



SUSTAINABLE LANDSCAPES ASSESSMENT FOR THE PHILIPPINES

Prepared for USAID/Philippines

by U.S. Forest Service

February 2011



USAID
FROM THE AMERICAN PEOPLE



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LIST OF ACRONYMS

ADB	Asia Development Bank
ALU	Agriculture and Land Use
AWP	Annual Work Plan
CADT/L	Certificate of Ancestral Domain Title/Land
CBFM/A	Community-Based Forest Management Agreement
CCC	Climate Change Commission
CCBA	Climate, Community, and Biodiversity Alliance Standards
CENRO	Community Environment and Natural Resources Office
CI	Conservation International
CRMf	Community Resource Management Framework
CSC	Certificate of Stewardship
CSO	Civil Society Organization
CSR	Corporate Social Responsibility
DAR	Department of Agrarian Reform
DENR	Department of Environment and Natural Resources
DOA	Department of Agriculture
EMB	Environmental Management Bureau
EPA	Environmental Protection Agency
ESSC	Environmental Science for Social Change
FAO	Food and Agriculture Organization
FLUP	Forest Land Use Plan
FMB	Forest Management Bureau
FPIC	Free, Prior, and Informed Consent
FRA	Forest Resource Assessment
GHG	Greenhouse Gas
GPH	Government of the Philippines
ICRAF	International Center for Research in Agroforestry
IP	Indigenous Peoples
IPCC	Intergovernmental Panel on Climate Change
IPCC GPG	Intergovernmental Panel on Climate Change Good Practice Guidance
IPR	Individual Property Rights
IPRA	Indigenous Peoples Rights Act
ITTO	International Tropical Timber Organization
LCA	Long-term Cooperative Action
LCCAP	Local Climate Change Action Plan
LEDs	Low Emissions Development Strategies
LGU	Local Government Unit
LULUCF	Land Use, Land Use Change and Forestry
MENRO	Municipal Environment and Natural Resources Office
MO	Manila Observatory
MRV	Measurable, Reportable, Verifiable
NAMRIA	National Mapping and Resource Information Authority
NCIP	National Council on Indigenous Peoples
NEDA	National Economic Development Agency
NFI	National Forest Inventory
NFSCC	National Framework Strategy on Climate Change

NGO	Non-government Organization
NGP	National Greening Program
NTFP	Non-Timber Forest Products Exchange Programme
PO	People's Organization
PACBARMA	Protected Area Community-Based Resource Management Agreement
PES	Payment for Ecosystem Services
PNRPS	Philippines National REDD-Plus Strategy
PTFCF	Philippines Tropical Forest Conservation Foundation
QA/QC	Quality Assurance/Quality Control
REDD	Reducing Emissions from Deforestation and Forest Degradation
REF	Reference Emission Level
RUP	Resource Use Plan
SFFI	Society of Filipino Foresters
SL	Sustainable Landscapes
UNFCCC	United Nations Framework Convention on Climate Change
UPLB	University of the Philippines at Los Banos
UPLB/CFNR	UPLB/College of Forestry and Natural Resources
USAID/RDMA	USAID/Regional Development Mission Asia
VCS	Voluntary Carbon Standard
WB	World Bank

ACKNOWLEDGEMENTS

We are grateful to all the people who supported this assessment mission. Planning for this assessment was a collaborative effort between the U.S. Forest Service and USAID/Philippines. We thank the USAID/Philippines office for logistical support in arranging travel and meetings for the in-country portion. Their organization and arrangement of a full, productive schedule allowed us to maximize our time in country.

We would like to especially thank our hosts in Quirino, specifically the Provincial Government, Conservation International staff, PEDAI staff, and local DENR staff. We also thank officials and PO members in Barangay Sto. Nino, in the Municipality of Maddela, for hosting the team for a community meeting and lunch. Seeing the project sites in Maddela gave us an excellent context for understanding community-based reforestation projects in the Philippines.

Many thanks to all of the organizations and individuals who gave us your time, your knowledge, and your candid responses to our many questions. We hope that the information presented in this report is an accurate reflection and interpretation of the many discussions we had throughout the process.

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EXECUTIVE SUMMARY

Background

Reducing Emissions from Deforestation and Forest Degradation (REDD) is an effort to create a financial value for the carbon stored in forests, offering opportunities for developing countries to reduce emissions from forested lands and invest in low-carbon paths to sustainable development. REDD+ goes beyond deforestation and forest degradation and includes the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks.

The U.S. supports REDD+ activities because they offer cost-effective opportunities to reduce global greenhouse gas emissions while supporting sustainable development. Reducing emissions by improving forest management also generates important biodiversity conservation and livelihood benefits and strengthens climate resiliency. The inclusion of strong social and environmental safeguards in REDD+ activities further supports the realization of these co-benefits. As part of the United States contribution towards the “fast start financing” reflected in the Copenhagen Accord, the U.S. has dedicated \$1 billion over the 2010 to 2012 timeframe to assist countries that put forward ambitious REDD+ plans. The Philippines, with its long history of community based natural resource management, a capable research community, and a strong civil society, presents a durable enabling environment for REDD+ development. REDD+ in the Philippines also provides an opportunity to demonstrate how social, economic, and environmental co-benefits can be generated and sustained.

The U.S. contributes to a number of multilateral instruments that support developing countries in their efforts to reduce emissions from deforestation and forest degradation, including the Forest Carbon Partnership Facility, the Forest Investment Program, and the Global Environment Facility. U.S. bilateral support for REDD+ is through the sustainable landscapes pillar in the Administration’s Budget for International Climate Change Financing (primarily funded through the State Department, USAID, and the Treasury Department) and is augmented by funding from other sources, including related biodiversity programs and relevant activities conducted by other U.S. Government agencies. Funding earmarked for REDD+ under the sustainable landscapes pillar will help countries reduce greenhouse gas (GHG) emissions and enhance sequestration of carbon associated with land use and management, including forestry.

Assessment

As part of their development of a new Country Development Strategy, and with potential for incoming Sustainable Landscapes funding, USAID/Philippines commissioned the U.S. Forest Service to work with them on an assessment of REDD+ in the Philippines. The purpose of the assessment, whose findings are summarized in this report, was to provide USAID/Philippines with an analysis of opportunities and challenges for developing and implementing REDD+ programs in the Philippines. The assessment examined the current REDD+ landscape in the Philippines, and the technical and policy issues relevant for the development and implementation of REDD+. Through this report the assessment is providing recommendations to USAID/Philippines that will be used to inform the planning process for their potential future activities. The in-country portion of the assessment was conducted from January 14 to

January 21. Primary input came from consultations with national and local government, stakeholders in the field and in Manila, NGOs, donors, and development banks.

Chapter summaries

Following the introduction, this report is divided into seven topical chapters that provide an overview and analysis of the topic as it relates to REDD+.

Chapter 2: Forests in the Philippines

The Philippines is considered a low forest cover country with about 24% forest cover. There is approximately one million hectares of primary forest remaining. Two previous donor-supported forest cover mapping efforts have been completed, most recently in 2003, but there is no publicly available accuracy assessment of either effort and there have been conflicting interpretations of the data due to varying forest cover definitions and forest type classifications. In order to get a clearer picture of Philippines forest cover there needs to be consistent forest definitions and classifications, and increased transparency of the data and accuracy assessments.

In response to major deforestation in the twentieth century, large scale reforestation efforts have occurred, resulting in approximately 1.7 million hectares planted between 1960 to 2002 with an estimated 50% survival overall (FMB 2002). While there has been some monitoring of the projects, long term monitoring and quantitative documentation of success has in general been limited. Currently, reforestation programs in the Philippines can draw on decades of experimentation, with substantial insights gained towards arrangements that succeed or fail. REDD+ offers a new incentive base that will hopefully re-ignite community-based reforestation efforts that optimize ecosystem stability, financial incentives, and conservation of biological diversity.

Chapter 3: Current REDD+ Related Activities and Stakeholders

REDD+ interest and consultations began in the Philippines in the NGO community in April 2009. A coalition of NGOs and forest dependent communities formed CoDe REDD, a group advocating for environment conservation and community development through REDD+. Starting in 2009 CoDe REDD led multi-stakeholder consultations and engaged the DENR and other government and academic institutions in dialogue and workshops that ultimately resulted in the comprehensive Philippines National REDD+ Strategy (PNRPS). The document provides an overview of the forestry sector in the Philippines, a legal review of national policies, and specifies strategies and activities to facilitate REDD+ development over a 10 year period (2010-2020). The PNRPS has received wide support in civil society, the government, and academia, and is now awaiting formal government approval through the Climate Change Commission. Meanwhile, multiple NGOs and donors are now actively engaged in REDD+ readiness activities and pilots throughout the country.

USAID/Philippines will be entering a dynamic landscape when they develop their Sustainable Landscapes program. In addition to the NGO, donor, and government initiatives in REDD+, there are multiple related U.S. government efforts both bilaterally and regionally. USAID/Philippines can maximize their contribution to REDD+ by understanding what others are doing, building upon and integrating with successful programs, identifying gaps where they can complement ongoing activities, and leveraging resources by joining forces with related efforts.

Chapter 4: Forest Inventory and Monitoring

Documenting emissions reductions from any REDD+ strategies will require forest inventory and monitoring that is Measurable, Reportable, and Verifiable (MRV). A national forest inventory, combined with remotely sensed mapping, is necessary for understanding large scale trends in forest cover, carbon stocks, and other measured parameters throughout the country. The last national forest inventory, or Forest Resource Assessment (FRA) as called by FAO, was supported by FAO in 2002-3. It covered government owned forest reserves only, and there is not publicly available information on its Quality Assurance/Quality Control (QA/QC) mechanisms. DENR has already requested FAO to assist with another FRA. This might become part of the new UN-REDD program, in which case other donors could provide targeted technical trainings to support the effort.

Following the two previous mapping efforts (summarized above), DENR/National Mapping and Resource Information Authority (NAMRIA) is currently acquiring satellites and updating its land cover maps to establish a 2010 baseline. Funds for high quality images are limited, and while NAMRIA staff have high capacity they are interested in and would benefit from targeted trainings on particular topics in forest cover mapping, such as radar data analysis, determining percent canopy cover, and QA/QC.

Sub-national efforts in forest inventory and monitoring are used for specific project areas in order to establish a baseline of forest carbon for the project area and monitor the success of project activities in terms of carbon. Several sub-national efforts in forest inventory and monitoring are already underway by some donors and NGOs. Coordination of efforts and sharing/testing of methodologies would benefit everyone.

Chapter 5: Policy and Governance

The Philippines has a large body of legislation relevant for REDD+. There is no current REDD+ policy; however, the PNRPS, once approved by the Climate Change Commission, chaired by the President, will be integrated into the Philippines National Framework Strategy on Climate Change and National Climate Change Action Plan. There are many government bodies involved in REDD+. Overall climate change coordination is the responsibility of the Climate Change Commission, while DENR-Forest Management Bureau (FMB) is the lead technical agency on REDD+. The government still needs to clarify mandates, reporting structure, and decision-making authority for government agencies involved in REDD+. Significant capacity building within DENR, a historically weak department, is necessary to ensure their meaningful REDD+ engagement. Some policy and governance issues that will need to be addressed for REDD+ include: ensuring social safeguards and fair financial flows, transitioning from the mindset of production forestry to that of multiple use, addressing corruption, and creating incentives for private sector investment.

Chapter 6: Community Forestry

The Philippines has six million hectares of forest land under some form of community management, with 4.7 million of that under a tenure agreement (FMB 2004). There are multiple mechanisms by which individuals or communities can get renewable 25 year tenure terms, namely Community Based Forest Management Agreements. There are some limitations in these programs, such as lack of local DENR extension officers to assist in the required management planning, and burdensome permitting for extraction and transport. However, the system offers a huge opportunity for linking REDD+ with community development by investing resources and capacity building into communities. REDD+ programs in these lands need to have policies in place regarding carbon rights, benefit-sharing mechanisms, and longer term tenure possibilities.

Chapter 7: REDD+ and Reforestation/Afforestation

Given the Philippines relatively low forest cover and history of reforestation efforts, it makes sense for reforestation and afforestation to be a major REDD+ strategy. While the UNFCCC has not yet defined specific allowable carbon enhancement activities, incentives associated with production forestry will increase the likelihood that REDD+ reforestation efforts will be successful by offsetting pressures on protected forests. Reforestation and afforestation initiatives should take account of lessons learned from previous efforts and pay special attention to technical considerations that increase success, such as species selection, site suitability, and nursery establishment and propagation. Programs also need long-term, quantitative monitoring, something often missing in previous efforts, in order to learn and improve over time.

Chapter 8: REDD+ Financing

While the market mechanisms for REDD+ are still uncertain, there are many opportunities for forestry projects that promote REDD+ readiness in the name of sustainable forest management and ecosystem restoration. In addition, some forest carbon projects are being developed for a voluntary market or CSR purposes, which are not dependent upon the international climate negotiations. The Philippines has multiple public and other funds available for financing REDD+-related programs. The private sector is also a potential source for REDD+ financing but to date there has been a lack of private sector engagement in REDD+ discussions and planning in the Philippines. This report is similarly weak in discussions of private sector potential since the team lacked this expertise and the time to meet with private sector representatives. More consultations and analysis are needed to understand the private sector potential. Finally, REDD+ programs in the Philippines could benefit from co-locating with potential Payment for Ecosystem Services (PES) areas in order to maximize funding options.

Recommendations and Options for USAID/Philippines

REDD+ initiatives in the Philippines are in early stages and there is motivation among civil society, government, and the private sector to coordinate efforts. Through its EcoGov program, USAID/Philippines has already been engaged in highly relevant efforts, including increasing community and individual tenure in forested lands that has resulted in reducing illegal logging and forest conversion, and rehabilitating degraded lands. They have also facilitated private sector engagement in forest conservation through payment for ecosystem services (PES) schemes. Building upon these successes, USAID/Philippines is in an excellent position to get engaged in the early stages of REDD+ readiness in the Philippines and influence long-term, national level REDD+ planning and implementation.

The following five overarching recommendations represent information the team heard repeatedly. These can be used as organizing principles for any REDD+ program USAID/Philippines develops. They all promote a ‘no-regrets’ approach to REDD+-readiness, meaning that even if carbon credits are slow to flow, there are still significant program benefits along the way in terms of securing environmental services, climate change adaptation, community development, and improved forest sector governance.

1. REDD+ is a strategic option for rural development: Support REDD+ projects that are cross-cutting in terms of poverty alleviation, climate change adaptation, and social and environmental benefits
2. Support activities that support and inform forest sector reform
3. Research and development and knowledge management is critical given issues with data availability, quality, and scope
4. Improving the understanding of REDD+ and leadership skills of FMB and the LGUs is key
5. Design interventions that work through and strengthen existing systems and initiatives

The options below are divided into two categories: 1) National REDD+ Readiness support; and 2) REDD+ Demonstration. Since not all can be funded under one program, USAID/Philippines will need to prioritize through a program design process that is based on the funding level they receive, the integration they want with their other programs, and information that continues to be gathered regarding ongoing REDD+ efforts and priorities in the country.

National REDD+ Readiness Support

These are options that support efforts to influence REDD+ implementation on a country-wide scale, such as national forest monitoring, policy and governance, developing and promoting tools for effective project implementation, and coordination of efforts.

1. Improve baselines and forest monitoring
 - a. Support creation of a NAMRIA National Spatial Data Infrastructure repository (i.e. a GIS data clearinghouse)
 - b. Continue/enhance partnership between EPA, the Manila Observatory, and GPH officials regarding the UNFCCC National Communication GHG reporting process using the ALU tool
 - c. Build capacity in remote sensing to enhance forest cover mapping and generation of activity data for forest cover change detection
 - d. Link with other donors to support a new National Forest Inventory (NFI) in order to develop emission factors for deforestation
 - e. Linked to NFI, develop emissions factors for forest degradation at provincial levels
 - f. Conduct forest transition curve assessment to determine priority areas for REDD+ pilots at the provincial and/or large watershed level
2. Support policy and governance reforms needed for REDD+
 - a. Work with the government to clarify mandates, interagency working procedures, and reporting structures of the governmental bodies involved
 - b. Provide third party experts to assist FMB, NAMRIA and others in the technical debate on forest sector definitions
 - c. Raise the awareness and understanding of REDD+ at all levels of governance, with local communities, and with private sector.
 - d. Build capacity in FMB for desired future condition and multiple use forest planning, versus the utilization-based planning they've historically done
 - e. Build upon and integrate with the policy studies that GIZ and UN-REDD are/will be doing
3. Develop Tools that Improve REDD+ Project Implementation
 - a. Conduct an assessment of PES programs in the Philippines in order to distill lessons learned as they are relevant for REDD+ projects
 - b. Conduct an analysis of private sector potential in REDD+ in the Philippines
 - c. Develop science-based education modules and trainings that improve the implementation and monitoring of reforestation programs, such as: 1. Nursery development; 2. Propagation; 3. Seed fruit storage and collection methods; 4. Outplanting methods; and 5. Pest and disease control
 - d. Support UP-LB/College of Forestry and Natural Resources proposal to PTFCF for a REDD+ network thru local universities and state colleges to tie in with existing REDD+ pilots, develop/demonstrate best management practices, and localize and train in relevant IPCC Good Practice Guidance

4. Develop Tools for REDD+ Project Evaluation and Coordination
 - a. Support establishment of a REDD+ project registry as a way to incentivize pilots by facilitating access to international carbon markets, including development of a review board to assess projects against relevant standards and safeguards for inclusion
 - b. Develop tools for REDD+ project evaluation that can be used at local levels (CENRO, extension officers) to assess efficacy and impact, both environmentally and socially, of reforestation and improved forest management
 - c. Develop monitoring protocols for afforestation and reforestation programs

REDD+ Demonstration

There are currently multiple REDD+ pilots, and UN-REDD is identifying three sites to begin activities in 2012. As a highly decentralized country, each pilot will provide useful information on REDD+ implementation in its given context of stakeholders, tenure arrangements, and strategies. Should USAID/Philippines decide to support a pilot to add to the body of practical knowledge on implementing REDD+ projects in the Philippines, the following options can help direct them in some of the steps for identifying and implementing the pilot program.

