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Conserving Tropical Forests and Biodiversity for Human Development and Inclusive Growth

2011 FAA 118/119 Report
Philippines Biodiversity and Tropical Forestry Analysis



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Photos by Arty James Kho

2011 FAA 118/119 REPORT

PHILIPPINES BIODIVERSITY AND TROPICAL FORESTRY ANALYSIS:

Conserving Tropical Forests and Biodiversity for Human Development and Inclusive Growth

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LIST OF ACRONYMS

A2C2	Albay in Action on Climate Change
A & D	Alienable and Disposable
ABD	Animal Biology Division
ADB	Asian Development Bank
ADMU	Ateneo de Manila University
ADR	Alternative Dispute Resolution
ADSDPP	Ancestral Domain Sustainable Development and Protection Plans
AFFLA	Agroforestry Farm Lease Agreement
AMORE	Alliance for Mindanao Off-Grid Renewable Energy
ARMM	Autonomous Region in Muslim Mindanao
ASEAN	Association of Southeast Asian Nations
AusAid	Australian Agency for International Development
BALANCED	Building Actors and Leaders for Advancing Community Excellence in Development
BAS	Bureau of Agricultural Statistics
BCMNR	Biodiversity Conservation through Management of Natural Resources
BFAR	Bureau of Fisheries and Aquatic Resources
BIRSDP	Bulacan Integrated River System Development Project
BIS	Biodiversity Information System
BPO	Business Process Outsourcing
BRBWMP	Bicol River Basin and Watershed Management Project
BRIC	Brazil, Russia, India And China
BSP	Bangko Sentral ng Pilipinas
BSWM	Bureau of Soils and Water Management
CADT	Certificate of Ancestral Domain Title
CAR	Cordillera Administrative Region
CBCRM	Community-Based Coastal Resource Management
CBD	Convention on Biological Diversity
CBFMA	Community-Based Forest Management Agreement
CBFMMP	Community-Based Forest and Mangrove Management Project
CBFMP	Community-Based Forest Management Program
CBP-PA	Community-Based Program in Protected Areas
CC	Climate Change
CCA	Climate Change Adaptation

CCBS	Climate, Community and Biodiversity Standards
CCC	Climate Change Commission
CCRMP	Camiguin Coastal Resource Management Project
CCT	Conditional Cash Transfer
CDCS	Country Development Cooperation Strategy
CDM	Clean Development Mechanism
CDP	Comprehensive Development Plans
CE	Critically Endangered
CEnergy	Climate Change and Clean Energy Project
CENRO	Community Environment and Natural Resources Office
CFC	Chlorofluorocarbons
CI	Conservation International
CIA	Central Intelligence Agency
CITES	Convention on International Trade in Endangered Species
CLEEP	Comprehensive Livelihood and Emergency Program
CLUPs	Comprehensive Land Use Plans
CMPs	Community Management Plans
CMS	Convention on Migratory Species
CRMP	Coastal Resource Management Plan
CTI	Coral Triangle Initiative
CTSP	Coral Triangle Support Partnership
DA	Department of Agriculture
DAR	Department of Agrarian Reform
DBM	Department of Budget and Management
DENR	Department of Environment and Natural Resources
DFA	Department of Foreign Affairs
DILG	Department of Interior and Local Government
DOF	Department of Finance
DOLE	Department of Labor and Employment
DOST	Department of Science and Technology
DOT	Department of Tourism
DRR	Disaster Risk Reduction
DRRM	Disaster Risk Reduction and Management
DTI	Department of Trade and Industry
EB-ABCD	Ecosystem-Based Approach to Biodiversity Conservation and Development in the Philippines

EcoGov	Philippine Environmental Governance
EcoGov2	Philippine Environmental Governance Project- Phase II
EDC	Energy Development Corporation
EDNSTPAP	Expanding and Diversifying the National System of Terrestrial Protected Areas in the Philippines
EE	Energy Efficient
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EMB	Environmental Management Bureau
EMS	Ecosystem Management Specialist
EN	Endangered
ENR	Environment and Natural Resources
ENR CORE	Environment and Natural Resources Capacity and Operations Enhancement Programme
ENRAP	Environment and Natural Resource Accounting Project
EnRD	Environment and Rural Development
ENRIS	Environment Natural Resources Integrated Information System
EO	Executive Order
EPE	Environmental Protection Expenditures
EPIC	Environmental Management Programme for Industry Competitiveness
EPIRA	Electric Power Industry Reform Act
ESSC	Environmental Science for Social Change
EWV	Enterprise Works/ VITA
FAA	Foreign Assistance Act
FAO	Food and Agriculture Organization
FFI	Fauna and Flora International
FFM	Forest and Forestlands Management
FIS	Forestry Information System
FLGLAs	Forest Land Grazing Lease Agreements
FLUPs	Forest Land Use Plans
FMB	Forest Management Bureau
FMS	Forest Management Services
FPE	Foundation for the Philippine Environment
FPIC	Free and Prior Informed Consent

FRA	Forest Resources Assessment
GDP	Gross Domestic Product
GDP (PPP)	Gross Domestic Product (Purchasing Power Parity)
GEF	Global Environment Facility
GHG	Greenhouse Gas
GIAHS	Globally Important Agricultural Heritage System
GIS	Geographic Information System
GIZ	Germinal Technical Assistance
GREEN	Green Resources for Environmental Education and Networking
GTZ	Germinal Technical Assistance
HDI	Human Development Index
HealthGov	Local Governance for Health
HealthPRO	Health Promotion and Communication Project
HLURB	Housing and Land Use Regulatory Board
HPMP	HCFC Phase-out Management Plan
IACCC	Inter-Agency Committee for Climate Change
ICM	Integrated Coastal Management
ICRAF	World Agroforestry Center
IDSS	Integrated Decision Support System
IEC	Information, Education and Communication
IFAD	International Fund for Agricultural Development
IFMAs	Integrated Forest Management Agreements
IGACOS	The Island Garden City of Samal
IKSP	Indigenous Knowledge Systems and Practices
INREMP	Integrated Natural Resources and Environmental Management Program
IRA	Internal Revenue Allocation
IRT	Ifugao Rice Terraces
ISWM	Integrated Solid Waste Management
ITPLA	Industrial Tree Plantation Lease Agreement
IUCN	International Union for Conservation of Nature
JICA	Japan International Cooperation Agency
KALAHI-CIDSS	Kapit Bisig Laban saKahirapan-Comprehensive and Integrated Delivery of Social Services
KBAs	Key Biodiversity Areas
KOICA	Korea International Cooperation Agency
LCF	League of Corporate Foundations

LFPI	Landcare Foundation of the Philippines, Inc.
LGU	Local Government Unit
LIS	Library Information System
LMB	Land Management Bureau
LULUCF	Land Use, Land-Use Change and Forestry
M&E	Monitoring and Evaluation
MA	Millennium Ecosystem Assessment
MARPOL	International Convention for the Prevention of Marine Pollution from Ships or Marine Pollution Convention
MDG	Millennium Development Goal
MDGF	Millennium Development Goals Fund
MEA	Multisectoral Environmental Agreement
MFPCs	Multi-Sectoral Forest Protection Committees
MGB	Mines and Geosciences Bureau
MILF	Moro Islamic Liberation Front
MIS	Management Information System
MMDA	Metropolitan Manila Development Authority
MMRV	Monitoring, Measuring, Reporting and Validation
MOAs	Memorandum of Agreements
MPAs	Marine Protected Areas
MRV	Measurement, Reporting and Verification
MTDP	Medium Term Development Plan
MTSP	Manila Third Sewerage Project
MWSS	Metropolitan Waterworks and Sewerage System
N, P, K	Nitrogen, Phosphorus, Potassium
NAMRIA	National Mapping and Resource Information Authority
NBSAP	National Biodiversity Strategy and Action Plan
NCCAP	National Climate Change Action Plan
NCCC	National Climate Change Commission
NCIP	National Commission on Indigenous People
NCR	National Capital Region
NDCC	National Disaster Coordinating Council
NDRRMC	National Disaster Risk Reduction and Management Council
NEDA	National Economic and Development Authority
NELARDECO	Newlands Resources Development Cooperative

NFRDI	National Fisheries Research and Development Institute
NFSCC	National Framework Strategy on Climate Change
NG	Non-Government
NGAs	National Government Agencies
NGP	National Greening Program
NIA	National Irrigation Administration
NIPAS	National Integrated Protected Areas System
NMRC	National Multistakeholder REDD Council
NPS-ENRMP	National Programme Support-Environment and Natural Resources Management Project
NR	Natural Resources
NRM	Natural Resources Management
NSCB	National Statistical Coordination Board
NSMNP	Northern Sierra Madre Natural Park
NSWMC	National Solid Waste Management Commission
NZAID	New Zealand Agency for International Development
ODS	Ozone depleting substances
OECD	Organisation for Economic Co-operation and Development
OTS	Other Threatened Species
PACBRMA	Protected Area Community-Based Resource Management Agreement
PAGASA	Philippines Atmospheric, Geophysical and Astronomical Services Administration
PAMB	Protected Areas Management Board
PAs	Protected Areas
PASu	Protected Area Superintendent
PAWB	Protected Areas and Wildlife Bureau
PAWCZM	Protected Areas, Wildlife and Coastal Zone Management
PBC	Partnership for Biodiversity Conservation
PCBs	Polychlorinated biphenyls
PCVs	Petty Cash Vouchers
PDI	Philippine Daily Inquirer
PDM	Project Design and Management
PDO	Project Development Objective
PDP	Philippine Development Plan
PEENRA	Philippine Economic Environmental and Natural Resource Accounting
PES	Payment for Ecosystem Services
PESCP	Philippine Endemic Species Conservation Project

PFPI	PATH Foundation Philippines Inc.
PHE	Population, Health and Environment
Php	Philippine Pesos
PLA	Pasture Lease Agreement
PNOC-PAFC	Philippine National Oil Company-Philippine Alternative Fuel Corporation
PO	People's Organization
POPs	Persistent Organic Pollutants
PPP	Public-Private Participation
PR China	People's Republic of China
PRISM2	Private Sector Mobilization for Family Health Project Phase2
ProFORM	Program for Forest Management
PSA	Philippine Sanitation Alliance
PSPN	Paghiliusasa Paghidaet-Negros
PSR	Pressure-State-Response
PSY	Philippines Statistical Yearbook
PTFCF	Philippine Tropical Forest Conservation Foundation
PWRF	Philippine Water Revolving Fund Support
R2R	Ridge-to-reef
RA	Republic Act
RECs	Regional Ecology Centers
REDD+	Reducing Emissions from Deforestation and Forest Degradation
REECS	Resources, Environment and Economic Center for Studies, Inc.
RPS	Rationalized Planning System
RTD	Regional Technical Director
RUPES	Rewarding Upland Poor for Environmental Services
SDS-SEA	Sustainable Development Strategy for the Seas of East Asia
SEARCA	Southeast Asian Regional Center for Graduate Study and Research in Agriculture
SEEA	System of Environmental and Economic Accounting
SFM	Sustainable Forest Management
SHIELD	Sustainable Health Improvements through Empowerment and Local Development
SIBP	Samar Island Biodiversity Project
SIFMAs	Socialized Industrial Forest Management Agreements
SIKAT Inc.	Sentro para sa Ikauunlad ng Katutubong Agham at Teknolohiya, Inc.
SNBNP	Sohoton Natural Bridge National Park
SNC	Second National Communication

TFLA	Tree Farm Lease Agreement
TLAs	Timber License Agreements
TRAC	Target for Resource Assignments from the Core
TRNMP	Tubbataha Reef Natural Marine Park
TWG	Technical Working Group
UDP	Upland Development Program
UEM	Urban Environment Management
UN	United Nations
UNCBD	United Nations Convention on Biological Diversity
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organization
USAID/Philippines	United States Agency for International Development/Philippines
USG-DOI	United States Government-Department of Interior
UV	Ultraviolet
VCS	Verified Carbon Standard
VEG	Volunteers for Environmental Governance
WAND	Water, Agroforestry, Nutrition and Development Foundation
WAVES	Wealth Accounting and Valuation of Ecosystem Services
WB	World Bank
WLE-MOP	Wildlife Law Enforcement Manual of Operations
WMC	Watershed Management Council
WWF	World Wildlife Fund
WWM	Waste Water Management

Executive Summary

This report is an assessment of the conservation of tropical forests and biological diversity (biodiversity) in the Philippines, covering the period from 2008 to early 2011. This report provides the information necessary for USAID to comply with Sections 118 and 119 of the U.S. Government Foreign Assistance Act (FAA) of 1961, as amended, to guide and inform USAID/Philippines as it develops its new Country Development Cooperation Strategy (CDCS) for the Philippines. The report assesses the actions necessary to conserve biodiversity and sustainably manage tropical forests and the extent to which USAID strategy/programming addresses these necessary actions. The report concludes with recommendations to USAID for priorities in development assistance to conserve tropical forests and biodiversity, and address climate change impacts on these resources, vis-à-vis the overall programs of the Philippine government, multilateral and bilateral development organizations, civil society groups, and the private sector.

Background and Status of Tropical Forests and Biodiversity

The Philippines is one of the 17 countries with the most diverse biological resources. In the past five years, several new species and new distribution records of known species have been discovered, affirming that, even with long-term and significant decline of habitats, the Philippines is still rich in biological diversity and uniqueness. The Philippines is also one of the major biodiversity hotspots. International trade largely drives the harvesting of wildlife; but a greater part of biodiversity loss is more likely to be due to habitat loss through land use conversion, pollution and other development activities.

From a high of 20 million hectares in the 1900s, the actual forest cover of the country decreased to about 6.46 million hectares in 1988 due to logging, upland migration, and agricultural expansion. More recently, official data show an increase in forest cover in 2010. However, the definition of what is considered “forest” has changed to include plantations, making it almost impossible to compare historical and recent data. There is insufficient data and capacity to present forest data spatially and in forms relevant for national and local decision-making.

The causes and effects of loss of tropical forests and biodiversity on the overall ecosystem are well-studied and reported in the Philippines. Based on the consultations and interviews, the prevailing view is that ineffective governance is the root cause of the problem. Ambiguous and/or conflicting policies and poor enforcement perpetuate the *de facto* open access situation in environmentally critical areas, where resource users are motivated to exploit natural resources to exhaustion in the shortest time, before policies change again. However, poor governance is not the only cause. Market forces create the incentives for people (and government) to make decisions on resource-use, on adoption of technologies and use of harmful products, etc. The impacts of natural causes of forest and biodiversity loss (e.g. climate change, extreme weather, earthquakes, volcanic eruptions, etc.) are just beginning to be discovered and measured. There is little information on the socio-cultural aspects of how people relate to the environment and their motivations to protect or destroy it.

Environment and Natural Resources (ENR) Contribution to Economic Growth

Historically, the ENR sector has been, and still is being exploited for its valuable products, including timber, minerals, fisheries, etc. As these products are quickly exhausted and revenues dwindle, the government is struggling to justify the cost of preserving the remaining natural resources that bring little revenue returns. Given the tight fiscal situation, government spending on conservation has been inadequate, unsustainable and dependent on external support.

Assessing the ENR sector's contribution to the economy merely through traditional economic outputs may be both limiting and problematic. It would appear that in the last two decades, natural resources and agriculture have significantly reduced contribution to the gross domestic product (GDP). Based on official data, the contribution of forestry to GDP is negligible, averaging 0.07 percent in the past five years. While mining investments have increased significantly in a decade, the contribution of the mining sector to the GDP is still small, averaging 1.42 percent in the past five years. Fisheries contributed an average of 2.20 percent to the GDP in the past five years; while electricity, gas and water sector contributed 3.40 percent to the GDP on average for the same period. Consequently, these sectors contribute little to employment. Direct revenues from natural resources utilization are expected to remain small compared to the growing services and industry sectors. The real value of the ENR sector may not lie in the natural resources products extracted, but in the supply of other ecosystem services. This will become more critical in supporting economic growth, either as an enabling factor (as source of water, energy, food, clean air, etc.) or as a limiting factor (because of pollution, drought, flood, diseases, crop failures, urban congestion, natural disasters, etc.).

This report argues that the Philippines should consider the environment and natural resources sector as a foundation of inclusive economic growth, anchored on the continued supply of ecosystem services as natural capital. Looking forward, the ENR sector should be seen as a provider of ecosystem services (e.g. water, power, clean air, healthy and safe environment, etc.), which are vital for economic activities and human development. Human development is the key to economic growth since the Philippine economy has shifted from natural resources exploitation and agriculture to light industry and service. In this context, investments in protecting the ecosystems' integrity (including conservation of tropical forests and biodiversity) and sustaining services derived from them directly contribute to inclusive economic growth.

The loss of natural capital has considerable impacts on economic growth prospects for the country. In its 2009 Philippines Environmental Analysis report, the World Bank estimated that the annual cost from degradation of coastal and marine resources is more than USD\$120 million, mainly from overfishing, which means potential rents from more sustainable fisheries management are being lost. Forest degradation is estimated to cost the Philippines about USD\$60 million a year. In the early 1990s, the USAID-funded environment and natural resource accounting project documented the depreciation of natural resources and environmental degradation that reduced the value of Philippine productive assets by 5 percent to 10 percent. These values do not reflect a full accounting of environmental costs but only includes the depreciation values of forest, fisheries, mineral, and soil resources and environmental damages from health impacts, foregone fish production, foregone rice production, and reduced life of dams. There were attempts to measure the total value of natural assets and economic losses due to environmental degradation, but these efforts have not been sustained.

Policies and Programs for Conservation of Tropical Forests and Biodiversity

The Philippine Development Plan (PDP) for 2012-2016 has twin goals of economic growth and poverty alleviation as components of the overall goal of inclusive growth. The Plan notes that more identified key biodiversity areas have been set aside for conservation. Under the National Integrated Protected Areas System (NIPAS), 13 protected areas have been established by the enactment of specific laws: 112 protected areas have been affirmed by a Presidential Proclamation, covering 3.54 million hectares, 83 of which are terrestrial PAs and 29 are marine PAs with total areas of 2.17 and 1.37 million hectares, respectively. There are more than 1300 marine protected areas (MPAs) established in the country covering 22,540 sq. km. but only 10-15 percent is functional. A study of Weeks et al. (2010) shows that 85 percent of the protected (no-take) coastal waters are found to be in only two NIPAS sites (i.e. Tubbataha and Apo Reefs), while the rest of the MPAs comprise only 15 percent of the no-take areas.

The study projects that at the rate of establishment of MPAs, it will take until 2076 to protect at least 10 percent of existing coral reefs, and it may be impracticable to meet the target of the 15 percent of municipal waters set under current policies.

The PDP also recognizes that one of the limiting factors of economic growth is poor infrastructure, especially in transportation. The list of infrastructure priorities include major investments in ENR such as irrigation, sanitation and wastewater treatment, solid waste management, flood control, etc. In employment generation, several sectors linked to ENR were also identified as priority sectors, including tourism, agriculture, fisheries, mining and agroforestry. The ENR Chapter of the PDP focuses on three major goals, two of which are directed at conserving remaining natural resources and preserving a clean and healthy environment. The third goal emphasizes the need for climate change adaptation and disaster management.

Local government participation in environmental management has increased dramatically in the past decade, through co-management with DENR of specific public forest areas. It took many years to convince local executives, but once convinced, most LGUs translate that knowledge into locally-funded programs and activities. With such a momentum, the national agencies in charge of the ENR sector need to be more proactive to provide the necessary policy environment and support for devolved management of natural resources.

Actions Necessary to Sustainably Manage Tropical Forests and Conserve Biodiversity

After decades of development assistance to generate programs, pilot studies and demonstration projects, the Philippines has built enough experience and expertise to scale-up, mainstream and sustain the best practices learned in tropical forest management and biodiversity conservation. The country has completed most of the standard activities and actions, such as enactment of national laws on environment and conservation, establishment of protected areas, implementation of reforestation and forest rehabilitation programs, providing tenure instruments to forestland dwellers, setting-up of national enforcement mechanisms for environmental laws, creating economic incentives for reducing pollution, and other adverse impacts on the environment.

However, mainstreaming and scaling-up remain a challenge, even if good practices are being replicated at the local government level. At this stage, what is needed is a set of actions to mainstream the conservation and sustainable utilization of tropical forests and biological diversity in the overall development strategy in order to achieve broad-based economic growth. These critical actions include:

- At the national level – the government should:
 - systematically account for environmental impacts in its national development plan;
 - develop an information system to gather data on benefits generated from the remaining natural resources, the avoided costs of the loss of these resources, the costs of conservation and rehabilitation; and
 - institutionalize a comprehensive program of payment for ecosystem services to recover the costs from those who benefit from these resources and services.
- At local government levels – local governments should:
 - incorporate conservation/enhancement of ecosystem services in local development planning; and
 - widen impact of conservation programs through co-management agreements and inter-LGU collaborations.
- Private sector – investors can undertake:
 - development of technologies, products and financing options to support conservation policies; and

- investments in infrastructure to protect and enhance ecosystem services (water supply, sanitation, adaptation, disaster mitigation).
- General public – communities and individuals should:
 - through informed choice, create the demand for products and services that conserve natural resources and enhance provision of ecosystem services; and
 - demand accountability of government officials in conserving natural resources, and in providing equitable access to and payment for natural resources and ecosystem services.

Extent to which USAID Addresses Actions to Conserve Tropical Forests and Biodiversity

USAID partners with national and local governments, civil society organizations, private enterprises and local communities to help conserve and sustainably use tropical forests and biodiversity resources through several projects and programs. Among these are the Philippine Environmental Governance Project- Phase II (EcoGov2), Building Actors and Leaders for Advancing Community Excellence in Development (BALANCED) Project, Volunteers for Environmental Governance (VEG) II Project, Coral Triangle Support Partnership (CTSP)-Philippines, From Ridge to Reef: An Ecosystem-based Approach to Biodiversity Conservation and Development in the Philippines (EB-ABCD Philippines), Danajon Bank Marine Park Project: First Collaborative Large-Scale MPA in the Philippines, Rehabilitation and Conservation of Romblon Passage Marine Corridor through Integrated Community-based Coastal Resource Management (CBCRM) Approaches, Mainstreaming Climate Change in Biodiversity Planning and Conservation in the Philippines, Partnership for Biodiversity Conservation (PBC) Program II, and Conservation of Biodiversity and Management of Natural Resources in Palawan and Mindanao. Other complementary projects include the Philippine Sanitation Alliance (PSA), Philippine Water Revolving Fund Support (PWRF), Climate Change and Clean Energy Project (CEnergy), and Alliance for Mindanao Off-Grid Renewable Energy (AMORE).

Moreover, the Philippine Tropical Forest Conservation Foundation (PTFCF), established in 2002 via debt reduction and forest conservation agreements between the U.S. and Philippine Governments, continues to finance efforts to improve the status of Philippine forests by working with forest communities and catalyzing national and local actions.

The thrust of USAID’s environmental programs is on integrated ecosystems management or ridge-to-reef (R2R) management. The end of project evaluation of the seven-year EcoGov2 Project reports that more investments in integrated ecosystems management such as the R2R model is practical and worthwhile and can be applied in defined geographical areas such as watersheds or groups of watersheds, river basins, bays that are critical to water, health and food security. The programs directly address the threats posed to forests and biodiversity and the impacts of climate change to these resources through varied approaches. Some USAID programs like PSA, PWRF, CEnergy and AMORE indirectly respond to the threats to forest and biodiversity such as water and sanitation problems posed, climate change impacts greenhouse gas emissions from the power and transport sectors brought about, and impacts to sources of clean and renewable energy systems.

There is limited synergy and complementation between the environment portfolio and other programs under the different Offices at USAID/Philippines implemented. For example, there are several health programs that address delivery of family planning and other health products and services. Despite most health concerns stemming from a degraded environment and pressures on the environment and natural resources are increasing due to demands from a rapidly growing population, there are limited efforts to design or link these programs that can also address the concerns of the environment program. However, an example where the health and environment offices have collaborated has been on the population, health, environment linkage through the jointly managed BALANCED Project. Another

example of close cooperation has been the efforts on water and sanitation, where the Office of Energy and Environment (OEE) manages the water and sanitation activities. In particular, OEE has coordinated closely with the Department of Health (DOH) to better align the latter's effort and the Department of Finance on water access and sanitation issues by using DOH funds to finance water and sanitation projects for the poor, which is about Php1.5 billion (USD\$36.5 million). Possible future opportunities for co-location and an integrated package of interventions may arise in the areas of disaster preparedness and assistance, climate change and health impacts, and water and sanitation.

On the whole, recent USAID environmental programs have focused on catalyzing LGUs to directly invest in and implement ENR programs (e.g. EcoGov), as well as in linking environmental investments with improved status of natural resources (e.g. FISH) to demonstrate that achieving multiple co-benefits across sectors is possible. This will catalyze a rethinking that expenditures for ENR management are irrecoverable costs that the country cannot afford in a tight fiscal situation (See discussion in Chapter VI)

Framework for Recommendation: A Different Lens, a Different Angle, a Proposed ENR Strategy

This report argues that ENR should be considered a foundation or pillar of inclusive economic growth. The challenge is to keep the Philippines in a consistent path towards stable economic growth anchored on sustainable utilization of natural resources, ensuring supply of other ecosystem services, optimizing potential for new revenue sources from natural resources (e.g. ecotourism and carbon markets), and ensuring equitable distribution of benefits and opportunities. Given the fact that over the last 50 years, the Philippines' natural capital has not been well-managed and declined considerably, it is imperative for government to define a policy of catalyzing public and private investments in natural assets. In order to measure the impact of such investments, government needs to revive and actually use resource valuation and accounting.

In revisiting the goals and strategies of the PDP, the strategies may be viewed using the lens of ecosystem services providing the foundation for economic growth. Using this lens, the strategy on infrastructure may be viewed from the angle of increasing the delivery of ecosystem services. Human development may focus on providing poor communities in the uplands and coastal areas with options for livelihoods that are not wholly dependent on resource extraction. The goals and strategies under the PDP's ENR chapter may also be viewed, not only from the perspective of protecting/conserving the natural resources, but in changing the behaviors of people who use these resources. The actions directed at the people using the resources are as important as actions targeting the protection of the resources directly. Historically, the programs and projects of the government have been directed at protecting resources. This has to shift to providing incentives and relevant information for people to make the right choices.

At the national policy level, there is a rare opportunity to shift the thinking from looking at ENR expenditures as low priority non-recoverable costs. Instead, government should view these expenditures as necessary investments that will bring more benefits in terms of ecosystem services that support industry, services and improved quality of life. There is broad Cabinet-level acceptance of the premise of the important contribution of the environment to economic development, and the consequential costs on health, safety and livelihoods with the continuing decline in ecosystem services. USAID can catalyze the sharpening of the PDP's analysis through targeted assistance on natural resources valuation and accounting, taking off from the lessons of past efforts such as USAID-funded Environment and Natural Resource Accounting Project (ENRAP) and the Philippine Economic Environmental and Natural Resource Accounting (PEENRA).

To complement government programs which directly address the state of the ecosystem (such as reforestation and declaration of protected areas), USAID can focus on programs which catalyze changes in the behaviors of resource users as they interact with the natural environment.

There are three major groups of resource users whose behaviors affect the state of the natural resources. These are producers/owners, consumers, and investors in natural resources. Changing the behaviors of these groups requires at least three strategies which provide relevant information for decision-making, including knowledge creation and management, economic incentives, and governance interventions.

For each of the target group, complementary strategies may be designed to provide incentive systems to have desired behaviors which either enhance the status of natural resources or mitigate negative impacts on these resources. Some strategic actions addressing desired behavioral changes are provided for each of the major target groups.

