING PROJECT
 EMB G/F HRD BLDG DENR CMPD
 VISAYAS AVE DILIMAN
 QUEZON CITY 1101

PLEASE EXAMINE THIS STATEMENT AND THE ENCLOSED PAID CHECKS AND IMMEDIATELY REPORT ANY DISCREPANCY TO THE INTERNAL AUDITOR. IF NO ERROR IS REPORTED WITHIN 10 DAYS FROM RECEIPT HEREOF, THE STATEMENT WILL BE CONSIDERED CORRECT.

EFFECTIVE AUGUST 1, 2012, THE NEW INTEREST RATE FOR CURRENT ACCOUNTS (E.A.S.Y. CHECK AND CHECK WITH ATM ACCESS) SHALL BE 0.375% ANNUM.



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PAGE 1 OF 1

PERIOD COVERED: DEC 31, 2012 - JAN 31, 2013 CURRENT ACCOUNT NO: 3212-1033-05

DATE	DESCRIPTION	REF	CHECK NO.	DEBIT AMOUNT	CREDIT AMOUNT	BALANCE
	BAL LST STM					900,956.12
	BALANCE THIS STATEMENT					900,956.12
	TOTAL DEBIT/CREDIT			0.00	0.00	
	# OF CHECKS = 0		# OF DEBIT MEMOS = 0		# OF CREDIT MEMOS = 0	

10 321C-0131-103305

COBSEA SPATIAL PLANNING PROJECT
EMB G/F HRD BLDG DENR CMPD
VISAYAS AVE DILIMAN
QUEZON CITY

1101

PLEASE EXAMINE THIS STATEMENT AND THE ENCLOSED PAID CHECKS AND IMMEDIATELY REPORT ANY DISCREPANCY TO THE INTERNAL AUDITOR. IF NO ERROR IS REPORTED WITHIN 10 DAYS FROM RECEIPT HEREOF, THE STATEMENT WILL BE CONSIDERED CORRECT.

EFFECTIVE AUGUST 1, 2012, THE NEW INTEREST RATE FOR CURRENT ACCOUNTS (E.A.S.Y. CHECK AND CHECK WITH ATM ACCESS) SHALL BE 0.375% ANNUM.



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2013/01/30

**COBSEA-SPATIAL PLANNING PROJECT
PHILIPPINES**

FINANCIAL STATEMENT

UNEP CODE	ACTIVITY	Amount Allocated	Actual Expenditures (USD)	Unspent	Balance
2100	Sub Contracts	20,000.00	2,640.27		17,359.73
3100	Training	16,800.00	10,224.74		6,575.26
3300	National Consultation	3,000.00	2,281.05		718.95
5200	Reporting	3,000.00	-		3,000.00
	TOTAL	42,800.00	15,146.06		27,653.94

Certified Correct:


GLORIA D. MENDOZA
Chief Accountant

Approved by:


ATTY. JUAN MIGUEL T. CUNA
CIC Director

**COBSEA-SPATIAL PLANNING PROJECT
PHILIPPINES**

UNEP CODE	ACTIVITY	DATE	EXPENSES	
			USD	PhP
2100	Sub Contracts	Feb. 07, 2013	505.17	21,267.75
		Feb. 28, 2013	2,135.10	89,887.50
3100	Trainings	Mar. 11, 2013	705.96	29,720.75
		Mar. 19, 2013	1,091.15	45,937.50
		Apr. 16, 2013	7,348.57	309,375.00
		Apr. 19, 2013	1,079.06	45,428.57
3300	National Consultation	Mar. 08, 2013	610.92	25,719.75
		Mar. 11, 2013	1,670.13	70,312.50
	=	-	15,146.06	637,649.32

Certified Correct:


GLORIA D. MENDOZA
Chief Accountant

Approved by:


ATTY. JUAN MIGUEL T. CUNA
OIC-Director

ANNEX 4

PHOTO DOCUMENTATION

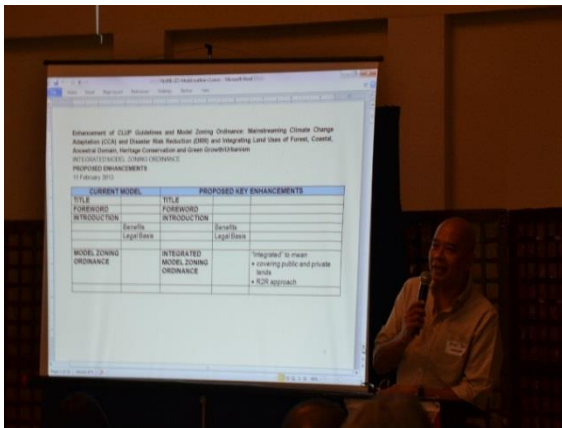
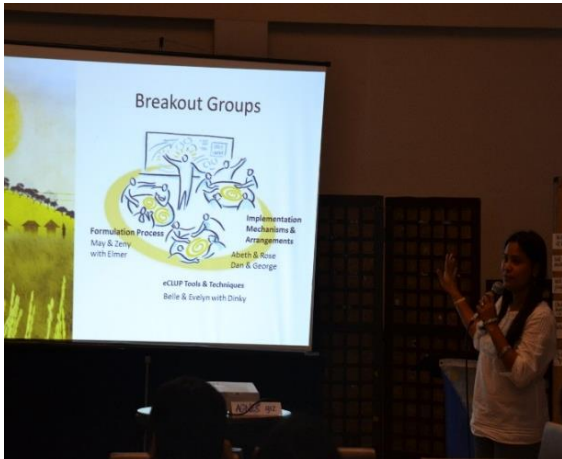
COBSEA-SIDA Project (Phase 3) on SPATIAL PLANNING IN THE COASTAL ZONE-DISASTER PREVENTION AND SUSTAINABLE DEVELOPMENT

PHOTO DOCUMENTATION

Pre-Consultation Workshop on eCLUP Preparation

Cocoon Boutique Hotel, Quezon City, Philippines

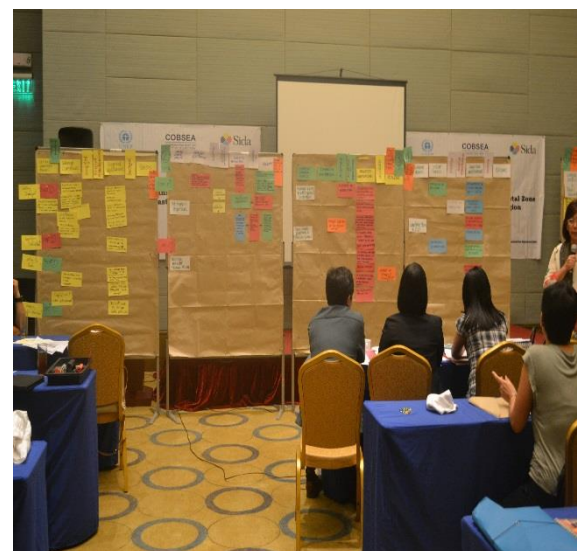
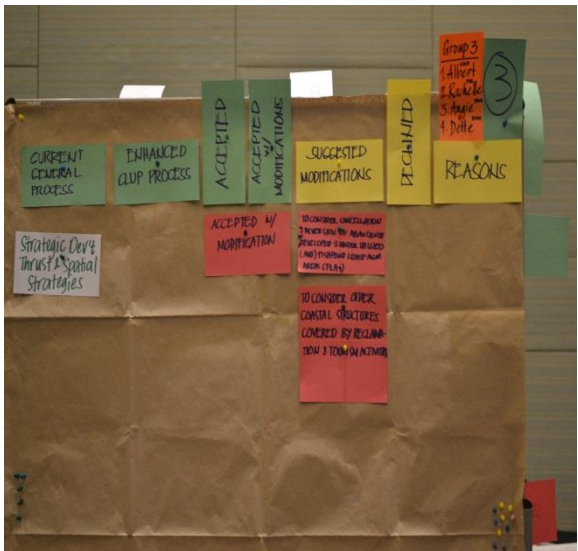
February 12, 2013



Focus Group (Coastal Sector) Consultation Workshop

LUXENT Hotel, Quezon City, Philippines

March 11, 2013



National Train-the-Trainer Course on CMSP
Vista Venice Resort, Morong, Bataan, Philippines
March 20-22, 2013