1. Identify a pilot within an existing EcoGov project area
 - a. Develop an evaluation process for pilot site selection that includes criteria such as: REDD+ potential; benefits in terms of biodiversity, water, adaptation, and community development
 - b. Conduct an evaluation of successful EcoGov areas in order to select pilot site(s)
 - c. Consider REDD+ activities in mangrove areas by evaluating the current ownership and management structure, and rehabilitation/reforestation options
2. Test novel approaches in REDD+ project implementation using the FLUP as an organizing principle
 - a. Mainstream climate change mitigation planning and activities through the FLUP to include enhancement of incentives-based approaches at local levels
 - b. Experiment with bundling small REDD+ projects within one FLUP area and across multiple tenure agreements and strategies (forest protection, reforestation, etc.)
 - c. Develop and test new benefit-sharing mechanisms among the national government, LGUs, and communities
3. Develop methodologies in reforestation that will increase both social and environment benefits
 - a. Prioritize reforestation efforts in landscapes that offer financial incentives to communities and reduce pressure on protected forests with high biodiversity value
 - b. Conduct site specific species selection utilizing ecological theory, survival and growth rate information, and proven non-invasive species
 - c. Establish and quantifiably measure long term project assessment information, including: 1) Survival by species; 2) Species specific growth rates; and 3) Pest and disease information
 - d. Create metrics to measure success, such as: 1) Increases in forest carbon; 2) Enhanced biodiversity; 3) Economic improvement of community or management unit; and 4) Project survival rate increase associated with technology improvement
4. Develop a project level forest carbon baseline and process for monitoring
 - a. Conduct a review and analysis of existing methodologies for project level forest carbon monitoring in the Philippines (and possibly the Asia region) in order to: 1) understand existing methodologies and replicate where relevant; and 2) improve upon or adjust existing methodologies to meet pilot project needs

CHAPTER 1: INTRODUCTION

USAID Sustainable Landscapes Program

The Philippines is one of the countries most vulnerable to the impacts of climate change. REDD+ is part of a comprehensive USAID strategy to support GPH initiatives that help the Philippines adapt to and mitigate the impacts of climate change.

As part of the United States contribution towards the “fast start financing” reflected in the Copenhagen Accord, the U.S. has dedicated \$1 billion over the 2010 to 2012 timeframe to assist countries that put forward ambitious REDD+ plans. The U.S. supports REDD+¹ activities because they offer cost-effective opportunities to reduce global greenhouse gas emissions while supporting sustainable development.

The U.S. contributes to a number of multilateral instruments that support developing countries in their efforts to reduce emissions from deforestation and forest degradation, including the Forest Carbon Partnership Facility, the Forest Investment Program, and the Global Environment Facility. U.S. bilateral support for REDD+ is through the sustainable landscapes pillar in the Administration’s Budget for International Climate Change Financing (primarily funded through the State Department, USAID, and the Treasury Department) and is augmented by funding from other sources, including related biodiversity programs and relevant activities conducted by other U.S. Government agencies. Funding earmarked for REDD+ under the sustainable landscapes pillar will help countries reduce greenhouse gas (GHG) emissions and enhance sequestration of carbon associated with land use and management, including forestry.

For the U.S., specific, long-term objectives are:

Objective 1: REDD+ Architecture

Creating and supporting an efficient, effective, and coordinated international system to help countries deliver REDD+ outcomes.

Objective 2: REDD+ Readiness

Helping countries become ready to participate in pay-for performance programs and take complementary domestic actions. Investments will help countries become ready at the national level to undertake actions at a scale that can significantly reduce emissions or increase sequestration, enable access to pay-for-performance financing, including future carbon markets, and meet ambitious domestic mitigation commitments.

Objective 3: REDD+ Demonstration

¹Reducing Emissions from Deforestation and Forest Degradation (REDD) is an effort to create a financial value for the carbon stored in forests, offering incentives for developing countries to reduce emissions from forested lands and invest in low-carbon paths to sustainable development. “REDD+” goes beyond deforestation and forest degradation, and includes the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks.

Achieving cost effective and sustainable net emissions reductions. Investments will support programs that achieve, or that demonstrate scalable approaches to achieving significant, cost-effective net emissions reductions.

Role of USAID/Philippines

The USAID/Philippines Office of Energy and Environment manages activities in water and sanitation, biodiversity conservation, and climate change and clean energy. Please see Annex 2 for a description of USAID/Philippines' current programs.

Climate change is an additional stressor on livelihoods, ecosystems, and infrastructure that will place large populations and key sectors in the Philippines at risk. As a result, USAID/Philippines anticipates that the climate change sector (clean energy, adaptation, and sustainable landscapes) will become a critical component of its overall development strategy in the Philippines. Through its support for climate change activities, USAID/Philippines seeks to:

- Maximize development impact by mainstreaming climate change strategies into existing USAID/Philippines activities, as appropriate;
- Apply science and technology in program design and implementation;
- Leverage private sector and donor resources to implement climate change activities;
- Support innovation, with a particular focus on those that are locally developed;
- Support activities that promote wider understanding of GCC issues based on sound science; and
- Collaborate closely with USAID/RDMA, USAID/Washington, and other USG agencies that have programs in the Philippines to avoid duplication of efforts and ensure activities are complementary.

Purpose and Scope of Assessment

The purpose of this assessment was to provide USAID/Philippines with an analysis of opportunities and challenges related to REDD+ in the Philippines in order to help USAID/Philippines in partnership with the GPH make strategic programming decisions for potential, future Sustainable Landscapes funding. The assessment examined the current REDD+ landscape in the Philippines, and the technical and policy issues relevant for the development and implementation of REDD+.

Through this report, the assessment is providing recommendations to USAID/Philippines that will be used to inform the planning process for their potential future activities, taking into account the resources available to USAID, agency-wide priorities, and the specific country context.

Assessment Methods

The assessment report was developed over a six week period from January 14 to February 25, 2010 by a multi-disciplinary team composed of staff from the U.S. Forest Service and USAID/Philippines. The in-country portion of the assessment was conducted from January 14 to January 21. Primary input came from consultations with national and local government, stakeholders in the field and in Manila, NGOs, donors, and development banks. A list of institutions and persons consulted can be found in Annexes 3 and 4; a list of resources consulted can be found at the end of this document. This report will be shared widely with the Philippine Government, USAID offices in Washington, other US Government agencies, multilateral development banks, and development partners in the Philippines.

CHAPTER 2: FORESTS IN THE PHILIPPINES

This section summarizes the historical forest cover in the Philippines and previous national efforts to map Philippine forests. It also reviews past reforestation efforts and summarizes the lessons learned from these experiences. Any REDD+ programs with a carbon stock enhancement strategy can build upon this long history of reforestation.

Forest Cover in the Philippines

Forests in the Philippines harbor a wide array of biodiversity, perform critical watershed functions, and served as a source of economic stimulus during the 1900s. Undisturbed forest cover is estimated to have ranged over most of the country in 1900 (Table 1). When the Americans gained stewardship over the Philippines after the Spanish-American war, they introduced commercial logging to fuel an export timber industry. Industrial scale logging continued straight into the 1970s, before becoming commercially unviable on a large scale in the 1980s. The Philippines is currently considered a low forest cover country (<25% of land area), with about 1 million hectares of primary forest cover remaining (ADB 2010), and about 100,000 hectares of mangrove forests (Primavera 2000).

Table 1. Forest cover estimates as a percent of total land area over time in the Philippines.

Era	Forest cover estimate
1500's	90%
1900	70%
1920	60%
1950	50%
1960	40%
1970	34%
1987	23.8%
2002	24.4%

Source: ESSC 1998, ESSC 2010.

Two national efforts have been undertaken to map the extent of forest cover in the Philippines, the first in 1987 by the Department of Environment and Natural Resources/National Mapping and Resource Information Authority (DENR/NAMRIA), funded by the World Bank, and the second in 2003 by DENR/NAMRIA funded by the Food and Agriculture Organization (FAO). Many regional or global efforts have also been and are underway at forest cover mapping. While these regional/global mapping efforts provide a consistent backdrop to monitor natural resources, they are not capable of determining forest cover relevant to national scales and are not useful at a management level. Reasons for the lack of appropriateness are varied, but include: scale of data, forest cover definitions, and forest type classifications. Of the two official national forest cover mapping efforts, only the first is made publically available in map form, through sales at NAMRIA offices. One global effort, funded by the EU, looked at forest cover in the year 2000 using satellite data with 1km pixel sizes. The resultant map for the Philippines (see Annex 1), is representative of forest cover at that time. An accuracy assessment of the data used finer resolution satellite imagery and only looked at forested areas, indicating acceptable levels of accuracy (> 80%). No accuracy assessment was conducted in Philippine forest areas, however.

While there are no publicly available accuracy assessments for the two national mapping efforts (see Text Box 1 for an explanation of the importance of map accuracy assessments), an NGO called

Environmental Science for Social Change (ESSC) performed a retrospective mapping analysis to compare results (funded by the Philippines Tropical Forest Conservation Foundation). Completed in 2010, ESSC has made available all map sheets for the Philippines on their website, at a scale of 1:250,000. In addition, tables comparing results between the two previous efforts are also available. Despite this effort at transparency, there is no accuracy assessment information from ESSC, if one was performed.

The most striking finding is that ESSC found a 600,000 ha loss in forest cover (6.4 million ha) from 1987 – 2003 while DENR reported a 200,000 ha gain in forest cover (7.2 million ha) (ESSC 2010). There are many reasons which can mask these differences, including inconsistent definitions and differing methods of data processing. However, the main reasons are that DENR included forest plantations and decreased the forest area definition from 1 ha to 0.5 ha, thereby increasing the total area of forest (Table 2). ESSC only reported natural forest cover types and maintained a 1 ha forest cover definition, to be consistent with the 1987 mapping. According to many stakeholders consulted, one of the biggest debates going forward will be to settle on a consistent forest type classification scheme and agree how to relate previous mapping efforts with current efforts for detecting change over time on a spatial basis.

Table 2. Land cover in the Philippines in 2003 (area in 1, 000 ha).

Land cover classes	Forest Land	A&D Land	Total
Closed Forest	2,481	80	2,561
Open Forest	3,516	515	4,031
Mangrove	154	94	248
Plantation	282	48	330
Other wooded land	4,870	2,839	7,709
Other land	4,112	10,714	14,826
Water	21	162	183
Total	15,436	14,452	29,888

Source: FMB 2003. Land cover classes in bold are all considered forest by DENR-FMB. The total forest area is 7,170,000 ha, on both Forest Land and Alienable and Disposable (A&D) Land. Forest Land is classified as all lands above 100 m above sea level and $\geq 18\%$ slope, and is considered under DENR-FMB management. A&D Land is public domain land not used for forestry purposes.

Text Box 1. Map accuracy assessments

From IPCC GPG for LULUCF, Section 2.3.4 “Uncertainties Associated with Approaches”: “*Good practice* requires uncertainties to be reduced as far as practicable...” Accuracy assessments are widely accepted means for determining uncertainty derived from creation of map products. In general, 80% overall accuracy (or the reverse, which would be 20% uncertainty) is considered sufficient. Things that degrade the quality of a map product include: map producer’s bias, poor quality of input data, and mis-interpretation of statistics. If the uncertainty is unknown, then it is impossible to objectively state the quality of a map product. Further, it will be impossible to introduce Verification (as a component of MRV) of emissions reductions if the uncertainty of the data to be monitored is unknown (in this case, forest cover change over the time of a reporting period).

Background and History of Reforestation efforts in the Philippines

Reforestation efforts in the Philippines began over a century ago but serious efforts were initiated in the 1960s and 70s when concerns emerged about rapid deforestation. In 1975 the revised forestry code legislation strengthened state control over native forest as the government claimed all land with a slope of 18% or more, including mountainous land over 100 meters in elevation, as public domain under the control of the Forest Management Bureau (FMB) of the DENR (Gerriets 1996).

In order to reforest formerly forested landscapes, reduce biodiversity loss, protect watershed function, sustainably produce timber and non-wood forestry products, and gain community involvement in awareness and protection of forests, a number of forestry assistance programs have been introduced by

the Philippine government (See Figure 1 (Chokkalingam et al. 2006) which outlines a timeline for major forestry efforts and legislative activities).

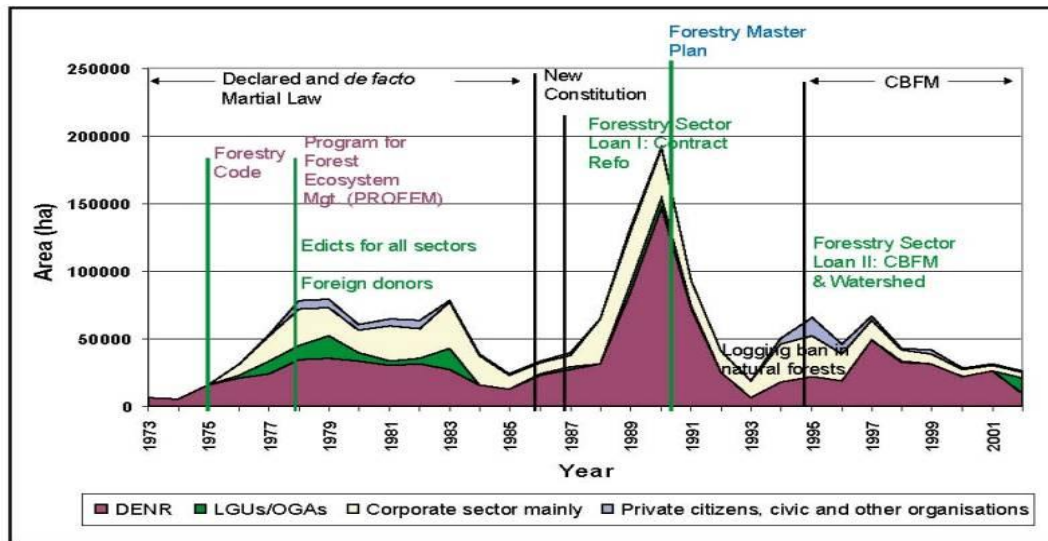


Figure 1. Reforestation efforts (area in hectares) planted by all stakeholders by year - 1973-2002. Adapted from Acosta (2003)

The programs, while introduced by the Philippine Government, often were carried out with financial assistance from domestic, foreign and non-governmental organizations (NGOs). The National Forestation Program (NFP, 1986-2000) was designed with international financial backing (see Figure 1, Forestry Sector Loan #1) to reforest 6.5 million hectares of degraded land and had three main components, namely Contract Reforestation, Watershed Rehabilitation, and Timber Stand Improvement. Early on in the program (Forestry Sector Project (FSP) I) contracts were awarded to corporations, communities, and families with incentives paid for tree establishment. After 3 years the planted forests were turned over to DENR. Numerous problems associated with the post establishment land management of reforested lands prompted the creation of community based programs (FSP II) such as the Forestland Management Agreement (FLMA) and the more current Community Based Forest Management Program (CBFM) which offered communities and families financial and tenure benefits from the areas they reforested (Lacuna-Richman, 2001). To date approximately 1.7 million hectares have been planted between 1960-2002 with survival after establishment recorded around 50% (FMB 2002). More than US\$570 million has been spent on reforestation since the mid-1970s (Chokkalingam et al. 2006). Currently, reforestation programs in the Philippines can draw on over 30 years of experimentation, with substantial insights gained towards arrangements that succeed and/or fail. REDD+ offers a new incentive base that will hopefully re-ignite community based reforestation efforts that optimize ecosystem stability, financial incentives, and conservation of biological diversity.

Lessons learned about Historical Reforestation Efforts

Optimism remains high for reforestation efforts in the Philippines despite some unfulfilled expectations and limited success. Even with the unavailability of long term monitoring results, a few studies have shown on and off-site environmental benefits attributed by reforestation efforts. These examples relate water and soil conservation, and increased soil fertility, and biodiversity with increased tree cover resulting from reforestation efforts (Pulhin 2005; Chokkalingam et al. 2006). Overall, community based restoration models with planting incentives for establishment and socio-economic benefits for

maintenance have proven the most success. However, quantitative documentation of success is limited as performance has largely been measured in terms of target accomplishment and seedling survival and not on long term growth and yield.

A field assessment of 46 forest reforestation efforts was conducted in 2006 (Chokkalingam et al. 2006) to increase the success of future reforestation efforts. Evaluation parameters and analysis spanned numerous factors associated with reforestation including: technical, socio-economic, financial, management, production and marketing aspects. Technically, site specific species selections that optimize biodiversity requirements, ecosystem services, and economic livelihood need to be pursued. Apparently 75% of the forests planted in the FSP I were non-native mono-cultures and incurred large scale pest and disease problems (Korten 1994). Politically, the production and ecosystem functions provided by forests need the support of clear, locally based policies. Pre-planting site specific socio-economic analysis needs to address the primary causes of degradation to guide community incentives. And finally, clear short and long term benefits with a stable funding source and tenure security associated with reforestation need to be completed prior to project initiation.

CHAPTER 3: CURRENT REDD+ RELATED ACTIVITIES AND STAKEHOLDERS

REDD+ interest and consultations began in the Philippines in the NGO community in April 2009. A coalition of NGOs and forest dependent communities formed CoDe REDD, a group advocating for environment conservation and community development through REDD. This group has led the way in getting government, civil society, and forest dependent communities informed and engaged in REDD+ dialogue. Progress on REDD+ was spurred by a history of partnership between the public, private, and non-profit sectors on forest management, which USAID has supported.

In addition to NGOs there are now several donors actively engaged in REDD+ efforts, summarized below. The U.S. government also has related programs both in the Philippines and regionally. Being aware of all of these activities will help USAID/Philippines maximize their contribution to REDD+ by building upon successful programs, identifying gaps where they can complement ongoing activities, and leveraging resources by joining forces with related efforts.

The Philippine National REDD-plus Strategy (PNRPS)

Starting in 2009, CoDe REDD led multi-stakeholder consultations and engaged the DENR and other government and academic institutions in dialogue and workshops that ultimately resulted in the comprehensive PNRPS. The document provides an overview of the forestry sector in the Philippines, a legal review of national policies, and specifies strategies and activities to facilitate REDD+ development over a ten year period (2010-2020), including a three to five year readiness phase and a five year engagement phase. The authors estimate that the full strategy's implementation would cost \$1 billion over ten years. It presents the strategies in seven overlapping components: Enabling Policy, Governance, Resource Use, Allocation and Management, Research and Development, MRV, Sustainable Financing, and Capacity Building and Communication. It emphasizes nine key features of the strategy:

- Assumes a nested, scaling up approach to REDD+, with plans to build on existing data sets, capacity, and initiatives, and develop sub-national REDD+ initiatives in priority areas that can be scaled up in 3-5 years
- Targets projects on sites where emissions reductions can be achieved at a reasonable scale and cost, while seeking to maximize co-benefits (rural development, carbon sequestration, and biodiversity conservation). Focus is on sub-national projects in priority areas where tenure is established
- Recognizes the need for national level REDD+ oversight and management, but prioritizes the decentralization of natural resource management
- Seeks to strengthen and align existing structures, and streamline project development, rather than unnecessarily introduce new bodies and regulations
- Seeks to deliver multiple social benefits: sustainable rural development, promoting community based management and monitoring activities, and emphasizing equitable benefit sharing. Prioritizes community rights to determine how and whether they engage with REDD+
- Seeks to utilize participatory planning, multi-stakeholder and multilevel approaches for planning and implementation
- Assumes an inter-sectoral approach -- views REDD+ as a catalyst for significant, necessary reforms

- Recognizes the central importance of establishing credible national and sub-national emission reference levels and a robust national measuring, reporting, and verification (MRV) system for carbon accounting
- Assumes watershed, natural ecosystem and landscape level approaches to REDD+

The DENR approved the PNRPS in August 2010. It has been presented to the Climate Change Commission and is awaiting their approval. Once approved by the CCC, the government plans to use the PNRPS to feed into the mitigation components of the National Climate Change Strategy and Action Plan. The PNRPS is still evolving and, while comprehensive, there is a need for continued consultations with some groups, especially the private sector, donors beginning REDD+ programs, and government agencies that will be partners in or affected by REDD+ project implementation.