This **‘three for three’** strategy is expected to improve quality of life of Filipinos in general, as well as reduce poverty in the most vulnerable areas, which are also the most ecologically fragile. The most valuable capital is human capital; the goal of government is provide the best environment for human development and inclusive growth. As a majority of the people’s quality of life improves, there will be a growing demand for a cleaner environment and more judicious use of natural resources to ensure ecosystem services are sustained now and into the future.

Recommendations and Options for Future USAID Strategies and Programs

During the preparation of this report, USAID was in the process of drafting its new Country Development Cooperation Strategy (CDCS) for the Philippines (2012-2016). With “Partnerships for Growth” initiative as the central focus of the CDCS strategy, there are emerging themes which came out from this FAA 118/F119 report that should inform the new strategy.

Following the **“Three for Three”** strategy, USAID may consider broad strokes programs on:

1) Knowledge creation and management

Building on the experience of PEENRA and ENRAP, USAID can provide follow-through support for reviving and mainstreaming valuation of ecosystems services to inform macro-economic and local development planning, and set up payment for ecosystem services (PES) mechanisms for improved management of land and resource uses. The manner in which the ENR sector provides provisioning, regulating, supporting and cultural services are not considered or “valued” in any macro-economic and local sense. National and local governments need to re-orient development planning to properly account for the value of ecosystem service. Producers/owners, consumers and investors can make better decisions on sustainable use based on proper valuation of natural resources and ecosystem services.

2) Economic incentives

Based on valuation and PES studies, incentives and disincentives can be designed to address maximum returns from ecosystem services. USAID can help design and implement economic instruments tailored to the unique conditions of the areas where they are applied. For example, payments for water, erosion-prevention, and climate regulation that a forest protected area provides to agricultural areas. The businesses sector is dependent on a stable environment that provides the natural resource base of raw

materials necessary for a range of products and other ecosystem services in order to operate and turn a profit. The private sector has shown increasing interest in business and biodiversity, mostly through its corporate social responsibility programs. Following experiences in other countries, USAID can help provide the framework for public and private cooperation and collaboration to make the economic incentives work for the environment.

Producers/owners of natural resources can take advantage of economic incentives for eco-friendly products and services to shift away from unsustainable destructive or extractive activities to sustainable production methods or to providing services (such as for eco-tourism). USAID can prioritize sustainable production methods and alternative livelihood based on ecosystem services in the assistance provided to local governments in local economic development planning that targets the producers/owners of natural resources.

3) Governance Incentives

- Strengthening the monitoring and evaluation (M&E) systems of national and local governments by including measurable biophysical and economic indicators across all planning and implementation activities.

As an entry point to establishing monitoring, measuring, reporting and validation (MMRV) systems for the environment sector as a whole, including efforts to reduce emissions from deforestation and forest degradation (REDD), USAID can invest in augmenting the current capacity of DENR towards better monitoring and evaluating its performance based on actual impact from a biophysical and economic sense. It can also co-develop simple rules and templates for capturing and monitoring such impacts. For LGUs, the same can be leveraged by integrating the biophysical and economic impacts of environmental initiatives in the Department of Interior and Local Government's (DILG's) Local Government Performance Management System. Some inspiration can be drawn from ISO 9001/14001 certification processes. It is the objective of a more robust M&E system to better inform and influence the behavior of producers/owners, consumers, and investors with actual and updated information on performance and outputs.

- Expanding and deepening co-management arrangements

Consistent with the seven-year EcoGov approach and experience, USAID can provide follow through assistance to enable the national government to strengthen and expand the responsibilities, power and accountabilities of LGUs to support the provision of efficient and cost-effective delivery of ENR goods and services at the government level closest to the people. This will require the provision of assistance for the following:

- Improving ENR planning and enforcement capacities of LGUs including the setting-up of appropriate local standards or thresholds for management of ecosystem services for effective resource development, use regulation, and protection;
- strengthening the participation of people's organizations representing the marginal communities and other local informal institutions in the planning, plan implementation, M&E, including resource conflict resolutions processes;
- promoting third party monitoring and auditing of plans, programs and projects including investments as they relate to ecosystem services; and
- promoting inter-LGU alliances for the planning and implementation of ecosystems management plans and programs, including enabling markets for ecosystem services.

- Managing ENR conflicts and law enforcement.

Unclear roles and processes of national agencies and LGUs in regulating and addressing ENR conflicts among stakeholders, and transparency and accountability issues lead to many governance conflicts. Local government officials, communities, and other stakeholders are building their capacity to address these conflicts. Conflict resolution mechanisms which consider cultural factors are important to address conflicts at the local level and in particular, at specific localities. USAID can help improve on current capacity-building initiatives to institutionalize a general voluntary mechanism of conflict management that complements the limited scope of adjudicatory processes under existing laws. Following through with the USAID- U.S. Department of Interior's capacity building program for environmental law enforcement bodies, USAID can assist in further development of protocols on enforcement and adjudication.

4) Building institutional capacity of governance actors

Across target groups, the need to build capacity continues to be paramount. Admittedly, there have been many capacity building efforts but strengthening the capacities of institutions, rather than of individuals, is key to institutionalizing knowledge and sustaining gains. USAID can help provide the framework for institutional capacity building, with indicators for improved performance which are ultimately reflected in better condition of natural resources and ecosystem services.

Potential Thematic and Geographic Priority Areas

Establishing a link of investments in sustaining ecosystem services and inclusive economic growth, and building on the strengths and experiences of USAID, future programs can focus on four thematic and/or geographic areas:

- 1) Economic growth centers – USAID currently supports economic reform with focus on sustaining good fiscal sector performance and removing barriers to investment and increasing competitiveness. USAID is supporting growth in the agriculture sector with new technologies, and supporting the expansion of the bank-provided microfinance to the microenterprise and micro-agriculture sectors. USAID may consider complementing this program with studies or pilot cases to see how and how much ecosystem services support agricultural growth, or how current designs for economic growth may or may not be sustainable given the impact of new technologies on ecosystems and ecosystem services. These sites are the most promising sites to do valuation studies on and set up PES schemes for water, pollution, etc. because major users can be identified and potentials for payment can be easily realized.
- 2) Ecotourism in priority conservation areas – Key ecotourism sites which have been identified under the DENR and Department of Tourism (DOT)-led National Ecotourism Strategy can serve as areas for proper resource valuation and investment in ecosystem services.

The DENR-Protected Areas and Wildlife Bureau (PAWB), which is the national focal point in biodiversity conservation and sustainable use, has identified ecotourism enterprise development in protected areas, including in coastal areas which are not part of the NIPAS, as a priority intervention to facilitate reinvestment of revenues to enhance the growth and competitiveness of the economy and improve the livelihood of local communities. A co-management and Public-Private Participation (PPP) approach that can potentially pilot innovative financing schemes can then be undertaken to facilitate reinvestment of revenues into local communities.

- 3) Climate change impacts – USAID may consider a program that links climate change risks, natural resources management and community resilience in the 10 priority triple burden areas. Top 10 provinces and/or their relevant KBAs which have been identified as triple burden areas or those areas expected to experience low adaptive capacity, high sensitivity to climate change, and high potential for biodiversity loss, as seen in Table 1. These provinces are ranked according to poverty incidence and yet, it can be argued some of the triple burden areas in the list show potential towards further enhancing their ecosystem services to improve revenue generation coming from their watersheds (e.g. sustainable forest products and renewable energy in Leyte, agriculture in Zamboanga del Norte, ecotourism in Camarines Sur and La Union) and natural hazard mitigation (e.g. Albay). In forestry, USAID can support readiness actions in identified priority areas with REDD+ potentials.
- 4) In the coastal sector, the development of systematic, regional-scale MPA networks are needed to address both fisheries sustainability and biodiversity conservation. Specifically, there is a need to designate larger no-take areas, increase the number and size of community-based MPAs and build the governance capacities of local and national government agencies. The Coral Triangle Initiative recognized the Sulu-Sulawesi Marine Eco-region as a priority seascape and efforts are being made to benchmark MPA management effectiveness. There is a need to continue efforts to strengthen MPA networks and establish new no-take areas in the bioregions with the least protection (Celebes Sea, Northern and Southern Philippine Sea).

Conclusion

The Philippines has embarked on a new development plan for the next five years. The Plan is strong on environment and natural resources management, with an opportunity to make a difference on sustaining and improving the remaining natural resources capital, while avoiding economic losses from reduced delivery of ecosystem services, and adapting to the impacts of climate change and natural disasters. There is wide and high-level support for mainstreaming such a strategy, which did not exist in the past.

Even with an increase in public and donor investment in ENR management, and proof of recovery of such investments in terms of ecosystem services, the level of current investments may not be sufficient to sustainably manage or improve the remaining natural capital. However, the focus on linking ENR investments and economic growth will strengthen the basis for PES schemes as well as potential new sources of revenue such as REDD+.

With the broad cabinet-level acceptance of the Aquino administration to focus on the necessary investments which will bring more benefits in terms of ecosystem services, thus, support the economy. USAID can make a difference in supporting the PDP with complementary programs which will establish the link between investments in sustaining and improving the natural capital, and inclusive economic growth. The keys to such link are natural resources valuation and accounting, and payment for ecosystem services.

I. Introduction

Purpose, Scope and Methodology

This report is an assessment of the conservation of tropical forests and biological diversity (biodiversity) in the Philippines, covering the period from 2008 to early 2011. This report provides the information necessary for USAID to comply with Sections 118 and 119 of the U.S. Government Foreign Assistance Act (FAA) of 1961, as amended, to guide and inform USAID/Philippines as it develops its new Country Development Cooperation Strategy (CDCS) for the Philippines. The report assesses the actions necessary to conserve biodiversity and sustainably manage tropical forests and the extent to which USAID strategy/programming addresses these necessary actions. The report concludes with recommendations to USAID for priorities in development assistance to conserve tropical forests and biodiversity, and address climate change impacts on these resources, vis-à-vis the overall programs of the Philippine government, multilateral and bilateral development organizations, civil society groups, and the private sector.

USAID/Philippines engaged the Ateneo School of Government (ASoG) to conduct the assessment, covering the period of 2008 up to the first quarter of 2011. The assessment report synthesizes secondary sources on the status of forests and biodiversity from the biophysical, socio-economic and policy context. It discusses the major threats and underlying causes of loss of these resources, including the impact of climate change. It broadly follows the pressure-state-response (PSR) framework used by the Organisation for Economic Co-operation and Development (1993) to establish the links among the state of the resources, the pressures/drivers of ecosystem change and the responses of various actors to these pressures/drivers.

The report also analyzes current strategies, programs and actions designed to address the threats and underlying causes of forest and biodiversity loss using the Philippine Development Plan (PDP) 2011-2016 (NEDA 2011) as framework.

Furthermore, to respond to the requirements of the FAA 118/119, the report assesses ongoing USAID activities aimed to address the threats and underlying causes of forest and biodiversity loss, in the context of the overall programs of the Philippine government, multilateral and bilateral development organizations, civil society groups and the private sector. The report concludes with recommending USAID development assistance to conserve tropical forests and biodiversity, and address climate change impacts on these resources.

The Department of Environment and Natural Resources (DENR) provided guidance for the preparation of the report through the creation of a multi-agency Technical Working Group (TWG). Officials of all relevant national government agencies and representatives of local governments were consulted through TWG meetings, interviews and multi-sectoral workshops. Civil societies, private sectors and development organization representatives also provided information and participated in analytical discussions. (See Annex 2 for the list of persons and organizations consulted)

Country Context

The Goldman Sachs Global Economics Group (2007) identified the Philippines as one of the Next-11 countries emerging global economic powerhouse, after the BRIC countries (Brazil, Russia, India and China). However, Habito (2010) noted that the country is also faced with the twin challenge of accelerating and maintaining economic growth, and making sure that this growth involves and benefits a broad spectrum of sectors throughout the country.

Philippines at a Glance

(CIA 2011, updated where indicated)

Archipelago with more than 7,100 islands
Land area: 298,170 km²
Terrain: Mostly mountainous with narrow to extensive coastal lowlands
Forest cover: 7.67M ha (76,700km²) (FMB 2010)
Renewable water reserves: 479 km³
Coastline: 36,289 km
Marine waters (including EEZ): 2.2M km² (Palma 2009)

Natural hazards: Astride typhoon belt, usually affected by 20 cyclonic storms per year with an average of 7 to 9 making landfall; landslides; active volcanoes; destructive earthquakes; tsunamis (Laverinto 2007)

Population: 101,833,000 (2011 est.);
61.1% 15-64 y.o., 34.6% 0-14y.o.
Population growth rate: 1.9% (2011 est.)
Birth rate: 25.34 births/1,000 population (2011 est.)
Death rate: 5.02 deaths/1,000 population
Infant mortality: 19.34 deaths/1,000 live births
Life expectancy: 71.66 years
Urban population: 49% (2010)
Rate of urbanization: 2.3% annual rate of change (2010-15 est.)

Government: Republic
Administrative divisions: 80 provinces, 138 cities, 1496 municipalities (NSCB 2011)

Economy:
GDP (PPP): USD\$353.2B (2010 est.)
GDP (official exchange rate): USD\$188.7B (2010 est.)
GDP per capita: USD\$3,500 (2010 est.)
GDP by sector (as of 2009):
Agriculture and fisheries USD\$28B (15%); forestry USD\$106M (0.06%); industry USD\$57B (30%); services USD\$104B (55%) (NSCB 2010)

Unemployment rate: 7.3% (2010 est.)
Poverty incidence, by population (2009): 26.5% (NSCB 2010)
Gini coefficient: 45.8% (2006)

The 2010 national elections ushered in a new popular administration that is expected to bring political stability, which in turn will catalyze possible record growth in the medium-term. Furthermore, the country has embarked on a new PDP 2011-2016, which is anchored on inclusive growth.

In the last three decades, economic growth averaged only 3 percent annually. As population increased at around 2 percent per year, the per-capita income rose by only 20 percent in real terms from 1981 to 2009. By comparison, per capita income increased four-fold in Malaysia, five-fold in Thailand, and eleven-fold in PR China, an era in which absolute mass poverty was basically eradicated in these countries (NEDA 2011).

More than a quarter (26.5 percent) of the population live in poverty, but the country is on track to meet its Millennium Development Goal (MDG) of halving extreme poverty from 33.1 percent in 1991 to 16.6 percent by 2015. However, achieving the MDG may require additional government consumption spending of about 2.6 percent of Gross Domestic Product (GDP) on average (Briones et al. 2011). The PDP notes that for every percentage-point increase in income-growth in the Philippines, poverty incidence falls by about 1.5 percentage-points. In comparison, poverty incidence falls within the range of 2.9 to 3.5 percentage-points in high-performing economies (PR China, Indonesia and Thailand) and an average of 2.5 percentage-points in 47 developing countries. This means that past economic growth has marginally benefited the poor who, at the same time, are most vulnerable and least resilient to economic shocks (e.g. sudden rise in fuel prices) and natural disasters.

The backbone of the Philippine economy has previously been agriculture and natural resources. But this has shifted to light industry and services, especially in the business process outsourcing (BPO) sector where the country ranks 3rd (or 15 percent) of the total BPO market. Evidently, the contribution of environment and natural resources to the economy is

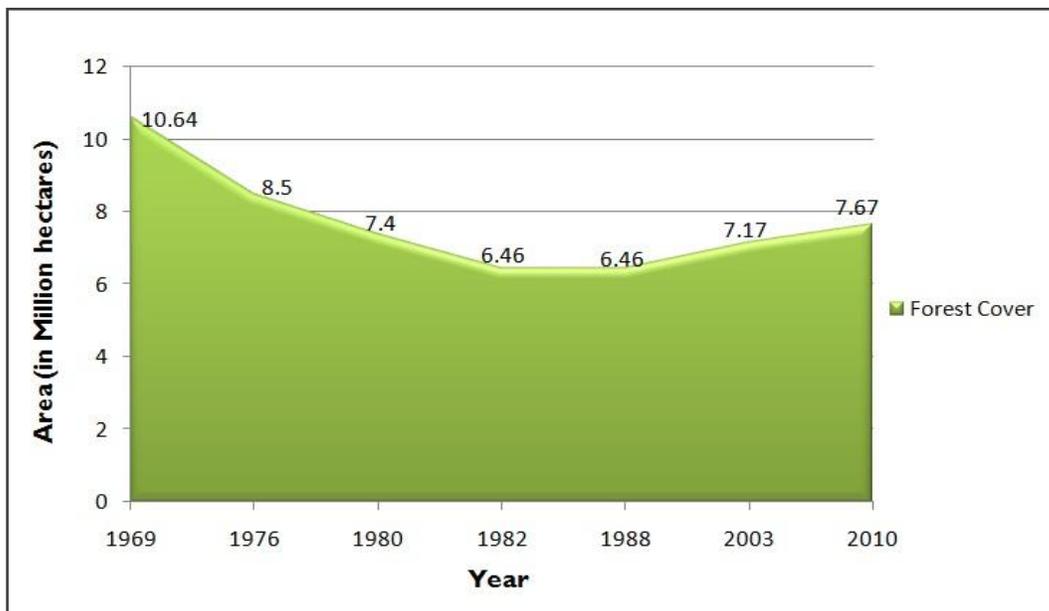
shifting from income through the utilization of natural resources to providing the foundation for services (such as tourism) and industry (by providing the needed water, power, etc.).

II. Status of Tropical Forests and Biodiversity

The Philippines' natural forests and biodiversity continue to degrade at an alarming rate. From 20 million hectares in the 1900s, the actual forest cover of the country decreased to about 6.46 million hectares in 1988 due to logging, upland migration, and agricultural expansion. Though there are signs showing that the rate of decline is slowing, some scientists have observed that the loss of species diversity is increasing. However, as this section shows, it is difficult to validate these observations because existing data are incomplete, contested, or not thoroughly analyzed.

According to official data, forest cover is increasing (Figure 1).

Figure 1. Forest cover change over time



- Notes:
- 1) Based on 1st National Forest Resources Inventory conducted from 1962 – 1968
 - 2) Based on 2nd National Forest Resource Inventory conducted from 1979 – 1988
 - 3) Based on National Mapping and Resource Information Authority (NAMRIA) forest cover data
 - 4) Based on Forest Resource Assessment 2010 – Country Report of the Forest Management Bureau
- Sources: Philippine Forestry Statistics, FMB-DENR; Global FRA 2010 Country Report, 2010

General readers are often confused with existing data on forestry because “forest cover” (with actual trees) is sometimes mistakenly equated with “forestland,” which is a category of public land that may or may not have existing trees anymore. The terminology associated with forest cover has also changed over time. The DENR currently follows the Food and Agriculture Organization (FAO) forest definition as of 2003 in all its official documents and submissions to the United Nations (UN). Such a definition is limited and has become a contentious topic within the forestry sector. Critics claim that the official definition only account for the lowest possible quality of tree stands to be considered as forests, distorting previously collected forest cover data that followed stricter criteria. Furthermore, such a definition is unable to capture biodiversity values, as well as monitor and recognize performance-based results—possibly even disincentivizing practices that would have otherwise led to increments in forest stocks. (See Annex 3 for more forest statistics and analysis)

Outdated, incomplete, and at times, conflicting forestry statistics in textual and map formats further aggravated the problem on forest data. For example, it has been almost 11 years since an updated forest cover map has been prepared. The latest forest cover map of 2003 prepared by the National

Mapping and Resources Information Authority (NAMRIA) was based on a land satellite imagery obtained in 2002. Two updates of the forest cover data were conducted, one in 2005 and another in 2010 through the Forest Resource Assessment Program of the UN Food and Agriculture Organization (FAO). The forest data, however, were not geographically defined; rather, they were disaggregated at the regional, provincial, and city/municipal levels, and were based on the estimation and projection done by the DENR-Forest Management Bureau (FMB). Due to questions on the validity of the assumptions including the accuracy of the estimates, the DENR-FMB has not officially adopted these forest cover estimates and continued to use the 2003 data in its Philippine Forestry Statistics publication.

Finally, DENR's current databases and resource information systems are disjointed, and at times, inconsistent and conflicting with one another, hence not sufficiently useful for informed and integrated policy and decision-making, planning, monitoring and evaluation. Some of these include the Forest Information System (FIS) of the DENR-FMB, Biodiversity Information System (BIS) of the DENR-Protected Areas and Wildlife Bureau (PAWB), Philippine Reference System of NAMRIA, and Land Administration and Management System of the DENR-Land Management Bureau (LMB), among others.

The Philippines is one of the 17 countries with the most diverse biological resources (CI 1998). In the past five years, several new species and new distribution records of known species have been discovered (see Philippine Endemic Species Conservation Project 2010 for examples) proved that the Philippines is still rich in biodiversity and endemism despite having long-term and significant decline of habitats. In 2009, the Cebu Flowerpecker (*Dicaeum quadricolor*), long thought to be extinct, was chosen as the flagship species of Birdlife International after it was rediscovered in 1992. The discovery of Attenborough's Pitcher (*Nepenthes attenboroughii*) in the Philippines was considered one of the top 10 newly discovered species of 2010 (IISE 2010). In 2011, the Philippines was again listed in the top 10 with the discovery of the Sierra Madre Spotted Monitor (*Varanus bitatawa*) (IISE 2011).

Figure 2. Newly discovered flora and fauna species in the Philippines



Left photo: Attenborough's Pitcher (*Nepenthes attenboroughii*); Right photo: Sierra Madre Spotted Monitor (*Varanus bitatawa*)

The California Academy of Sciences has undertaken its largest expedition in the Philippines from May 26 to June 10, 2011. The Philippine Biodiversity Expedition was the first expedition to make a comprehensive survey of both terrestrial and marine diversity in the country. The expedition, composed of American and Filipino scientists, reported a hundred new species after only three weeks of surveying (GMA News Online 2011). (See Annex 4 for biodiversity status of Philippine flora and fauna)

The Philippines is also one of the major biodiversity hotspots (CI 2011). International trade largely drives the harvesting of wildlife. In May 2011 alone, the Department of Agriculture (DA)-Bureau of

Fisheries and Aquatic Resources (BFAR) reported the seizure of 161 dead sea turtles and over 21,000 seashells and black corals off the waters of the Cotabato province. At least 168 sacks containing 375 pieces of the endangered marine species were seized from illegal shipments. Experts have estimated that about 7,000 hectares of a “reef complex” were destroyed based on the harvest (Uy 2011). News reports showed that more than a thousand foreign poachers have been arrested for illegally catching marine turtles and other species in Palawan from 1995 to 2008. At least one report of poaching by foreign fishermen was recorded in 2010, and two incidents in the first quarter of March 2011 (Anda 2011, GMA New.TV 2011, Meruenas 2010, Adraneda 2007).

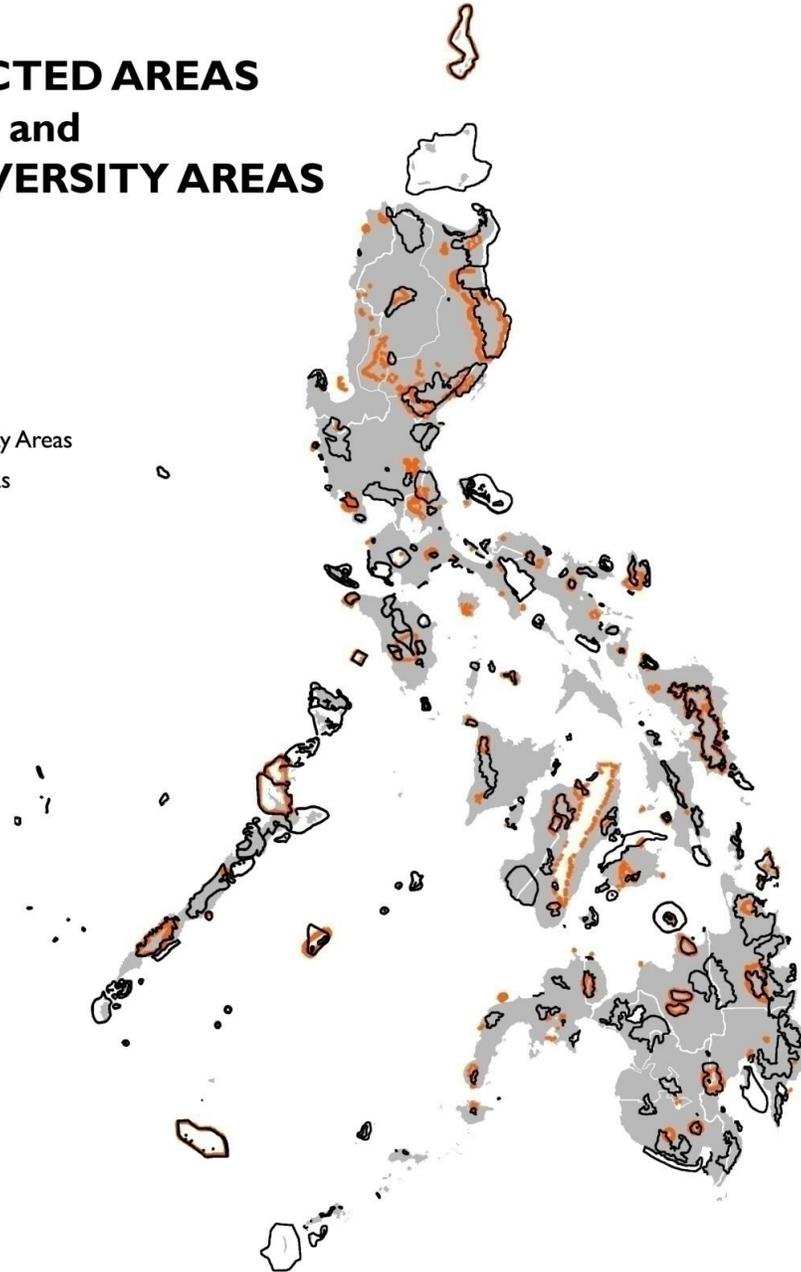
In 2009, the Provincial Task Force on Forest Protection composed of the Isabela Provincial Government, Armed Forces of the Philippines, DENR and civil society organizations such as *Tanggol Kalikasan*, confiscated over a million board feet of lumber after raiding three lumber yards and log ponds in the Northern Sierra Madre Natural Park (NSMNP), which is the last remaining major natural forest area in the country. The volume of confiscated timber to date represents close to 100 ten-wheeler truckloads of lumber. Approximately 45 percent of all endemic plants in the Philippines can be found within the NSMNP, which is also the source of water for an estimated 400,000 hectares of rice farms and corn fields that blanket the Cagayan Valley, Luzon’s largest rice granary (WWF 2009).

Most of the identified key biodiversity areas (KBAs) have been set aside for conservation. The DENR and other partner government offices and non-government organizations identified a total of 228 terrestrial and marine KBAs that are considered globally significant and potentially manageable for biodiversity conservation (Map 1). These KBAs include habitats of not less than 418 globally threatened species, 440 endemic or restricted range species, and 67 globally significant congregations of mangroves, seaweeds, seagrasses, corals, echinoderms, mollusks, elasmobranchs, freshwater and reef fishes, reptiles, birds, and mammals (CI 2010).

PROTECTED AREAS and KEY BIODIVERSITY AREAS

Legend

- Key Biodiversity Areas
- Protected Areas



Map 1. Declared Protected Areas and Key Biodiversity Areas

Source: KBAs and PAs (CI, DENR-PAWB, Haribon Foundation 2010)

There are 13 protected areas (PAs), including three marine areas (Tubbataha Reefs Natural Park, Sagay Marine Reserve, and Batanes Protected Landscape and Seascape). These completed the establishment process through the enactment of specific laws. One hundred twelve PAs have been affirmed by a Presidential Proclamation, covering 3.54 million hectares, 83 of which are terrestrial PAs and 29 are marine PAs with total areas of 2.17 and 1.37 million hectares, respectively (DENR-PAWB 2011). Outside of the 13 with enacted laws, the other PAs are awaiting full establishment by law, including the

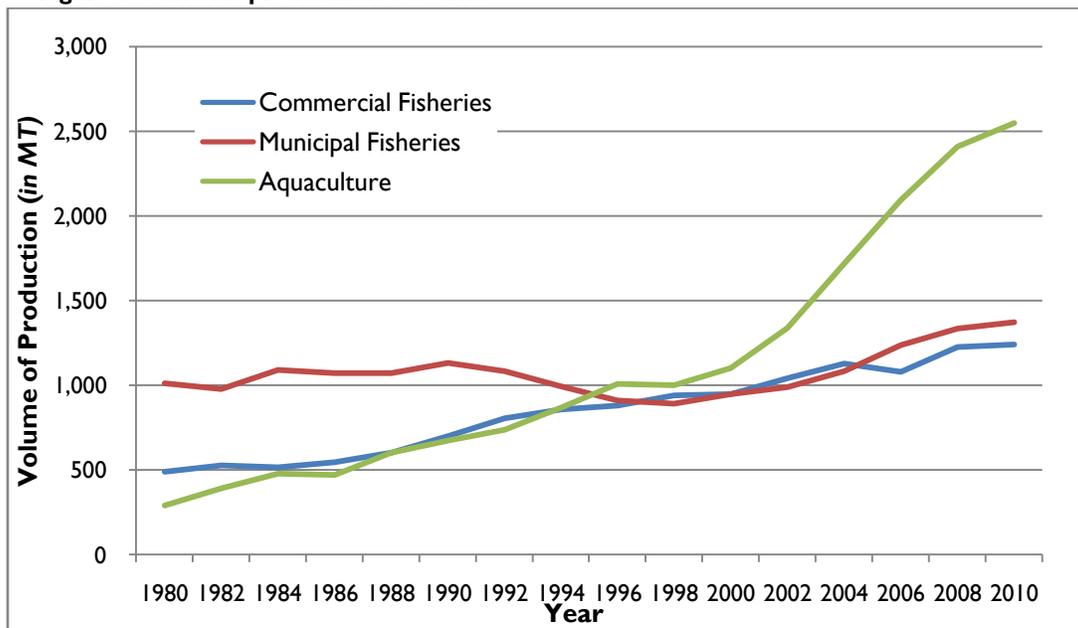
Turtle Islands Wildlife Sanctuary. The Philippines' Turtle Islands and three islands in Malaysia compose the Turtle Islands Heritage Protected Area, which was established in 1996 and is the world's first transboundary marine park in the world (ARBEC Turtle Conservation 2002).

There are more than 1,300 marine protected areas (MPAs) established in the country covering 22,540 sq. km. but only 10-15 percent is functional (NEDA 2011). A study by Weeks et al. (2009) shows that 85 percent of the protected (no-take) coastal waters are found to be in only two National Integrated Protected Areas System (NIPAS) sites (i.e. Tubbataha and Apo Reefs), while the rest of the MPAs comprise only 15 percent of the no-take areas. The study projects that, at the rate of establishment of MPAs, it will take until 2076 to protect at least 10 percent of the existing coral reefs, and it may be impracticable to meet the set 15 percent target for municipal waters under current policies.

DENR-Environmental Management Bureau (EMB) classified 623 bodies of water (283 principal rivers and 340 lakes/small rivers/bays) according to water quality and intended uses (DENR 2009). These valuable ecosystems, including swamplands such as Agusan, Candaba and Liguasan, play a role in ecological services particularly in containing floodwaters in critical river systems (Walpole 2010). Nonetheless, there is an absence of a systematic research program on the biodiversity of these ecosystems, such as determining the impacts of anthropogenic activities.

Official fisheries data show that fisher production is increasing (Figure 3). However, this traditional record and presentation of data can be misleading because it does not include information on fishing efforts.

Figure 3. Fisheries production over time

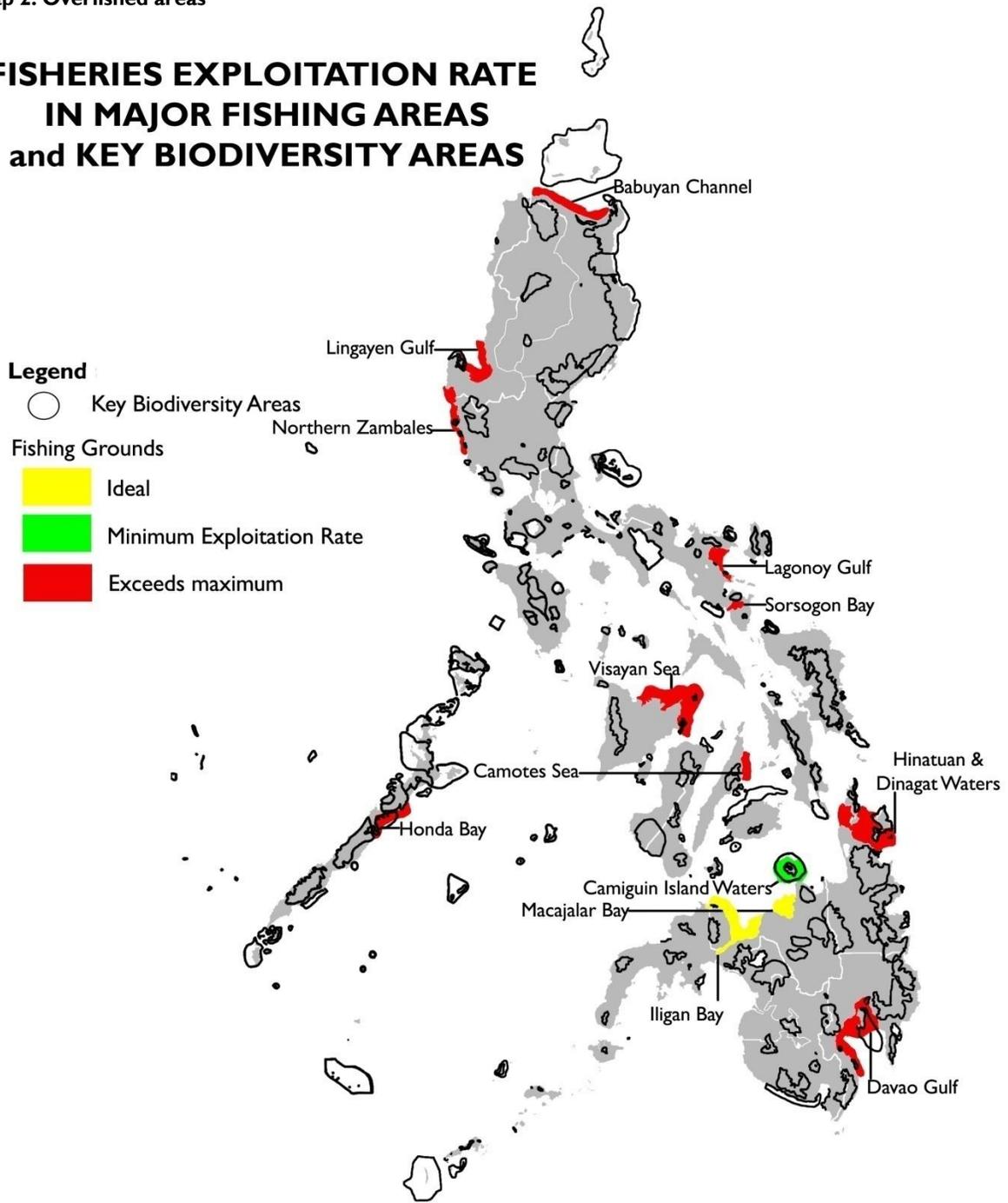


Source: Data from Bureau of Agricultural Statistics (BAS) CountryStat Philippines 2011

Studies have shown that the country's major fishing grounds may be overfished (Map 2) which Dr. Mudjie Santos of the National Fisheries Research and Development Institute (NFRDI) revalidated in an interview with Dr. Teresita Perez last June 6, 2011.

Map 2. Overfished areas

FISHERIES EXPLOITATION RATE IN MAJOR FISHING AREAS and KEY BIODIVERSITY AREAS



Source: NFRDI (cited in 4th National Report to the CBD)

Impact of Climate Change

Despite the inadequacy of data, scientists and local communities have observed marked changes in climate and weather patterns. In terms of temperature, the Philippines Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) noted an overall increase in annual mean temperature of 0.62 Celsius during the period of 1951-2006; anomalies of up to 1 Celsius temperature increase were

also observed within the past decade (DENR 2010). Meanwhile, there is no significant trend in the number of cyclones forming in or entering the Philippine Area of Responsibility in the past 58 years (1948- 2005). In the last five years, however, the number of tropical cyclones with greater than 150kph winds has been increasing, and found to be more frequent during El Niño events, especially in the Visayan region. Out of the 20 tropical cyclones that enter the Philippine Area of Responsibility, an average of seven to nine make landfall. There were more disasters in the 2000s than in the 1990s affecting more people and damaging more properties. The average annual growth rate of the number of persons affected by disasters in the 2000s was 5.0 percent (49.8 million people) compared to 3.5% (35.2 million people) in the 1990s. From 1990 to 2009, the direct value of damages due to weather and climate-related disasters totaled to USD\$4,813 million or an average of USD\$240.7 million per year. The value of damages would rise if indirect damages were to be considered (Israel 2010). For example, direct damage on agricultural crops and aquaculture affect the food processing industry, while the consequent scarcity of food products and high prices reduce a family's nutritional choices and increase vulnerability to illnesses.

The government has started mapping areas that are most prone to natural disasters and climate hazards. In the Second National Communication (SNC) of the Philippines to the United Nations Framework Convention on Climate Change (UNFCCC), vulnerable areas were identified based on inherent sensitivity to climate hazards and adaptive capacity of provinces. Adaptive capacity is determined by dividing the province's score on the human development index (HDI) over its population density. (Map 3 shows an overlay of areas vulnerable to climate change and KBAs)

Map 3. Areas vulnerable to climate change and Key Biodiversity Areas

CLIMATE CHANGE VULNERABLE AREAS and KEY BIODIVERSITY AREAS

Vulnerability refers to sensitivity to typhoons, floods, and landslides based on elevation, slope, topography and adaptive capacity

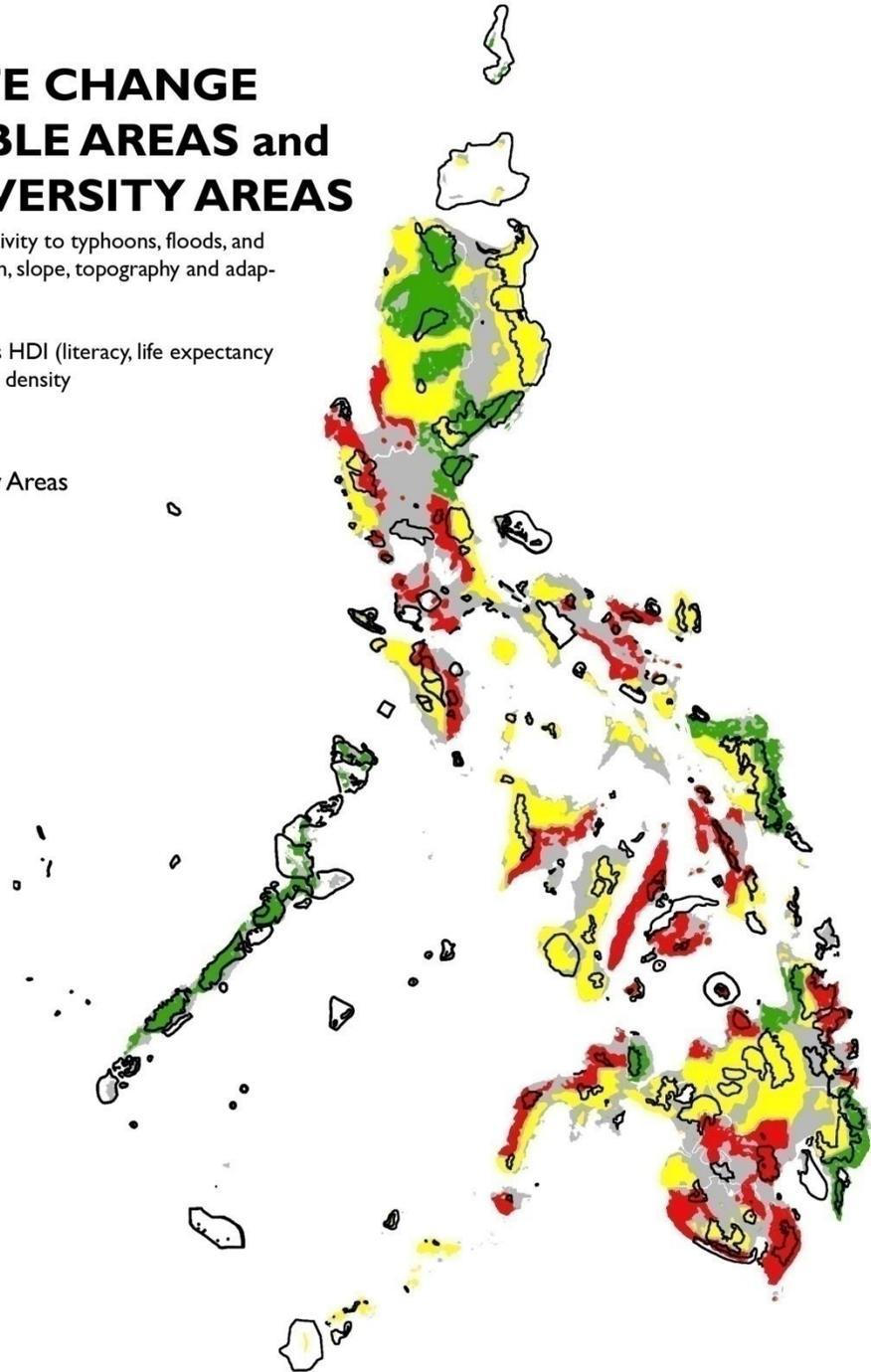
Adaptive Capacity considers HDI (literacy, life expectancy and income) and population density

Legend

○ Key Biodiversity Areas

Vulnerable Areas

- Low
- Moderate
- High



Sources: Vulnerable Areas (2nd National Communication to the UNFCCC by DENR-EMB), Forest Cover (FMB 2004), KBAs (CI, DENR-PAWB, Haribon Foundation 2010)

The areas identified in Table I experience a “triple burden”- low adaptive capacity, high sensitivity to climate change, and high risk of biodiversity loss. This suggests that these areas need urgent intervention to conserve the natural resources for their climate change adaptation values, as well as to reduce the risk of unsustainable use of resources for short-term recovery from natural disasters.

Table I. Provinces most vulnerable to climate change

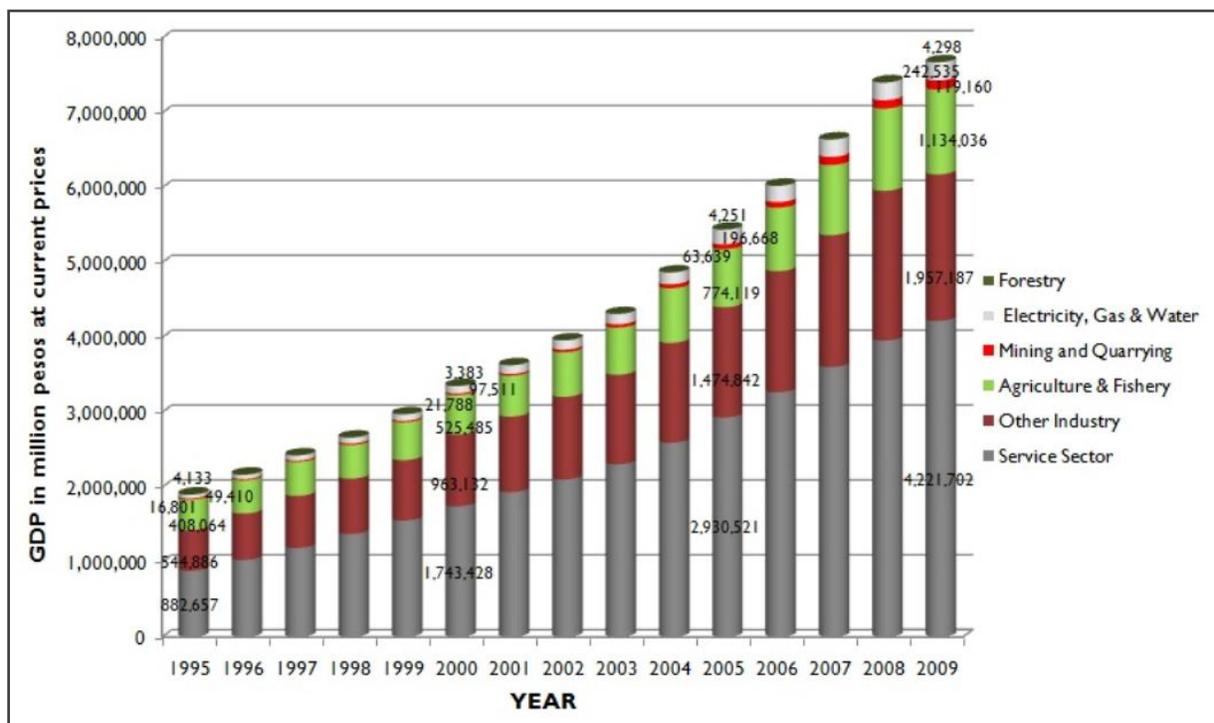
Provinces ranked “high” in vulnerability and ranked in terms of poverty incidence	KBAs in areas ranked “high” in vulnerability to climate change
1- Zamboanga del Norte	Mt. Dapiak-Mt. Paraya Mt. Sugarloaf Lituban-Quipit Watershed
2- Camarines Sur	Caramoan Peninsula Mt. Isarog Natural Park
3- Leyte	Anonang-Lobi Range Mt. Nacolod
4- Camiguin	Camiguin Island
5- Bohol	Rajah Sikatuna Protected Landscape
6- Albay	
7- Basilan	Basilan Natural Biotic Area
8- Mindoro Oriental	Puerto Galera Mt. Halcon Mt. Hitding Mt. Hinunduang
9- Biliran	Biliran and Maripipi Island
10- La Union	
11- Pangasinan	
12- Bataan	Bataan Natural Park and Subic Bay Forest Reserve Mariveles Mountains
13- Batangas	Taal Volcano Protected Landscape
14- Bulacan	Angat Watershed Forest Reserve Mts. Irid-Angilo and Binuang
15 Cavite	Mts. Banahaw-San Cristobal Protected Landscape
16- Cebu	Mt. Capayas Central Cebu Protected Landscape
17- Davao del Sur	Mt. Apo Natural Park Mt. Latian Complex
18- Iloilo	
19- Laguna	
20- Misamis Oriental	Medina
21- North Cotabato	Mt. Piagayungan Mt. Sinaka
22- Rizal	Mts. Irid-Angilo and Binuang
23- Sarangani	Maitum to Maasim
24- Siquijor	
25- Sultan Kudarat	Mt. Daguma
26- Surigao del Sur	Consuelo and General Islands Cagwait Mt. Diwata Range Bislig
27- Tarlac	Zambales Mountains

Sources: Provinces ranked “high” in vulnerability and ranked in terms of poverty incidence (DENR 2010), KBAs in areas ranked “high” in vulnerability to climate change (based on map by CI, DENR-PAWB, Haribon Foundation 2010)

Contribution of Environment and Natural Resource (ENR) Sector to the Economy

Over the last century, the country's natural capital (e.g. timber, fisheries, agriculture, etc.) has contributed significantly to the economy. Until the late 1980s, the focus of natural resources management had largely been on maximizing revenues from extraction of timber, minerals and fisheries, and conversion of public lands to agriculture, especially in Mindanao. However, during the last two decades, the share of natural resources and agriculture to the GDP has been significantly reduced. Official data (NSCB 2010) has shown that the contribution of forestry to GDP is negligible, averaging 0.07 percent in the past five years. While mining investments has increased significantly in a decade, the sector's contribution to the GDP is still small, averaging 1.42 percent in the past five years. Fisheries contributed an average of 2.2 percent to the GDP in the past five years; while electricity, gas and water sector contributed 3.4 percent to the GDP on average for the same period (Figure 4). Consequently, contribution of these sectors to employment is also very small (Figure 5).

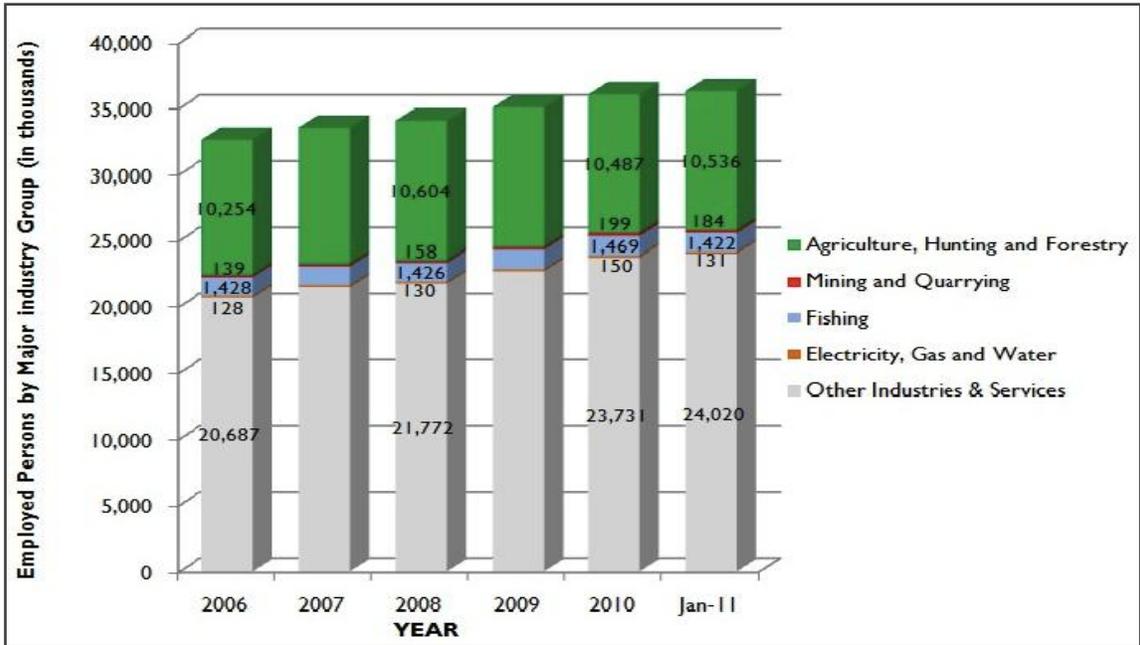
Figure 4. Contribution to GDP, by sectors



Note: USD\$1 = Php43

Source: Data from NSCB 2010

Figure 5. Employment by sector

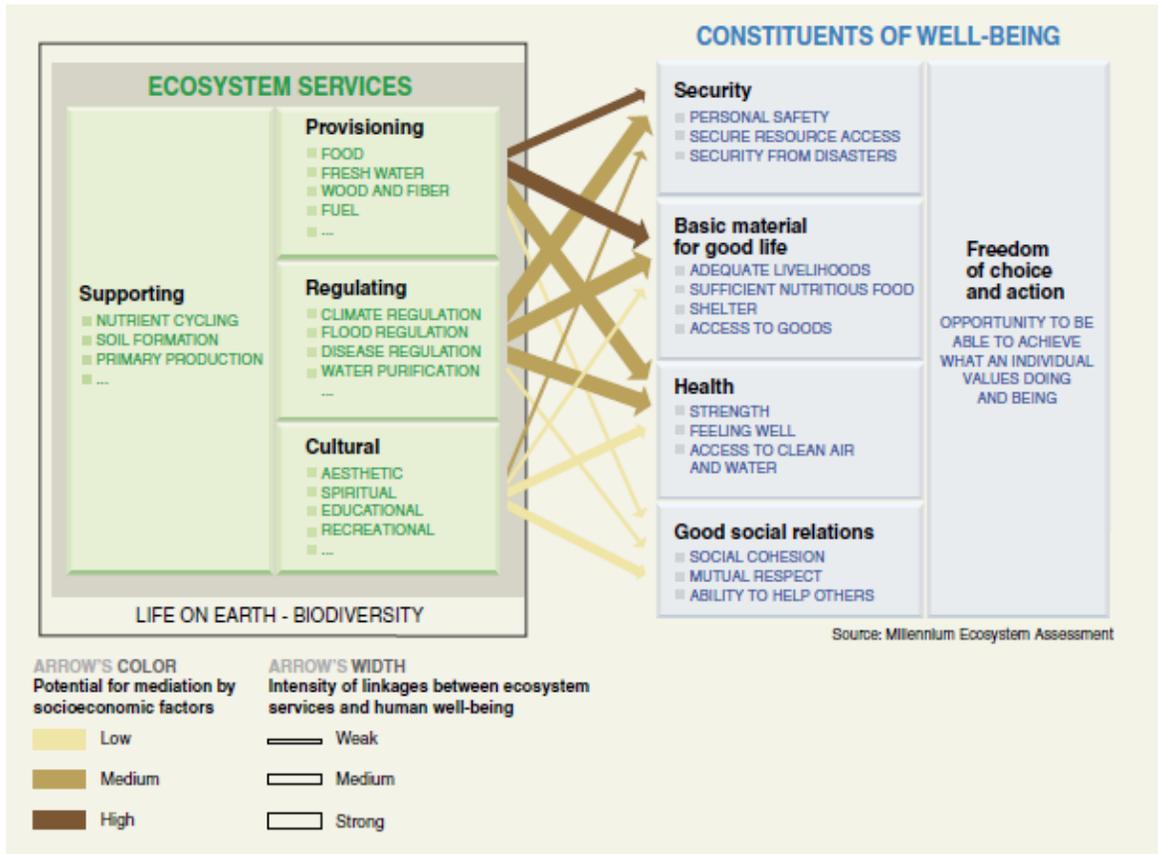


Source: Data from Bureau of Labor and Employment Statistics 2011

Valuing Ecosystem Services

Direct revenues from natural resources exploitation are expected to remain small compared to the services and industry sectors. However, the ENR sector’s real value may not lie in the natural resources products extracted, but in the supply of other ecosystem services which will become more critical in supporting economic growth either as an enabling factor (as source of water, energy, food, clean air, etc. See Figure 6) or as a limiting factor (because of pollution, drought, flood, diseases, crop failures, urban congestion, natural disasters, etc.).