Current REDD+ Activities

Many REDD+ activities have begun by donors, NGOs, and the government. Many organizations mentioned the need for better coordination and information sharing among those engaged in REDD+. Multiple pilots are underway (Table 3). In addition to these the following organizations currently have REDD+ programs.²

Table 3. REDD+ pilots in the Philippines, 2010.

Proponents	Where	Area	Funding source	Strategy
FFI/NTFP, IPs, POs, local NGOs	Quezon Province, Southern Sierra Madre	180,000ha	Swiss Government	In process
FFI/NTFP, provincial LGU, IPs	Palawan Province, Victoria-Anepahan Mountains	50,000ha	Swiss Government	In process
Kalahan Education Foundation	Nueva Vizcaya Province, Ikalahan ancestral forests		Mitsubishi	In process
Conservation International, LGUs, POs	Quirino Province	177ha	MoreTrees, Inc. (from Japan)	Afforestation, Certified CCBA
Conservation International, LGUs, POs	Cabayan Province, Penablanca Sustainable Reforestation Project	2,943ha	Toyota	Afforestation, Certified CCBA
GIZ, LGU's	Southern Leyte	5 municipalities	German Government	Reduced deforestation& degradation; reforestation

GIZ: GIZ is currently the main donor for REDD+-readiness in the Philippines. In addition to their pilot in Southern Leyte, they are working on forest monitoring systems that are Measurable, Reportable, and Verifiable (MRV) and which meet IPCC Good Practice Guidelines using the whole island of Leyte as a

²Information on additional donors in the forestry sector that are not yet working directly on REDD+ can be found in this report in Chapter 8: REDD+ Financing.

reference. They are also conducting four policy studies: (1) Analysis of Forest Policy, (2) Analysis of Key Drivers of Deforestation and Forest Degradation, (3) Clarifying Carbon Rights, and (4) Assessment of FPIC Implementation.

UN-REDD: UN-REDD has provided \$500,000 for Phase 1 program development. The anticipated outputs of the first phase include: facilitating commitment on REDD+ from key governmental stakeholders, production of education and communication materials, defining a multi-stakeholder coordinative mechanism for REDD+, producing a capacity assessment report and development of a draft capacity development program, facilitating the adoption of the PNRPS, and identifying safeguard baselines and a harmonized methodology for reference baselines, including a national MRV approach (UN-REDD project document 2010). This phase will also include the identification of three pilot sites. More funds for program implementation are expected for Phase 2.

Asian Development Bank: Through a \$100 million loan, ADB's Integrated Natural Resource and Environmental Management (INREM) will work with provincial LGUs on watershed and ecosystem planning in four large river basins: two in Mindanao, the Chico River in the Cordillera region, and Bohol. The program is still under development and will have some REDD+ components.

Ateneo School of Government: With funding from the Philippines Tropical Forest Conservation Fund, Ateneo is developing REDD+ training modules for building capacity and increasing understanding of REDD+ at local levels. The goal is to harmonize REDD+ training throughout the country and, through the trainings, create a community of practitioners skilled in developing and implementing REDD+ activities.

Related USG Initiatives

Through the US Global Climate Change Initiative (GCCII) and other climate-related programs, the United States will integrate climate change considerations into foreign assistance to foster low-carbon growth, promote sustainable and resilient societies, and reduce emissions from deforestation and land degradation. USAID is currently implementing bilateral climate change programs in partnership with host countries around the world. U.S. technical agencies are also involved in international climate change programs through research, trainings, and technical exchanges.

Enhancing Capacity for Low Emission Development Strategies: Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) is a joint USAID and State Department initiative to support developing countries' efforts to pursue long-term, transformative development and accelerate sustainable, climate-resilient economic growth while slowing the growth of greenhouse gas emissions. The initiative will build capacity in partner countries, provide targeted technical assistance, and develop a shared global knowledge base on LEDS. This program is country-driven; support for creating and implementing a LEDS will be tailored to each country's unique capacity, technical, analytical, and policy needs.

Silva Carbon: This interagency program, funded by USAID and the State Department, is part of the U.S. government's committed for fast start financing for REDD+. By collaborating with many U.S. technical agencies, its goal is to increase capacity worldwide in forest carbon monitoring and management through demonstration and testing of forest carbon monitoring methodologies, development of guides and manuals, and information sharing and outreach. While the Philippines has not been selected as a demonstration site country, they could benefit from the lessons learned from forest monitoring

methodologies tested in the demonstration countries, in addition to possibly being engaged through the outreach activities of the program.

Regional Development Mission for Asia Programs: RDMA has two new relevant, regional programs that could include cooperation with the Philippines: Asia Regional Sustainable Landscapes Program and Low-Emissions Asian Develop (LEAD) Program. In the former, the Philippines will not be included as a country for on-the-ground activities, but could be included in the regional information sharing activities and training for best practices in REDD+ readiness. The LEAD program aims to complement the bilateral LEDS initiatives with regional capacity building and knowledge-sharing activities. Since Philippines is now a LEDS country, they will be included in these efforts. USFS is providing technical support to both of these programs in the areas of forest inventory and monitoring, remote sensing, and policy issues.

Women in Development Project: USFS is working with the USAID/Women in Development office on a program aimed to increase women's engagement in and benefits from REDD+ programs in Asia. As part of this program, a team conducted an assessment of how well REDD+ programs in Asia have integrated gender, with a resulting report that summarizes lessons learned from existing efforts and provides recommendations for increasing women's engagement in REDD+. The draft report was released in March 2011. A three-day regional training in Bangkok in February 2011 based on the report recommendations included one Filipina participant. Through this program a gender expert will work with the implementers of RDMA's Asia Regional Sustainable Landscapes Program to ensure gender is integrated into their program.

Tropical Wetlands Global Carbon Initiative: Funded by USAID, USFS is working with the Center for International Forestry Research (CIFOR) on a study of carbon storage in wetlands throughout Asia and the world. Mangroves store more carbon than other tropical wetlands (Donato et al. 2011) and have a significant role to play in climate change mitigation. Through this program the scientists involved would like to intensify sampling in mangroves in multiple countries, including the Philippines. This would result in better knowledge on carbon storage in Philippine mangroves, and could be co-located with potential REDD+ sites.

Regional Capacity Building for Sustainable National Greenhouse Gas Inventory Management Systems in Southeast Asia: Through this project the EPA is working with the Philippines on improving its greenhouse gas reporting in all sectors, including forestry. This project seeks to improve the institutional capacity of a country to accurately report its greenhouse gasses by providing training on tools that assist in the consolidation and analysis of data. Phase I of this program in Southeast Asia is a three-year UNFCCC project that is being done with technical assistance from EPA. The program began in 2007 and targets seven Asian countries including Philippines. During Phase 1 (October 2009) there was a training in the Philippines on the Agriculture and Land Use (ALU) tool, a software tool for consolidating inventory data and estimating emissions from agriculture, land use, and forestry. Participants from the Manila Observatory, DENR, and the College of Forestry and Natural Resources at UPLB attended the training. The Philippines also participated in two regional meetings on tools for estimating emissions (compiling data, etc.) in April 2008 and May 2009. These trainings contributed to general improvements to Philippines' draft National Communication, primarily for agricultural emissions, which will be finalized this year. Phase 2 of the program will be implemented over the next two years and will build upon the work that each country has accomplished during Phase 1. In the Philippines, Phase 2 will be focused on addressing data needs, developing more accurate land use/land cover maps, and producing their agriculture, land use, land use change and forestry GHG inventories for their next National Communication.

CHAPTER 4: FOREST INVENTORY AND MONITORING

Documenting emissions reductions from any REDD+ strategies (avoided deforestation, avoided degradation, or enhancement of forest carbon stocks) will require forest inventory and monitoring. A national forest inventory, combined with remotely sensed mapping, is necessary for understanding large scale trends in forest cover, carbon stocks, and other measured parameters throughout the country. Sub-national efforts in forest inventory and monitoring are used for specific project areas in order to establish a baseline of forest carbon for the project area and monitor the success of project activities in terms of carbon. This chapter summarizes the national and sub-national initiatives and capacity in the Philippines for forest inventory and monitoring as they are relevant for REDD+ programs.

Background on UNFCCC and REDD+

Credible forest inventories are comprised of several components: data collection, data management and storage, data analysis, and reporting. Each component also requires standards which incorporate Quality Assurance/Quality Control (QA/QC) methods to ensure the data and ensuing analyses are credible and transparently meet stated objectives. These attributes hold true with or without REDD+ initiatives; however with REDD+, a forest inventory must include these components if the inventory is to be considered Measurable, Reportable, and Verifiable (MRV).

There are several facets of inventorying forests within a REDD+ framework. In the language of the UNFCCC these are activity data and emission factors. The former refers to the type of data needed to monitor Land Use, Land Use Change, and Forestry (LULUCF), while the latter estimates the change in carbon stocks associated with land use change. Activity data and emission factors combined form the basis of a Reference Emissions Level (REL), or historical baseline of emissions. This baseline documents the past trends. When there is a historical trend of emissions sources (as opposed to sinks, or net gain in carbon stocks), then analyses of the drivers of deforestation and/or forest degradation need to be conducted. Once drivers have been identified, strategies can be developed and implemented to address these drivers and reduce the emission losses. Measuring/monitoring plans then help to document the successfulness of these strategies. Forest inventories that are Measurable, Reportable, and Verifiable are critical in both developing the REL and in monitoring plans.

Activity data are generally submitted in the form of maps, and demonstrate how land changes from one land cover type to another using a time series. The time series is then broken down into a change matrix which illustrates transition between land cover types.

Emission factors are based on the biomass estimates for each land cover type. Carbon stocks are generally half of the biomass present, and carbon stocks are reported in Megagrams/hectare (Mg/ha). When an area of land cover transitions from one land use to another, for example from primary forest to logged forest, or from logged forest to agriculture, the emission factor estimates the carbon lost to the atmosphere. Likewise, emission factors can also estimate the amount of carbon sequestered from the atmosphere, as when an area of deforested land is reforested. Emission factors estimate the *sources* (C lost) and *sinks* (C sequestered).

Past and current initiatives

National level: emerging REDD+ readiness

In the Philippines, there have been two national efforts at mapping forest cover across the country. The first was in 1987, funded by the World Bank with assistance from the Swedish Space Corporation, and the second was in 2003, funded by FAO. Both of these efforts were accomplished through DENR-National Mapping and Resource Information Authority (NAMRIA). Neither effort published an assessment of the accuracy of the maps. The 2003 mapping effort was intended to undergo ground-truthing/validation exercises in collaboration with DENR regional offices; however, this was never realized due to financial and institutional constraints. Efforts to compare these data sets have been hampered by inconsistent definitions of forest, inconsistent land cover classification schemes, and inconsistent mapping scales. One study (Natividad 2009) attempted a land cover change analysis and found that the Philippines has increased forest cover between these two time periods, mainly due to Community Based Forest Management activities. However, given the lack of consistency and QA/QC, this result is only indicative and not definitive.

Environmental Science for Social Change (ESSC) is an offshoot of the Manila Observatory that conducts environmental research and advocacy. Around 2008, ESSC was awarded a grant from the Philippine Tropical Forest Conservation Foundation (PTFCF) to do a forest cover mapping project using images from 2000-2002. The objective of this analysis was to compare results with the 2003 NAMRIA forest cover mapping. Results indicate significant differences between the two map products, with about 300,000 ha less natural forest cover than the NAMRIA maps (ESSC 2009). While some different forest cover definitions were used, the methods were similar. The process employed by ESSC included several open workshops which provided transparency and rigor. Maps and figures are available on the ESSC website; however there is no information on accuracy assessments to get a sense of the quality of the data.³

NAMRIA is currently developing updated land cover maps for the country, with a baseline year of 2010. Acquisition of satellite data is complete for approximately 70% of the country. This data is from a radar sensor (PALSAR), and sponsored by the Japanese Space Agency (JAXA). Radar data is beneficial in that the issues of cloud cover are minimized (radar penetrates the clouds); however, analysis and interpretation is more complex than that of traditional satellite data (i.e., Landsat ETM). NAMRIA and FMB have agreed to share costs on ground-truthing/validation, with the former committing to 30 provinces initially. Field efforts will be led through FMB provincial offices and will begin as map products near finalization on a staggered basis. When asked about QA/QC and/or standardization of field procedures for validation, NAMRIA staff did not seem to have a clear plan of action.

The Department of Agriculture, in collaboration with DENR through the National Convergence Initiative, is preparing to acquire sub-meter satellite imagery for the entire country (from the WorldView sensor). According to NAMRIA staff, this imagery is intended to be used for forest boundary delineation across the entire Philippines, at a cost of approximately 200 million pesos. There are technical specifications which are holding up the acquisition process, but the funds are committed. When acquired and processed, these data could be a rich source of information.

³ There may be accuracy assessment information in a methods document on the website. However, at this time this document is corrupt and non-accessible.

NAMRIA has proposed the outline of a National Spatial Data Infrastructure (NSDI), whereby all national level spatial data purchased by GPH is processed and managed at their facility. In 2009, NAMRIA signed an MoU with Australia to support conceptual development. The concept of an NSDI, however, generally extends to data sharing across institutions and levels of government. According to various stakeholders involved, the process of NSDI development is lagging. Currently NAMRIA sells digital and hardcopy map products only at a few select locations around the country. There is a distinct lack of standardization and metadata that is obvious across scales.

Many countries around the world rely on National Forest Inventories (NFI) for estimates of forest biomass. The FAO facilitates NFI (referred to as the Forest Resource Assessment, FRA, by the FAO) efforts in developing nations, and most recently supported a GPH FRA in 2002-03. Ideally, an NFI is a statistically valid representation of forest condition across an entire country. Often, as in the case of the Philippines, the NFI is implemented only in government forest reserves, with little QA/QC, poorly defined measurement quality objectives (i.e., dbh +/- 0.1cm), and no reporting or peer review mechanisms. If implemented with these components, an NFI has the potential to report biomass (or MgC/ha) per forest cover type/land cover type from which emission factors can be estimated.

In the 2002-03 FRA, the Philippines installed 363 NFI plots across the country. The report to document this effort was only published in late 2010. While providing a snapshot of forest cover and condition, there were no standard errors or confidence intervals reported in the GPH FRA report. GIZ is initiating REDD+ pilot work in Leyte. Part of the initial work included ground-truthing some of the FRA plots in Leyte, with the original field data. According to GIZ staff, the field data did not match up with conditions on the ground when visiting specific FRA plot locations. These issues call into question the validity of the FRA data and its potential usefulness within a REDD+ framework. If the data are not Measurable, Reportable, and Verifiable, then the data have limited use.

DENR has already requested FAO to assist with another FRA. If/when UN-REDD begins Phase 2 in the Philippines, FAO will possibly support another FRA. If this happens, other donors wanting to contribute to a national forest inventory could target their efforts on specific technical aspects, such as data management or development of allometric equations to increase accuracy and efficiency of stand level biomass estimates.

There are several prominent scientists in the Philippines that have produced research results on biomass emission factors across the country. Most notably, Dr. Rodel Lasco at the International Center for Research in Agroforestry (ICRAF) has been publishing results from site-based research around the country for over ten years. His work is often cited, and is being used in compiling emissions estimates for the forest sector in the GHG Inventory for the Second National Communication to the UNFCCC. Some of his most important work is documenting biomass growth and yield in plantation tree species, which has important implications in a REDD+ framework for afforestation. However, some of the literature available does not report standard errors or confidence intervals for biomass estimates.

In their First National Communication to the UNFCCC in 2000, the Philippines used 1994 data to estimate forestry emissions. They reported that in the forest and land use sector the Philippines was a net carbon sink of 126 Gg CO₂ equivalents. This is consistent with more recent FAO data that show forest cover in the Philippines increasing since the early 1990s (FAO 2010). However, FAO also estimates that biomass is continuing to be lost. In addition, some of the reported forest cover increase is likely due to reforestation efforts, which are difficult to monitor by satellite in the first few years and have limited

long-term on-the-ground monitoring as well (see Chapter 7), meaning the reports of increasing forest cover might be overestimated.

The Manila Observatory is an institution tied to the Ateneo de Manila University. MO is currently leading the development and submission of the Second National Communication to the UNFCCC for the GPH GHG inventory. Forest sector data entering the communication was mainly provided by Dr. Lasco at ICRAF. Despite the known data sources, Dr. Lasco advised MO that the data has significant limitations and unknown levels of uncertainty. None of the forest sector data in the communication is spatially based. Therefore, there are only global level estimates of deforestation and no estimates of degradation. MO has been engaged with a regional effort through the UNFCCC that ties in expertise with the U.S. Environmental Protection Agency (EPA). This is a capacity building effort, whereby EPA (and Colorado State University, also with USFS assistance) developed the GHG reporting tool called ALU.⁴ This is a spreadsheet based reporting mechanism which assists with consistent data management, reporting functions, and identification of key reporting categories. It does not improve data, but does improve the “R” in MRV. MO also has an active partnership with NASA for monitoring GHG flux using space-based assessment technology. One MO staff is currently attending a PhD program at Purdue University in remote sensing, with a focus on improving deforestation modeling in the Philippines.

Sub-national level: voluntary carbon market readiness

Several local efforts around the country are attempting to develop forest inventory and monitoring procedures that will be acceptable for entry into the voluntary carbon offset market. These efforts are sponsored bilaterally or by the private sector (see Table 1 in Chapter 3). Progress in meeting voluntary market standards has been made by Conservation International (CI) through their work with Local Government Units (LGUs) and People’s Organizations (POs). The main strategy is afforestation or planting of trees on marginal agricultural lands in order to sequester carbon. Both projects facilitated by CI have been audited and approved for certification according to the Climate, Community, and Biodiversity Alliance standards (CCBA), by the Rainforest Alliance (an accredited CCBA Certifying Body). CCBA standards are used as a tool to assess project design quality and co-benefits, in addition to planned carbon emission reductions and sequestration. CCBA standards do not measure project implementation or evaluate emission reductions.

There are two primary sets of standards in the voluntary market: the CCBA and the Voluntary Carbon Standard (VCS). The latter demands more rigor and scientific accountability in the project design, while providing little attention on co-benefits. CI achieved CCBA project method validation and is now seeking VCS project method validation as well; however they have not yet registered in the VCS database as a project proponent. In order to achieve verified emission reductions, the project will be required to pass VCS validation and deliver monitoring results which will be cross-checked during periodic independent audits. Currently, CI and the project funders are paying local farmers to count all seedlings planted on each parcel in order to monitor survival and growth. Eighty percent survival is required to be considered successful.