Figure 6. Ecosystem services link to well-being



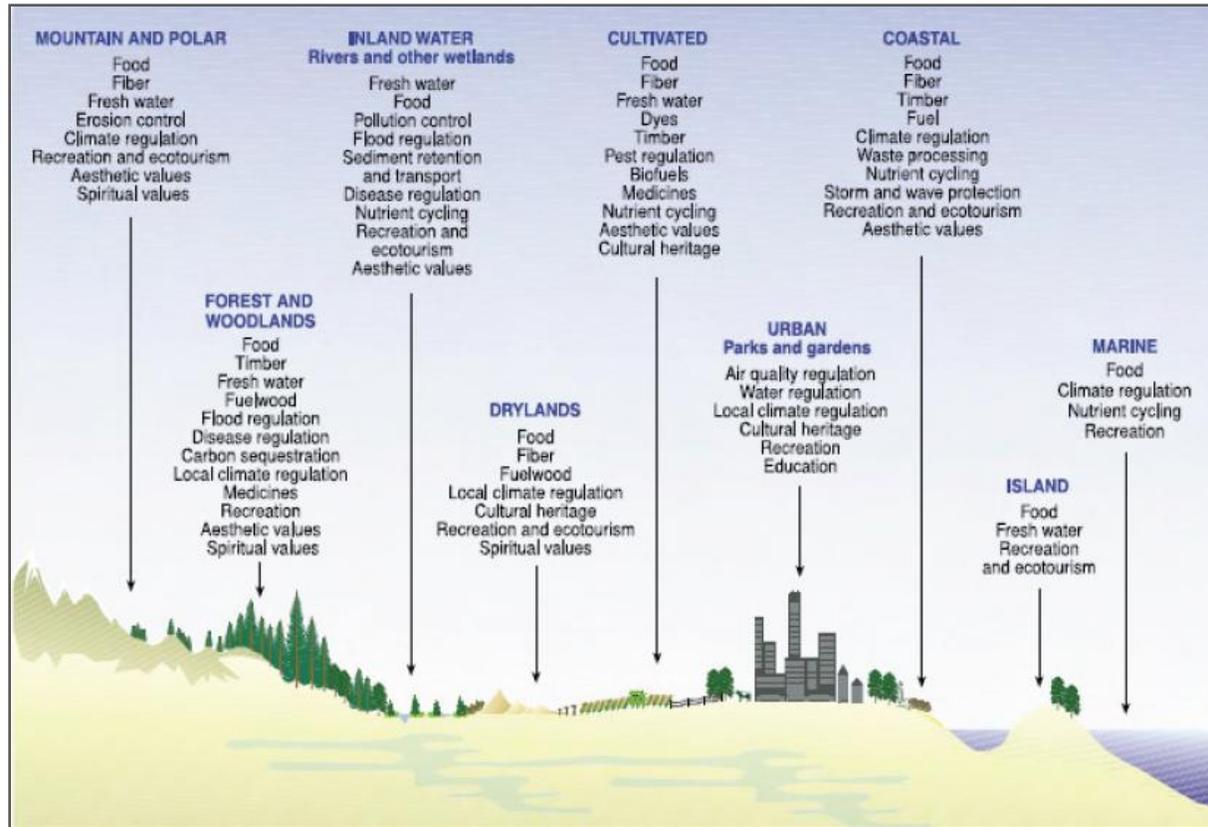
Source: MEA 2005

The UN Millennium Ecosystem Assessment (2005) categorizes these ecosystem services according to the following:

- Provisioning: Food, fresh water, wood and fiber and fuel
- Supporting: Nutrient cycling, soil formation and primary production
- Regulating: Climate, flood and disease regulation and water purification
- Cultural: Aesthetic, spiritual, educational and recreational

Figure 7 presents the diversity of ecosystem services operating across different types of ecosystems, which ultimately benefits human communities.

Figure 7. Diversity of ecosystem services across landscapes



Source: MEA 2005

The ecosystem services lens clarifies that the environment sector does not only contribute to national development through provisioning services, but is actually foundational to it in the sense that a broader range of supporting, regulating, and cultural ecosystem services simultaneously act as both enabling and limiting factors to inclusive growth.

The World Bank recognized the Philippines as one of the few countries in the developing world using environmental accounting (Lange 2003). The Philippine Economic Environmental and Natural Resource Accounting (PEENRA) System was established under the National Statistical Coordination Board (NSCB) in 1993, initially through the support of USAID’s Environment and Natural Resource Accounting Project (ENRAP) (Perio 2000). But mainstreaming of the system into economic planning has been slow as current economic growth projections still do not consider environment variables, including that of ecosystem services. Through the years, PEENRA has been further enhanced to operationalize sub-national accounting. Suffice to say that while huge methodological challenges remain, the PEENRA is slowly emerging in light of recent interest in valuation of environmental goods and services, as the new frontier in linking environment, natural resources, and climate change, with macro-economic decision-making.

The national government made attempts to value natural resources assets, as reflected in official statistics (Table 2), but the data have not been updated. The importance and relevance of natural assets information hinges on accurate and updated studies on the status of the natural resources, which has been problematic as pointed out earlier.

Table 2. Monetary asset accounts of selected resources
1992 to 2000 (in million pesos)

Type of Resource	Closing Stock								
	1992	1993	1994	1995	1996	1997	1998	1999	2000
Forest (Plantation forest)	147,843	151,300	183,995	192,425	253,803	265,798	-	-	-
Mineral (Metal content)	92,909	97,556	281,721	162,732	163,464	-	-	-	-
Water	-	-	-	-	-	-	-	-	-
Land ^a (Land devoted to agriculture)	381,179	416,842	451,829	606,037	753,662	778,368	1,040,472	1,121,546	1,164,316

^aLand degradation was valued in terms of soil nutrient loss (N, P, K).

Note: USD\$1 = Php43

Source: NSCB 2010

Existing data on economic losses from environmental degradation is also critical in evaluating the contribution of the ENR sector to economic growth, but official data is limited and outdated. The National Statistical Coordination Board (2010) continues to use data which have not been updated since more than a decade ago (Table 3).

Table 3. Environmental degradation caused by selected economic activities
1992 to 1998 (in million pesos)

Type of Economic Activity	1992	1993	1994	1995	1996	1997	1998
Agriculture, Fishery and Forestry	587	864	1,494	1,634	1,938	2,105	1,820
Manufacturing Industry	2,216	3,186	3,990	4,194	5,727	6,800	7,075
Mining Industry	244	295	408	507	581
Land Transport Services	748	931	1,070	1,325	1,403
Total	3,795	5,276	6,962	7,660	9,649	8,905	8,895

Note: USD\$1 = Php43

Source: NSCB 2010

(See Annex 5 for further discussion ecosystem services in the Philippine- the current state of knowledge and practice)

In 2009, the World Bank Country Environmental Assessment synthesized and analyzed existing data on the economic value of natural resources and the costs associated with their loss. The economic benefits of coastal and marine resources were estimated to be more than USD\$500 million per year both directly through marketed goods and services as well as indirectly through the flow of ecosystem services. Forests are estimated to produce net benefits of more than USD\$100 million per year, almost equally divided between timber and non-timber benefits. However, the value of biodiversity and carbon sequestration could potentially increase this calculation considerably. In contrast, the annual cost from degradation of coastal and marine resources is estimated to be more than USD\$120 million in 2006 prices, mainly from overfishing. The over-extraction of forestry products and conversion to other uses, which lead to losses of non-timber forest products, are estimated to have cost the Philippines about USD\$60 million a year. In both forest and coastal resources, future revenues from production are sacrificed because of the continued depletion of the natural capital through extraction beyond sustainable limits.

Agriculture presents a more complex picture since agricultural production has been increasing due to the use of better technology and use of natural and synthetic farm inputs. These have masked the impact of land degradation, which the World Bank estimated at USD\$150 million to USD\$600 million per year is lost productivity due to soil erosion.

The loss of ecosystem services also has more significant impact on people. World Bank calculations indicate that the total annual cost of water sanitation-related morbidity and direct and indirect mortality is about USD\$1.4-2.8 billion.

As previously noted, the average value of direct damage from natural disasters in the past two decades is USD\$240.7 million per year, which could be significantly higher if indirect damage is considered. It is unknown up to what extent the natural resiliency of ecosystems can mitigate the damage. The relationship between natural capital and resilience, and the costs of climate change remain poorly understood and undervalued.

It can therefore be strongly argued that the country's natural capital, as a key input and foundation to the Philippine economy, has not at all been sustainably managed nor replenished over the last 50 years. This presents a strong case for facilitating and later institutionalizing serious resource valuation exercises both at national and local scales to ultimately involve the demand-side— information, education and communication (IEC) campaigns for awareness raising and advocacy—as well as the supply side— training on resource valuation techniques, and conducting macro-economic and local studies for possible applications.

Notwithstanding the pioneering efforts of PEENRA and secondary analyses such as that of the World Bank, there remain huge data gaps in assessing the value and contribution of other ecosystem services to the economy. For example, the tourism industry is almost fully anchored on the natural attractions of the country. All of the top tourist destinations (except for Metro Manila) are known for their beaches, mountains, food and climate, but there is no indication of how much is gained or lost because of the impact of human activities on natural resources in these areas.

Table 4. Top tourist destinations in the country, by visitor arrivals

Destinations	2008	2009	Growth Rate
Cebu	1,596,238	1,615,982	1.24%
Camarines Sur	721,024	1,566,447	117.25%
Metro Manila	1,350,789	1,442,183	6.77%
Baguio City	814,975	770,187	-5.50%
Davao City	655,661	669,864	2.17%
Boracay Island	634,263	649,559	2.41%
Cagayan de Oro	325,843	359,867	10.44%
Zambales	308,482	323,271	4.79%
Bohol	282,498	313,317	10.91%
Puerto Princesa City	221,736	268,942	21.29%
Camiguin	253,051	267,776	5.82%
Cagayan Valley	266,679	266,962	0.11%
Negros Oriental	221,045	240,199	8.67%
Ilocos Norte	183,203	193,092	5.40%
Total	7,835,487	8,947,648	14.19%

Source: Department of Tourism 2010

III. Underlying Causes of Loss of Tropical Forests and Biodiversity

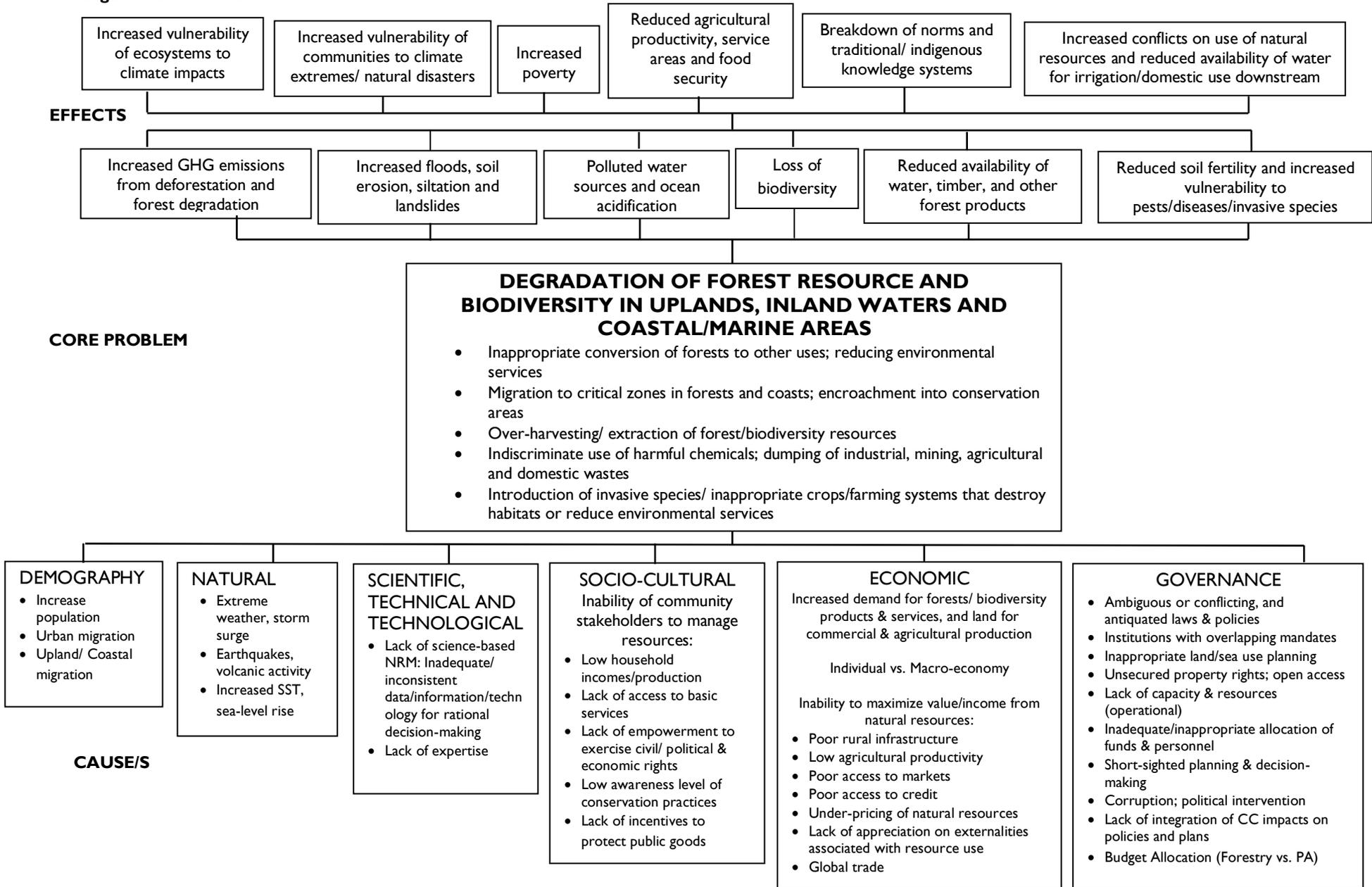
In the consultations and interviews conducted as part of this assessment, participants identified the root causes and effects of the loss of forests and biodiversity, which is summarized in the Problem Tree (Figure 8). The effects are essentially manifestations of loss of ecosystem services. (See Annex 6 for an explanation of the process of developing the Problem Tree)

Problem Tree

Among the root causes, poor governance has the longest list (shortened to generalized bullet points in the Problem Tree). Both government and non-government respondents see the failure of governance mechanisms as the main cause of continued over-utilization or destruction of natural resources and habitats, including:

- Inefficient institutional mechanisms—In PAs, bureaucratic centralized processes hamper the Protected Areas Management Boards (PAMBs) created under NIPAS, which cause delay in local planning and funding. In some areas, PAMBs supplant existing effective local management mechanisms, such as in Apo Island in Negros Oriental. The existence of so many agencies having jurisdiction over specific activities such as shipping, port development, mining, fisheries, land-use zoning, etc. complicates the management of coastal areas. Institutional mechanisms often fail at large scales (such as a bay or a river basin) because there is no compelling mechanism for the various agencies and LGUs to coordinate.
- Ambiguous or conflicting policies— There are conflicts within an agency's mandates such as in Negros Occidental where DENR granted Community-Based Forest Management Agreements (CBFMAs), mining permits and commercial plantation permits overlapped in these areas as well because there were no clear boundaries in the legal instruments and insufficient consultations held among competing resource users. Conflicts across agencies also abound. For example, the inconsistent policies of DA, Department of Agrarian Reform (DAR) and DENR in the Cordilleras where DA and DAR provided titles and farm assistance in areas that are considered critical habitats.
- Lack of resources for activities and enforcement— DENR's responsibilities keep expanding while its budget is shrinking in real terms. Very little of the DENR's budget goes to actual field activities.
- Lack of decision-making skills and tools— Policy and implementation decisions are made with very little information such as maps or biophysical condition. There is little understanding on the social impact of programs and projects which would often result in conflicts and failure, such as reforestation areas which end up being burned because communities are deprived of farms and livelihoods.

Figure 8. Problem Tree



Governance problems are well-documented, but the information has not been translated into lessons learned. As many resource persons noted in the consultations, these were the same issues and problems identified in countless workshops and policy studies being conducted for the past three decades.

Governance issues are perhaps the easiest to point out because stakeholders want to identify the person or agency that has the power to respond, or someone to blame for failure to address the issues. However, ineffective governance is not the only factor. Resource persons also recognized that market forces play a big role. Economic incentives change existing resource-use practices that may destroy or protect the environment.

Interviews and workshops note anecdotal stories; for example, when fuel prices go up in Bubong, Lanao del Sur, demand for firewood and charcoal increases, thus putting pressure on the remaining forests. Another example is the expansion of vegetable farms into the mossy forests is driven by lowland demand for cabbage, carrots, potatoes and other high value crops in Cordillera. The high demand for these crops also drives intensive farming methods that require increase use of chemical inputs. Even when there are regulations to mitigate negative environmental impacts, the inability to enforce these regulations result in uncontrolled resource exploitation due to the market demand that provides incentive for land-use conversion and environmental degradation. Overstocking of fish pens/fish cages have long been known to cause the yearly episodes of fish kill in lakes and coastal waters. Yet, the yearly tragedies persist because operators are determined to maximize production and regulators are perceived to be absent.

Nonetheless, markets can also work for improving or conserving the environment. The rapid growth of eco-tourism has been the driver of many conservation efforts to attract nature-loving tourists. There are tour operators who work with local communities to provide nature-based tourism services such as white-water rafting, mountain climbing, SCUBA diving, etc. For example, many local community members of Honda Bay, Puerto Princesa, Palawan, have shifted from fishing to operating tourist boats. Since the local community knows that the tourists come for the clean beaches and coral reefs, they have held themselves responsible to protect the coastal resources from dynamite fishing and indiscriminate garbage disposal.

Figure 9. Pambato reef of Honda Bay



Photos taken by James L. Kho

Aside from the human-made causes, there are natural causes which contribute to forest and biodiversity loss. Changing weather patterns, natural disasters and climate change impacts have altered ecosystems and caused significant damages from droughts, floods, storm surges, to rising sea surface temperatures. The country's diving sites were severely damaged by coral bleaching in 1998 and 2009, which scientists say resulted from a rise in sea surface temperature, connected with El Niño episodes (Alave 2010). A recent visit to Pambato reef in Honda Bay shows that the effects of coral bleaching persist (Figure 9).

Environment and Natural Resources Conflicts

In the medium-term, as the state of natural resources and ecosystem services is still on the decline, and as demand increases, conflicts about the natural resources will likely escalate. The major areas of potential conflicts are on boundary delineation and its consequent exclusion rules, and on preferential access in cases of conflicting rights and resource uses.

At the national policy level, conflicts arise because it is unclear on the ground which areas are reserved for what priority use – forest protection, production, mining, agroforestry, etc. For example, in Negros Occidental, DENR issued overlapping instruments for mining, industrial forest management and community forest management at different times without clarifying with affected stakeholders. Map 4 shows potential conflict areas because of apparent overlaps between existing mining tenements, PAs, and KBAs.

The Philippine Constitution (1987) requires Congress to demarcate forestlands and national parks for conservation,¹ but after almost a quarter of a century, Congress is only beginning to consider bills that set forestland boundaries. The Constitution also protects the rights of indigenous peoples (IPs) to their ancestral domains and of marginalized communities to preferential access to fisheries, among others.² Congress has delineated a number of PAs under the NIPAS. Outside of the PAs, the lack of definite boundaries opens forestlands to competing access and control for mining, watershed conservation, community settlement, conversion to agriculture, and other land uses. Map 5 identifies areas of apparent overlaps, which are bound to result in on-the-ground conflicts. The DENR and the National Commission on Indigenous Peoples (NCIP) have recognized the problem of overlaps between PAs and ancestral domain claims and have already set procedures for addressing the conflicts.

Map 4. Mining Tenements, Protected Areas and Key Biodiversity Areas

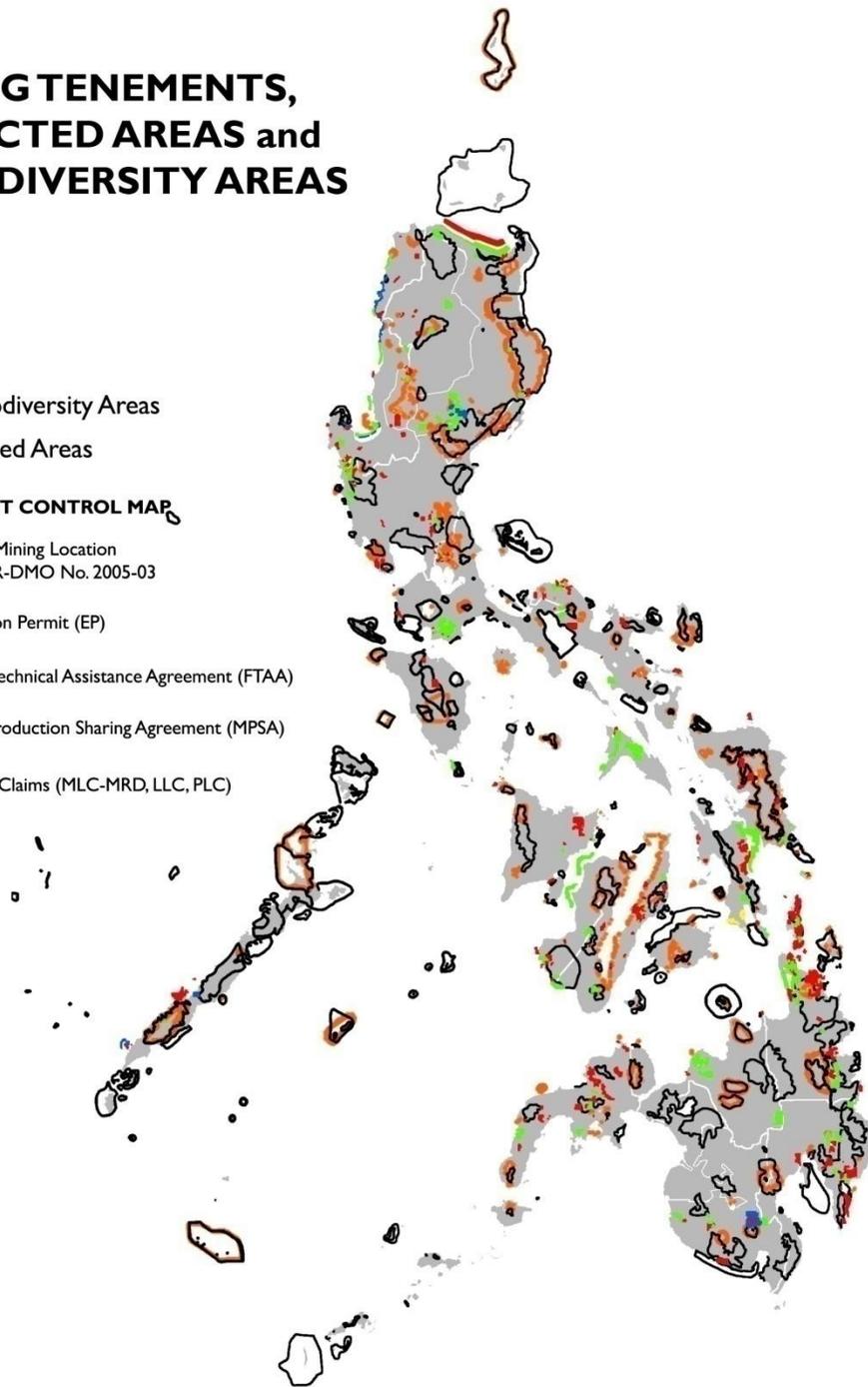
MINING TENEMENTS, PROTECTED AREAS and KEY BIODIVERSITY AREAS

Legend

- Key Biodiversity Areas
- Protected Areas

MINING TENEMENT CONTROL MAP

- Close to Mining Location per DENR-DMO No. 2005-03
- Exploration Permit (EP)
- Financial Technical Assistance Agreement (FTAA)
- Mineral Production Sharing Agreement (MPSA)
- Patented Claims (MLC-MRD, LLC, PLC)



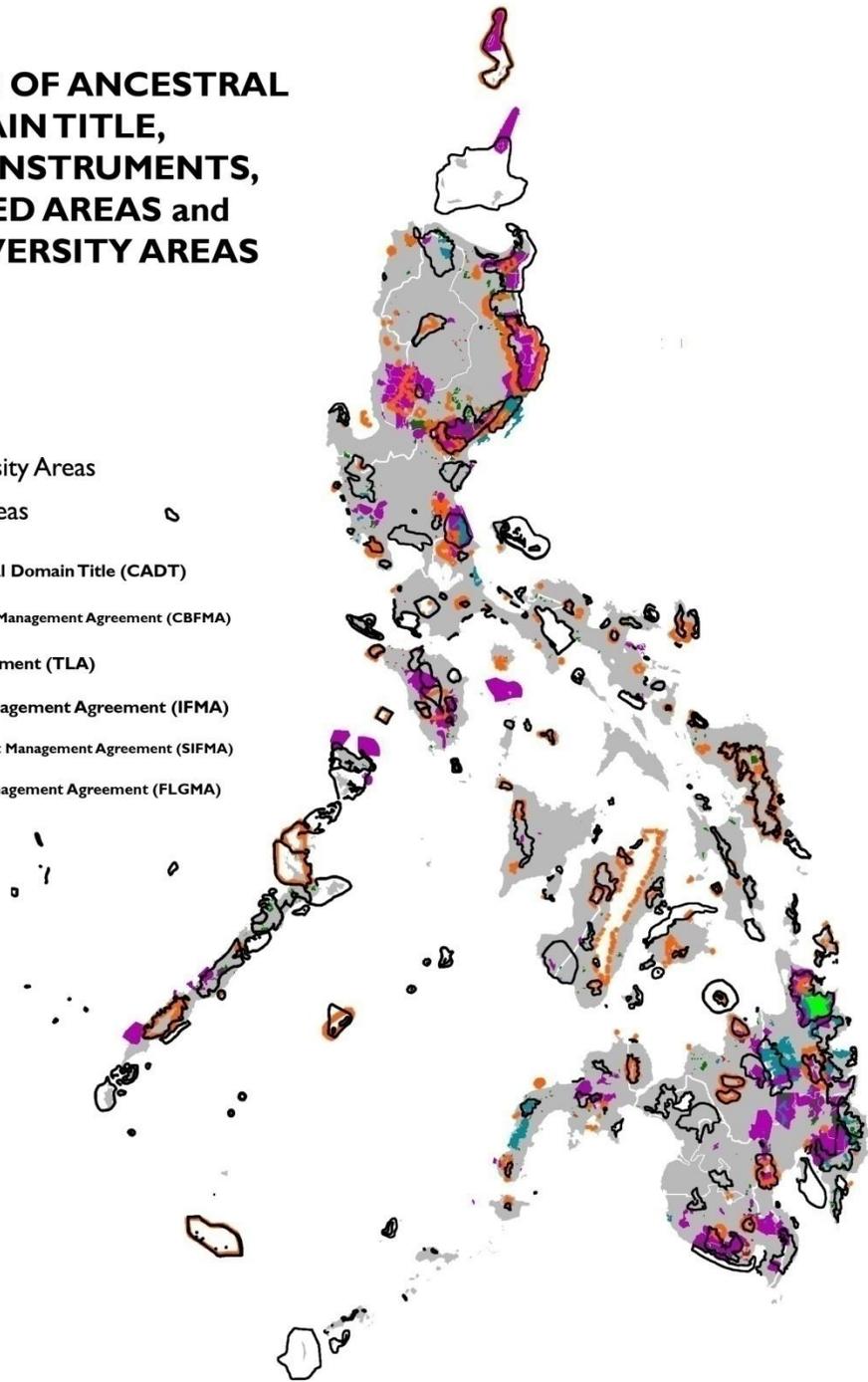
Sources: KBAs and PAs (CI, DENR-PAWB, Haribon Foundation 2010); Mining Map (MGB 2011)

Map5. Certificate of Ancestral Domain Title, Tenurial Instruments, PAs, and KBAs

CERTIFICATE OF ANCESTRAL DOMAIN TITLE, TENURIAL INSTRUMENTS, PROTECTED AREAS and KEY BIODIVERSITY AREAS

Legend

- Key Biodiversity Areas
- Protected Areas
- Certificate of Ancestral Domain Title (CADT)
- Community Based Forest Management Agreement (CBFMA)
- Timber License Agreement (TLA)
- Integrated Forest Management Agreement (IFMA)
- Socialized Industrial Forest Management Agreement (SIFMA)
- Forest Land Grazing Management Agreement (FLGMA)



Sources: KBAs and PAs (CI, DENR-PAWB, Haribon Foundation 2010); CADT and tenurial instruments (NCIP 2011)

Ongoing studies are also linking environmental injustices with vulnerability of disadvantaged communities to recruitment for the armed struggle against the government, thus transforming environmental conflicts into a national security issue.