GIZ is initiating a five year program in collaboration with DENR and others for REDD+ readiness at national scales as well as pilot initiatives in the province of Leyte. There are a number of components which were beginning at the time of writing, including partnering with MO on LULUCF analysis and identification of the drivers of deforestation/forest degradation, among others. While GIZ has been

⁴See the following for a brief history of this effort:

http://unfccc.int/files/methods_science/redd/application/pdf/revet_unfccc.pdf

active in the forest sector for a number of years, the field initiatives for REDD+ are at the initial stages. The eventual goal of this REDD+ pilot is to become VCS certified.

Current capabilities and gaps to address REDD+ readiness

National level: government agencies and universities

NAMRIA is a technical agency that mainly works on an as-needed basis, and to the specifications of the stated deliverables. NAMRIA staff have produced high quality map products using traditional sources of data (i.e., LandSat) and are familiar with the techniques of quantifying land cover change and developing accuracy assessment procedures. In the current work with radar data, NAMRIA acknowledges their lack of adequate software and human resource capacity to process the data into consistent map products. Forest cover classification schemes have been agreed upon with FMB, and are broken down into class estimates of percent cover. The FMB definition of forest is $\geq 10\%$ cover, ≥ 0.5 ha, ≥ 2 m height. NAMRIA and FMB have decided on mapping forest cover classes from 10 – 40%, 41 – 70%, and $> 70\%$. In the past, NAMRIA has used a remote sensing analysis tool developed through ITTO called the Forest Canopy Density mapper. This tool assists in interpreting LandSat satellite images into forest cover classes. However, the tool relies on the LandSat ETM thermal band. Currently, LandSat ETM data is of poor quality due to mechanical problems on the satellite. With persistent cloud cover and data of varying quality, NAMRIA is having a difficult time in producing map products that accurately represent the forest cover classes. This is not a trivial issue, as forest cover of 10 – 15% is very minimal over 0.5 ha (i.e., at the minimum, a 5 m x 5 m area), and difficult to detect at national scales. Given adequate funding, some targeted training, and proper direction, this agency should be able to deliver map-based products for documenting activity data that are consistent with UNFCCC IPCC Good Practice Guidelines for the forest sector.

FMB has a large staff at the central offices in Quezon City; however, site level management processes have been decentralized to the provincial level for many years. There is not a system of permanent sample plots that would assist in the development of forest biomass estimates. While FMB lacks a central Management Information System, forestry resource statistics are published on a yearly basis through the Office of the Director and available on the FMB website. Most statistics relate to forest product utilization, processing, and trade. There is no updated data on forest cover or condition across the country. Likewise, FMB has no clear standardization for monitoring and evaluation, or the development of activities across the scales of function.

The Manila Observatory's work on the Second National Communication is nearing completion. This document is not yet public, but MO staff were willing to share insights and opinions on the process of compiling data across all sectors (energy, transportation, agriculture, forestry, etc). The transportation sector's data seems to have been well organized and readily available, while the forestry sector data was lacking consistency and accountability. MO sees the ALU tool as a key component of organizing data in a consistent manner. Through the "Regional Capacity Building for Sustainable National Greenhouse Gas Inventory Management Systems in Southeast Asia" project (see Chapter 3), MO attended one introductory training on ALU and are currently waiting for follow-on assistance.

ESSC staff are currently working with FAO on validation of national forest cover maps for 1990 and 2000. Results are expected in mid-2011. For the 2002 map comparison analysis, the most challenging gap identified relates to forest degradation. Results from the 2009 ESSC workshops indicate that it is most important to determine differences between closed canopy forest and open canopy forest. It is generally accepted that the pathway to deforestation begins with forest degradation. Without clear

methods and definitions to determine where degradation is occurring, accompanied by socialization of the information to develop action plans, deforestation will continue.

The University of Philippines-Los Banos, College of Forestry and Natural Resources (UPLB-CFNR) has extensive experience in forest management research and training. There are two centers at CFNR that relate to REDD+: the Training Center for Tropical Resources and Ecosystem Sustainability (TREES), and the Forestry Development Center (FDC). TREES is an extension unit that works on a contractual basis in providing training, mentoring, and monitoring to forest practitioners at many scales. TREES has the ability to draw on expertise of NGO's, government agencies, and civil society as well. FDC is a unit that conducts policy research and facilitates science to policy by working with legislative bodies. CFNR has recently submitted a proposal to PTFCF for development of a university network that would support development of REDD+ pilots. The network would draw on CFNR's existing expertise and institutional experience, and provincial universities and colleges in order to support existing REDD+ pilots as well as to assist in development of new pilots.

Sub-national level: Civil society and the private sector

Current capabilities within NGOs and civil society are varied. There is a vast amount of information and recent history regarding development of REDD+, and it is rapidly evolving as well. The CoDe REDD initiative is a multi-stakeholder response to take stock of current capacities and develop plans for meeting REDD+ readiness. While government agencies were involved in this process, NGOs led the initiative along with universities and civil society. The outcome of CoDeREDD is the PNRPS, and development of working groups to create sectoral roadmaps (i.e., CBFM, monitoring, etc). The strategy and roadmaps are key pieces of information in facilitating national REDD+ readiness. However, additional information is needed on project-level readiness and increasing standardization and coordination among pilots.

Technical capacity across NGOs is varied, and the level of involvement with REDD+ initiatives depends on the goals and objectives of the organization.

The private sector has little overall representation regarding climate change preparedness and there was minimal private sector participation in the PNRPS consultations. In forest carbon programs beyond REDD+ (i.e., voluntary markets), the private sector has an important role to play in developing standards and financing.

Conclusions

The international debates over REDD+ will continue for the medium term. The Kyoto protocol is scheduled to close at the end of 2012, so there is motivation for UNFCCC stakeholders to move towards an agreement on REDD+. However, the general trend of agreements through the UNFCCC do not lean towards creation of a robust, mandatory carbon emissions trading scheme which REDD+ would be able to tap into. It is difficult to assess what the outcomes will be at the end of 2012; however some sort of continuing REDD+ readiness support is likely. Emissions regulations in the U.S. and European Union may, however, stimulate voluntary markets, in which case REDD+ pilot projects may have more of a market through private sector initiatives which involve civil society with the support of governments.

In the context of inventory and monitoring, these debates help to shape activities for supporting programs like Sustainable Landscapes. Indicators for SL funding include a long, illustrative list. The one indicator that will most likely be included is "Tons of carbon emissions reduced and/or avoided." In order to achieve emission reductions from the forest sector, a forest carbon pilot will be required.

Assistance in inventory and monitoring required to document emissions reductions will also be required. This assistance would need to focus on the pilot area, as preparedness for a voluntary market, but it could also expand to provide support for national level initiatives. Pilot projects could also include Payment for Environmental Services approaches, as in the USAID-RDMA watershed enhancement project in Vietnam. Integrated approaches with incentives have strong likelihood of successful impact in the long term.

CHAPTER 5: POLICY AND GOVERNANCE

The Philippines has a large body of legislation dealing with climate change, forestry, PES, community forestry, ancestral lands, and safeguards upon which to build or integrate REDD+ concerns (Annex 3). This body of legislation and policies needs to be reviewed in order to see if they apply and are adequate for REDD+ actions. Under GIZ's "Climate-relevant Modernization of the National Forest Policy and Piloting of REDD+ Measures in the Philippines" program, GIZ is funding a six-month analysis of gaps and conflicts in existing laws and proposed legislation at both the national and local level in relation to REDD+, scheduled to be completed by May 2011. This analysis will be extremely relevant for any organization planning or implementing REDD+ projects in the Philippines.

This chapter provides an overview of the existing policy and governance capacity in the Philippines relevant for REDD+ programs, the institutional capacity and relevant government bodies for REDD+ implementation, and some of the constraints in policy and governance that REDD+ programs will need to address.

Existing Capacities in Policy and Governance

The Philippines signed the UN Framework Convention on Climate Change (UNFCCC) in 1992 and has been party to the Kyoto Protocol since 2003. They have been actively engaged in UNFCCC expert subsidiary bodies and climate negotiations to develop a post Kyoto agreement, as well as in the negotiations to develop a REDD+ framework. At the UNFCCC COP16 (Cancun Dec 2010), developing country participants were requested to develop a national REDD+ strategy, national forest reference emissions levels (against which progress on reducing emissions would be measured), a robust and transparent national forest monitoring system, and a system to provide information on safeguards. The decision to allow for a forest carbon market was deferred until COP17 which will take place in Durban, South Africa in November 2011. The Philippines submitted its First National Communication on Climate Change in 2000 and is currently working on its Second National Communication.

The Philippines has passed several laws and policies, and is currently debating a proposed Sustainable Forest Management Act and proposed National Land Use Act, which will guide and influence REDD+ planning and implementation in the country. These laws, policies, and initiatives are summarized in Annex 3. Currently, there is no national REDD+ policy in place; however, the draft Philippine National REDD Plus Strategy (PNRPS) is awaiting presidential approval. Section 8.5 of the National Framework Strategy on Climate Change (NFSCC) references a National REDD+ strategy, alluding to seven strategic priorities which are largely based on the ideas within the draft PNRPS.

The Philippines was one of the first countries to develop a REDD+ strategy. This is particularly impressive since the Philippines created the strategy without having support from the current major multilateral REDD+ funding mechanisms at the time. More importantly, the Philippines REDD+ strategy was not developed in a top-down manner, but instead catalyzed by civil society and a true multi-stakeholder process. This achievement in itself shows the urgency and importance the country has put on climate change and REDD+.

Also in their favor is the Philippines' history with decentralized, community based natural resource management. Lessons learned will hopefully help enrich the country's REDD+ approach and planning in

engaging LGUs and communities in REDD+ participatory planning, multi-stakeholder, and multilevel approaches for planning, implementation, and monitoring.

There are several ongoing projects dealing with PES and REDD+ which will be useful in informing future REDD+ activities, methodologies, and legislation. In addition to pilots, UN-REDD and GIZ are working on policy and governance issues. Lastly, the Philippines has a vibrant civil society and strong research and academic community who are involved in some of these programs and engaged in REDD+ discussions at the national level which informs policy development.

Finally, while many of the stakeholders interviewed were enthusiastic about the potential *financial* benefits of REDD+, many took a long term perspective in their vision and expectation that the greatest benefits REDD+ has to offer the Philippines is more thoughtful planning in terms of: land use policy and forest management; decreased deforestation; improved implementation of forestry and reforestation initiatives; better enforcement of laws; enhanced engagement with local communities; and, sound monitoring, reporting and verification systems. This type of perspective and approach is conducive to long term planning and balancing of expectations among stakeholders.

Key Government Bodies involved in REDD+

There are many governmental bodies that are currently involved or will be involved in REDD+ planning (Figure 2). It will take time to clarify and define the operational mandates of each governmental body involved. In particular, decision-making authority and reporting structure remains to be clarified. These issues should be addressed to make the Philippines a more attractive environment for REDD+ investment. Much of the responsibility for defining these processes lies with the Climate Change Commission.

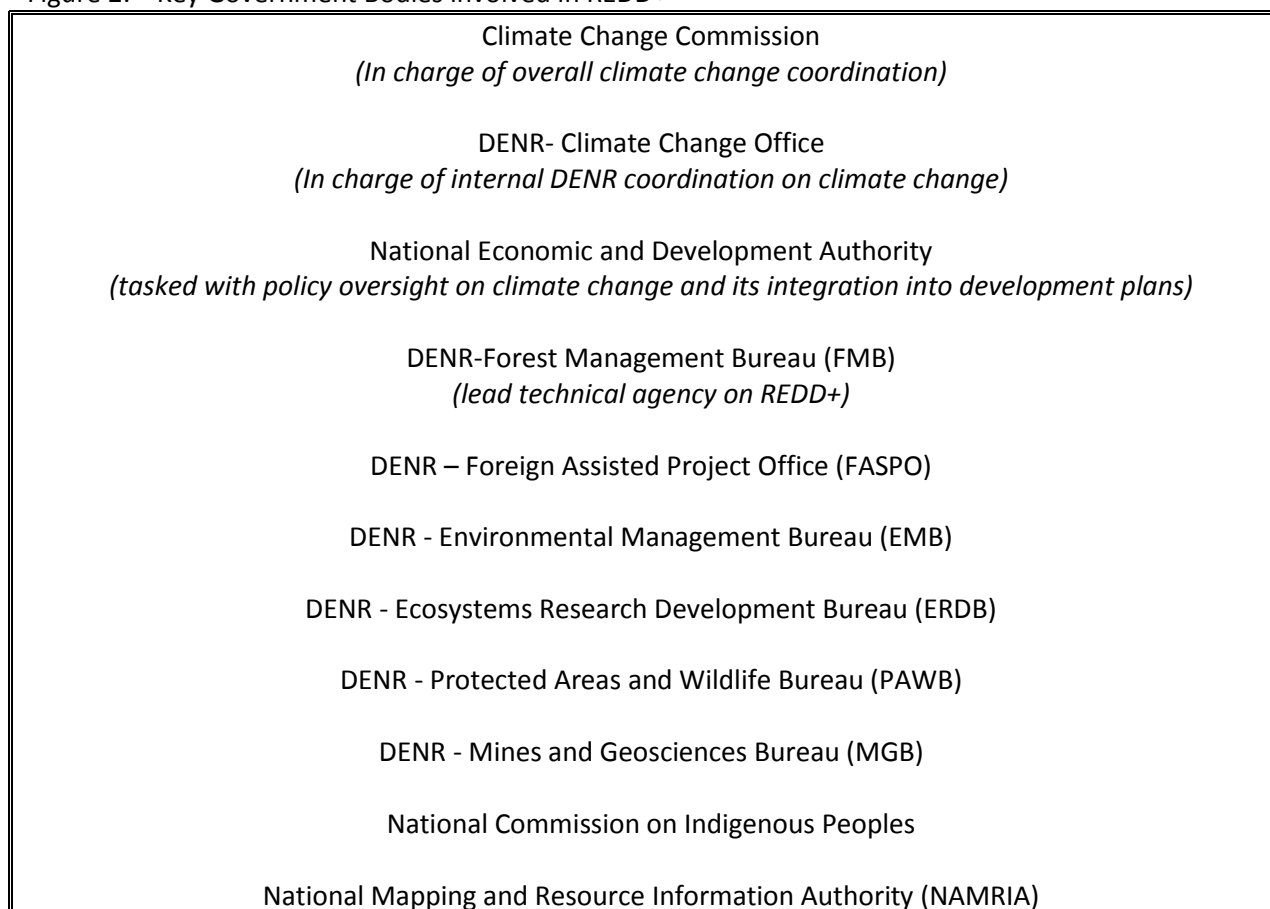
The Climate Change Commission (CCC) was created in 2009 under the Climate Change Act (RA 9729). It is composed of three commissioners and led by the President. Its role is to be the “sole policy making body of the government which shall be tasked to coordinate, monitor, and evaluate the programs and action plans of the government relating to climate change” (Republic Act 9729, 2009). The Act designates the creation of an advisory board composed of the heads of the different governmental departments in charge of respective sectoral planning, programming and implementation. In addition, a technical advisory panel will be formed to advise the CCC. The Act also mandated the following be created: a National Framework Strategy on Climate Change, National Climate Change Action Plan and Local Climate Change Action Plans.

While some may debate the need for another layer of bureaucracy like the CCC, the development of this Commission at the highest level shows the Philippines political commitment and priority to climate change issues. There is a need, however, to ensure that this Commission does not add another layer of red tape to an already complicated bureaucracy, but instead adds value by enhancing coordination, providing clear direction, and access to timely high level decisions and needed legislative changes.

The Philippines recently joined the UN-REDD program in February 2010, and has been allocated the first tranche of funding, \$500,000, for readiness activities. The anticipated outputs of the first phase include: facilitating commitment on REDD+ from key governmental stakeholders, production of education and communication materials, defining a multi-stakeholder coordinative mechanism for REDD+, producing a capacity assessment report and development of a draft capacity development program, facilitating the adoption of the PNRPS, identifying safeguard baselines and a harmonized methodology for reference

baselines, including a national MRV approach (UN REDD project document, 2010). While the UN-REDD capacity assessment process will hopefully address the coordination issues amongst the different departments/bureaus, this may be one area in which USAID can provide additional assistance, for example, by holding workshops to facilitate discussions and charting out process flows of a REDD+ project to identify potential bureaucratic roadblocks or confusion over mandates.

Figure 2. Key Government Bodies involved in REDD+



Constraints and Opportunities in Policy and Governance

During the readiness phase, in order for the Philippines to fully take advantage of REDD+ opportunities, it needs to address some of the constraints in policy and governance, as well as institutional capacity. Listed below are some potential areas (not an exhaustive list) in which USAID may want to engage, based on existing initiatives and needs.

- The Forestry Code (PD 705) should be reviewed and the definition for “forests” reexamined.**
 Forest land is currently defined as any land over 18% slope and over 100m elevation, regardless if there is forest cover or not. Forest cover is any patch of forest that is ≥ 0.5 ha, with 10% cover, and ≥ 5 m in height. This is problematic because it may limit the eligible areas for forestry carbon projects by ignoring substantial emissions from forest degradation (Sasaki and Putz 2009). This issue of a widely acceptable definition is also critical to the national communications process and to establish credibility in baselines and measurements. Third party expert opinion

and analysis on this issue, especially its application in REDD+ activities, could help inform any potential changes. This Code, which focuses mainly on commercial timber extraction, sets out a system of land classification, which is geared toward utilization objectives. Many feel that this law needs to be revised to incorporate efforts to reduce deforestation, combat degradation, and enhance the multiple uses of forests (PNPRS 2010).

- **Tenure and carbon rights should be defined before REDD+ opportunities can flourish, as brought up by the Philippine delegation in Cancun.** Laws should clearly spell out how benefits from carbon sales can be shared on state-owned forestland managed or co-managed by local communities and under the different tenure arrangements allowed under Philippine law (Bloomley 2010). For example, overlapping but separate possession and use rights complicate the question of who has the right to sell ecosystem services in a given area. This is particularly complicated with a good like carbon, which can also be bundled with other environmental services like water, habitat, and non timber forest products. There are also important social considerations, such as allowing subsistence use by traditional communities who have lived in the potential REDD plus area for generations, without formal recognition from the government (Hawkins 2010). On the ground REDD+ or PES projects can help identify and resolve potential issues regarding tenure and carbon rights; in this respect, USAID may want to develop a pilot project in a priority area (possibly in a past Eco-Gov area with high climate change vulnerability) to further explore the dynamics of carbon ownership or perhaps even a project dealing with bundled ecosystem services.
- According to the PNPRS (Appendix C - SWOT), one of the weaknesses identified was that the **“current level of awareness at all levels of government, local communities, private sector, and CSO is low regarding the interaction between forests and climate change, the concept of REDD+ .”** Several of those interviewed felt that FMB’s ability to implement and manage REDD+ needs strengthening. In particular, there is a need for training to assist in shifting mindsets from years of emphasis on mainly utilization to broader multiple use forestry objectives, especially ecosystem services management. Potentially, USAID could assist FMB in developing and delivering a training program on issues such as forest carbon project management, monitoring and verification and carbon accounting, UNFCCC procedures and guidelines for REDD+ methodologies, requirements of different carbon schemes, and stakeholder engagement in regards to REDD+ (Harvey et al 2010). Another potential area of work is to assist FMB in integrating carbon and ecosystem services management into their strategic plans and work plans. In this effort, USAID can partner with the Ateneo School of Government, which is currently working on educational modules for local governments and other stakeholders. Local government units will soon need assistance in preparing their respective Local Climate Change Action Plans (LCCAP) and integrating climate concerns into their development plans.
- Legislation also needs to be reviewed to ensure legal frameworks are in place for safeguards and to assess the implementation of those laws. The GIZ program will be reviewing and providing recommendations on social safeguards, in particular on procedures for free, prior, and informed consent (FPIC) of indigenous peoples and models of benefit sharing. **However, safeguards are lacking in regards to financial flows and the process in which REDD+ financing will be handled and financial transparency ensured.** The Climate Change Act was silent in regards to REDD financing. This may demonstrate a need for new legislation or the review and amendment of existing, relevant laws.

- **Multi-sector coordination on climate change will be critical.** REDD+ should be integrated and coordinated with the plans below at the national, provincial, and local levels in order to be aligned and attuned to the country's development principles, goals, and priorities. Providing assistance to local governments and NEDA through expert advice or facilitation in this effort may be beneficial, as well as providing assistance to DENR to facilitate discussions with stakeholders to determine roles, responsibilities, and capacity building needs in the implementation of REDD+ at the national, regional, provincial, and LGU level.
 - 2011-2015 Philippine Development Plan (PDP)
 - Public Investment Program (PIP) and sectoral plans
 - Regional Development Plan(s) (RDP)
 - Regional Investment Program(s) (RDIP)
 - Provincial Development Plans (PDPs)
 - Provincial Physical Framework Plan (PPFPs)
 - Comprehensive Land Use Plans (CLUPs)
 - Comprehensive Development Plans (CDPs)
- **Build on existing GPH initiatives, including integrating REDD+ planning into the new five-year *National Greening Program*.** If strategically planned, there is potential to identify sites for reforestation that will meet both the goals of the NGP and qualify as a potential REDD+ project under the voluntary market. There may be opportunity to assist DENR in the analysis and planning of the NGP, specifically exploring how the different requirements, financing, and goals of NGP and a REDD+ project can be complementary.
- It was recognized by some of those interviewed that private sector engagement in the development of the PNRPS was not robust. Obtaining private sector feedback on the PNRPS and their potential role will help to **identify potential private sector partners and catalyze their participation.**
- While the Philippines does have primary forest cover remaining— about 1 million ha – it is considered a low forest cover country (<25% of land area) (ADB, October 2010). There is no doubt that these remaining untouched areas of forest must be conserved for important cultural, environmental, and biodiversity reasons. In fact, in the near term, protected areas already covered by legislation can begin engaging in REDD+ activities (PNRPS, Appendix C). However, the Philippines greatest potential regarding REDD+, lies in reducing forest degradation, conserving, and enhancing forest stocks, and sustainable managing forests. Most of this focus will be on degraded non-coastal lands. **However, mangrove restoration should be a priority in Philippines REDD+ mitigation efforts.** Over 80% of original mangroves in the country have been cleared for aquaculture, increasing sediment outflow onto reefs endangering this valuable ecosystem and the livelihoods and species that depend on it (NFSCC 2010) and making the Philippines more vulnerable to the impacts of climate change.

While REDD+ implementation will require changes to the legal framework and additional capacity building, in most countries the introduction of this new mechanism simply sheds more light on the weaknesses that have plagued countries' natural resource management in the past. For the Philippines, in the context of governance and policies, some of the ongoing constraints/weaknesses which will need to be addressed include:

- **A highly politicized environment department** which has suffered multiple shifts in leadership, resulting in lack of a consistent vision and thus weakening implementation of programs (ESSC 2010; interviews)
- It is projected that the country's population will continue to rise in the coming years. Under a low scenario, population will rise to 107 million in 2020. The Second National Communication on Climate Change is using population density and the Human Development Index (HDI) to estimate adaptive capacity. This information is important to determine vulnerability points and areas where mass migration can occur (PSCCA, 2010). **Considering population pressures and in-migration is critical to forest management.**
- **Changing demographics of forestry professionals, in particular in regards to capacity to enforce forestry laws.** An Inquirer.net article noted that past Secretary of Environment Reyes reported that a "forest guard faces illegal loggers and poachers who boast of high powered firearms, highly paid lawyers, and highly placed protectors" and that many of the forest rangers were no longer able to meet the physical demands of enforcement (Inquirer.Net 2007)." This reflection was also reinforced by several of those interviewed by the assessment team.
- Although some improvements have been made in combating corruption in the past few years, **environmental management and governance in the country is still hampered by systemic corruption.** According to a press release issued by DENR just last year, a volume of 2,924,694.98 board feet of illegally sourced timber has been seized through their OPLAN KALASANGAN (Operation Plan Forest) efforts (DENR 2010). Fighting graft and corruption in environmental management is one of the key initiatives of current Secretary of Environment Paje. Since he has come into office, several measures have been taken including rationalizing checkpoints and "beefing up the department's anti-illegal logging task force with police and military assistance" (DENR press release 2010). In early February 2011, President Aquino, through Executive Order 32, ordered a moratorium on logging in natural and residual forests, and prohibited DENR from entering into logging contracts in these forests as well as directing DENR to implement a strict forest legality certification system, and "to close all sawmills, veneer plants, and other wood processing plants that are unable to present proof of sustainable sources of legally cut logs for a period of at least five years within one month from the effectivity of EO32 (Malaya 2011)." The effects of this order, and its enforceability, remain to be seen. USAID/Philippines, in partnership with the US Department of Interior, has supported anti-illegal logging Task Forces and, under the USAID EcoGov 2 project, a report was written assessing Philippine Forest and Wildlife Law Enforcement, along with concrete recommendations to improve Forest Law Enforcement. The report can be accessed at this link: http://pdf.usaid.gov/pdf_docs/PNADL681.pdf.
- **Lack of consistent and effective knowledge management and monitoring systems and dissemination** (more information on this can be found in Chapter 4 of this report).

CHAPTER 6: COMMUNITY FORESTRY

The Philippines has a long history of decentralized land management, including the transfer of tenure rights, usually for renewable 25 year terms, from the national government to communities, individuals, local governments, or private companies. Overall there is a total of six million hectares of forests land under some form of community management, with 4.7 million of those having a tenure agreement (Lasco et al., unpub.).

Since one of the main social safeguards for REDD+ is that of tenure, the Philippines is ahead of the curve in that multiple mechanisms for devolving tenure to communities already exist. Implementing REDD+ initiatives in these lands ensures some community control over and benefit from the programs, resulting in co-benefits like poverty reduction and economic development. This chapter summarizes the various mechanisms for community land tenure, some limitations in the current system, and how REDD+ programs can be linked with community forestry in the Philippines.

Land Tenure Arrangements with Communities

Community-based Forest Management Agreement

While social forestry began in the Philippines in the 1970s, the current Community-Based Forest Management Agreement (CBFMA) model began in 1995. Through this program, a registered People's Organization, an independent membership-based group of local residents, applies for a CBFMA through a local DENR office. With extension support from the DENR, the group develops a Community Resource Management Framework (CRMF), a Resource Use Plan (RUP), and annual work plans (AWP) to manage the forest resources. These plans typically include a target percentage to remain forest or be reforested. In exchange for tenure and resource rights, the PO is responsible for implementing the plans, in addition to forest protection and enforcement of illegal logging and other illegal activities. There are currently 1,874 CBFMAs covering 1.8M hectares of land.

Through the CBFMA the PO is given tenure for 25 years, renewable for another 25 years. After the CBFMA is in place, PO members can make individual land claims for managing a portion of the CBFMA land. Previously, the DENR issued Certificates of Stewardship (CSCs) to individuals within a CBFM area, with the endorsement of the PO, which gave individuals tenure over an area of land. However, for the past three years the issuing of CSCs is on hold awaiting policy review (FMB, personal communication).

While the PO has land tenure, permits from the DENR are still required for any timber extraction and transport. In the past these permits were available at local DENR offices like the PENRO or CENRO. Due to corruption, however, permits are now only issued at the regional DENR level, and the approval process can be long and laborious (FMB, personal communication).

Ancestral Domain Claims

Through the Indigenous People's Rights Act (IPRA) of 1997, IPs can get ownership of their ancestral domain and land. The National Commission on Indigenous Peoples (NCIP) has to verify all claims and the process can be lengthy and expensive. Once verified the tribe is issued a Certificate of Ancestral Domain Title (CADT), and an Ancestral Domain Management Plan is developed and implemented with technical assistance from the DENR. To date there have been 107 ancestral domain claims covering 2.7M hectares

and 600,000 people, with another 129 covering an additional 2.7M hectares under review (Phelps et al. 2010).

Unlike CBFMAs, verified ancestral domain claims result in permanent land ownership and more control over the forest resources, including allowing traditional and customary land management practices.

Mangrove Stewardship

Mangrove areas can be leased to individuals, communities, or cooperatives for terms of 25 years, renewable for another 25 years. Once leased, a Mangrove Stewardship Plan is prepared with the LGU, and sometimes DENR, assistance. In exchange for exclusive access to the mangrove resources, except for timber extraction or fish pond creation, stewards implement the stewardship plan, which usually includes patrolling for illegal activities and often some reforestation and restoration.

Protected Area Community-Based Resource Management Agreement

Within protected areas or in buffer zones, POs can establish Protected Area Community-Based Resource Management Agreements (PACBARMAs) with regional DENR offices. Similar to the other tenure instruments, the agreement is for 25 years with a possible 25 year renewal, and the DENR provides technical assistance in the development of a Community Resource Management Plan. These plans can include reforestation and restoration activities, livelihood projects (to remove resource pressure from the protected areas), and provisions for sustainable harvesting of some forest resources. There are currently 58 PACBARMAs covering over 21,500 hectares.

Co-management Agreements with LGUs

The 1991 Local Government Code established a space for devolving natural resource management, including forest land management, to LGUs, where the LGU enters into a Memorandum of Agreement with DENR. Depending on the size of the land, this agreement can be with a CENRO or all the way up to the national DENR level. The LGU, with DENR support, develops a Forest Land Use Plan (FLUP) for the area, and once that is approved by the DENR then the management is fully devolved to the LGU.

FLUPs aim to manage resources at a watershed level and therefore include management planning across many tenure arrangements. Since they cover community tenured and managed land, they include communities in the development and implementation of the plan. They also include provisions for securing tenure in open access land through Individual Property Rights (IPRs) which gives individuals 25 year renewable tenure terms.

Through its EcoGov program, USAID/Philippines has assisted in developing co-management agreements between LGUs throughout the country and DENR, and developing and implementing the FLUP. One main result of the program has been a significant increase in tenured forestlands that were once open access. For example, in the Municipality of Quezon in Nueva Vizcaya, 50 percent of open access lands were tenured through IPRs.

Limitations of Community-Based Management

Most of the arrangements above require direct community engagement with local DENR extension offices to develop, implement, and monitor management plans. In reality, DENR technical support in many areas is very limited due to staff and budget constraints (FMB, personal communication). In some

cases the available extension officers are under-trained and lacking adequate technical background to assist in developing environmentally sound management plans. These problems can result in “secondary open access” lands, where tenure on forest lands has been established but the management is lacking (Quezon Forest Land Use Plan 2005-2009).

Because of the staff, budget, and technical limitations, in some areas DENR’s role is more focused on the regulatory or enforcement side of tenured agreements than on providing technical support to tenure holders on good natural resources management. The enforcement side alone is laborious and time-consuming, with separate permits required for cutting, harvesting, transporting, and other operations. It also lends itself to corruption, and the accusation of corruption in local DENR offices resulted in the recent transfer of power in issuing cutting permits from the CENRO to the regional DENR office, subject to national approval (FMB, personal communication).

DENR is also a historically unstable department. The Secretary changes frequently, and the CBFM and other programs are constantly under review. This can result in a feeling of insecurity among tenure holders on how long they will maintain tenure to their land. In addition, program changes might not be well communicated to LGUs and communities, resulting in inconsistent implementation of programs throughout the country. The summary above is a national snapshot and in reality there is much variation throughout the Philippines on how these programs are implemented on the ground. This is somewhat due to actual flexibility in the legal framework for these programs, but in many cases it is probably also due to inadequate outreach and training from the national government that results in inconsistent implementation on the ground⁵. For any organization working in an area it is crucial to get local knowledge on how the tenure agreements and land management planning is actually being done.

Linking REDD+ to Community Forestry

One of the internationally discussed concerns of REDD+ is that it could lead to more centralized land management and not benefit forest dependent communities. This concern is greatest in countries that do not have a strong history of community-based forest management or systems for giving tenure rights to communities. The fact that the Philippines has these multiple mechanisms for establishing long-term tenure to communities, and even land ownership in the case of IPs, and a history of de-centralized land management makes REDD+ that benefits communities a real possibility, and an attractive investment to investors concerned with social safeguards and poverty reduction.

The REDD+ movement in the Philippines has been bottom-up, with NGOs that are also concerned with IP rights, community-based forest management, and gender equality, in addition to natural resources conservation, leading the way. The PNRPS has significant input from community-focused groups and includes many recommendations on how to maintain and improve social safeguards in potential REDD+ project areas. In addition this plan has government buy-in which will make it possible to design programs that can support the PNRPS, represent the government interests, and benefit communities.

REDD+ opportunities in community-managed land

In an assets-based approach, it makes the most sense to focus REDD+ efforts in the Philippines on community managed land. While the country does not have high carbon values and will be less

⁵ For example, some information gathered by the team from a local DENR representative was in conflict with information coming from FMB.

attractive to investors for that reason, it is advanced in the region and globally for its land tenure systems and decentralized land management practices.

Philippine forest cover is officially increasing, and there are existing logging bans and protected areas laws that protect most remaining primary forests, meaning a deforestation baseline in recent history would be relatively flat and a make an avoided deforestation strategy (the first 'D') unlikely in most places. The Philippines greatest potential regarding REDD+ lies in the second 'D' and '+' arena – essentially through the reduction of forest degradation, enhancement of forest stocks, and sustainable management of forests. Communities should play a major role in all of these strategies, and many efforts could be focused on community-managed lands.

IP land contains some of the largest areas of remaining forest of the country, and is in some of the highest poverty areas of the country, offering both forest conservation through reduced degradation (and deforestation if a recent baseline can be established), and poverty alleviation opportunities. FFI, NTFP, and Kalahan Education Fund are focusing their REDD+ efforts in IP lands.

CBFMA and PACBARMA areas offer excellent potential to implement reduced degradation and carbon stock enhancement programs. Up to 7 million hectares of forests land could be included in reduced degradation efforts, with CBFM and PACBARMA holders playing a role in forest patrolling for illegal activities and preventing encroachment of migrants into forests. On top of the seven million an additional nine million hectares of open land in 'forests' could be included in carbon stock enhancement efforts, with CBFMA holders implementing afforestation programs (Lasco et al. 2010).

Community-managed mangrove areas could potentially be included in REDD+ efforts as well. While most of the REDD+ focus in the Philippines will likely be on non-coastal lands, mangroves can play a large role in mitigation since they store more carbon per hectare than other tropical forests types (Donato et al. 2011). Philippine law prohibits the cutting of mangroves, but they still experience degradation, and over 80% of original mangroves in the country were deforested for aquaculture, meaning there are significant reforestation opportunities (NFSCC 2010). Co-benefits of healthy mangrove ecosystems are also significant since they provide many ecosystem services, including reef protection that preserves and restores fisheries, and coastal protection during typhoons and storm surges, linking their protection and restoration to both livelihoods and climate change adaptation.

Co-management areas of LGUs are also of great potential. Through EcoGov, illegal logging and conversion of forests has decreased due to the tenuring of open access areas. In addition, rehabilitation efforts of bare forestland have increased in IPR tenured lands. REDD+ programs are intended to reward exactly these kinds of successes, making these newly tenured IPR lands excellent candidates for REDD+. In addition, since FLUPs can cover large land areas, and are coordinated through the LGU, there is opportunity to reach the scale needed to make REDD+ efforts cost effective. Since FLUPs cross multiple tenure arrangements, they would also be good testing grounds for REDD+ activities across multiple land types and tenure arrangements.

Policy issues

1. Tenure Security

Most tenure agreements are for 25 years, renewable for 25 years. While this is adequate for the lifetime on an individual, longer term arrangements might be necessary in REDD+ project areas,

which have high project development costs, long-term payouts, and leakage conditions. The instability in the DENR and some of their policies could also be an issue for tenure arrangements, as is currently the case in the CSC tenured lands (see above), and tenure certainty will need to be established to satisfy both project participants and investors. There have also been some cases of individuals selling or mortgaging their tenure certificates or using them as collateral for loans (Quirino LGU, personal communication). National policies or laws are needed to clarify how and when tenure agreements can be transferred or sold.

2. Carbon rights

Land tenure does not automatically give rights to the carbon. Policies need to be established to clarify who owns the carbon in tenured lands, and thus who receives the carbon credits.

3. Benefit-sharing mechanisms

There are currently no established benefit-sharing systems in any of the tenured lands. In the case of CBFMAs, it is up to the PO to decide how benefits are distributed. There is also not currently any mechanism for DENR to distribute funds to tenure holders. In the case of DENR projects on tenured land, DENR directly pays individual workers and project costs, for example nursery establishment. FMB wants to experiment with giving funds to the CBFM to manage programs, but has not yet established system for doing this (FMB, personal communication). To implement some of their upcoming major initiatives, like the National Greening Initiative (see Section VIII below), DENR will have to establish new fund distribution mechanisms because they do not have the staff to implement these programs directly. These new systems could serve as pilots for REDD+ project benefit-sharing mechanisms.

Capacity Building for Implementing REDD+ at a Community Level

Any community-based REDD+ programs will require capacity building of the local DENR office, the LGU, relevant CSOs, community members, and any other stakeholders. The capacity building process should begin before any on the ground activities and every step should involve stakeholders. While the specific capacity building plan will depend on the location and project type, a possible generic strategy follows.

Pre-project implementation:

- Outreach and education to build awareness of what REDD is and what is realistic to expect from REDD programs in terms of ecosystem and financial benefits
- Identification of all stakeholders
- Capacity needs assessment per stakeholder group
- Capacity building plan developed

During project implementation:

- Targeted training programs depending on project type (i.e. nursery establishment, plant propagation, forest monitoring, etc.)
- Continued monitoring of capacity, effectiveness of capacity-building efforts, and identification of additional capacity needs

CHAPTER 7: REDD+ AND REFORESTATION/AFFORESTATION

REDD+ expands the definition of REDD – which is primarily a strategy to reduce deforestation and degradation - to include incentives towards sustainable management of forests and enhancement of forest stocks by reforestation and afforestation efforts. However, the UNFCCC has not yet defined specific allowable activities for the carbon enhancement activities. Therefore it is still premature to effectively propose REDD+ activities, except those that directly reduce deforestation, beyond broad recommendation. The definition does not extend to include reduced emissions from the agricultural sector (REDD++).