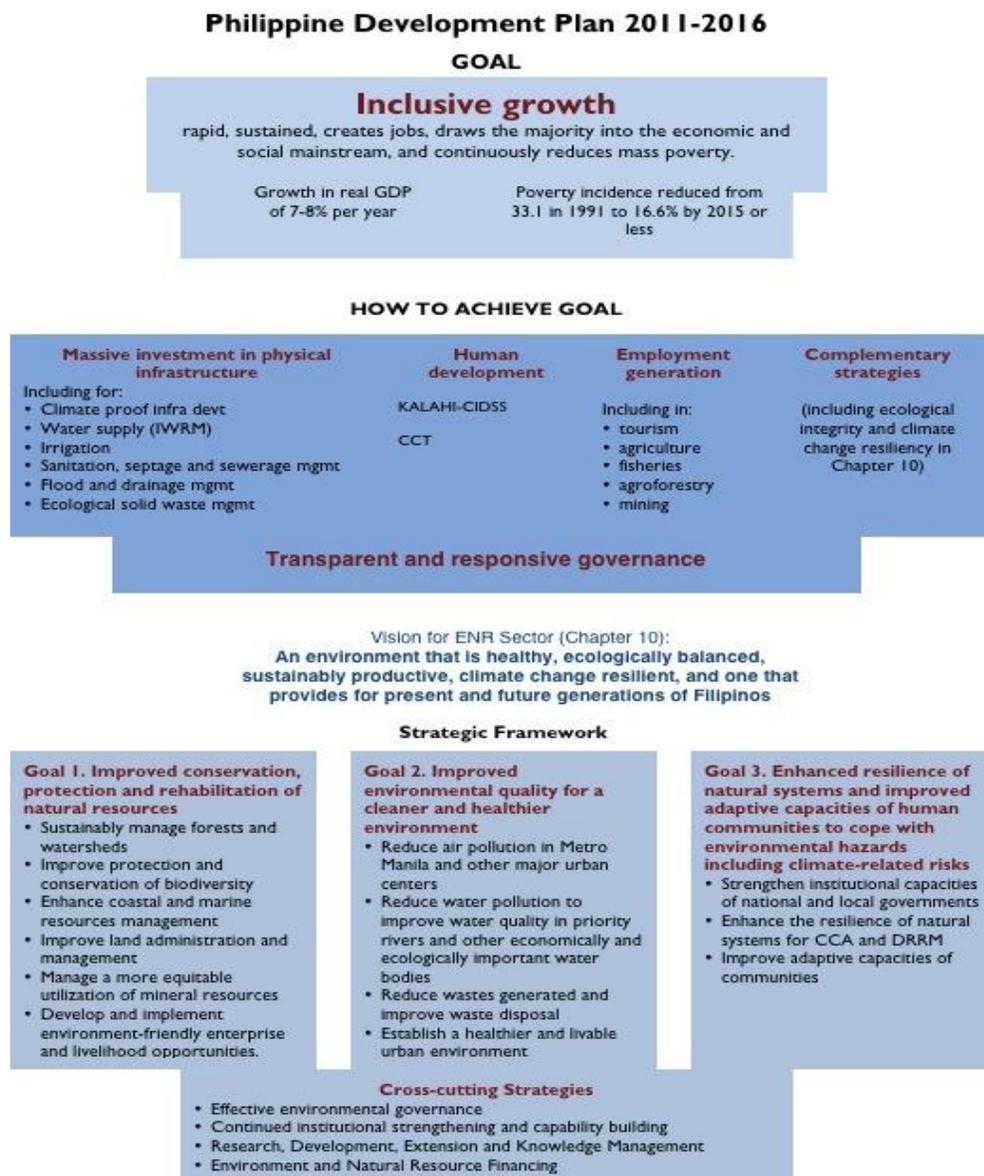
An ongoing study conducted by Paghiliusa sa Paghidaet-Negros (PsPN),³ a peace advocacy NGO in Negros Occidental, documents cases where upland farming communities are being recruited to the communist insurgency because they feel that the government cannot give them justice (or is the cause of injustice) for the loss of their farm land or access to water. Some farmers have been deprived of their long-term possession of forestlands because they were not aware of opportunities to secure tenure instruments; as such, DENR has awarded their land to industrial farming and mining rights applicants. In another case, the National Irrigation Administration (NIA) constructed a dam and irrigation system that would benefit downstream farmers but this prevented existing upland farmers from using water from the source river where they have always drawn their water supply. In both cases, the farmers believe that regardless of the legal technicalities, the government agencies they expected to provide service and support have caused them harm. Thus, they have no further recourse but to seek alternative 'justice' because even the law that determined preferential rights to tenure instruments was against their side. In Mindanao, the demands of the Moro Islamic Liberation Front (MILF) in the peace negotiations are also largely anchored on their claim for ancestral domain and control over natural resources in their claimed areas.⁴

IV. Policies and Programs for Conservation of Tropical Forests and Biodiversity

The Philippine Constitution provides a broad framework for natural resource conservation and protection with respect to the right of the people to a healthy environment⁵ and equitable access to benefits derived from the use natural resources. The rights to a clean environment and equitable access are demandable rights which the Supreme Court had upheld in several landmark decisions.

The country has recently embarked on a new PDP 2011-2016 that outlines goals and targets for economic growth, with the conservation and sustainable use of ENR as a complementary objective. In a country where one in every four persons is in poverty, the challenge of the government is to plan for inclusive economic growth.

Figure 10. Graphical representation of PDP focusing on ENR goals and strategic objectives (Chapter 10), highlighting strategic objectives that have direct impact on conservation of tropical forests and biodiversity



The PDP has twin goals of economic growth and poverty alleviation as components of the overall goal of inclusive growth. The Plan notes that one of the limiting factors of economic growth is poor infrastructure, especially in transportation. The list of infrastructure priorities include major investments in ENR such as irrigation, sanitation and wastewater treatment, solid waste management, flood control, etc. In employment generation, several sectors linked to ENR were also identified as priority sectors, including tourism, agriculture, fisheries, mining and agroforestry.

The ENR Chapter of the PDP focuses on three major goals, two of which are directed at conserving remaining natural resources and preserving a clean and healthy environment. The third goal emphasizes the need for climate change adaptation and disaster management.

It is often said that the Philippines has comprehensive and highly advanced laws to protect the environment and conserve natural resources, but are poorly enforced because of financial and technical capacity limitations. Therefore, in a practical and realistic sense, the enforced law is that which has funding or technical assistance from national coffers or donors, and those regulations that local governments, community-based organizations and deputized volunteers have committed to enforce. Thus, it is more relevant to outline funded programs intended to enforce a wide range of policies/regulations than to list legal instruments that are not actively being enforced. The PDP serves as the blueprint of priority programs that acquire the funding.

Using the PSR framework as guide, the existing policies and programs of government have largely focused on direct interventions to improve tropical forests and biodiversity such as reforestation and PA establishment. There are fewer programs, with the exception of law enforcement, which address the incentive systems which shape behavior of actors, as these actors put pressure on the resources (e.g. pollution charges, tax on high value crop production that drive land-use conversion). Based on on-site experiences relayed by resource persons in the consultations, environmental law enforcement has been found effective when regularly conducted, but overall, there is a lack of capacity and resources to conduct regular law enforcement actions. (See Annex 6 for Solution Tree)

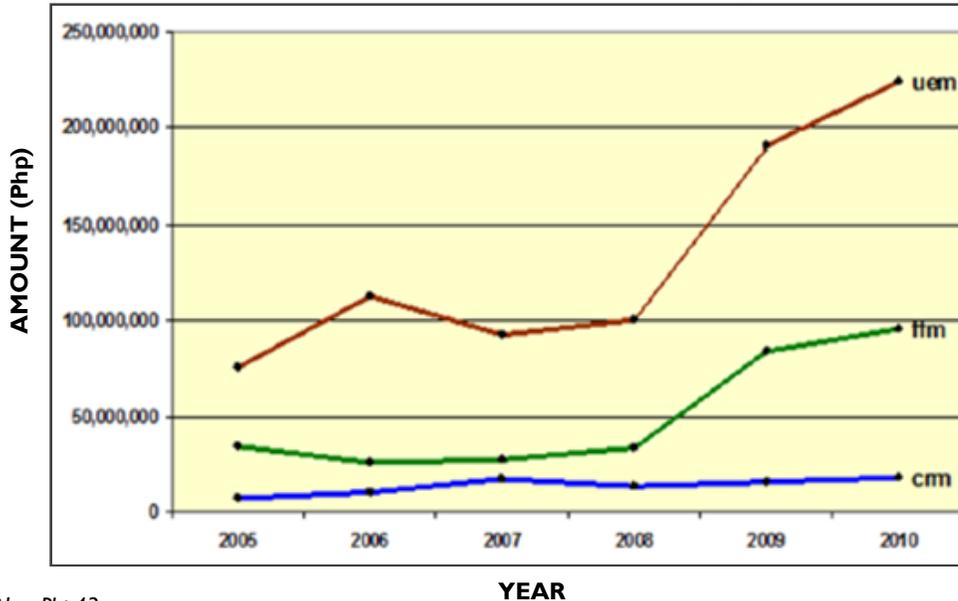
Devolution of ENR management has to accelerate and be real, not just rhetorical. Local government participation in environmental management has increased dramatically in the past decade through co-management with DENR of specific public forest areas. It took many years to convince local executives, but once convinced, most LGUs translate that knowledge into locally-funded programs and activities. For example, the Philippine Environmental Governance Project (EcoGov) working with about 150 LGU's investment in natural resource management has shown increased budget allocation through the years particularly in forest resource management and urban environment projects (Figure 11).

Even the judiciary is taking a more active and direct involvement in environmental issues after it adopted the new Rules of Procedure for Environmental Cases.⁶ In a 2008 precedent-setting decision (Metro Manila Development Authority vs. Concerned Citizens of Manila Bay), the Supreme Court required concerned government agencies to implement an integrated plan to clean up Manila Bay in order for it to meet the environmental criteria for its intended use— for fisheries and recreation. In lieu of this, an expert Advisory Committee was formed to monitor compliance.

There are also the ongoing DENR General Appropriations Act (GAA)–funded forestry and biodiversity projects (e.g. Public and Private Sector Participation in Reforestation, National Greening Program, Watershed Prioritization and Preparation of Integrated Watershed Management Plan)– that target LGUs, private sector and communities as beneficiaries. Civil society and private sector partners have also increased participation through official multi-sectoral institutions and complementary programs on reforestation, rehabilitation, livelihood programs. Multilateral, bilateral, and civil society organizations are providing a broad range of programs and projects to support conservation. Private sectors are being

attracted to environmental investments (e.g. water supply/ sanitation infrastructure, ecotourism, sustainable production of forest products, clean energy) because of the improving policy environment and profitability. (See Annex 7 for list of ongoing environmental projects. pipeline environmental projects and DENR GAA-funded projects)

Figure 11. EcoGov assisted LGUs investment in natural resource management



Note: USD\$1 = Php43

uem – Urban Environmental Management

ffm – Forests and Forest Lands Management

crm – Coastal Resources Management

Source: EcoGov 2011

Forestry

In forestry, the Forestry Code (1975) is obsolete in its policy of timber exploitation and is largely used only to enforce the penal provisions, supplemented by recent enforcement-oriented laws regulating mangrove exploitation, use of chainsaws, and the like. Through DENR, the President directed forest policy, and this policy has shifted focus many times over the years depending on political priorities. Historically, forestry regulations have evolved against exploitation to conservation and rehabilitation using various strategies to enlist local communities, local governments or private investors to participate in forest protection in exchange for limited resource-use rights.

Recently, President Benigno Aquino III issued a logging ban on natural and residual forests and initiated a National Greening Program.⁷ Executive Orders (EOs) on sustainable forest management, community-based forest management, sustainable upland management and river basin management⁸ define primary strategies for managing forest and watershed resources, and direct the activities and budgetary priorities of DENR. Despite these comprehensive strategies, forests are still open to experiencing mining pressures, other land conversion activities and direct extraction of timber and non-timber products because forest boundaries are unclear and enforcement capacities are limited.

There are conflicts in overlapping tenure instruments, mining tenements, ancestral domain claims, and PA and watershed conservation. In 2003, after several years of consultations, DENR prepared a Revised Forestry Master Plan, but the plan has not been officially adopted and is currently under review again.

Biodiversity

In biodiversity, the NIPAS serves as the foundation for conserving KBAs. However, progress has been slow in legislating final boundaries of priority PAs resulting in encroachment by competing land uses (e.g. conversion to agriculture, community settlements and mining). The DENR and local governments jointly manage a protected area through a multi-sectoral PAMB.

Outside PAs, DENR leads in delineating and managing river basins and priority watersheds to ensure supply of water and also to protect critical aquatic resources and habitats. An increasing number of watersheds are placed under co-management, where DENR and local governments formally agree to share decision-making power and management resources in land-use and resource conservation.

Major lake and river systems, including associated watersheds, are under the management of specialized bodies as PAs, river basins or energy production areas. The DENR updated the National Wetland Action Plan and prepared a Cave Strategic Action Plan to be implemented in 2011-2016. The Wildlife Act (2001) was passed in accordance with the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in the protection of endangered species and critical habitats domestically.

The Philippines adopted an integrated coastal management (ICM) as the primary strategy for sustainably managing coastal and marine areas, including the protection of marine biodiversity. The Philippines contributes to at least three regional initiatives to protect coastal and marine resources:

- The Coral Triangle Initiative (CTI) involving six countries, where it has committed to implement the CTI National Plan of Action;
- Sulu Sulawesi Marine Eco-region Conservation, where a Presidential Commission for the Integrated Conservation and Development of the Sulu Celebes Seas was established in 2006, and where a conservation plan has been prepared and prioritized for implementation; and
- Sustainable Development Strategy for the Seas of East Asia (SDS-SEA) involving 11 countries and 19 non-state partners, where it has prepared a National Action Plan for 2011-2015.

Climate Change

In 2009, Congress passed the Climate Change Act creating a National Climate Change Commission (CCC). The President of the Philippines headed this to lead policy formulation and institutional coordination for international negotiations and domestic actions on climate change. In 2010, the Commission prepared the National Framework Strategy on Climate Change (2010-2022) that outlines key result areas under the pillars of adaptation, mitigation, cross-cutting issues and means of implementation. The Framework Strategy facilitates complementation and coordination across the increasing number of government and non-government initiatives on climate change in the environment, natural resources, agriculture, and energy sectors of the Philippines. It subsumes these under broader long-term adaptation and mitigation objectives in line with the overarching sustainable development goals of the country.

The Commission is now preparing the National Climate Change Action Plan (NCCAP) to detail the National Framework Strategy on Climate Change by mobilizing specific programs, activities and budgets to spur green growth and increase climate change resilience in the country. Among the NCCAP's key thrusts is the establishment of "Green Growth Engines" for the Philippines. First of these engines is the declaration of all suitable PAs and KBAs as Eco-Towns (short for "Ecology Town"), where low-intensity multiple-use activities can be facilitated alongside with the communities and the private sector to

generate revenue and green jobs as plowback for the protection and development of the Eco-Towns—and the available array of ecosystem in the area would determine these. Second of these engines is the promotion of the Philippines as a “Green Hub” for renewable energy systems and manufacturing in Southeast Asia (CCC 2011). The Commission therefore has been very vocal and aggressive in establishing resource valuation and accounting as key approaches towards catalyzing “green growth” in the country. It has taken the opportunity of the recent PDP launching to champion the institutionalization of ecosystem services and innovative financing schemes into development planning.

DENR, upon the initiative of NGOs and People’s Organizations (POs), collaboratively prepared a comprehensive National REDD+ Strategy for 2010-2020 for consideration and approval of the Commission. This is in response to international attention and increasing national interest towards reducing emissions from deforestation and forest degradation, and the conservation and enhancement of existing forest carbon stocks or REDD+.

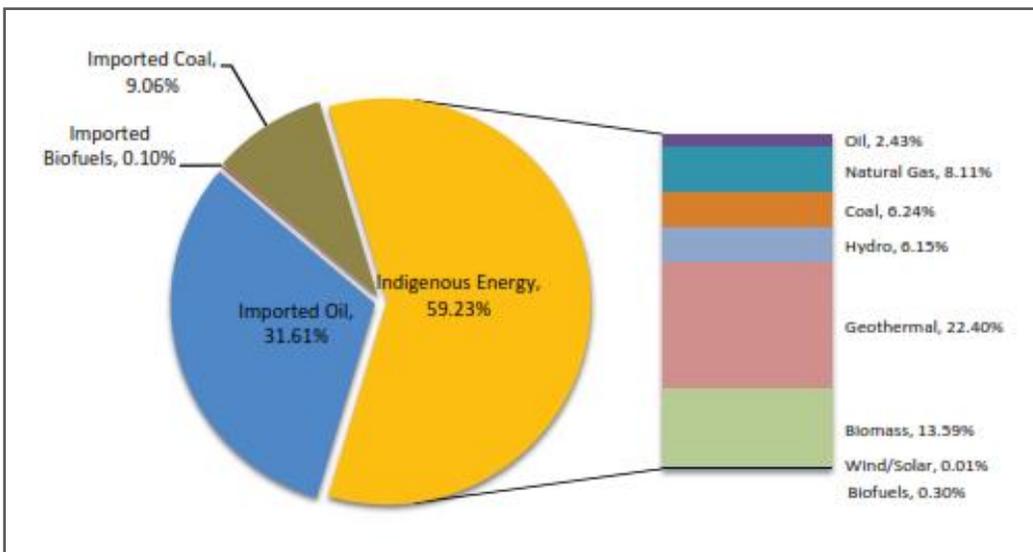
The Congress also passed the Disaster Risk Reduction and Management (DRRM) Act in 2010 to strengthen institutional arrangements for responding to natural disasters at the national and local levels. The law actively promotes the incorporation of DRRM in policy and development planning of local governments. In line with the DRRM Act, the President promulgated E.O. No. 888 adopting the Strategic National Action Plan on DRR, identifying priority programs and the responsible implementing agencies. While many potential impacts of climate change have been reported, there is still limited study conducted in the country to actually measure climate change impacts on biodiversity (DENR-PAWB 2009).

Local governments, especially in the Bicol Region (Albay, Sorsogon, Camarines Sur), are at the forefront of DRR management. The *Albay in Action on Climate Change (A2C2)* of the Province of Albay is a pioneering local initiative on local climate change mitigation and adaptation. LGU’s throughout the country has been replicating such action.

Energy

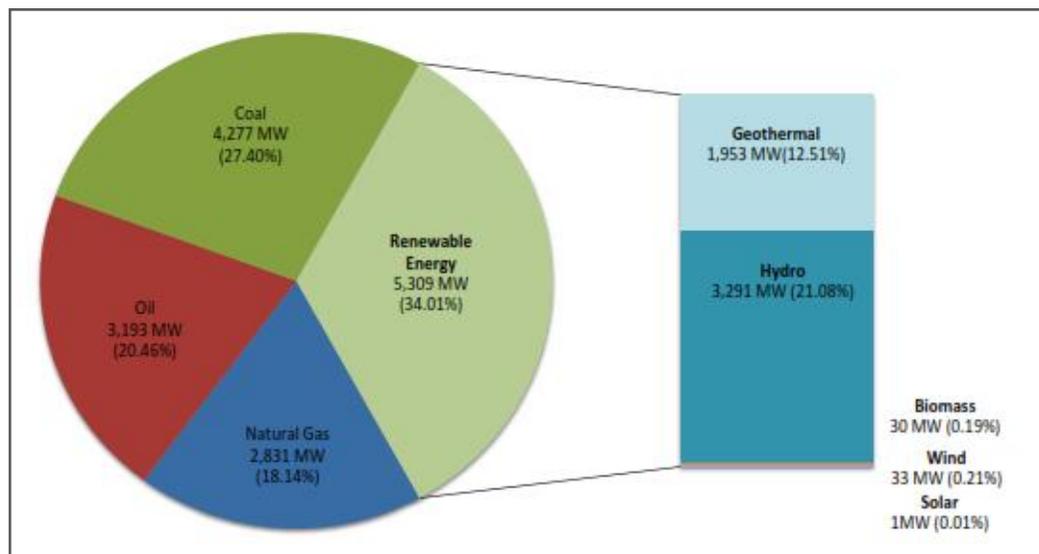
The Philippines derives almost 60 percent of its energy needs from indigenous sources (Figure 12) and one-third of its power generation comes from renewable energy primarily from hydroelectric and geothermal power (Figure 13). There is still a lot of potential for growth in the renewable energy sector. However, both hydro and geothermal energy production rely on healthy watersheds. The Congress passed a law for the provision of incentives for renewable energy in 2008 to create an attractive market for energy generation. This is in line with the Government's plan to double its current renewable energy capacity by 2030.

Figure 12. 2009 Primary energy mix



Source: NEDA 2011

Figure 13. Renewable energy contribution to total power generating capacity



Source: NEDA 2011

The promotion of renewable energy sources could have multiple benefits: reduction of greenhouse gas (GHG) emissions from fossil fuel use, reallocation of funds intended to pay for imported fuel for domestic development use, and promotion of conservation of watersheds on which geothermal and hydroelectric power sources depend on. The country's potentials on renewable energy are yet to be fully utilized.

International Agreements

In the past two decades, the country's participation and commitment to implement international environmental agreements, including the United Nations Convention on Biological Diversity (UNCBD), UNFCCC, Convention on Wetlands or Ramsar Convention, Convention on Migratory Species (CMS), CITES, International Convention for the Prevention of Marine Pollution from Ships (MARPOL), Basel Convention and others, as well as regional cooperation on the CTI, SDS-SEA and the ASEAN Center

for Biodiversity, has shaped its environmental laws and policies. In addition, the country is a member of the 18 Like-Minded Megadiverse Countries formed in Cancun in 2002. In line with the country's commitments under the UNCBD, the DENR-PAWB has adopted the Strategic Plan for Biodiversity 2011-2020 that is the basis for future priorities in protected areas, wildlife and coastal management.

In implementing the Strategic Plan, the Philippines needs to revisit progress made in meeting the 2010 biodiversity target of achieving "a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth" and to align its strategic goals and targets with that of the global targets, while mindful of local realities. Among others, member-parties are urged to address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society, and to enhance the benefits to all from biodiversity and ecosystem services. This means ensuring biodiversity values are being incorporated into national accounting, incentive and disincentive mechanisms for biodiversity conservation and sustainable use are developed and applied, and governments, businesses and stakeholders at all levels are implementing plans for sustainable production and consumption by 2020. The UN has declared 2011 to 2020 as the International Decade on Biodiversity, and has urged governments to think of biodiversity protection not as a loss but as an investment, along with other measures, to ensure long-term stability.

The DENR-PAWB, as the UNCBD National Focal Point, is tasked to lead this effort. Current and future directions include valuation of ecosystem services, and promotion and development of ecotourism enterprises in PAs and coastal areas involving local communities.

V. Framework for Recommendation: A Different Lens, a Different Angle, a Proposed ENR Strategy

This report argues that ENR should be considered a foundation or pillar of inclusive economic growth. The challenge is to keep the Philippines in a consistent path towards stable economic growth anchored on sustainable utilization of natural resources, ensuring supply of other ecosystem services, optimizing potential for new revenue sources from natural resources (ecotourism, carbon markets), and ensuring equitable distribution of benefits and opportunities. Given the fact that over the last 50 years, the Philippines' natural capital has not been well-managed and declined considerably, it is imperative for government to define a policy of catalyzing public and private investments in natural assets. In order to measure the impact of such investments, the government needs to revive and actually use resource valuation and accounting.

In revisiting the goals and strategies of the PDP, the strategies may be viewed using the lens of ecosystem services providing the foundation for economic growth. Using this lens, the strategy on infrastructure may be viewed from the angle of increasing the delivery of ecosystem services that: clean the water/air; regulate floods; provide water for agriculture, households and industry; and provide the natural attractions for tourists.



Human development may focus on providing poor communities in the uplands and coastal areas with options for livelihood that are not wholly dependent on resource extraction. This can mean providing the services to protect the natural resources, for which other beneficiaries can pay for. Employment generation should look at new areas of revenue generation, such as REDD+.

The goals and strategies under PDP's ENR chapter may also be viewed not only from the perspective of protecting/conserving the natural resources, but also in changing the behaviors of people who use these resources. The actions directed at the people using the resources are as important as actions targeting the protection of the resources directly. Historically, the programs and projects of the government have been directed at protecting resources. This has to shift to providing incentives and relevant information for people to make the right choices.

All these strategies are expected to improve the quality of life of Filipinos in general, as well as reduce poverty in the most vulnerable areas, which are also the most ecologically fragile. The most valuable capital is human capital; the goal of government is provide the best environment for human development and inclusive growth. As majority of the people's quality of life improve, there will be a growing demand for a cleaner environment and more judicious use of natural resources to ensure ecosystem services are sustained now and into the future.

Actions Necessary to Sustainably Manage Tropical Forests and Conserve Biodiversity

In consulting with the government and other stakeholders, it is clear that the challenge of sustainably managing the environment boils down to lack of *effective* governance. In light of stakeholders' preference to frame the issues in governance terms, the report identifies the governance adjustments which will catalyze investing in natural assets for inclusive economic growth.

The Philippines has a wealth of experience and expertise in all aspects of natural resources management; however, current programs may need to be redesigned to: (a) Provide a policy framework anchored on natural resources valuation and payment for ecosystem services; and (b) Target changing the behavior of resource users and resource managers who put pressure on the natural resources.

At the national policy level, there is a rare opportunity to shift the thinking from looking at ENR expenditures as low priority non-recoverable costs. Instead, government should view these expenditures as necessary investments that will bring more benefits in terms of ecosystem services that support industry, services and improved quality of life. There is broad Cabinet-level acceptance of the premise of the important contribution of the environment to economic development, and the consequential costs on health, safety and livelihoods with the continuing decline in ecosystem services. USAID can catalyze the sharpening of the PDP's analysis through targeted assistance on natural resources valuation and accounting, taking off from the lessons of past efforts such as USAID-funded ENRAP and the PEENRA.

After decades of development assistance to generate programs, pilot studies and demonstration projects, the Philippines has built enough experience and expertise to scale-up, mainstream and sustain the best practices learned. The country has completed most of the standard activities and actions, such as, enactment of national laws on environment and conservation, establishment of protected areas, implementation of reforestation and forest rehabilitation program, providing tenure instruments to forestland dwellers, setting-up of national enforcement mechanisms for environmental laws, and creating economic incentives for reducing pollution and other adverse impacts on the environment. Yet, mainstreaming and scaling-up remain a challenge, even though some replication of good practices is happening at the local government level. At this stage, what is needed is a re-thinking of the broad incentive system that will encourage actors at all levels to create the critical mass to mainstream the conservation and sustainable utilization of tropical forests and biological diversity as part of the overall strategy to achieve broad-based economic growth:

- At the national level – the government should:
 - systematically account for environmental impacts in its national development plan;
 - develop an information system to gather data on benefits generated from the remaining natural resources, the avoided costs of the loss of these resources, the costs of conservation and rehabilitation; and
 - institutionalize a comprehensive program of payment for ecosystem services to recover the costs from those who benefit from these resources and services.
- At local government levels – local governments should:
 - incorporate conservation/enhancement of ecosystem services in local development planning; and
 - widen impact of conservation programs through co-management agreements and inter-LGU collaborations.
- Private sector – investors can undertake:
 - development of technologies, products and financing options to support conservation policies; and
 - investments in infrastructure to protect and enhance ecosystem services (water supply, sanitation, adaptation, disaster mitigation).
- General public – communities and individuals should:
 - through informed choice, create the demand for products and services that conserve natural resources and enhance provision of ecosystem services; and
 - demand accountability of government officials in conserving natural resources, and in providing equitable access to and payment for natural resources and ecosystem services.