However, given the Philippines relatively low forest cover and history of reforestation efforts, it makes sense that one major REDD+ strategy for the Philippines will be reforestation and afforestation. This section summarizes these opportunities.

Reforestation/afforestation through REDD+ in the Philippines

Reforestation and thus carbon stock enhancement under REDD+ in the Philippines offers the potential to rehabilitate millions of hectares of degraded habitat while concurrently mitigating for and/or reducing continued deforestation and biodiversity losses resulting from forest degradation. It is clear that REDD+ is a part of a nationwide strategy and not a stand-alone silver bullet into the future. REDD+ combined with other forest sector measures can likely play a large role in the attainment of sustainable forest management, development, and poverty reduction. The PNRPS recommends a model that promotes protection of existing forest by strategically targeting forest restoration and reforestation activities across a landscape (Figure 3). The approach is designed to optimize conservation of biodiversity, ecosystem services and social co-benefits.

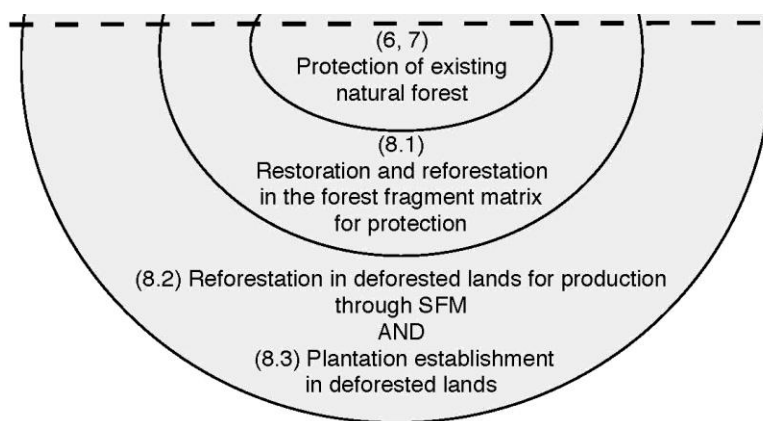


Figure 3. (From the PNRPS 2010). Idealized model of a tiered approach to carbon stock enhancement around existing natural forest and (simplified) within the existing forest fragment matrix. Numbers in brackets refer to PNRPS strategies/activities (see (PNRPS 2010) for details).

In this model existing native forest is protected with adjacent fragmented forest land reforested via natural regeneration, assisted regeneration, and native species enrichment. These areas would be suitable for REDD+ incentives with additional co-benefits through the safeguarding of biological diversity. Formerly forested landscapes that have been entirely denuded would be promoted for production purposes. These landscapes may or may not be eligible for REDD+, which depends on the

outcome of the UNFCCC rules on reforestation (i.e. whether production or plantation forests will be allowed). Although, even without REDD+, incentives associated with production forestry should increase the likelihood that REDD+ reforestation efforts will be successful by offsetting pressures on protected forests.

Benefits – how the Philippines are poised to benefit from REDD+ associated with reforestation

The Philippines has a long history of reforestation efforts (see Chapter 2) which have given rise to a keen understanding and knowledge base towards the potential success and failure of future efforts. The biggest lesson learned over the past century of efforts is the promotion of reforestation through community based forest management groups. These official organizations or management units provide the necessary infrastructure (from governance to land tenure and, sometimes, profit sharing guidelines) to create incentive based reforestation projects that could benefit from REDD+. Additionally, with a century of reforestation efforts (Chokkalingam et al. 2006), the country is well poised to adopt lessons learned from past success and failure with regards to species selection, propagation techniques, nursery development and reforestation costs.

Limitations associated with reforestation/production forestry activities

Long term quantitative data associated with past reforestation efforts are largely absent (personal communication with staff from the following institutions and agencies: ICRAF, UP, GIZ, JICA and DENR FMB). Short term data are available (i.e. up to three years post planting) and often indicate that target survival (>80%) and growth rates were met (for example – JICA). However, a quantitative assessment of 46 forest rehabilitation efforts revealed that 12 were either wholly or partially destroyed and only 16% are currently financially viable (Chokkalingam et al. 2006).

Species selection has historically been based on availability and or “popular species” rather than on ecological principles like site suitability, successional position, or land use history (personal communication with staff from the following institutions and agencies: CI, ICRAF, UP, and DENR FMB, as well as farmers associated with CBFMs in Quirino Province). This has led to ill-fitted projects, poor survival, forest monocultures, disease outbreaks, and potential for invasive species introductions. Few projects have taken a quantitative approach to effectively match up reforestation efforts with the needs of the community and or the associated ecosystem.

Proper nursery and propagation techniques are crucial for good survival. Reforestation and Restoration Ecology are very dynamic fields with a considerable increase in awareness of reforestation efforts across the globe in the past decade. Together with this increase has been an emphasis on appropriate nursery and propagation techniques aimed towards maximizing growth and survival (personal communication with staff from ICRAF and UP).

General economic concerns that have constrained reforestation efforts in the past include: a) tenure issues – tenure of most CBFMs are 25 years and many tropical high value trees don't yield benefits by that time; b) reforestation financing associated with CBFM is not straightforward; c) transport of wood and other agro-forestry products is difficult; d) no markets available for products, and e) changing policies and programs (personal communication with LGUs, community groups and farmers from Quirino Province).

CHAPTER 8: REDD FINANCING

In the international arena, the Cancun Agreement on Long-term Cooperative Action (LCA) identifies existing bilateral and multilateral mechanisms as the primary, initial source for REDD+ financing and requests the LCA working group to further explore financing options for the full implementation of results-based actions. This delays decision on whether market mechanisms will be a source of REDD+ financing until COP 17 in late 2011, but also keeps market mechanisms on the table as a potential funding source.

While the market mechanisms for REDD+ are still uncertain, there are many opportunities for forestry projects that promote REDD-readiness in the name of sustainable forest management and ecosystem restoration without relying on an eventual market. In addition, some forest carbon projects might be developed for a voluntary market or CSR purposes, which are not dependent upon the international climate negotiations. Below is a summary of current available or expected funds that could finance REDD-related programs in the Philippines.

Public Funds

There are currently no specific appropriations in the DENR for climate change programs. However, once the Climate Change Action Plan is approved, which on the mitigation side is partly informed by the PNRPS, there is the expectation that the government will appropriate funds specifically for its implementation and that the CCC will govern those funds (EMB, personal communication).

The government is also exploring climate finance opportunities through a new interagency climate finance technical working group that includes the CCC, NEDA, the Department of Finance, DENR, and others. This is partly in response to the fact that the Climate Change Act of 2009 is silent on climate finance (CCC, personal communication).

People's Survival Fund

Through an amendment to the Climate Change Act, the government plans to establish this performance-based fund that will give grants to LGUs for climate change adaptation and mitigation projects. REDD+ activities could be funded (CCC, personal communication).

National Greening Program

This is a new five year FMB program that aims to reforest 1.5 million hectares per year for the next 5 years. Their focus will be upland areas, with a priority in CBFMA lands, lands covered under the Agrarian Reform Act, and some IP lands (FMB, personal communication). While they have not yet linked this program to REDD+, there is potential to co-locate REDD+ project sites with NGP sites. FMB will need to devote significant resources to implement the program, especially for establishing nurseries (they estimate they will need 20 million seedlings per year), and will have to build partnerships with LGUs, CBFMAs and other organizations for implementation. This will result in capacity building and, potentially, funds transfers to local levels from FMB. Ideally this will result in increased capacity and financing mechanisms in new areas that could overlap with or be a basis for REDD+ programs.

Other funds

Philippines Tropical Forest Conservation Foundation

PTFCF currently funds \$1 million per year in small grants to CSOs and POs, and they expect to receive more Tropical Forest Conservation Act (TFCA) funds. They have a strong history of supporting local nurseries and reforestation efforts, and they will likely develop a REDD+ strategy in the near future for funding some small-scale REDD+ related programs.

World Bank

WB provides budget support to DENR in the form of loans and based on DENR priorities. WB is willing to support REDD+ programs if they are prioritized by DENR.

Japanese International Cooperation Agency

JICA currently plans to continue its investments in the forestry sector in the Philippines through a yen loan project of four billion pesos to support improved forest land management through nursery development, reforestation, agroforestry, technical assistance, and capacity building for POs. This project is currently under review by the Japanese Government and has not yet received approval.

Private Sector Investment

The role of the private sector in REDD+ in the Philippines has not been defined. There was little private sector engagement in the development of the national REDD strategy, but civil society wants to engage them in next round of discussions on REDD+ in the Philippines (CI, personal communication). There are already examples of private sector investment in reforestation for corporate social responsibility (CSR) reasons. For example, CI brokered the investment of Toyota and the Japanese organization MoreTrees in reforestation programs in Quirino province and Isabella province, respectively.

The private sector can lease forest lands for production purposes through at least two tenure mechanisms with DENR. In many cases this can lead to further land degradation if environmentally sound practices are not in place, but it could potentially attract private sector investors in some areas with good market potential.

In EcoGov areas, the FLUP has provided potential investors with an understanding of the LGU's natural resources, resulting in increased private sector investment in some cases. For example, In the Municipality of Kiamba in Sarangani, a coffee company entered into an agreement with CBFMA members to grow shade coffee in their forestlands. EcoGov evaluation teams have noted other examples as well, drawing the conclusion that good environmental governance and planning through the FLUP results in increased economic investment in the area. LGUs with FLUPs might be at an advantage to attract private sector investment in REDD+ programs as well.

In the case of IPs, the Philippines government issued a moratorium in 2010 on private investors making deals with IPs for carbon purposes (so called "carbon cowboys") until social safeguards are in place.

Focus on co-benefits

Given that the Philippines is not a high carbon value country, bundling carbon with other ecosystem services, like water, will maximize financing opportunities for forest conservation and restoration/reforestation. For example, some REDD+ projects could be developed in areas that are part of watersheds serving hydroelectric dams or urban centers, with potential for establishing water fees in addition to eventual carbon credits. There is an example from an EcoGov project site on how this might work. In the Municipality of Wao in Lanao del Sur, the LGU entered into an agreement with its water district to support rehabilitation and forest protection. The LGU then shares the funds generated through the agreement with the IPR tenure holders that are managing the forestlands. This is exactly the kind of PES scheme that could be bundled, if the rehabilitation and forest protection activities were a REDD+ project. A thorough review of PES programs in the Philippines was outside the scope of this assessment, but such an assessment would provide a basis for understanding successful PES models in the Philippines and how they might include carbon as one of multiple ecosystem services.

CHAPTER 9: RECOMMENDATIONS AND OPTIONS FOR USAID/PHILIPPINES

Recommended Approaches

The level of REDD+ activities in the Philippines is still ‘manageable’ and there is a strong desire by NGOs and donors to coordinate efforts (compared to a country like Indonesia, for example, with dozens of un-coordinated efforts). The PNRPS is a result of the civil society leadership in the country and the good communication among civil society, the government, and donors. In addition to civil society leaders, there are some champions at FMB that see REDD+ as an opportunity for significant forest sector reform.

USAID/Philippines has already been engaged in highly relevant efforts with its EcoGov program. Through this program the development of co-management agreements between LGUs and DENR has resulted in the tenuring of open access areas, which has resulted in a reduction in illegal logging and forest conversion, and the rehabilitation of degraded lands. The program has also facilitated private sector engagement in forest conservation through payment for ecosystem services (PES) schemes. By building upon these successes, USAID/Philippines is in an excellent position to get engaged in the early stages of REDD+ readiness in the Philippines and influence long-term, national level REDD+ planning and implementation.

This assessment, as an analysis of the current REDD+ landscape and identification of strategic options where USAID/Philippines might invest, was a first step of that engagement process. Obviously not all the options laid out in the next section, and summarized in Table 4, can be funded, and there will need to be prioritization done by USAID/Philippines through a program design process that is based on the funding level they receive, the integration they want with their other programs, and information that continues to be gathered regarding ongoing REDD+ efforts and priorities in the country.

Overarching Recommendations

These five overarching recommendations are based on information the team heard repeatedly. These can be used as organizing principles for any REDD+ program USAID/Philippines develops. All of them in some way promote a ‘no-regrets’ approach to REDD+-readiness, meaning that even if carbon credits are slow to flow there are still significant program benefits along the way in terms of environmental conservation, climate change adaptation, community development, and improved forest sector governance.

1. REDD+ is a strategic option for rural development: Support REDD+ projects that are cross cutting

Poverty alleviation, securing environmental services, biodiversity conservation, and climate change adaptation can all be co-benefits of REDD+ projects depending on where they’re located. Pilots in areas that offer these co-benefits should be prioritized.

2. Support activities that support and inform forest sector reform

Any country hoping to engage in REDD+ will be under increased international scrutiny in terms of its forest governance, forest monitoring, and social safeguards. Developing REDD+ programs in the

Philippines offers the opportunity to reform forest policy and governance, improve forest monitoring, and increase social safeguards, all of which will have benefits beyond REDD+.

3. Research and development and knowledge management is critical given issues with data availability, quality, and scope

The current lack of accurate and transparent data on forests will have to be addressed for any REDD+ programs in the Philippines to be successful. There is high capacity at the university and institutional level for developing and implementing systems for measuring and monitoring forests, and these individuals can be mobilized to meet the R&D and knowledge management needs of REDD+. Addressing knowledge gaps will also be significant for climate change adaptation by improving systems for long term monitoring of climate change impacts on forests.

4. Improving the understanding of REDD+ and leadership skills of FMB and the LGUs is key

Information, education, and communication campaigns and capacity building at the national and local government levels is critical and needs to be a major component of any REDD+ programs.

5. Design interventions that work through and strengthen existing systems and initiatives

The Philippines already has a more than adequate structure and organization for implementing REDD+. To ensure the sustainability of any intervention, projects should aim to support and build capacity within the existing system rather than imposing or suggesting re-organization or additional staff.

Options for USAID/Philippines

The options below are divided into two categories: 1) National REDD+ Readiness support; and 2) REDD+ Demonstration. They are not completely distinct categories; for example, demonstrations are part of REDD+ readiness and should feed into national REDD+ planning.

National REDD+ Readiness Support

These are options that support efforts to influence REDD+ implementation on a country-wide scale, such as national forest monitoring, policy and governance, developing and promoting tools for effective project implementation, and coordination of efforts.

1. Improve baselines and forest monitoring

- a. Support creation of a NAMRIA National Spatial Data Infrastructure repository (i.e. a GIS data clearinghouse)
 - Provide technical experts to work with stakeholders on data standardization procedures, transparent data sharing frameworks, development of information networks, and provincial spatial data hubs

- b. Continue/enhance partnership between EPA, the Manila Observatory, and GPH officials regarding the UNFCCC National Communication GHG reporting process using ALU (scale down to provincial level for forest sector)
 - Support follow-on training for ALU that includes integration of country specific data, methods to assess data uncertainty levels, and Train-the-Trainers programs so that the tool can be used at Provincial levels
- c. Build capacity in remote sensing to enhance forest cover mapping and generation of activity data for forest cover change detection
 - At the national level work, with NAMRIA (focus on radar technology) and at local levels with provincial officials (use open source RS/GIS software, trialed by ESSC)
- d. Link with other donors to support a new National Forest Inventory (NFI) in order to develop emission factors for deforestation
 - Once FAO plans are in place, provide technical experts to assist in developing the proper organizational structure within FMB to facilitate staff in the creation of data management systems, analysis procedures and reporting frameworks, including QA/QC mechanisms, client driven analysis and reporting, and adaptive management for continual systems improvement
- e. Linked to NFI, develop emissions factors for forest degradation at provincial levels
 - Since an NFI will not suffice to determine carbon stocks across varying levels of degradation, intensified inventory plots in some areas will be necessary to measure degradation. Technical experts could work with DENR and FAO to develop methodologies.
- f. Conduct forest transition curve assessment to determine priority areas for REDD+ pilots at the provincial and/or large watershed level⁶

2. Support policy and governance reforms needed for REDD+

- a. Work with the government to clarify mandates, interagency working procedures, and reporting structures of the governmental bodies involved
 - Hold workshops to facilitate discussions on how to streamline REDD+ process and to determine government departments and bureaus' capacities
 - Chart out process flows of a potential REDD+ project to identify bureaucratic roadblocks or confusion over mandates

⁶ This would classify areas according to (in order of highest priority for REDD+): high forest cover/high deforestation; high forest cover/low deforestation; low forest cover/high deforestation; low forest cover/low deforestation. See Annex 4 for an example from Indonesia.

- b. Provide third party experts to assist FMB, NAMRIA and others in the technical debate on forest sector definitions
- c. Raise awareness and understanding of REDD+ at all levels of governance, with local communities, and with private sector
 - Partner with Ateneo School of Government (see Chapter 3) to assist in the development of specific education modules on the policy and governance aspects of REDD+
 - Assist LGUs in integrating climate change concerns and REDD+ activities in the preparation of their respective Local Climate Change Action Plans (LCCAP)
 - Provide assistance to local governments and NEDA to ensure integration of REDD+ into multi-sector national and local development plans, through expert advice and review of plans
 - Conduct a survey of potential private sector actors on their opinions of the PNRPS and what they feel their role could be in REDD+
 - Assist DENR in facilitating discussions with stakeholders to determine roles, responsibilities, and capacity building needs in the implementation of REDD+ at the national, regional, provincial, and LGU level
- d. Build capacity in FMB for desired future condition and multiple use forest planning, versus the utilization-based planning they've historically done
 - Provide forest planners to work with FMB and identify capacity building interests and needs in forest planning
 - Assist FMB in integrating carbon and ecosystem services management into their strategic plans and workplans
 - Work with DENR/FMB in integrating REDD+ planning into the new National Greening Program
 - Assist FMB in developing and delivering a training program on issues such as forest carbon project management, monitoring and verification and carbon accounting, UNFCCC procedures and guidelines for REDD+ methodologies, requirements of different carbon schemes and stakeholder engagement in regards to REDD+
- e. Build upon and integrate with the policy studies that GIZ and UN-REDD are/will be doing
 - Based on the results of the policy studies that are ongoing and/or planned, additional analyses that drill down in specific areas could be conducted. For example, existing legislation could be reviewed related to financial safeguards, resulting in tools and policy recommendations for improving safeguards and establishing monitoring systems for REDD+ financial flows and benefits.