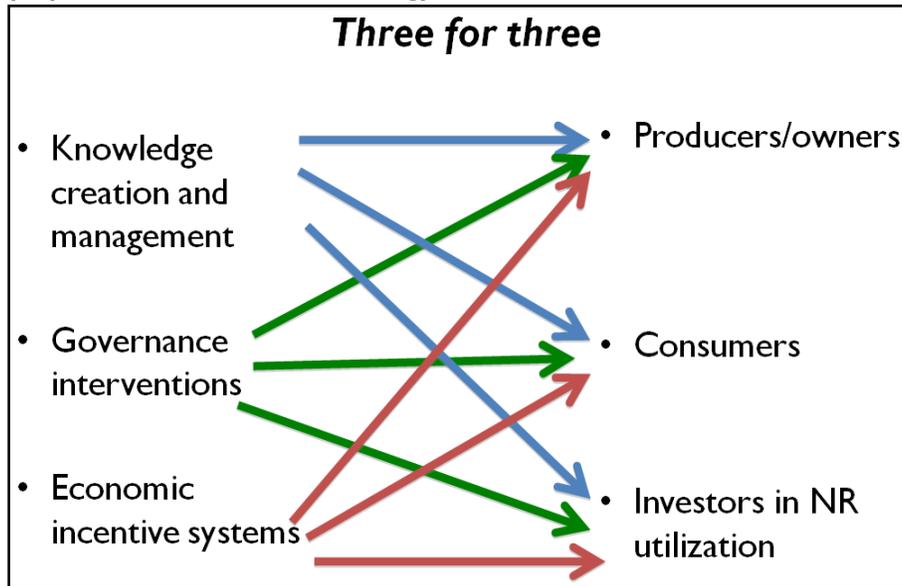
To complement government programs that directly address the state of the ecosystem (such as reforestation and declaration of protected areas), USAID can focus on programs that catalyze changes in the behaviors of resource users as they interact with the natural environment. There are three major groups of resource users whose behaviors affect the state of the natural resources. These are:

- **Producers/owners** – Those living in ecologically fragile areas who have rights to land and natural resources, many of which are directly dependent on natural resources (NR) for subsistence livelihood. They are also most vulnerable to climate and disaster risks and least resilient to social, economic and political impacts because of poverty, lack of education, poor health, and lack of political power;
- **Consumers** – All of us who consume ecosystem products and services – the changing patterns and quantities of consumption impact NR utilization decisions (e.g. land-use conversion); and
- **Investors in NR utilization** – Those who make a profit from resource utilization; possess socio-econ-political power to influence NR use decisions and benefit-sharing.

Changing the behaviors of these groups requires at least three strategies which provide relevant information for decision-making, including:

- **Knowledge creation and management** – Science-based ENR management and governance anchored on basic information and analysis on the state of natural resources and resource use patterns, the value and function of ecosystem services, and the cost and returns on conservation actions;
- **Economic incentives** – Design, pilot and implement incentive systems for optimal utilization of NR and payment for ecosystem services; and
- **Governance interventions** – Develop and/or strengthen governance processes and institutions to implement incentives system, guide stakeholder decision-making, and provide processes and venues for conflict management.

Figure 14. The proposed “Three for Three” Strategy



For each of the target group, complementary strategies may be designed to provide incentive systems to have desired behaviors that either enhance the status of natural resources or mitigate negative impacts on these resources.

A list of proposed strategic objectives and actions (Annex 8) that outlines in more detail the strategic actions mentioned above was distributed to participants of the National Consultation held on 01 June 2011. Participants then ranked these strategic objectives and actions and identified five key strategic objectives (Annex 9):

1. Effective monitoring, measuring, reporting and validation (MMRV) of outputs and outcomes of public and private investments in ecosystem services including the design, installation, and operationalization of an integrated ENR Information System (ENRIS) at the national and local levels;
2. Participatory process/ conflict management;
3. Subsidiarity and local autonomy;
4. Valuation studies for ecosystem services as foundation for Payment for Ecosystem Services (PES); and
5. Innovative financing as founded on PES.

The identified priorities are incorporated in the following examples of strategic actions addressing desired behavioral changes for each of the major target groups under the '**three for three**' framework.

Table 5. Strategic actions addressing desired behavioral changes for major target groups

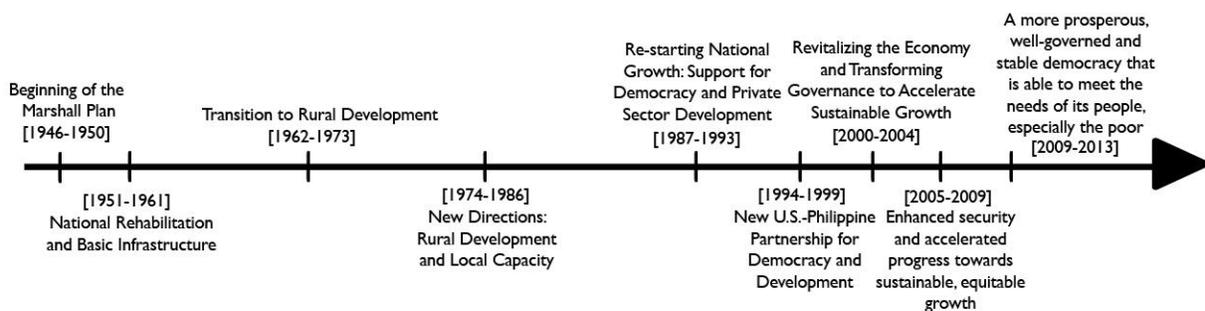
Behavioral change desired	Strategic Actions
Producers/owners	
<ul style="list-style-type: none"> • Livelihood options that are less dependent on NR extraction/land use conversion • Resilience to CC/disaster impacts and socio-economic and political impacts • Provide service to NR monitoring, law enforcement, valuation 	<p><i>Knowledge creation and management</i></p> <ul style="list-style-type: none"> • To provide resource managers and users the background needed to decide on resource use limits and allocation, basic information is needed including: climate change impacts (biophysical and economic) and vulnerabilities, Land Use, Land-Use Change and Forestry (LULUCF), GHG emissions; and maps overlaying such data with resource uses (logging, mining, REDD+) and communities. The data has to be accessible in a form and manner that is relevant to various decisions to be made at different sites and at different scales – the proposed ENRIS should be the backbone of this information system. <p><i>Economic incentives</i></p> <ul style="list-style-type: none"> • Benefit sharing from mining, REDD+, etc.; Expanded Conditional Cash Transfer (CCT) or Upland Development Program (UDP) to provide cash in exchange for education, health and environment management conditionalities; secure tenure instruments <p><i>Governance interventions</i></p> <ul style="list-style-type: none"> • Policy on Payment for Ecosystem Services (PES) that provides direct and indirect benefits; consensus building and negotiations; devolve totally to co-management institutions final decisions on engaging marginalized communities (including grant of tenure instruments) • MMRV system to track progress in resource management as well as measure the monetary and non-monetary returns on environmental investments.

Consumers	
<ul style="list-style-type: none"> • Shift consumption patterns to support sustainable resource use/reduce carbon footprint • Increase willingness to pay for ecosystems services • Use knowledge of environmental impacts of consumption to build consensus for green growth 	<p><i>Knowledge creation and management</i></p> <ul style="list-style-type: none"> • Analysis of link between consumption and land/sea-use changes, valuation of ecosystem services as basis for PES <p><i>Economic Incentives</i></p> <ul style="list-style-type: none"> • Market disincentives for products/production with high environment impact • Incentives for efficient/low consumption <p><i>Governance interventions</i></p> <ul style="list-style-type: none"> • Policy on PES that translate to market incentives; consensus building and negotiation for PES; policy to include valuation of ecosystem services in national accounting, development planning and monitoring
Investors in NR utilization	
<ul style="list-style-type: none"> • Internalize environmental costs in investments • Stop rent-seeking behavior • Return/pay to the source (site and community) fair share of profits from ecosystem services 	<p><i>Knowledge creation and management</i></p> <ul style="list-style-type: none"> • Valuation of ecosystem services, proper pricing of NR products, innovations for value adding to NR products and services, GHG inventory <p><i>Economic Incentives</i></p> <ul style="list-style-type: none"> • Exploring innovative financing schemes • Reward (financial or others) innovations that reduce negative environmental impact, initiatives to account for externalities • User fee system to incentivize clean, efficient processes <p><i>Governance interventions</i></p> <ul style="list-style-type: none"> • Transparent, accountable and participatory processes to neutralize rent-seeking behavior; incentives for technical/social innovations that support sustainable resource use or improve sufficient use of NR; systematic monitoring and enforcement to ensure compliance with environment regulations; inter-LGU alliances to manage shared resources and address transboundary issues

VI. Extent to which USAID Addresses Actions to Conserve Tropical Forests and Biodiversity

USAID assistance in the Philippines started 50 years ago, with the 1961 Foreign Assistance Act and the establishment of USAID as the lead agency responsible for administering U.S. economic assistance. During the period of 1951-1961, assistance was focused on developing a wide range of basic institutions and national services to catalyze national rehabilitation, urban and industrial development. Through the years, the focus of interventions transitioned depending on the needs of the country; from urban and industrial development (1951-1961), to rural development and local capacity building (1962-1973, 1974-1986), to national growth by supporting democracy and private sector development (1987-1993), to global trade (1994-1999), to economic revitalization and governance transformation towards accelerate sustainable growth (2000-2004), to Mindanao development (2005-2009), to finally, inclusive growth (2009-2013). The current vision of U.S. foreign assistance in the Philippines is a more prosperous, well-governed and stable democracy that is able to meet the needs of its people, especially the poor. This can be achieved by: (a) accelerating growth through improved competitiveness; (b) strengthening governance, rule of law, and the fight against corruption; (c) investing in people to reduce poverty; and (d) promoting a peaceful and secure Philippines.

Figure 15. Timeline of USAID's strategic focus



Source: Derived from USAID Website

USAID has had a global and sustained commitment to biodiversity conservation, and more recently to global climate change issues. USAID Administrator Dr. Rajiv Shah has reaffirmed this emphasis. During the celebration of Earth Day and the UN designated International Year of the Forest on April 22, 2011, Dr. Shah said that USAID recognizes the role forest ecosystems play in sustainable development and climate change and that it will continue to address “threats to forests through a multi-faceted approach: improving natural resources management; enabling legal, policy, and institutional development; expanding market access for sustainable natural resource-based products; and working to reduce emissions from deforestation and forest degradation (www.usaid.gov).

Currently, USAID/Philippines has four technical offices which cater to the needs of various sectors, namely, the Office of Economic Development and Governance (OEDG), Office of Health (OH), Office of Education (OEd) and Office of Energy and Environment (OEE). Under the current strategy (CAS 2009-2013), the OEDG seeks to sustain good fiscal sector performance while simultaneously removing barriers to investment and competition to pursue economic reforms. With particular priority to

Mindanao, it aids in the economic development of the region through infrastructure projects and improved agribusiness competitiveness and the expanded export of targeted commodities.

The OH, on the other hand, works closely with the Department of Health (DOH) in enhancing the capacity of LGUs and the private sector to provide quality health services. The program seeks to strengthen local government's management of health services, expand the role of private health service providers, promote healthy behaviors and practices, and improve the policy environment for financing and providing health services. The OEd, in response to the education needs of areas affected by poverty and conflict and to support the Philippine government effort to narrow the gaps in teachers, desks and chairs, textbooks, and audio-video materials, focuses its education programs on training teachers in science, math and English teaching, and on providing learning materials, workforce development and basic education for out-of-school children and youth, parents and communities supporting education and higher education, and capacity-building for Local School Board for education governance.

Finally, the OEE provides assistance in energy sector performance, environmental governance and urban environmental management by addressing four key challenges in these sectors, namely, competitiveness, corruption, conflict and conservation- where, again, special attention is given to Mindanao.

Noticeably, there is clear delineation of the roles and programs of the different offices.

Existing Programs under the OEE

USAID partners with national and local governments, civil society organizations, private enterprises and local communities to help conserve and sustainably use tropical forests and biodiversity resources through several projects and programs. Among these partnership projects and programs are in the key areas of clean productive energy, modern energy services, water and sanitation, and natural resources and biodiversity, as described below:

Energy Sector Performance

- Climate Change and Clean Energy Project (CEnergy)

The CEnergy Project supports the Philippine Government's efforts to address energy security and meet the challenges of climate change, particularly focusing on the power and transport sectors which are major sources of GHG emissions. Activities are centered on technical assistance to: (a) improve implementation of energy policies to attract private investments in renewable and clean energy sources; (b) improve regulatory capacity of the Energy Regulatory Commission (ERC); (c) mitigate climate change through skills training in greenhouse gas accounting, inventory and management; and, (d) build public understanding and support by raising public awareness and understanding of energy reforms and climate change. This project is being implemented by the International Resources Group (IRG) in collaboration with LGUs, namely, Quezon City, Makati City, Pasig City and Navotas City in Metro Manila; Naga City, San Fernando City in La Union, and Laoag City in Luzon; Iloilo City, Bacolod City and Cebu City in the Visayas; and Zamboanga City in Mindanao. It also builds on existing collaboration among key government agencies, the private sector, CSOs, transport groups, media, and the academe.

Modern Energy Services

- Conservation in the Philippines, and Alliance for Mindanao Off-Grid Renewable Energy (AMORE)

AMORE aims to provide a sustainable approach using clean and renewable energy to bring electricity to remote communities in Mindanao, and contribute to peace and development initiatives by improving the quality of life in these communities. It aims to establish sustainable renewable energy systems in at least 400 remote rural communities of former rebel combatants in Western and Central Mindanao, across 90 municipalities in 13 provinces: Davao City, Davao del Norte, Davao del Sur, Lanao del Sur, Maguindanao, Sultan Kudarat, Sulu, Tawi-Tawi, Basilan, Zamboanga City, Zamboanga del Norte, Zamboanga del Sur, and Zamboanga Sibugay. The community involvement in the design, operation and maintenance of renewable energy systems such as solar photovoltaic cell and micro-hydro power, government assistance in the procurement of energy equipment, technical expertise and training by USAID, and CSR activities of the private sector supported this partnership. Since 2001, AMORE has equipped remote and rural communities with electricity to power households, streetlights, enable distance education and access audio-visual materials, offset carbon emissions, provide potable water systems, organized and strengthened communities to maintain, operate and expand their renewable energy systems.

This Project is being implemented by Winrock International Inc. in partnership with the Philippine government, through the Department of Energy and the Autonomous Region in Muslim Mindanao (ARMM) and the private sector.

Urban Environmental Management

- Philippine Sanitation Alliance (PSA)

The PSA is an alliance of partners composed of 10 LGUs, 4 water districts, private sector companies and associations (housing, hospitals, hotels/restaurants), technical resource partners, and NGOs, working together to develop affordable ways to protect biodiversity and reduce public health risks through improved sanitation. Project activities include: (a) promoting the adoption of low-cost sanitation technology (for households, markets, slaughterhouses, hospitals, hotels/restaurants); (b) helping package projects and access financing; and (c) raising public awareness. LGU's capacities in controlling wastewater discharges to coastal and freshwater ecosystems are strengthened to address threats to biodiversity. The PSA coordinates closely with the DENR, DOH, Housing and Urban Development Coordinating Council, Local Water Utilities Administration, Mindanao Economic Development Council, World Bank, and the Philippine Ecological Sanitation Network.

- Philippine Water Revolving Fund (PWRF) Support Program

The PWRF is a co-financing facility that blends Overseas Development Assistance. Japan International Cooperation Agency resources and private financing institution (PFI) funds for lending to creditworthy water service providers. The financial structure allows the loan terms and conditions to be affordable to water service providers, and at the same time at market terms with PFIs, who have access to credit risk guarantees provided by the LGU Guarantee Corporation and USAID's Development Credit Authority. The PWRF Support Program aims to: (a) establish the co-financing program and develop a long-term financing strategy; (b) strengthen water and finance sector enabling conditions; and (c) assist water service providers and LGUs in developing viable projects. Development Alternatives, Inc, in collaboration with Philippine government partners (Department of Finance, Development Bank of the Philippines and the Municipal Development Fund Office), JICA, and PFIs (through the Bankers

Association of the Philippines and LGU Guarantee Corporation), have implemented this program. The LGU partners include Meycauayan in Bulacan, Silang in Cavite, Davao City, Iligan City in Lanao del Norte, Puerto Princesa City in Palawan, San Fernando City in Pampanga, and Zamboanga City.

Natural Resources and Biodiversity/Environmental Governance

- Coral Triangle Support Partnership (CTSP)-Philippines

The CTSP aims to improve the management of biologically and economically important coastal and marine resources and associated terrestrial ecosystems which support the livelihoods of peoples and economies of countries within the six Coral Triangle countries or CT-6 (Indonesia, Malaysia, Papua New Guinea, the Philippines, the Solomon Islands and Timor Leste). The CTSP Key Result Areas (KRAs) are: (a) strengthened regional and national platforms to catalyze and sustain integrated marine and coastal management; (b) improved ecosystem approach to fisheries management (EAFM); (c) improved marine protected area (MPA) management; and (d) improved capacity to adapt to climate change. In the Philippines, WWF-Philippines implemented CTSP in Palawan and Tawi-Tawi and CI-Philippines implemented the same in the Verde Island Passage (Batangas and Mindoro Occidental).

- Volunteers for Environmental Governance (VEG) II Project

The VEG Project II supports Peace Corps Volunteers (PCV) to promote good environmental governance in LGUs and other local institutions through activities that sustain forest, coastal and marine resources management and address integrated solid waste management. It aims to build the capacity of local governments and their communities in enhancing coastal environment protection and food security through the development and implementation of ICM plans and environmental education. It builds on successful activities from VEG-I, particularly on: (a) project design and management workshops; (b) PCV special projects fund; (c) environmental trainings; and (d) environmental resources (e.g. equipment and information resources). The U.S. Peace Corps implemented this project in 18 municipalities in provinces of Albay, Cagayan, Cebu, Leyte, Mindoro Oriental, Negros Oriental, Palawan, Pangasinan, and Siquijor.

- Partnership for Biodiversity Conservation (PBC) Program II

This U.S. Department of Interior (USDOI) - USAID Program aims to address threats to coastal and forest resources by building the capacity of national and local environmental law enforcement bodies, including local governments and communities, in enforcing environmental laws. It builds on gains from past USAID initiatives on mainstreaming law enforcement by: (a) developing enforcement protocols and procedures; (b) strengthening adjudication and prosecution; and (c) standardizing the environmental law enforcement training curriculum. The USG-DOI implemented this program, in partnership with the national and local governments and communities.

- Conservation of Biodiversity and Management of Natural Resources in Palawan and Mindanao

This Project aims to conserve three KBAs in: (1) Bukidnon; (2) Mt. Diwata and Mt. Hilong-Hilong; and, (3) Southern Palawan, by initiating an “emerging champions” program to link local-level best practices and lessons in biodiversity conservation. Emerging champions are defined as municipal and provincial level multi-stakeholder groups whose mission is to conserve KBAs while addressing socio-economic development and environmental security. Strategies which address the specific needs of emerging champions include: (a) building capacity to improve management of natural resources and delivery of environmental services; (b) instituting better enforcement mechanisms at the KBA level to uphold environmental laws; and (c) broadening opportunities for environmental financing and sustainable

enterprise development. These strategies build on past work of USAID and EnterpriseWorks/VITA (EWW) in Region 2 and Palawan with emerging champions working in KBAs.

- Mainstreaming Climate Change in Biodiversity Planning and Conservation in the Philippines

This project aims to integrate climate change considerations in biodiversity planning and conservation in the country. Strategies include 4 components: (1) support national action planning and mainstreaming of CCA in biodiversity will involve conduct of national action planning for climate change and biodiversity conservation; (2) conduct vulnerability assessment and adaptation options of terrestrial ecosystems to climate change to determine how climate change will affect the terrestrial ecosystems through use of biogeography models; (3) demonstrate CCA in biodiversity conservation in pilot areas, namely: Mt. Apo Natural Park, Mt. Kitanglad Range Natural Park, Northern Sierra Madre National Park, and Ikalahan Ancestral Domain in Nueva Vizcaya; and (4) provide capacity building to DENR (PAWB and FMB), LGUs and local NGOs and POs who are actively working on biodiversity conservation. The International Center for Research in Agroforestry (ICRAF), in collaboration with national and local government, NGOs and local communities, implemented this project.

- Rehabilitation and conservation of Romblon Passage Marine Corridor through integrated community-based coastal resource management (CBCRM) approaches

This Project aims to rehabilitate and conserve the coastal and marine resources of Romblon Passage Marine Corridor through integrated CBCRM strategies involving the coastal communities of the Municipalities of Romblon, San Agustin, Sta. Maria and Calatrava. Strategies include: (a) rehabilitating and enhancing marine habitats; (b) protecting and managing threatened and endangered marine species sea turtles, marine mammals and giant clams; (c) generating knowledge and managing information through the Coastal Resource Management Resource Center; (d) strengthening community-based organizations to co-implement resource management plans with LGUs; and (e) formulating an integrated resource management plan for the 4 municipalities. The SIKAT Center for the Development of Indigenous Science & Technology, Inc., in collaboration with the LGUs and local communities, implemented this project.

- Danajon Bank Marine Park Project: the First Collaborative Large-Scale Marine Protected Area in the Philippines

This Project aims to effectively govern and manage the Danajon coral reef ecosystem, the only double barrier reef in the country and one of among six worldwide. This is done in collaboration with key stakeholders, resources managers and users, NGOs and local governments. The goal of the Project is to improve the quality of life of stakeholders through effective management of a large-scale MPA, and improved fisheries, habitats, and economic opportunities. Project activities include: (a) collecting baseline biophysical, socio-economic, institutional, policy and governance information; (b) formulating and adopting a Governance Framework Plan, MPA Management Plan; (c) developing constituencies and support for the MPA establishment and management; and (d) planning and catalyzing tourism enterprises and livelihoods. The Coastal Conservation and Educational Foundation, Inc., in collaboration with 4 provinces & 17 municipalities, namely: 1) Bohol: Tubigon, Clarin, Inabanga, Buenavista, Getafe, Talibon, Trinidad, Bien Unido, Ubay, C.P. Garcia; 2) Cebu: Lapu-Lapu and Cordova; 3) Leyte: Hindang, Hilongos, Bato, Matalom; and, 4) Southern Leyte: Maasin, implemented this project.

- From ridge to reef: an ecosystem-based approach to biodiversity conservation and development in the Philippines (EB-ABCD Philippines)

This Project aims to address key threats to biodiversity conservation in the Mt. Malindang Natural Park in Misamis Occidental, Northern Mindanao, one of high priority conservation areas in the country because of its rich flora and fauna. These resources are threatened by economic activities of people living inside and outside the park, who often source additional income from the park through illegal activities. USAID is supporting activities that: (a) reverse degradation of coastal resources by addressing downstream effects of forestry and agriculture; (b) enhance livelihoods of people; and (c) build capacity and manage information and database for decision-making. The WorldFish Center implemented this project, together with the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) and The World Agroforestry Center (ICRAF) in collaboration with the LGUs who set policy directions and priorities.

- Building Actors and Leaders for Advancing Community Excellence in Development (BALANCED) Project

The BALANCED Project aims to improve access to health services, especially family planning, secure livelihoods and help conserve biodiversity and natural resources. It recognizes and addresses the interrelationships and inter-linkages between people, health and environment. The Coastal Resources Center at the University of Rhode Island in collaboration with CI and PATH Foundation Philippines Inc (PFPI) implemented this project. The latter implements the Philippine component, which focuses on integrating population, health and environmental approaches, including increasing access to health services (e.g. family planning and reproductive health) in marine biodiversity areas in collaboration with the LGUs of 5 provinces, namely Leyte, Bohol, Oriental and Occidental Mindoro and Batangas.

- Philippine Environmental Governance Project- Phase II (EcoGov2)

The EcoGov2 Project is a collaborative effort among USAID, the DENR and the Department of Interior and Local Government (DILG) that aims to: (1) reduce overfishing and destructive fishing; (2) reduce illegal logging and forest conversion; and (3) improve management of water and solid wastes through effective environmental governance. It supports local governance initiatives in forests and forest lands, coastal resources, wastewater and solid wastes, including local financing, by building on the gains from EcoGov Phase I. Activities to strengthen local governance practices are being implemented in conflict-affected areas, particularly in biologically important eco-regions of Mindanao, Central Visayas and Northern Luzon. This Project has provided technical assistance to over 150 LGUs in key biodiversity areas to: (a) fight corruption through increased public participation and transparency in the budgeting, bidding, contracting, and procurement processes; (b) address climate change by supporting the CTI-National Plan of Action, solid waste management, reducing emissions from deforestation, and carbon sequestration through reforestation, agroforestry and improved management of natural forests; (c) manage conflicts by improving natural resources governance and promoting the Islamic practice of Al Khalifa; and (d) build institutional capacity by leveraging government investments in specific sectors. It is being implemented by the Development Alternatives Inc. in Aurora, Basilan, Bohol, Cebu, Davao del Sur, Isabela, Lanao del Sur, Maguindanao, Negros Oriental, North Cotabato, Nueva Vizcaya, Quirino, Sarangani, Shariff Kabungsuwan, South Cotabato, Sultan Kudarat, Zamboanga City, Zamboanga del Sur, and Zamboanga Sibugay.

Most of the abovementioned programs directly address the threats posed to forests and biodiversity, and the impacts of climate change to these resources through varied approaches. Some programs like PSA, PWRF, CEnergy and AMORE indirectly respond to the threats to forest and biodiversity posed by

water and sanitation problems, climate change impacts brought about by greenhouse gas emissions from the power and transport sectors, and impacts to sources of clean and renewable energy systems.

The thrust of USAID's environmental programs is on integrated ecosystems management or ridge-to-reef (R2R) management. The end of project evaluation of the seven-year EcoGov2 Project reports that more investments in integrated ecosystems management such as the R2R model is practical and worthwhile and can be applied in defined geographical areas such as watersheds or groups of watersheds, river basins, bays that are critical to water, health and food security (USAID 2011).

Synergy and Complementation

There is limited synergy and complementation between the environment portfolio and other programs under the different Offices at USAID/Philippines implemented. The OEDG is primarily focused towards catalyzing "broad-based economic development," particularly in areas that have an existing or potential climate for business.

To date, the OEDG, with its interest towards establishing "growth with equity", has focused on activities such as microfinance, improved access to banking, increasing market competitiveness in rural agricultural areas as well as contributing towards judicial reform to facilitate anti-corruption and conflict management. Mindanao and cities such as Jolo and General Santos, have been particularly strategic for such activities. Since 2000, in its special objective of strengthening peace in Mindanao, specifically designed to address conflict, the USAID/Philippines Mindanao Program Evaluation of the Impact on Conflict and Peace reports that the mix of USAID sectoral programs is diverse and working on potential entry points for conflict reduction such as from social and economic sources and governance mechanisms. However, programs were viewed to be in favor of addressing structural issues such as socio-economic factors, which underpin conflict, including quick-impact and highly visible programs such as infrastructure and health. It was noted that there appears to be a disproportionate emphasis on socio-economic factors and less on improving governance and structure despite creating mechanisms for community engagement and constructive dialogues in non-traditional sectors such as the environment (e.g. participatory planning and fisheries management) The same Report recommended that USAID should: (a) invest more resources to build the supporting social and governance institutions and mechanisms that will allow local leveraging of its earlier investment; (b) put more emphasis on empowerment and capacity building of the Autonomous Region in Muslim Mindanao (ARMM) or its successors, communities and adjacent regions for collective self-help, development, governance; and (c) increase efforts for linkages, synergy and complementation of activities within the same sector, among sectors, within USG and USAID, and other development actors (USAID 2008). Clearly, the environmental aspect is left out.

One example where the health and environment offices have collaborated has been on the population, health, environment linkage through the jointly managed BALANCED Project. Another example of cooperation has been the efforts on water and sanitation, where OEE manages the water and sanitation activities. In particular, OEE has coordinated closely with DOH to better align the latter's effort and the Department of Finance on water access and sanitation issues by using the DOH funds to finance water and sanitation projects for the poor, which is about 1.5 billion pesos (USD\$36.5 million).

New Country Development Cooperation Strategy for the Philippines and Partnership for Growth

The USAID mission in the Philippines is involved in the preparation of a new Country Development Cooperation Strategy (CDCS). However, at the time of writing this report, the Mission had not completed development of the strategy. This was in part due to the fact that the Mission was

conducting an extensive up-front analysis with the Government of the Philippines (GPH) over the Partnership for Growth (PFG) program. From the standpoint of the FAA 118/119 Report, this is an understandable and positive factor as the FAA 118/119 analysis should be completed prior to, or at a minimum in parallel to, the development of the strategy, and inform the strategy.

Under U.S. President Barack Obama's Presidential Policy Directive on Global Development, the PFG initiative is proposing to provide a new framework for deepening and strengthening U.S. Government (USG) engagement with the Philippine Government to promote and support broad-based economic growth as the primary development objective. Based on the results of a constraints analysis (CA) conducted by a joint USG-GPH technical team, poor governance and narrow fiscal space were identified as the chief binding constraints to more competitive, inclusive growth in the Philippines. In support of the PFG, four inter-related themes will be focused on: (I) Regulatory Quality; (II) Rule of Law; (III) Anti-corruption; and (IV) Fiscal Performance.

The following discussion highlights the planned framework for the Mission to date, subject to further consultations and refinements.

USAID/Philippines has selected the following goal statement for the Philippines: A More Stable, Prosperous, Well-Governed Nation.

The Goal is the same as that for the whole of the US Government agencies in the Philippines. In line with the strategic thrust of the PFG, the Mission expects that its intensified engagement on economic expansion will push the Philippines from its modest growth path (4.6 percent average in the last 10 years) to a higher level, similar to that of its Asian peers (7-10 percent GDP). Such an effort should lead to an increase in more productive employment and the numbers of the middle class, which in turn can propel the country on a trajectory of consistent and sustained growth that will expand access to improved social services. If implemented effectively, such a strategy can be expected to alleviate poverty, bridge the grave income inequality that exists, reduce the imbalance between urban and rural development, and intensify pressure for meaningful governance reforms.

The Mission has chosen two Development Objectives (DOs) to address the policy, education, natural resources, and production resource constraints to growing the Philippines' economy, and the health and fertility rates that concomitantly put pressure on Philippine economic and natural resources (DO#1). The second DO (DO#2) will address the need for peace and stability in conflict-affected areas of Mindanao.

DO #1: Broad-based and Inclusive Growth Sustained

In order for the Philippines to become a more stable, prosperous, and well-governed nation, its economy must grow. It must grow because the country cannot provide the social services, sustain its natural resource base, or equitably extend the benefits of citizenship throughout the archipelago without more revenue. With rampant poverty, degradation of the very resources used to produce commodities for domestic and export markets, and continuous, low-level conflict, a country's stability can in no way be assured. At the same time, prosperity cannot be something only the elite can have or aspire to, so growth needs be broad and inclusive. Good governance is both a means and an end - it is needed as a means to assure that prosperity can affect all Filipinos and as an end-state to engender the confidence of investors needed to ensure that growth continues.

Good health is a foundation for a productive society in many ways. The lack of it inhibits people from working, or working at top capacity. Poor health is a drain on communities where care must be

provided to the detriment of other services, as well as on families. It is difficult for people of modest means to maintain, let alone improve, their financial situation if a serious illness needs treatment. At the societal level, health is a basic human need, and those countries which cannot address that need for its citizens will rarely be considered stable, prosperous, or well-governed in the eyes of its people or the world.

Under this DO, there are four intermediate results (IRs) currently contemplated:

1. Public and Private Investment Increased;
2. Access to Relevant Quality Education Increased;
3. Natural Resources and Environmental Services Improved; and
4. Family Health Improved.

DO#2: Peace and Stability in Conflict-Affected Areas (CAAs) in Mindanao Improved

USAID/Philippines plans to address the development challenges unique to the conflict-affected areas in the southern-most region of the Philippines: Mindanao. Due to years of conflict and extreme poverty in this area, USAID's investments there cannot reasonably be expected to yield the transformative growth expected in other parts of the country. Unless some of the economic opportunities and social services present in the rest of the country are brought to the CAAs, the prospect of conflict there will continue unabated. In collaboration with other Agencies, USAID will seek to: (a) strengthen the rule of law and governance;(b) improve access to economic opportunities; and (c) improve access to basic social services in the conflict affected areas in Mindanao.

Under this DO, there are three IRs currently contemplated:

1. Good Governance Practices Reinforced;
2. Civic Engagement and Peace and Development Enhanced; and
3. Community Drive Socio-Economic Development Improved.

Relationship of the Mission CDCS Strategy to Biodiversity Conservation

It is notable that the Mission is proposing an Intermediate Result related to natural resources and ecosystems services. While this is still under discussion, the Mission is currently planning to propose sub-IRs under this IR. These include: (1) Improving governance and management of natural resources; (2) Increasing the benefits from natural resources; and (3) Improving resilience to climate change and accelerating low emissions development. This configuration is proposed for it would enable the Mission to support multiple objectives including the PFG mandate, biodiversity conservation and climate change, depending on funding flows and Agency priorities.

Moving forward, there are emerging themes which came out from this FAAI18/FI19 report and should inform the new CDCS and PFG initiative.

For instance, OEDG has expressed interest in exploring how perhaps ecosystem services as common pool resources at the local level can be tapped towards investment and jobs creation in growth areas such as Cagayan De Oro, Davao and Cebu. The case for maintaining and enhancing ecosystem services (e.g. for agriculture, natural hazard mitigation, eco-tourism, etc.) as an approach to economic growth raises opportunities to utilize tools such as valuation, benchmarking, as well as cost-benefit analysis towards better valuing the contribution of natural resources to local economies. Other opportunities include guiding investments towards ecosystem services so as to provide and secure power, transport, water, and infrastructure, which OEDG has programmatically identified as necessities for economic growth.

The intersection such a lens creates towards creating partnership opportunities with LGUs and the private sector especially towards generating investments and revenues and decentralizing governance for economic growth have been flagged as a possible area of interest by OEDG as more information comes in. However, to date, there are no signals yet to officially or concretely pursue such an effort, pending cross-sectoral coordination and strategizing particularly with the OEE.

The OH has several health programs which address delivery of family planning and other health products and services such as Private Sector Mobilization for Family Health Project Phase2 (PRISM2), Strengthening Local Governance for Health (HealthGov), Sustainable Health Improvements through Empowerment and Local Development (SHIELD), and Health Promotion and Communication Project (HealthPRO). Despite the fact that most health concerns stem from a degraded environment and the increasing pressures on the environment and natural resources due to demands of a rapidly growing population, there are limited efforts to design or link these programs so that they also address the concerns of the environment program. At present, there is difficulty in finding opportunities for synergy and complementation due to the targeted activities of the Health Programs and due to specific guidance by the USAID in the use of funds. However, possible future opportunities for co-location and an integrated package of interventions may arise in the areas of disaster preparedness and assistance, climate change and health impacts, water and sanitation.⁹

In the education sector, on the other hand, the current focus is on basic education and workforce development. Like in the health programs, there are no conscious efforts to design or link current programs to environment, and any synergy and complementation is incidental. However, future opportunities could arise through the use of environment case studies as materials for development and use in basic education (such as in reading and science), and in the proposed focus on higher education wherein continuing education and exchange programs are being considered.¹⁰ Building a critical mass of field-level operational units and decision-makers in the environment and natural resources sector can be a focal theme in these programs.

Within the OEE portfolio, initial attempts at synergy and complementation are being done at the program level. The PATH Foundation Philippines Inc., implementing partner of the BALANCED Philippines, is co-locating interventions in Leyte and Bohol, sites of the Danajon Bank Marine Park Project, and in Oriental and Occidental Mindoro and Batangas, where the CTSP has presence in the Verde Island Passage. PATH also provided technical support to another CTSP- supported project in Tawi-Tawi which WWF-Philippines has managed.¹¹ Since its inception, PTFCF has managed to leverage forest conservation initiatives across several USAID projects through stakeholder mobilization, mapping, or nursery establishment among others. As of 2010, PTFCF has reforested 100,000 hectares and facilitated having 1.1 million hectares of forest under improved forest management thanks to the cooperation of partner organizations in USAID projects. The World Agroforestry Center (ICRAF), the implementer of the project on Mainstreaming Climate Change in Biodiversity Planning and Conservation in the Philippines, also plans to link with USAID projects being implemented by Enterprise Works and Worldfish Centre in common geographical areas, and to leverage technical expertise where needed.

Clearly, the extent to which forest and biodiversity conservation programs are implemented is not only limited to those under the OEE. Synergy and complementation of the USAID offices and programs is possible and promising for a more comprehensive and efficient implementation. This will further support the multi-faceted approach in addressing forest and biodiversity threats as mentioned by USAID Administrator Shah. However, certain changes must be done to fully implement this kind of approach. The succeeding part elaborates the recommendations of the team for USAID.

VII. Recommendations and Options for Future USAID Strategies and Programs

With EcoGov, USAID proved that LGUs can have the technical capacity, institutional and financial commitment to invest in environmental management. With the FISH Project, USAID showed that local management efforts directly translate to improved environment, productivity and better quality of life for dependent communities. USAID programs in other sectors such as education, economic growth and governance have also catalyzed human development. In order to sustain the impact of its programs, USAID should support efforts to quantify the returns on environmental investments in terms of ecosystem services. This is especially critical because government and donor investments are not likely to cover the cost of sustainably managing the environment. Proof of the link between investments in environmental management and the returns on such investments will enhance the argument for PES that should provide incentives for private sector investments to complement the public sector spending. Additionally, USAID can take advantage of its diversified programming to connect environmental investments with economic growth and improved quality of life (health, education, safety) in the growth centers that will be identified as priority under the new CDCS and PFG initiative.

Broad-strokes Programs to Support “three for three” Framework

In support of the “three for three” framework, USAID may consider the following relevant issues or actions:

(1) Knowledge creation and management

- Valuating ecosystem services to inform macro-economic and local development planning and PES for improved management of land and resource uses

Public and private land use decisions are often based on the principle of “highest and best use” assessed from the value of the land based on the financial/economic benefits and costs resulting from the intended use of the land. Seldom are environmental costs and benefits considered in land use planning, valuation, and decision-making process. As demonstrated by this assessment, the ENR sector’s contribution to national development is measured on the basis of its direct value to the country’s GDP or its “output” in production when natural resources are extracted. Building on the experience of PEENRA and ENRAP, USAID can provide follow-through support for reviving and mainstreaming valuation of ecosystem services to inform macro-economic and local development planning, and set up payment for ecosystem services mechanisms for improved management of land and resource uses. The manner in which the ENR sector provides provisioning, regulating, supporting and cultural services are not considered or “valued” in any macro-economic and local sense. National and local governments need to re-orient development planning to properly account for the value of ecosystem service. Producers/owners, consumers and investors can make better decisions on sustainable use based on proper valuation of natural resources and ecosystem services.

- Working to reduce emissions from deforestation and forest degradation

The Philippines is currently in full swing towards implementing REDD-readiness activities as per the Philippine National REDD+ Strategy. The Strategy is composed of seven major strategies overseen by working groups: Governance, Policy, Resource Use Allocation and Management, Measurement, Reporting and Verification (MRV), Capacity Building and Communication, Research and Development, and Sustainable Financing.

While capacity building, policy development, and research currently represent the major thrusts of readiness activities in the country, around 10 to 12 pilot sites for REDD+ demonstration projects have been identified and are undergoing feasibility studies. USAID should further complement these activities by focusing on its comparative advantage in governance and policy, as well as opportunities to provide technical assistance to develop national and local capacities on MRV under its Climate Change Program.

- Supporting decision-making through an integrated ENR Information System

In support to the above strategic actions, USAID can also support the design, installation, and operationalization of an integrated ENRIS at the national and field levels with an accompanying ecosystem-based Integrated Decision Support System (IDSS) to facilitate an information-enabled ENR policy-making, planning, and implementation. It can likewise make widely available user-friendly maps and other information on land-use, forest cover, biodiversity, and climate change vulnerability to broader audiences such as producers and owners, consumers and investors, both internationally and nationally, by investing into mixed media approaches. The design and implementation of the ENRIS-IDSS should be consistent with and framed within DENR's Information System Strategic Plan (ISSP). Consistent with DENR's ISSP, the ENRIS-IDSS may be hosted by the Management Information Systems Division of Policy and Planning Studies Office (PPSO). At the field operating levels (region and province), the ENRIS-IDSS can be housed at the respective planning units of the DENR's regional and provincial offices. DENR's Community Environment Natural Resource Offices (CENROs) can serve as the main hub to collect and initially process textual and spatial data from cities and municipalities within their respective jurisdictions.

For example, on forest cover data, there is a need for an updated spatially-based and disaggregated statistical data and accompanying maps on forest types, composition and volume, forest land use, denudation, deforestation, forest upland settlements and population, forest cover within protected areas, critical watersheds, and other ecologically/environmentally sensitive areas, forest tenure instruments, and forest development programs and projects. As part of its mandated responsibilities, DENR can respond to this by conducting periodic forest resource inventory, and making it accessible to users at the national, regional, provincial, and city/municipal levels. This will also be useful for better ENR management and development in general, and in the implementation of the National Greening Program, and REDD+ initiatives in particular.

2) Economic incentives

- Expanding market access for sustainable natural resource-based products and services

Businesses are dependent on a stable environment that provides the natural resource base of raw materials necessary for a range of products and other ecosystem services that sustain life on earth. As users of biodiversity, business has a social responsibility to help conserve it. The private sector has shown increasing interest in business and biodiversity through its corporate social responsibility programs. Following experiences in other countries, USAID can help provide the framework for public and private cooperation and collaboration to make the economic incentives work for the environment. This is best demonstrated with the Energy Development Corporation's (EDC) systematic efforts to integrate watershed management and climate change into its core business considerations (EDC 2011) and Manila Water's initiative to integrate world-class sustainability monitoring and reporting into its corporate governance (Manila Water 2011).

Producers/owners of natural resources can take advantage of economic incentives for eco-friendly products and services to shift away from unsustainable destructive or extractive activities to sustainable production methods or to providing services (such as for eco-tourism). USAID can prioritize sustainable production methods and alternative livelihood based on ecosystem services in the assistance provided to local governments in local economic development planning that targets the producers/owners of natural resources.

- Developing innovative market-based and other economic instruments

Based on valuation and PES studies, incentives and disincentives can be designed to address maximum returns from ecosystem services. USAID can help design and implement economic instruments tailored to the unique conditions of the areas where they are applied. For example, payments for water, erosion-prevention, and climate regulation that a forest protected area provides to agricultural areas. The businesses sector is dependent on a stable environment that provides the natural resource base of raw materials necessary for a range of products and other ecosystem services in order to operate and turn a profit.

The issue of payment the watersheds of the Cordillera Administrative Region (CAR), Regions 1 and 2 provided for environmental services continues to be a priority concern. As watershed cradle of Northern Luzon, upland LGUs and communities in these Regions protect and maintain watersheds of rivers providing water to hydroelectric power generating plants, for irrigation, and domestic use of downstream LGUs, rural and urban communities. These LGUs and communities, and not only host communities,¹³ should also share in the benefits derived from the operation of these facilities and services as part of an incentive policy for traditional keepers of the watersheds. The re-definition of host community¹⁴ and crafting of a resource pricing law, including automatic retention or direct remittance of the 40% share of LGUs from taxes on the use of national wealth, and reformulation of the Internal Revenue Allocation (IRA) share form part of priority legislative agenda for resource generation and equitable development for these Regions.

3) Governance Incentives

- Developing tools and guidelines to conduct valuation studies for ecosystem services at macro-economic and local levels.

USAID, with its vast experience in the conduct of the ENRAP, can assist in the conduct of valuation studies which will incorporate both economic and environmental values in land and resource use for the purpose of elevating the quality of the existing PEENRA system, and assisting national and local development planning. A key aspect of the study will be the development of policies and procedures for determining land and ecosystem services values and how these can be used for land use planning, regulation, and control for both rural and urban areas. The results of ecosystem services valuation can also be used as basis for the proper pricing of resources access and utilization.

There is a huge interest towards scaling up the patches of knowledge and experiences the country has towards the valuation of ecosystem services and PES. However, to date, there are no official or authoritative tools and guidelines present at either macro-economic or local levels to assist and streamline such efforts. USAID, through its experience with the ENRA Project, can build from the emerging methodologies and frameworks as developed under the Samar Island Biodiversity Project with UNDP and Resources, Environment and Economics Center for Studies (REECS), as well as this assessment, to stock take, develop, and advocate to government, LGUs, owners and producers,

consumers (the “buyers”/“payers” of the ecosystem service) and investors a possible national approach to ecosystem and ecosystem services valuation.

- Strengthening the monitoring and evaluation (M&E) systems of national and local governments by including measurable biophysical and economic indicators across all planning and implementation activities.

As an entry point to establishing monitoring, measuring, reporting and validation (MMRV) systems for the environment sector as a whole, including reducing emissions from deforestation and forest degradation (REDD), USAID can invest in augmenting the current capacity of DENR as an institution towards better monitoring and evaluating its performance based on actual impact from a biophysical and economic sense. It can also co-develop simple rules and templates for capturing and monitoring such impacts. For LGUs, the same can be leveraged by integrating the biophysical and economic impacts of environmental initiatives with the DILG’s Local Government Performance Management System. Some inspiration can be drawn from ISO 9001/14001 certification processes. It is the objective of a more robust M&E system to better inform and influence the behavior of producers/owners, consumers, and investors with actual and updated information on performance and outputs.

- Expanding and deepening co-management arrangements

Consistent with the seven-year EcoGov approach and experience, USAID can provide follow through assistance to enable the national government to strengthen and expand the responsibilities, power and accountabilities of LGUs to support the provision of efficient and cost-effective delivery of ENR goods and services at the government level closest to the people. This will require the provision of assistance for the following:

- Improvement of the ENR planning and enforcement capacities of LGUs including the setting-up of appropriate local standards or thresholds for environmental management of ecosystem services for effective resource development, use regulation, and protection. The effort will provide for assistance to LGUs in the preparation of their local ENR development plans and environmental regulations (e.g., Environment Code) which will localize higher level protected area and watershed management plans with emphasis on climate change impacts and adaptation measures.
 - Strengthening the participation of people’s organizations representing the marginal communities and other local informal institutions in the planning, plan implementation, M&E, including resource conflict resolutions processes. Support will be provided to strengthen and mainstream the involvement of the stakeholders in the planning and M&E for the forest and biodiversity sectors through the various Multi-sectoral Forest Protection Committees (MFPCs), Wildlife Management Committees (WMC), PAMBs, and other multi-stakeholder arrangements at the national and field levels.
 - Promoting third party monitoring and auditing of plans, programs and projects including investments as they relate to ecosystem services.
 - Promoting inter-LGU alliances for the planning and implementation of ecosystems management plans and programs, including enabling markets for ecosystem services.
- Managing ENR conflicts and law enforcement

Unclear roles and processes of national agencies and LGUs in regulating and addressing ENR conflicts among stakeholders, and transparency and accountability issues lead to many governance conflicts. Local government officials, communities, and other stakeholders are building their capacity to address

these conflicts. Conflict resolution mechanisms which consider cultural factors are important to address conflicts at the local level and in particular, at specific localities. USAID can help improve on current capacity-building initiatives to institutionalize a general voluntary mechanism of conflict management that complements the limited scope of adjudicatory processes under existing laws.

Recent successes in law enforcement have been achieved in the past USG-DOI and USAID-funded PBC, such as the development of a Wildlife Law Enforcement Manual of Operations (WLE-MOP), which provides the standards, protocols, templates and references on wildlife law enforcement - from surveillance, case-building, apprehension of suspected violators, seizure/confiscation of wildlife specimens to case filing and prosecution.

USAID, with its past and current support to conflict management and law enforcement, can lead this effort by providing assistance to the development and implementation of appropriate conflict management mechanisms such as third party mediation and judicial and administrative processes, taking into account access to and fair and equitable sharing of benefits in the use of the resources. Similarly, it can lead the development of manuals of operations for enforcement of laws on forestry, fisheries, mining and Environmental Impact Assessment (EIA), as well as appropriate trainings, exchange visits and formal education, among others.

4) Building institutional capacity of governance actors

The DENR, as an institution, is forestry sector-driven in that about 80% of forestry graduates in the country are in the environment sector. For instance, in the history of protected area and biodiversity management in the Philippines, those that the forestry sector or other sectors within the DENR cannot accommodate are reassigned to the protected areas, wildlife and coastal zone management sector (PAWCZM) where they are ill-equipped to handle functions of the sector. Further, the institutional set up of the bureaus in DENR, which is sectoral, has not kept abreast with the changing needs and demand for a more integrated approach to NRM, and broader sustainable development. Career personnel whose expertise or skills do not match with institutional needs should either be redeployed or retooled so that they can deliver on a mandate that requires cross-sectoral thinking and action. Recruitment should also be based on the skills needed to fulfill institutional mandates.

Local government units and communities are also ill-equipped for ecosystem-based land use planning, resource allocation, stewardship and negotiations.

Across target groups, the need to build capacity continues to be paramount. Admittedly, there have been many capacity building efforts but strengthening the capacities of institutions, rather than of individuals, is key to institutionalizing knowledge and sustaining gains. USAID can help provide the framework for institutional capacity building across sectors, with indicators for improved performance that is ultimately reflected in better condition of natural resources and ecosystem services.

Potential Thematic and Geographic Priority Areas

Establishing link of investments in sustaining ecosystem services and inclusive economic growth, and building on the strengths and experiences of USAID, future programs can focus on four thematic and/or geographic areas:

- 1) Economic growth centers – USAID currently supports economic reform with focus on sustaining good fiscal sector performance and removing barriers to investment and increasing competitiveness. USAID is supporting growth in the agriculture sector with new technologies, and supporting the

expansion of the bank-provided microfinance to the microenterprise and micro-agriculture sectors. USAID may consider complementing this program with studies or pilot cases to see how and how much ecosystem services support agricultural growth, or how current designs for economic growth may or may not be sustainable given the impact of new technologies on ecosystems and ecosystem services. These sites are the most promising sites to do valuation studies and set up PES schemes for water, pollution, etc. because major users can be identified and potentials for payment can be easily realized.

Additionally, USAID may also consider co-locating its various interventions on health, education, energy, and governance as complementary activities to sustain economic development and growth.

- 2) Eco-tourism in priority conservation areas – Key ecotourism sites which have been identified under the DENR and DOT-led National Ecotourism Strategy can serve as areas for proper resource valuation and investment in ecosystem services.

The DENR-PAWB, the national focal point in biodiversity conservation and sustainable use, has identified ecotourism enterprise development in protected areas, including in coastal areas which are not part of the NIPAS, as a priority intervention to facilitate reinvestment of revenues to enhance the growth and competitiveness of the economy and improve the livelihood of local communities. A co-management and PPP approach that can potentially pilot innovative financing schemes can then be undertaken to facilitate reinvestment of revenues into local communities.

As an example, one of the key ecotourism sites is Puerto Princesa Subterranean River National Park (PPSRNP) in Palawan, which the City Government of Puerto Princesa and DENR has co-managed. In its best year, PPSRNP was able to generate up to Php15 million (USD\$348,837.21) annual revenues from entrance fees alone. This does not include revenues from other tourism-related industries such as transport, hotel, food and beverage and other services. A Public-Private Participation (PPP) approach can potentially pilot innovative financing schemes that can benefit both PPSRNP and the local communities.

Despite the revenues generated, proper resource valuation needs to be undertaken to determine the actual value of the PPSRNP to the economy. PPSRNP has just recently instituted PES from the community-based Sabang Sea Ferry Service Cooperative (SSFSC) by requiring them to share a portion of their revenues to the Park. A Php5 (USD\$0.12)-share of revenue per ferry per trip to the Park has been agreed on but not without resistance from the SSFSC. According to the Park Superintendent, the SSFSC generates more income than the park itself and Php5 is lower than the Php20 (USD\$.45) that was shared to the Park before the SSFSC was organized into a cooperative. Clearly, proper resource valuation and education of Park users of the ecosystem services the Park provided need to be addressed.

- 3) Climate change impacts – USAID may consider a program that links climate change risks, natural resources management and community resilience. In the 10 priority triple burden areas, top 10 provinces and/or their relevant KBAs which have been identified as triple burden areas or those areas that are expected to experience low adaptive capacity, high sensitivity to climate change, and high potential for biodiversity loss, as seen in Table I. These provinces are ranked according to poverty incidence and yet it can be argued some of the triple burden areas in the list show potential towards further enhancing their ecosystem services to improve revenue generation coming from their watersheds (e.g. sustainable forest products and renewable energy in Leyte, agriculture in Zamboanga del Norte, ecotourism in Camarines Sur and La Union) and natural hazard mitigation (e.g. Albay). In forestry, USAID can support readiness actions in identified priority areas with REDD+

potentials.

- 1) In the coastal sector, the development of systematic, regional-scale MPA networks are needed to address both fisheries sustainability and biodiversity conservation. Specifically, there is a need to designate larger no-take areas, increase the number and size of community-based MPAs and build the governance capacities of local and national government agencies. The Coral Triangle Initiative recognized the Sulu-Sulawesi Marine Eco-region as a priority seascape and efforts are being made to benchmark MPA management effectiveness. There is a need to continue efforts to strengthen MPA networks and establish new no-take areas in the bioregions with the least protection (Celebes Sea, Northern and Southern Philippine Sea).

Conclusion

The Philippines has embarked on a new development plan for the next five years. The Plan is strong on environment and natural resources management, with an opportunity to make a difference on sustaining and improving the remaining natural resources capital, while avoiding economic losses from reduced delivery of ecosystem services, and adapting to the impacts of climate change and natural disasters. There is wide and high-level support for mainstreaming such a strategy, which did not exist in the past.

Even with an increase in public and donor investment in ENR management, and proof of recovery of such investments in terms of ecosystem services, the level of current investments may not be sufficient to sustainably manage or improve the remaining natural resources capital. However, the focus on linking ENR investments and economic growth will strengthen the basis for PES schemes as well as potential new sources of revenue such as REDD+.

With the broad cabinet-level acceptance of the Aquino administration to focus on the necessary investments which will bring more benefits in terms of ecosystem services, thus, support the economy, USAID can make a difference in supporting the PDP with complementary programs which will establish the link between investments in sustaining and improving the natural capital and inclusive economic growth. The keys to such link are natural resources valuation and accounting, and payment for ecosystem services.