3. Develop Tools that Improve REDD+ Project Implementation

- a. Conduct an assessment of PES programs in the Philippines in order to distill lessons learned as they are relevant for REDD+ projects
- b. Conduct an analysis of private sector potential in REDD+ in the Philippines

- c. Develop science-based education modules and trainings that improve the implementation and monitoring of reforestation programs, such as: 1. Nursery development; 2. Propagation; 3. Seed fruit storage and collection methods; 4. Outplanting methods; and 5. Pest and disease control
 - Provide technical experts to review any existing modules or trainings being used, and based on that work with partners on developing/updating the modules and trainings
- d. Support UP-LB/College of Forestry and Natural Resources proposal to PTFCF for a REDD+ network thru local universities and state colleges, to tie in with existing REDD+ pilots, develop/demonstrate best management practices, and localize and train in relevant IPCC Good Practice Guidance

4. Develop Tools for REDD+ Project Evaluation and Coordination

- a. Support establishment of a REDD+ project registry as a way to incentivize pilots by facilitating access to international carbon markets, including development of a review board to assess projects against relevant standards and safeguards for inclusion, i.e., CCBA, VCS, etc)⁷
- b. Develop tools for REDD+ project evaluation that can be used at local levels (CENRO, extension officers) to assess efficacy and impact, both environmentally and socially, of reforestation and improved forest management
- c. Develop monitoring protocols for afforestation and reforestation programs
 - Provide technical experts to review existing monitoring protocols and advice on how to improve them

REDD+ Demonstration

There are currently multiple REDD+ pilots (see Table 3, Chapter 3), and UN-REDD is identifying three sites to begin activities in 2012. As a highly decentralized country each pilot will provide useful information on REDD+ implementation in its given context of stakeholders, tenure arrangements, and strategies.

On the technical side, the process for developing and implementing any REDD+ pilot should include the following components in the project area:

- Determining the rate of deforestation and/or forest degradation
- Determining the drivers of deforestation and/or forest degradation
- Assessing forest carbon stocks at the local level
- Developing strategies to reduce deforestation and/or forest degradation

⁷ This registry could be scaled up to include PES programs as well, with information on financial distribution mechanisms, tools for accounting standards and methodologies, etc. The northeast U.S. Regional Greenhouse Gas Initiative (www.rggi.org) is a good example.

- Developing a system to monitor implementation of strategies to determine additionality (decrease in rate of deforestation and/or forest degradation; rate of carbon sequestration from reforestation)
- Assessing leakage to ensure strategies do not shift carbon emissions to another place
- Assessing permanence of forest carbon stocks against intended project life cycle

In addition to these components there are issues with tenure, benefit-sharing, and other social considerations that need to be addressed and will depend on the context of the area.

The process of developing and implementing a pilot is complex and expensive. Should USAID/Philippines decide to do one, the following options can help direct them in some of the steps for identifying and implementing the pilot program.

1. Identify a pilot within an existing EcoGov project area

- Develop an evaluation process for pilot site selection that includes the following criteria:
 - Biodiversity- high biodiversity area
 - Water- significant watershed and/or watershed that feeds urban center or hydroelectric dam and could be linked to PES
 - Adaptation- area prone to landslides or typhoons, where damage is linked to deforestation
 - Community development- area with high community tenure rate (or potential for), high poverty, and need for strengthening forest governance
 - Governance – build on past EcoGov-supported sites with demonstrated strong governance structures
 - Good REDD+ potential- link to forest transition curve analysis (1.f. above)
- Conduct an evaluation of successful EcoGov areas in order to select pilot site(s)
- Consider REDD+ activities in mangrove areas by evaluating the current ownership and management structure, and rehabilitation/reforestation options

2. Test novel approaches in REDD+ project implementation using the FLUP as an organizing principle

- Mainstream climate change mitigation planning and activities through the FLUP to include enhancement of incentives-based approaches at local levels
- Experiment with bundling small REDD+ projects within one FLUP area and across multiple tenure agreements and strategies (forest protection, reforestation, etc.)
- Develop and test new benefit-sharing mechanisms among the national government, LGUs, and communities

3. Develop methodologies in reforestation that will increase both social and environment benefits

- Prioritize reforestation efforts in landscapes that offer financial incentives to communities and reduce pressure on protected forests with high biodiversity value

- b. Conduct site specific species selection utilizing ecological theory, survival and growth rate information, and proven non-invasive species⁸
 - Offer workshops/training with experts in the fields of restoration ecology and, invasive species management
 - Develop a Weed Risk Assessment process with assistance from technical experts
- c. Establish and quantifiably measure long term project assessment information, including: 1) Survival by species; 2) Species specific growth rates; and 3) Pest and disease information
 - Develop database and/or long term inventory management capacity with help from technical experts from inventory and management branches of agencies
- d. Create metrics to measure success, such as: 1) Increases in forest carbon 2) Economic improvement of community or management unit; 3) Project survival rate increase associated with technology improvement⁹
 - Establish accurate baselines (see #4 below)
 - Implement internationally accepted protocols for assessments by supporting technical expertise and third party evaluators to establish protocols and metrics of success

4. Develop a project level forest carbon baseline and process for monitoring

- a. Conduct a review and analysis of existing methodologies for project level forest carbon monitoring in the Philippines (and possibly the Asia region) in order to: 1) understand existing methodologies and replicate where relevant; and 2) improve upon or adjust existing methodologies to meet pilot project needs

⁸ This can be accomplished through the support and development of a Philippine specific Weed Risk Assessment – see <http://www.botany.hawaii.edu/faculty/daehler/wra/> for an example.

⁹ Other ecological indicators- like increased biodiversity, soil improvements, and water quality- would be difficult to measure in a USAID project timeline, but could be added depending on the project, specifically if it included a scientific research aspect, and will highlight whether co-benefits are being generated. Focusing on carbon and economic indicators is often more practical.

Table 4: Options Summary Table

NATIONAL REDD+ READINESS SUPPORT		
Option	Strategy	Potential Partners
1. Improve baselines and forest monitoring	Support creation of a NAMRIA National Spatial Data Infrastructure repository	NAMRIA, CI, MO, Universities, Provincial governments
	Continue/enhance partnership between US EPA and MO regarding ALU	MO, DENR, Provincial governments
	Build capacity in remote sensing to enhance forest cover mapping at both the national level and local levels	NAMRIA, Provincial governments
	Support a new National Forest Inventory (NFI) in order to develop emission factors for deforestation	DENR-FMB, FAO, Provincial governments, ICRAF
	Develop emissions factors for degradation at provincial levels	DENR-FMB, FAO, Provincial governments, ICRAF
	Conduct forest transition curve assessment to determine priority REDD+ areas	DENR, CCC
2. Support policy and governance reforms needed for REDD+	Work with the government to clarify mandates, interagency working procedures, and reporting structures of the governmental bodies involved	All the key government bodies outlined in Chapter 3, Figure 2; UN-REDD program.
	Provide third party experts to assist FMB, NAMRIA and others in the technical debate/insight on forest sector definitions	DENR, FMB, NAMRIA, GIZ
	Raise the awareness and understanding of REDD+ at all levels of governance, with local communities, and the private sector	Ateneo School of Govt., LGUs, NEDA, private sector, communities
	Build capacity in FMB for desired future condition and multiple use forest planning, versus the utilization-based planning they've historically done	DENR, FMB
	Build upon and integrate with the policy studies that GIZ and UN-REDD are/will be doing	All key government bodies outlined in Figure 2, UN-REDD, GTZ
3. Develop Tools that Improve REDD+ Project Implementation	Conduct an assessment of lessons learned from PES programs	DENR, ICRAF, NGOs
	Conduct an analysis of private sector potential in REDD+ in the Philippines	DENR-FMB, SFF, other private sector

	Develop science-based education modules and trainings that improve the implementation and monitoring of reforestation programs	DENR-FMB, PTFCF, ICRAF, NGOs, universities
	Support UP-LB/College of Forestry and Natural Resources proposal to PTFCF for a REDD+ network	UPLB/CFNR, provincial universities
4. Develop Tools for REDD+ Project Evaluation and Coordination	Support establishment of a REDD+ project registry	CoDeREDD and all its relevant partners
	Develop tools for REDD+ project evaluation that can be used at local levels	DENR-FMB, ICRAF, LGUs, POs, NGOs, universities
	Develop monitoring protocols for afforestation and reforestation programs	DENR-FMB, PTFCF, ICRAF, NGOs, universities
REDD+ DEMONSTRATION		
1. Identify a pilot within an existing EcoGov project area	Develop an evaluation process and criteria for pilot site selection	ICRAF, MO, universities
	Conduct an evaluation of EcoGov areas to select pilot	DENR, LGUs, EcoGov partners
	Consider REDD+ activities in mangrove areas	LGUs, DENR, DoA
2. Test novel approaches in REDD+ project implementation using the FLUP as an organizing principle	Mainstream CC mitigation planning and activities through the FLUP to include enhancement of incentives-based approaches at local levels	DENR-FMB, CENRO, LGUs, POs
	Experiment with bundling small REDD+ projects within one FLUP area and across multiple tenure agreements and strategies	DENR-FMB, CENRO, LGUs, POs
	Develop and test new benefit-sharing mechanisms among the national government, LGUs, and communities	DENR-FMB, CENRO, LGUs, POs
3. Develop methodologies in reforestation that will increase both social and environment	Prioritize reforestation efforts in landscapes that offer financial incentives to communities and reduce pressure on protected forests with high biodiversity value	DENR-FMB, CENRO, LGUs
	Conduct site specific species selection utilizing ecological theory, survival and growth rate information, and proven non-invasive species	ICRAF, UPLB/CFNR
	Establish and quantifiably measure long term project assessment information	DENR-FMB, CENRO, LGUs, NAMRIA
	Create metrics to measure success	DENR, UP, Ateneo
4. Develop a forest carbon baseline and monitoring system for the area	Conduct review and analysis of existing methodologies	DENR-FMB, ICRAF, NGOs, other donors

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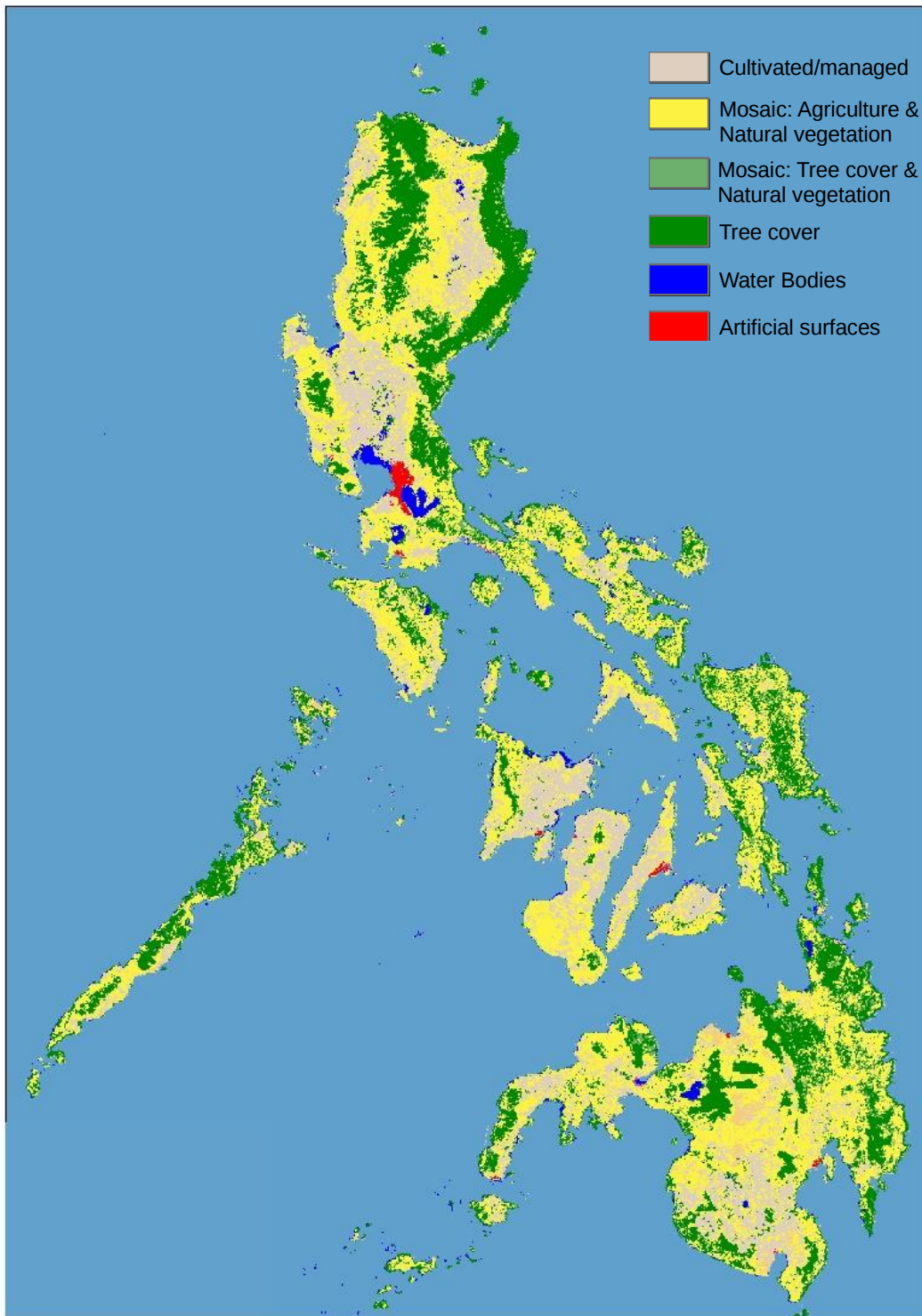
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ANNEX 1: Land Cover in the Philippines



Source: Stibig et al. 2003.

ANNEX 2: USAID/Philippines Current Programs

Project name: The Philippine Environmental Governance Project Phase 2 (EcoGov)

The Philippines suffers from severe deforestation, deteriorating coastal resources, declining fish production and overflowing solid waste. Illegal logging continues to deplete and fragment habitats for valuable plant and animal species. Approximately 70% of coral reefs are already destroyed which, along with continued overfishing and destructive fishing practices, threatens the nation's food security. Less than 40% of solid waste is collected with the remainder clogging rivers and waterways. Nearly 58% of all groundwater is contaminated and unfit for aquatic life. These challenges threaten the country's remaining globally significant terrestrial and marine biodiversity and economic development. The Philippine Environmental Governance Project Phase 2 is a collaborative effort between USAID and the Philippine Government (through the Department of Environment and Natural Resources and the Department of Interior and Local Government) to strengthen local government units (LGU) within key biodiversity areas to reduce overfishing and the use of destructive fishing practices, reduce illegal logging and conversion of natural forests, and improve the management of solid wastes and wastewater. EcoGov provides technical assistance to over 150 strategically located LGUs to plan and implement locally-financed environmental programs. Since its inception, EcoGov has assisted LGUs with the management of coastal resources through zoning, awareness campaigns, capacity building, enforcement, and the establishment of marine protected areas. EcoGov works with DENR and LGUs to rationalize forest land use, strengthen property rights, improve forest management practices, enhance local support systems for marginalized indigenous populations and upland farmers, and promote investment in forest lands. In urbanizing LGUs, EcoGov has assisted with the development of solid waste management programs that can decrease waste production by up to 80%.

Project name: Coral Triangle Support Partnership (CTSP) – Philippines

The Coral Triangle (CT) is the world's center of marine biodiversity. Covering only 1.6% of the planet's ocean area, the CT is home to approximately 76% of all known coral species, 37% of all known coral reef fish species, 33% of the world's coral reefs, the greatest extent of mangrove forests in the world, and spawning and juvenile growth areas for the world's largest tuna fishery. These marine resources directly support the livelihoods of more than 120 million people and contribute to multi-million dollar fishing and tourism industries. To protect these invaluable resources from a myriad of threats, government leaders from Indonesia, Malaysia, Papua New Guinea, the Philippines, the Solomon Islands, and Timor Leste formed a multilateral partnership known as the Coral Triangle Initiative in 2007. The goal of CTSP is to improve management of the biologically and economically important coastal and marine resources and associated terrestrial ecosystems supporting the livelihoods of peoples and economies in several key result areas: regional and national platforms strengthened to catalyze and sustain integrated marine and coastal management; fisheries management improved through the incorporation of ecosystem based fisheries management (EBFM); improved management of marine protected areas; and, improved capacity to adapt to climate change. In 2009, CTSP provided technical assistance to the Government of the Philippines to develop a National Plan of Action which was adopted in that year. The CTSP has worked with communities in Palawan and Tawi-Tawi to develop EBFM plans aiding in the implementation of policies assisting communities to manage their fisheries more sustainably. CTSP has also provided assistance to reduce the vulnerability of economically and ecologically important coastal-marine areas through the implementation of climate change adaptation strategies enhancing disaster preparedness and increasing community resilience.

Project name: Partnership for Biodiversity Conservation (PBC) II

In the Philippines, the growing sophistication of violations, the intricacies involved in prosecution, and the economic losses attributed to illegal logging, illegal fishing, and dumping of wastes makes it difficult for enforcers to be effective. Working with the U.S. Department of Interior, USAID's PBC II program supports biodiversity conservation in the Philippines by increasing the capacity of local and national environmental law enforcement bodies. PBC II strengthens the ability of national and local governments and communities to address critical threats to the country's globally significant coastal and forest resources by promoting good governance in enforcement of environmental laws. PBC II builds on previous USAID initiatives by reinforcing inter-agency coordination and cooperation and supporting the creation of functioning multi-agency Environmental Law Enforcement Task Forces. PBC II also works to mainstream environmental law enforcement through the development of enforcement protocols and procedures, strengthening of adjudication and prosecution, and standardization of the environmental law enforcement training curriculum.

Project name: Volunteers in Environmental governance (VEG)

During the last 50 years, the natural resources of the Philippines have been severely degraded due to over-fishing, destructive fishing practices, illegal logging, and conversion of natural forests. Open access and poor governance have allowed overexploitation of forests, coral reefs, and marine resources resulting in more than one-third of the country's 12,000 endemic plant species and 500 of the 700 known species of coral being near extinction. Unmanaged wastes due to rapid and unplanned urbanization pollute water, soil and coastal resources leading to further resource degradation. To conserve biodiversity, USAID supports Peace Corps Volunteer activities to: strengthen the institutional capacity of LGUs and other local institutions to implement better environmental management and enforcement; mobilize financial resources to support management and enforcement activities; raise public awareness to generate public support for good environmental governance; and, improve local environmental policies.

Project name: Philippine Sanitation Alliance (PSA)

The USAID Philippine Sanitation Alliance works with local governmental units (LGUs) in ten cities and four water districts to protect biodiversity in the Philippines and reduce risks to public health through improved sanitation. While the Clean Water Act of 2004 mandated the development of sewage and septage treatment systems, implementation of this law requires capacity building and technical assistance at the LGU and water district level. Through the development of a broad-based alliance of private-sector companies and associations providing financial support and multiple technical resource partners providing technical expertise, the PSA expects to: improve access to sanitation facilities for 1.2 million people in target areas; mobilize \$3.4 million in non-USAID financing; train more than 1,500 people in environmental management, child health and nutrition; increase hygiene-related knowledge and behavior among targeted groups by 25%; improve implementation of urban environmental and hygiene regulations; and, develop multiple feasibility studies or plans. The PSA began in October 2007 and is funded through September of 2011. The USAID implementing partner for this project is AECOM International Development.

Project name: The Philippine Water Revolving Fund Support Program (PWRF)

In the Philippines, water borne diseases cause 55 deaths each day and economic losses of USD \$1.56 billion each year. In 2002, the Governments of the United States and Japan launched the Clean Water for People Initiative, a collaborative effort to improve access to safe water and sanitation in selected countries. In the Philippines, USAID and the Japan International Cooperation Agency (JICA) have collaborated with the Philippine Government, with the Department of Finance as the lead, and private financing institutions to increase access to financing for creditworthy water service providers. The financing structure was designed to make the loan terms and conditions affordable to water sector providers by establishing a co-financing facility that blends money from the US and JICA while using funds from the Local Government Unit Guarantee Corporation and USAID's Development Credit Authority to guarantee the loans. Since its inception, the PWRF Support Program has been able to support \$20M in financing to ten water districts, with a goal of increasing financing up to \$80M over the next three years which could benefit 1.4 million people. Additional components of the program include water and sanitation project preparation, which provides targeted technical assistance to potential borrowers, and water and finance sector strengthening, which helps the Philippine Government implement strategic reforms vital to the success of the PWRF and the long term financing strategy.

Project name: The Climate Change and Clean Energy Project (CEnergy)

Climate change poses an increasing threat to sustainable economic and energy development, especially in developing economies that are likely to bear the greatest consequences of climate change. In the Philippines, USAID has responded to growing international concerns surrounding the effects of climate change through a variety of mechanisms including the Climate Change and Clean Energy Project (CEnergy). CEnergy supports the Philippine government's integrated strategy for climate and energy policy which aims to curb the rapid progress of climate change. With a focus on power and transport sectors, the two major sources of greenhouse gas production in the Philippines, CEnergy uses a multi-pronged approach to mitigate climate change through improved use of clean and renewable energy. CEnergy seeks to improve policy implementation, improve regulatory capacity, promote climate change mitigation, and build public understanding and support for reforms.

Project name: Alliance for Mindanao Off-Grid Renewable Energy (AMORE)

Energy is fundamental to economic growth and is a catalyst for alleviating poverty in the Philippines, particularly in remote, rural communities in Mindanao where at least 60% of the population lives below the poverty threshold. AMORE is an eleven year project partnering USAID, the Government of the Philippines (through the Department of Energy), the Autonomous Region in Muslim Mindanao (ARMM), and the private sector to bring clean, renewable energy (RE) to more than 24,700 rural households in remote and conflict-affected communities in Western, Central, and Southern Mindanao. Since 2002, AMORE has provided electricity to more than 13,000 households in 474 remote rural villages, installed over 300 RE powered street lights in 140 community centers, provided RE systems to 224 schools enabling access to distance education services and audio visual materials, avoided the production of more than 6,100 tons of carbon dioxide, organized 474 Barangay RE and Community Development Associations, strengthened the capability of communities to maintain and expand their RE systems and established an operations and maintenance fund for each community. Through a partnership with other donors and the private sector, AMORE was able to also provide 150 villages with potable water systems.

ANNEX 3: Relevant Laws and Policies

The Philippines has several laws and policies that guide climate change planning and implementation. The most relevant are summarized below, along with key points in relation to REDD+:

- **The Climate Change Act (RA 9729)** – passed in 2009, this act established the Climate Change Commission (CCC), whose role is to be the “sole policy making body of the government which shall be tasked to coordinate, monitor, and evaluate the programs and action plans of the government relating to climate change” (Republic Act 9729, 2009). It will be aided by an advisory board that represents the heads of the different governmental departments in charge of the respective sectoral planning, programming and implementation. In addition, a technical advisory panel will be formed to advise the CCC. The Act also mandated the following be created: a National Framework Strategy on Climate Change, National Climate Change Action Plan and Local Climate Change Action Plans.
- **The National Framework Strategy on Climate Change (NFSCC)** – in accordance with the Climate Change Act, this plan was created and passed in April 2010. It guides Climate Change actions from 2010-2022. Section 8.5 references a National REDD+ strategy. The seven strategic priorities are largely based on the ideas within the draft National REDD+ strategy (PNRPS).
- **Philippines Strategy on Climate Change Adaptation (PSCCA)** – led by DENR and prepared in consultation with various stakeholders from May 2009-March 2010, the PSCCA was considered a reference point for the development of the NFSCC, and for future climate change related policies, laws, regulations, and action plans. This comprehensive document outlines climate trends and projections, vulnerable areas, cross-sectoral issues and gaps, adaptation strategies for each major sector, and means of implementation. It is important to note that for the Philippines, mitigation is primarily viewed as a “strategy for enhancing adaptation” (NFSCC, 2010).
- **National Climate Change Action Plan (NCCAP)** – the Climate Change Act mandated the creation of this national action plan. It is currently being drafted and will be elaborated until April 2011. In addition to identifying the most vulnerable communities/areas and GHG mitigation potentials, the NCCAP will help guide local government units in the preparation of their respective Local Climate Change Action Plans (LCCAP).
- **The Philippine National REDD+ Strategy (PNRPS)** (also discussed in Section II)- Starting in 2009, CoDe REDD led multi-stakeholder consultations and engaged the DENR and other government and academic institutions in dialogue and workshops that ultimately resulted in the comprehensive PNRPS. The document provides an overview of the forestry sector in the Philippines, a legal review of national policies, and specifies strategies and activities to facilitate REDD+ development over a ten year period (2010-2020), including a three to five year readiness phase and a five year engagement phase. The authors estimate that the full strategy’s implementation would cost \$1 billion over ten years. It presents the strategies in seven overlapping components: Enabling Policy, Governance, Resource Use, Allocation and Management, Research and Development, MRV, Sustainable Financing, and Capacity Building and Communication. The DENR approved the PNRPS in August 2010. It has been presented to the Climate Change Commission and is awaiting their approval. Once approved, the government plans to use the PNRPS to feed into the mitigation components of the National Climate Change Strategy and Action Plan. The PNRPS is still evolving and, while comprehensive, there is a need for continued consultations with some groups, especially

the private sector, donors beginning REDD+ programs, and government agencies that will be partners in or affected by REDD+ project implementation.

- **Executive Order 881** – this EO, signed in April 2010, authorizes the Climate Change Commission to include in its scope of coordination the programs and action plans relating to REDD+. It designates the DENR as the “operational implementer of REDD plus”, as well as the manager of any REDD+ support received from the United Nations and other international organizations in accordance to its mandate, in coordination with the Climate Change Commission (Executive Order 2010).
- **Forestry Code (PD 705)** – sets out a system of land classification, which is mainly geared toward utilization objectives. It is the main law regulating commercial timber extraction. Many feel that this law needs to be revised to incorporate efforts to reduce deforestation, combat degradation, and enhance the multiple uses of forests (PNPRS 2010).
- **National Integrated Protected Areas System (NIPAS)** - provides authority to create a system of protected areas in the Philippines. In the context of REDD+, this act provides the legal basis to allow for the expansion of protected areas in the country.
- **Local Government Code of 1991 (RA 7160)** – this decentralization policy gives LGUs “an array of powers on environmental protection and governance.” It also provides the LGUs opportunities to generate local revenue from extraction or use of natural resources, specifying that LGUs are allowed 1% share of gross sales derived from the extraction. Amongst the sources of revenue specified are carbon payments and forest services. (PNPRS 2010)
- **The Environmental Impact System (EIS) (PD 1586)** – legal basis for conducting and determining environmental assessments of proposed activities in areas that are environmentally sensitive.
- **The Indigenous Peoples Rights Act (IPRA)** – allows indigenous peoples the ownership rights to ancestral domains, and local access to benefits from associated natural resources. The concept of “free and prior informed consent (FPIC)” is embodied in this law.
- **Executive Order 263** – also known as the Community Based Forest Management Strategy, it provides the basis for the DENR program and engagement of communities in natural resource management.
- **Executive Order 318** - passed in 2004, this EO sets out proper valuation and pricing of forestry resources and collection of fees for use of environmental services of forests and watersheds.
- **Legislation ENR 91-1, The Department of Energy Act (RA 7683), and the Electric Power Industry Reform Act (RA 9136), Water code of the Philippines (PD 1067)** – all these polices set up specific payments and benefit sharing regulations related to reforestation, watershed management, and hydropower.

In addition to the legislation outlined above, there are initiatives and draft legislations which are currently being worked upon that may affect REDD+ planning and implementation:

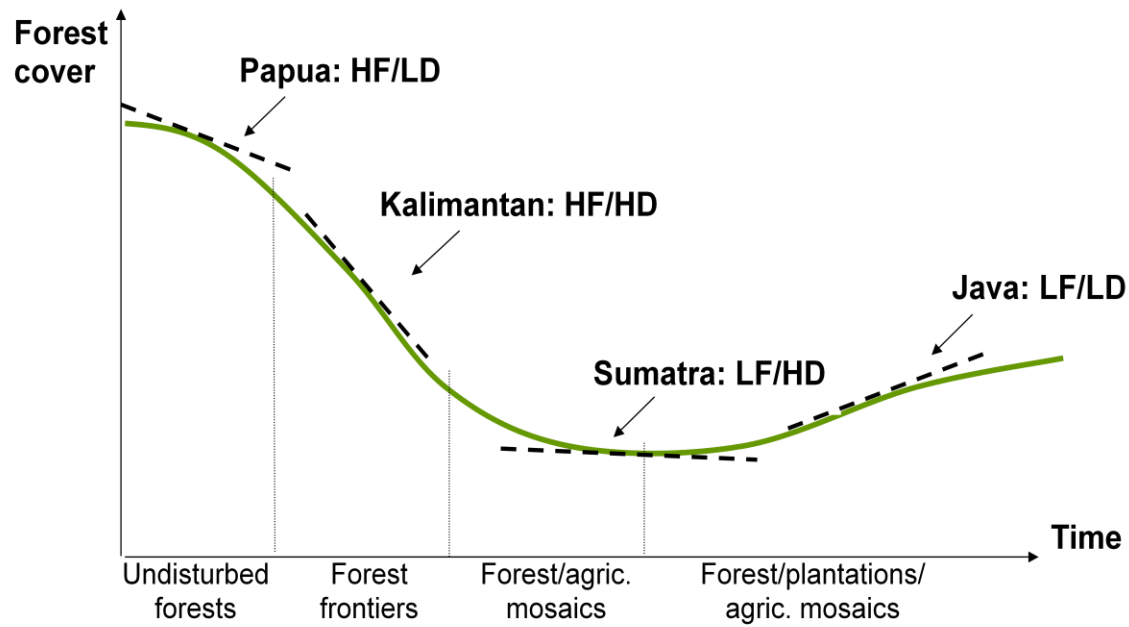
- **DENR’s National Greening Program** - seeks to reforest/rehabilitate 1.5 million ha of degraded forest areas from 2011 to 2016. It will involve efforts of LGUs, students from private and public schools

starting from Grade IV to colleagues and tenure holders under various DENR programs and projects (PIA Press Release 2010).

- **Rationalization Plan** – a move to transform the Executive Branch into a more effective and efficient government by focusing on channeling government resources to core public services, and improving efficiency and delivery of these services within affordable levels and in the most accountable manner.
- **National Convergence Initiative**- a collaboration between DENR, Department of Agriculture (DA), and Department of Agrarian Reform (DAR) to work together and pool resources as appropriate on specified convergence pilot sites to maximize impact on countryside development and poverty reduction. The DA-DAR-DENR Joint Memorandum Circular No. 01, series of 1999, laid out the first operational framework. This policy and framework was further updated in Joint Memorandum Circular No. 01, 2010 which outlines the Enhanced NCI.
- **Draft Sustainable Forest Ecosystem Management Act** – this proposed measure has been repeatedly filed in Congress over the last 15 years and still has not been passed. It seeks” to provide an environment for sustainable management of forest ecosystems to enhance forest ecosystem services, mitigate and adapt to anticipated climate change impacts and reduce poverty in forestlands” (Philstar.com 2010). There are high hopes that this Act will be passed in this year as a landmark in the Philippines’ observance of the UN designation of 2011 as the “International Year of the Forests.”
- **Draft Land Use Act** – currently a priority of the President. The act will also assist various sectors to decide on climate vulnerable areas that will be of special attention for management as well as areas for expansion of settlements, agriculture, industry, and natural resource and heritage protection (PNPRS 2010).

ANNEX 4: Forest Transition Curve: Example from Indonesia

Forest transition – Indonesia



HF/LD: High forest cover/Low deforestation
HF/HD: High forest cover/High deforestation
LF/HD: Low forest cover/High deforestation
LF/LD: Low forest cover/Low deforestation

ANNEX 5: List of People Consulted in Manila

GOVERNMENT OFFICIALS		
NAME	POSITION	AGENCY/ORGANIZATION
Mr. Naderev Saño	Commissioner	Climate Change Commission
Ms. Joyceline Goco	Supervising Environmental Management Specialist	Environmental Management Bureau – DENR
Atty. Analiza Teh	Assistant Secretary	Foreign Assisted Project Office – DENR
Ms. Cristina Regunay	OIC Chief,	Multi-lateral Investment Programs Division – Foreign Assisted Project Office – DENR
Ms. Neria Andin	Officer-In-Charge, Director	Forest Management Bureau – DENR
Ms. Lourdes Wagan	Chief	Forest Land Uses Division, Forest Management Bureau, DENR
Ms. Mayumi Natividad	Chief	Forest Management Bureau – DENR
Ms. Isabelita Austria	Chief	Community Based Forest Management Division – Forest Management Bureau, DENR
Mr. Marcial Amaro	Director	Ecosystems Research and Development Bureau
Mr. Jose Cabanayan	Director, Remote Sensing and Resource Data Analysis Department	NAMRIA - DENR
Mr. Nheden Amiel Sarne	Supervising Economic Development Specialist	Agriculture Staff- NEDA
Ms. Diane Llanto	Senior Economic Development Specialist	Agriculture Staff – NEDA
ACADEME		
Atty. Antonio La Viña	Dean	Ateneo School of Government – Ateneo de Manila University
Lawrence Ang	Research Associate	Ateneo School of Government – Ateneo de Manila University
Ms. Antonia Loyzaga	Executive Director	Manila Observatory
Ms. Celine Vicente	Manager, Geomatics for Environment and Development	Manila Observatory
Ms. Deanna Marie Olaguer	Director Climate Change Center	Manila Observatory
Ms. Len Bugayong	Team Leader	UP-LB Forestry Development Center
Dr. Antonio P. Carandang	Director	UP-LB Forestry Development Center
Dr. Rex Victor O. Cruz	Dean	UP-LB College of Forestry and Natural Resources
Dr. Florencia Puhlin	Professor	UP-LB College of Forestry and Natural Resources
Dr. Rodel Lasco	Coordinator	ICRAF Philippines
CIVIL SOCIETY		
Mr. Oliver Corozza	GIS Specialist	Conservation International

Ms. Rowena Boquiren	Institutional and Policy Leader	Conservation International
Mr. Juan Acay	Director, Isabela	Conservation International
Mr. Jose Ma. Lorenzo Tan	CEO and Vice Chairman	WWF Philippines
Atty. Jose Andres Canivel	Executive Director	Philippine Tropical Forest and Conservation Foundation
Eric D. Buduan	Project Officer	Philippine Tropical Forest Conservation Foundation
Ms. Marlea Muñoz	President	Women's Initiative for Society, Culture and Environment, Inc.
Mr. Ronald Altamarino	Program Officer	Fauna and Flora International
Mr. Neil Aldrin Mallari	Country Representative	Fauna and Flora International
DONORS		
Dr. Bernd Markus Liss	Principal Advisor for Climate Change Projects	GIZ
Mr. Ancha Srinivasan	Senior Climate Change Specialist	Asian Development Bank
Pavit Ramachandran	Environment Specialist	Asian Development Bank
David McCauley	Lead Climate Change Specialist	Asian Development Bank
Mr. Aristeo Portugal	Assistant Representative	FAO
Genaro M. Castro, Jr.	Programme Officer	FAO
Ms. Amelia Supetran	Team Leader – Energy and Environment	United Nations and Development Programme
Ms. Imee Manal	Programme Manager – Energy and Environment	United Nations and Development Programme
Mr. Michael Jaldon	Programme Manager – Energy and Environment	United Nations and Development Programme
Ms. Charmion Reyes	Programme Associate, Environment and Energy	United Nations and Development Programme
Mr. Gerardo Parco	Operations Officer	World Bank
Mr. Jose Tuyor	Senior Operations Officer	World Bank
Mr. Kenzo Ikeda	Climate Change Expert	JICA
Ms. Flerida Chan	Poverty Reduction Expert	JICA
Ms. Naoko Yago	Environment and Governance Expert	JICA
Ms. Cristina Santiago	Coordination consultant	JICA

ANNEX 6: List of People Consulted in Quirino

NAME	POSITION	AGENCY/ORGANIZATION
Dakila Carlo E. Cua	Congressman	Lone District of Quirino
Junie E. Cua	Governor	Provincial LGU
Mae-Garnace Calaunan	Vice-Governor	Provincial LGU
Elizabeth S. Nicolas	Provincial Administrator	Provincial LGU
Yolando B. Binag	Provincial Natural Resources and Environment Officer	Provincial LGU
Dencio A. Pagbilao	Provincial Planning and Development Officer	Provincial LGU
Alexander B. Barayuga	Protected Area Superintendent-QPL	DENR-PENRO
Fernando Salvador	Forestry Specialist	DENR-CENRO
Rodora A. Gamet	OIC-Executive Director	PEDAI
Ben S. Guillermo	Project In-Charge QFCP	PEDAI
Vilma Buen	QFCP Project Staff	PEDAI
Roldan A. Tomas	QFCP Technical Field Staff	PEDAI
Marlon A. Maximo	QFCP Technical Field Staff	PEDAI
Warlito Santiago	QFCP Technical Field Staff	PNREO/Detailed to QFCP
Renato G. Ylanan	Municipal Mayor	Municipality of Maddela
Junar Raymundo	Municipal Planning Staff	Municipality of Maddela
Bernardo Balbero, Jr.	Barangay Captain	Barangay Sto.Nino, Maddela
Gilbert Gambol	Brgy. Kagawad/PO Chairman STISFA	Barangay Sto.Nino, Maddela
Tony Rey Tolentino	Brgy. Kagawad	Barangay Sto.Nino, Maddela
Orlando Balbero	PO Member	STISFA (Sto.Nino Integrated Social Forestry Association)
Danilo Gambol	PO Member	STISFA
Rodrigo Pacle	PO Member	STISFA
Sergio Ramos	PO Member	STISFA
Oliver O. Coroza	Director, Spatial Analysis and Information Systems Unit	Conservation International (CI) Philippines
Juan R. Acay, Jr.	Forestry and Carbon Project Manager	CI Philippines-Sierra Madre Biodiversity Corridor
Estrella A. Pasion	Protected Area Associate-Quirino Protected Landscape	CI Philippines-Sierra Madre Biodiversity Corridor
Charles G. Tomas	QFCP Technical Field Staff	CI Philippines-Sierra Madre Biodiversity Corridor
Budy C. Castillo	QFCP Technical Field Staff	CI Philippines-Sierra Madre Biodiversity Corridor