NOTES

1. Art XII, Section 4: The Congress shall, as soon as possible, determine, by law, the specific limits of forest lands and national parks, marking clearly their boundaries on the ground.
2. For example: Art II, Secs. 2 and 5; Art XII, Sec. 7.
Art II, Sec. 2: The Philippines renounces war as an instrument of national policy, adopts the generally accepted principles of international law as part of the law of the land and adheres to the policy of peace, equality, justice, freedom, cooperation, and amity with all nations.
Art II, Sec. 5: The maintenance of peace and order, the protection of life, liberty, and property, and promotion of the general welfare are essential for the enjoyment by all the people of the blessings of democracy.
Art. XII, Sec. 7: Save in cases of hereditary succession, no private lands shall be transferred or conveyed except to individuals, corporations, or associations qualified to acquire or hold lands of the public domain.
3. James Kho, pers comm. He is legal adviser to the PSPN study funded by UNDP-Small Grants Programme through the Office of the Presidential Adviser on the Peace Process.
4. Antonio La Viña and James Kho, pers comm. They are former legal advisers to the GRP Panel in talks with the MILF.
5. Art II, Sec. 16: The State shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature.
6. A.M. No. 09-6-8-SC, effective April 29, 2010.
7. E.O. No. 23 (2011): Declaring a Moratorium on the Cutting and Harvesting of Timber in the Natural and Residual Forests and Creating the Anti-illegal Logging Task Force; and E.O. No. 26 (2011): National Greening Program
8. E.O. No. 263 (1995): Adopting Community-Based Forest Management as the National Strategy to Ensure the Sustainable Development of the Country's Forestlands Resources and Providing Mechanisms for its Implementation; E.O. No. 318 (2004): Promoting Sustainable Forest Management in the Philippines; E.O. No. 606 (2007): Pursuing Sustainable Upland Development Anchoring on Food, Wood and Non-wood Security and Economic Productivity and Providing the Mechanisms for its Implementation and for other purposes; E.O. No. 816 (2009): Declaring the River Basin Control Office under the Department of Environment and Natural Resources as the Lead Government Agency for the Integrated Planning, Management, Rehabilitation and Development of the Country's River Basins.
9. Key informant: Ms. Ann Hirschey, Chief, Office of Health, USAID/Philippines, 04 April 2011.
10. Key informants: Ms. Shannon Stone, Education Development Officer, USAID/Philippines and Ms. Hannah Fairbank, Biodiversity Advisor, USAID/Washington.
11. Key Informant: Dr. Joan Castro, Executive Vice-President, PATH Foundation Philippines, 18 May 2011.
12. Energy Regulation No. 1-94 pursuant to Sec. 5i of RA No. 7638 or the Department of Energy Act of 1992, Sec. 66 of RA 9136 or the Electric Power Industry Reform Act (EPIRA) of 2001 and Sec. 291 of RA 7160 or the Local Government Code provides for benefits to LGUs that contribute to electrification of the country. However, host community refers only to those LGUs hosting energy resource development projects and/or energy-generating facilities within their territorial jurisdiction and fails to include those LGUs that have critical roles in managing the watershed that provide water to dams or hydroelectric power generating facilities.
13. House Bill No. 01428: An Act redefining the term host community was filed in the 15th Congress by Cong. Teodoro Baguilat Jr., Representative of the Lone District of Ifugao.

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ABOUT THE AUTHORS



DR. ANTONIO G.M. LA VIÑA is the Chief of Party of the Philippines Environment Sector Assessment. He is the current Dean of the Ateneo School of Government (ASoG) and Senior Fellow on Climate Change of the Manila Observatory. A former Undersecretary for Legal and Legislative Affairs of the DENR, Dr. La Viña is a leading proponent of community-based natural resource management and the decentralization of natural resources governance. He is Doctor of the Science of Law (Yale Law School), Master of Laws (Yale Law School), Bachelor of Laws (University of the Philippines/UP) and Bachelor of Arts in Philosophy (Ateneo de Manila University). He ranked third in the Philippine Bar Examinations in 1989. He is one of the lead negotiators for the Philippines in the UNFCCC Climate Change Conference of the Parties and Preparatory Meetings. Dr. La Viña's expertise includes climate change, biodiversity, biosafety policy, mining, indigenous peoples' rights, consensus building and negotiations, social accountability and public ethics.



ATTY. JAMES L. KHO is the Environmental Policy and Governance Specialist and Coastal and Marine Specialist of the Team. He holds a Master of Laws (Yale Law School), Bachelor of Laws (UP Diliman) and a Bachelor of Science in Zoology (UP Los Baños). Atty. Kho specializes in environmental policy and governance and serves as Faculty of ASoG. He has authored and co-authored several books, articles and policy papers on community-based natural resources management, coastal resource management, climate change adaptation, and equitable access rights to natural resources, among others.



PROF. MARY JEAN A. CALEDA is the Institutional Development Specialist of the team and is also *de facto* Project Manager providing both administrative and technical support to the team. She is an Environmental Planner and currently serves as Assistant Dean and Faculty of ASoG, in-charge of its Knowledge and Practice Areas (KPA). She was formerly Division Chief of the Wildlife Division and Planning Staff of the DENR-PAWB. She is a PhD Candidate in Urban and Regional Planning (UP Diliman) and holds a Master of Science in Forestry: Forest Biological Sciences (UP Los Baños) and a Bachelor of Science in Biology (UP Diliman) degrees. She has authored and co-authored several articles and reports on environment and biodiversity, including the 4th National Report to the UNCBD.



PROF. JOSE M. REGUNAY is the Terrestrial Biodiversity and Natural Resource Management Specialist of the team. He has served as Consultant and Team Leader in several environmental management projects for both government offices and private sectors. He is also a Faculty of the School of Urban and Regional Planning (UP Diliman). Prof. Regunay is a PhD Candidate in Urban and Regional Planning (UP Diliman) and holds a Master of Arts in Urban and Regional Planning (UP Diliman) and a Bachelor of Science in Forestry (UP Los Baños) degrees.



DR. TERESITA R. PEREZ is the Aquatic Biodiversity Specialist of the team. Currently, she is an Associate Professor at the Department of Environmental Science of the Ateneo de Manila University. She holds a Doctor of Science in Biology (UP Diliman), a Master of Science in Botany (UP Diliman) and a Bachelor of Science in Biology (UP Diliman) degrees. Dr. Perez has been a Visiting Scientist at the University of Bordeaux (France), Institut für Allgemeine Botanik (Germany), University of Hamburg (Germany), and University of Gent (Belgium). She has written several scientific researches published in national and international journals.



MR. LAWRENCE G. ANG is the Climate Change and REDD+ Specialist of the team. He previously worked for the Climate Change Commission under the Office of the President as an in-house technical consultant. He is currently a consultant of ASoG and the Energy Development Corporation for several climate change-related projects. He holds a Bachelor of Arts in Development Studies, Human Ecology and Anthropology degree (Australian National University).

The Team is ably supported by young, dynamic and hard-working research assistants: **MR. LORENZO CORDOVA, JR.**, **MS. JOSSA BARAQUIO** and **MS. MARGARITA ROXAS**.

ANNEXES

ANNEX I

DENR Special Order No. 2011-228



Republic of the Philippines
Department of Environment and Natural Resources

Visayas Avenue, Diliman, Quezon City, 1100
 Tel. Nos. (632) 929-66-26 to 29 • (632) 929-62-52
 929-66-20 • 929-66-33 to 35 • 929-70-41 to 43

DENR SPECIAL ORDER

MAR 22 2011

No. 2011 - 228

SUBJECT: Creation of an Inter-Agency Technical Working Group (TWG) for the USAID-Philippines Environment Sector Assessment

In the interest of the service and in order to facilitate the conduct of the USAID-Philippines Environment Sector Assessment, an inter-agency Technical Working Group (TWG) is hereby created to be composed of the following:

Chairperson: Mr. Edwin G. Domingo, OIC Director, DENR-FASPO
 Members: Director, PAWB or designated representative
 Director, EMB or designated representative
 Director, FMB or designated representative
 Director, MGB or designated representative
 Director, LMB or designated representative
 Director, Policy and Planning Service or designated representative
 Director, Special Concerns Office-ICAD or designated representative
 Director, River Basin Control Office or designated representative
 Director, NWRB or designated representative
 RED, DENR -NCR or designated representative
 Representatives, Department of Agriculture (BSWM and BFAR)
 Representative, National Commission on Indigenous Peoples
 Representative, Project Management and Evaluation Division, FASPO
 Secretariat: Multilateral and Bilateral Divisions, FASPO

The purpose of this assessment is to identify areas for collaboration with the USAID/Philippines in the areas of biodiversity and tropical forest conservation and climate change effects on forests and biodiversity in the Philippines.

The TWG shall be tasked to provide available and facilitate access to DENR data related to biodiversity and tropical forests; b) attend TWG meetings, consultation-workshops and key informant interviews; and, c) provide inputs to the Philippines Environment Sector Assessment.

The Secretariat shall provide support by assisting the Philippines Environment Sector Assessment Team organize and facilitate regional and national consultation workshop(s) to bring together different stakeholders of the environment sector and identify current and future problems, challenges and solutions to forest biodiversity conservation, watershed management, and related climate change impacts in the Philippines.

This Order shall take effect immediately and shall remain in force for the duration of this project or until revoked in writing.

Analiza Rebuelta-Tej
ATTY. ANALIZA REBUELTA-TEH
 Assistant Secretary
 Chief of Staff

ANNEX 2

List of Persons and Organizations Consulted

ANNEX 2
LIST OF PERSONS AND ORGANIZATIONS CONSULTED

Table 1. List of Key Informants

GOVERNMENT			
	Name	Position	Organization
1	Cosme Bal	Chief, Forest Land Use Division	Forest Management Bureau (FMB)-DENR
2	Raul Briz	In-Charge, Silvicultural Section - Natural Forest Management Division	FMB-DENR
3	Theresa Mundita Lim	Director	Protected Areas and Wildlife Bureau (PAWB)-DENR
4	Meriden Maranan	Chief, Planning Staff	PAWB-DENR
5	Nancy Corpuz	Sr. Ecosystems Management Specialist, Planning Staff	PAWB-DENR
NON-GOVERNMENT ORGANIZATIONS			
	Name	Position	Organization
6	Dr. Aldrin Mallari	Director	Fauna and Flora International (FFI)
7	Atty. Jose Andres Canivel	Executive Director	Philippine Tropical Forest Conservation Foundation (PTFCF)
8	Arun Abraham	Chief of Party, Philippine Environmental Governance Project 2 (EcoGov)	Development Alternatives Inc.
9	Joan Castro	Executive Vice-President	PATH Foundation Philippines Inc.
10	Amy Lecciones	Board of Trustees	Society for the Conservation of the Philippine Wetlands, Inc.
BUSINESS			
	Name	Position	Organization
11	Agnes de Jesus	Senior Vice President, Environmental and External Relations/ Environment Chair	Energy Development Corporation (EDC)/ League of Corporate Foundations (LCF)

Table 2. List of Survey Respondents

GOVERNMENT			
	Name	Position	Organization
1	Saiben P. Manupao	Forester/ Protected Area Superintendent (PASu)	DENR, Region 10, Lanao del Norte
2	Edgardo B. Cañete	Ecosystem Management Specialist (EMS) II	DENR, Region 10
3	Jose M. Siervo	Not specified	Bureau of Fisheries and Aquatic Resources (BFAR), Region-8, Tacloban City
4	Arleigh J. Adorable	Regional Executive Director	DENR, Region 9
5	Felix Mirasol	Community Environment and Natural Resources Officer	Mt. Kitanglad Range National Park (Protected Areas Management Board), DENR
6	Marilou Clarete	Not specified	DENR, Region 10
7	Dr. Ed Bisquera	Assistant Environment and Natural Resources Officer	City Environment and Natural Resources Office, Zamboanga City
8	Arturo S. Manamtam	Not specified	Environment Disaster Management and Emergency Response Office, Camarines Sur
9	Not specified	Not specified	DENR, Region 5, Bicol
10	Ann Malano	EMS II	PAWB-DENR
11	Geronimo L. Sequito	OIC-Regional Technical Director (RTD) for Lands	Land Management Service, DENR, Region 12
12	Alfred Zarasate	Chief, Forest Resource Development Division	DENR, Region 11
13	Lawrence R. Heaney	Curator of Mammals	Field Museum of Natural History
ACADEME			
	Name	Position	Organization
14	Carmelita G. Hansel	OIC-Director of Research/ Professor	Biology Department, Mindanao State University
15	Rene Claveria	Assistant Professor	Department of Environmental Science, Ateneo de Manila University (ADMU)
16	Lea Fuana	Assistant Professor	Animal Biology Division (ABD), University of the Philippines - Los Baños (UPLB)
17	Ronaldo Lagat	Not specified	De La Salle University – Dasmariñas
18	Merlijn Van Weerd	Director/ Wildlife Biologist/ Researcher	Mabuwaya Foundation/ Leiden University
19	Angelita M. Cadelina	Associate Professor	Biology, Siliman University

20	Bafe Brown	Associate Professor	University of Kansas
21	Godfrey Jakosalem	Student	University of East Anglia (UEA)
22	John Aries Tabora	Professor	University of Southern Mindanao
23	Marisol Pedregosa - Hospoda	University Researcher	Institute of Biology, UP Diliman
24	Dr. Victor Amorozo	Director	Central Mindanao University, Bukidnon
NGOs and POs			
	Name	Position	Organization
25	Not specified	Not specified	Foundation for the Philippine Environment
26	Edmund Leo Rico	Program Officer	FFI
27	Dr. Nina Ingle	President	Wildlife Conservation Society of the Philippines
28	Zenaida P. Vernal	Project Officer	Tanggol Kalikasan
39	Ben Aspera	Executive Director	Landcare Foundation of the Philippines (LFPI)
30	Mary Grace Maboloc	Chief, FMS	Water, Agroforestry, Nutrition and Development (WAND)
OTHERS			
	Name	Position	Organization
31	Maia Raymundo	Research Assistant	Not specified

Table 3. List of FGD Participants

Focus Group Discussion			
GOVERNMENT			
	Name	Position	Organization
1	Norma Molinyawe	OIC Division Chief, Biodiversity Management Division	PAWB-DENR
2	Tess Blastique	Chief, Resource Assessment Section, Biodiversity Management Division	
3	Armida Andres	Chief, Bufferzone and Special Uses Section - Protected Area Community Management Division	
4	Josefina De Leon	OIC Division Chief, Wildlife Division	
USAID			
	Name	Position	Office
5	Rolf Anderson	Chief	Office of Energy and Environment (OEE)
6	Oliver Agoncillo	Natural Resources Policy Advisor	
7	Becky Guieb	Governance and Coastal-Marine Management Specialist	
8	Joy Jochico	Program Manager	
9	Roopa Karia	Environmental Officer	
10	Janet Lawson	Agriculture Officer	
11	Daniel Miller	Deputy Chief	Office of Economic Development and Governance (OEDG)
12	Thomas D. Rojas	Program Economist	
13	Maria Rendon - Labadan	Chief	
14	Gerry Porta	Senior Program Manager	
15	Maria Teresa Sanchez Robielos	Development Assistance Specialist	
16	Hannah Fairbank	Biodiversity Advisor	USAID Washington
17	Olaf Zerbock	Forestry Specialist	
18	Ann Hirschey	Chief	Office of Health
19	Shannon Stone	Education Development Officer	Office of Education

ANNEX 3

Forest Statistics and Analysis

ANNEX 3 FORESTRY STATISTICS AND ANALYSIS

Introduction

This document presents the different statistical tables indicative of the status of the forest and forest management that include the following:

- Areal coverage and rate of change of forest cover from 1969-2010;
- Tenurial and management arrangements for forestlands; and
- Forest land use configuration.

The forest cover, tenurial and management data contained in this document were drawn mainly from official publications and documents of the Department of Environment and Natural Resources (DENR) and Forest Management Bureau (FMB). The land use data were based on Manila Observatory's Philippine Greenhouse Gas Inventory for the Year 2000 and Measures to Mitigate Climate Change Component: Enabling Activity for the Preparation of the Second National Communication on Climate Change (2010).

It is to be noted that the Philippine government in 2003 officially adopted the Food and Agriculture Organization (FAO) definition of forest as "an area of more than 0.5 hectares and tree crown cover (or equivalent stocking level) of more than 10% which includes natural and plantation and production forests." It is based on this definition that the DENR estimates the country's forest cover data.

There are limitations to such a definition that through the years has been the source of constant controversy. Criticism mainly involves how the definition accommodates for the lowest possible quality of tree stands to be considered as forests, distorting previously collected forest cover data. Furthermore, such a definition is unable to capture biodiversity values, as well as monitor and recognize performance-based results—possibly even disincentivizing practices that would have otherwise led to increments in forest stocks.

Although the Convention on Biological Diversity (CBD) defines forests in the same manner, it adds that forests are "a functional ecosystem unit which should be conserved, used sustainably and the benefits derived from it should be shared equitably." In this sense, the CBD's view of forests is function and ecosystem-oriented with room to value the range of ecosystem services rather than strictly forest stands (DENR-PAWB 2009).

Nonetheless, the DENR continues to use the FAO definitions in all its official documents and submissions to the United Nations, most recently including the REDD+ mechanism. Given the DENR is the mandated authority for such decisions, it should be supported towards ensuring such a definition is applied with a broader and meaningful scope in practice.

Statistical Tables

Table 1. Forest Cover, 1969 - 2010

Year	Area (in million hectares) covering both state and private lands	Average Annual Rate of Change (%)
1969 ¹	10.64	
1988 ²	6.46	-3.4
2003 ³	7.17	0.7
2010 ⁴	7.67	0.9

Notes: 1) Based on 1st National Forest Resources Inventory conducted from 1962 – 1968
 2) Based on 2nd National Forest Resource Inventory conducted from 1979 – 1988
 3) Based on NAMRIA forest cover data
 4) Based on FRA 2010 – Country Report of the FMB

Sources: DENR-FMB 2010, DENR-FMB 2008

Table 2. Forest Cover Status within Classified Forestland, 2003

Forest Category/Type	Area (in million hectares)	% Total
Closed	2,480,644	38.6%
Broadleaved	2,377,276	37.0%
Mixed	16,678	0.3%
Coniferous	86,690	1.3%
Open	3,515,645	54.7%
Broadleaved	3,359,070	52.2%
Mixed	50,609	0.8%
Coniferous	105,966	1.6%
Mangrove	153,577	2.4%
Plantation	281,764	4.4%
Broadleaved	277,009	4.3%
Coniferous	3,439	0.1%
Mangrove	1,316	0.0%
Total	6,431,630	100.0%

Table 3. Tenurial Instruments as of 2008

Tenurial Instruments	Number of Agreements Issued	Land Area (Hectares)
Community-based Forest Management Agreements (CBFMAs)	1,783	1,620,000
Tree Farm Lease Agreement (TFLA)	101	10,632
Agroforestry Farm Lease Agreement (AFFLA)	42	63,579
Integrated Forest Management Agreements (IFMAs)	289	842,000
Socialized Industrial Forest Management Agreements (SIFMA)	1,803	35,587
Timber License Agreements (TLAs)	13	325,310
Forest Land Grazing Lease Agreements (FLGLAs)	370	101,187

Source: DENR-FMB 2008

In its 2010 Forest Assessment Report, the FMB provided data on the forest area coverage by category of “ownership” as follows:

Forest areas (actual forest cover) by type of ownership as of 2003 (DENR-FMB 2010)

Table 4. Forest Ownership

Category	Definition	Area Covered(ha)
State-owned	The forests are still owned by the State but forest owned by the State or administrative units of the public administration; or by institutions or corporations owned by the public administration. The public administration retains management rights and responsibilities within the specified limits specified by the legislation.	6,087,029 (85.0%)
Privately-owned	Forest management rights and responsibilities are transferred from the public administration to corporations, other business entities, private cooperatives, private non-profit institutions and associations, etc., through long term leases or management agreements.	1,044,486 (14.6%)
Municipality-owned	Owned by the city, municipality, village municipality villages or communes.	9, 486 (0.1%)
Community-owned	CADT issued to indigenous peoples recognizing historical title over forest area.	21, 559 (0.3%)
Total Forest Cover		7,162,560

Table 5. Forest Ownership, 2000-2010

Year	Total Forest Area in Classified Forest Land (in million ha)	Ownership Structure (area in million ha)	
		State/Publicly-Owned	Privately-Owned
2000	7.1	6.05	1.06
2005	7.4	6.29	1.10
2010	7.7	6.52	1.14

Source: DENR-FMB 2010

Table 6 illustrates the area of the various land-uses in the Philippines, demonstrating possible national forest degradation trends through loss in area between 1990 and 2000 (Manila Observatory submission to the Second National Communication). The data is not sufficient to establish and link official national forest resource assessments with trends in forest degradation to measure or project actual carbon stock loss.

Table 6. Land Uses in the Philippines

Land Use	Area (in Million ha)	
	1990	2000
Old Growth	0.861	0.805
Residual	3.279	2.731
Pine	0.236	0.228
Sub marginal	0.527	0.475
Mossy	1.114	1.040
Mangrove	0.133	0.112
Tree Plantation	0.730	0.492
Upland farms	0.259679	2.693
Brush land	2.4556	4.794
Grassland	6.285	2.509
Total	15.880	15.879

Source: Manila Observatory 2010

ANNEX 4

Biodiversity Status of Philippine Flora and Fauna

ANNEX 4
BIODIVERSITY STATUS OF PHILIPPINE FLORA AND FAUNA

This document presents the summarized tables of the current status of Philippines flora and fauna that includes:

- New species reported in Panay Island
- Summary of the threatened Philippine flora and their conservation status
- Summary of the threatened Philippine fauna and their conservation status
- International Union for Conservation of Nature (IUCN) Red List Species that are not included in the Philippine List of Threatened Fauna

The information provided in this section was drawn from Threatened Plants of the Philippines: A Preliminary Assessment 2008; DENR Administrative Order No. 2004-15 and The 4th National Report to the Convention on Biological Diversity, 2009.

Table 1. New species reported in Panay Island

Scientific Name	Common Name	Taxonomic Classification	Habitat	Status
<i>Telyphonoides panayensis</i>	Giant whip scorpion	Arthropoda (Arachnida)	Terrestrial	Possibly new genus and new species
<i>Talitrus curioi</i> sp. nov.	Landhopper	Crustacea (Amphipoda)	Terrestrial (soil litter of primary and secondary forest)	New species
<i>Crocidura panayensis</i>	Panay shrew	Mammalia	Terrestrial	New species
<i>Crocidura batakorum</i>	Batak shrew	Mammalia	Terrestrial	New species
<i>Boiga dendrophila levitoni</i>	Mangrove Cat Snake	Reptilia	Mangrove	New subspecies, endemic
<i>Luperosaurus corfieldi</i> sp. nov.	Gecko	Reptilia	Terrestrial (forest)	New subspecies, endemic
<i>Gekko ernstkelleri</i> sp. nov.	Gekkonid lizard	Reptilia	Terrestrial (cave dweller)	New species
<i>Platymantis paengi</i> sp. nov.	<i>Platymantis</i> Frog	Amphibia	Terrestrial	New species
<i>Lycodon fausti</i> sp. nov.	Wolf snake	Reptilia	Terrestrial	New species, endemic
<i>Varanus mabitang</i>	Panay monitor (mabitan)	Reptilia	Terrestrial	New species

Table 2. Summary of the threatened Philippine flora and their conservation status

Those in parenthesis refer to the number of endemic species

Category (Conservation Status)	Angiosperms	Gymnosperms	Pteridophytes	Bryophytes	All taxonomic groups
Critically endangered (CE)	89 (80)	-	10 (9)	-	99 (89)
Endangered (EN)	140 (114)	9 (4)	35 (27)	2 (2)	186 (147)
Vulnerable	123 (91)	2 (0)	51 (43)	-	176 (125)
Other Threatened Species (OTS)	56 (45)	-	8 (6)	-	64 (51)
Other Wildlife Species	70 (47)	-	99 (80)	-	169 (127)
All categories	478 (377)	11 (4)	203 (56)	2 (2)	694 (539)

Source: Fernando et al 2008

Table 3. Summary of the threatened Philippine Fauna and their conservation status

Category (Conservation Status)	Mammals	Birds	Reptiles	Insects	All taxonomic groups
Critically Endangered (CE)	8	13	5	1	25
Endangered (EN)	10	48	19	4	81
Vulnerable	17	52	14	-	83
All categories	35	115	38	5	189

Source: DENR Administrative Order No. 2004-15

Table 4. IUCN Red List Species that are not included in the Philippine List of Threatened Fauna

Category (Conservation Status)	Mammals	Birds	Reptiles	Amphibians
Critically Endangered (CE)	-	2	2	-
Endangered (EN)	5	2	10	10
Vulnerable	13	10	14	28
Near Threatened	14	40	15	11

Source: DENR Administrative Order No. 2004-15

For inland waters, there are about 316 fish species, of which 121 are endemic and 76 are threatened. For marine waters, there are 468 scleractinian corals, 1,755 reef associated fishes, 648 mollusks, 19 seagrasses and 850 algae (DENR-PAWB 2009).

ANNEX 5

*Ecosystem Services in the Philippines:
The Current State of Knowledge and Practice*

ANNEX 5

ECOSYSTEM SERVICES IN THE PHILIPPINES: THE CURRENT STATE OF KNOWLEDGE AND PRACTICE

Ecosystem services from a macro-economic perspective

The Philippines, to the possible surprise of many, is recognized by the World Bank (Lange 2003) as one of the few countries in the developing world to be undertaking national environmental accounting programs. As Perio (2000) recounts in her seminal paper, the establishment of a Philippine Economic Environmental and Natural Resource Accounting (PEENRA) System through the National Statistical Coordination Board (NSCB) began in earnest in 1993 initially through the support of USAID's Environment and Natural Resource Accounting Project (ENRAP). Through the years, several multilateral organizations have engaged the PEENRA to further enhance its methods and operationalize subnational accounting. Suffice to say that while huge methodological challenges remain, the PEENRA is slowly emerging, in light of recent interest in valuating environmental goods and services, as the new frontier in linking environment, natural resources, and climate change, with macro-economic decision-making.

And to a degree, the 2010 Philippine Statistical Yearbook (PSY) demonstrates how far the NSCB has come towards compiling and publishing national statistics that, under the International System of Environmental and Economic Accounts (SEEA), can be categorized as environment and natural resource-related assets, flow accounts for pollutants and materials, environmental and resource protection expenditures, and macro-aggregates.

For *Provisioning Ecosystem Services*, Chapter 4 or the ENR section of the PSY presents an attempt to directly value the macro-economic contribution of forest (plantations), water, mineral and land to national economic growth (Table I).

And while it is apparent there are still gaps in available data and issues with regards to interpreting such values, suffice to say such information can be built on as a basis for more refined approaches towards calculating the macro-economic contribution of provisioning ecosystem services to national development.

PROVISIONING ECOSYSTEM SERVICES

Table I. Monetary asset accounts of selected resources
1992 to 2000 (in million pesos)

Type of Resource	Closing Stock								
	1992	1993	1994	1995	1996	1997	1998	1999	2000
Forest (plantation forest)	147,843	151,300	183,995	192,425	253,803	265,798	-	-	-
Mineral (metal content)	92,909	97,556	281,721	162,732	163,464	-	-	-	-
Water	-	-	-	-	-	-	-	-	-
Land ^a (Land devoted to Agriculture)	381,179	416,842	451,829	606,037	753,662	778,368	1,040,472	1,121,546	1,164,316

^aLand degradation was valued in terms of soil nutrient loss (N, P, K).

Note: USD\$1 = Php 43

Source: NSCB2010

For *Supporting Ecosystem Services*, the NSCB provides some usable data that can potentially be linked to the macro-economic impact of development activities and key industries to supporting services such as nutrient cycling and soil formation. It is assumed that environmental degradation caused by these selected economic activities lead to pollution which in turn compromise the ability of ecosystems to provide these basic support services (Table 2). It must be noted, however, that costs shown in Table 2 are calculated based on a maintenance cost approach, whereby cost is calculated based on the technology costs of cleaning up or managing the pollution.

Similarly, some data is also available on environmental protection expenditures of the Philippines, which potentially can be viewed as direct investments into conserving supporting ecosystem services basic to the health of the environment sector. Alfieri (1998) compares the Philippines' environmental protection expenditures in 1992 to other countries in Table 3. Such data can be used as a possible indicator of how much the country's economy "plows back" into protecting ecosystem services foundational to its growth. However, such datasets will have to be further developed so as to seriously influence macro-economic decision making.

SUPPORTING ECOSYSTEM SERVICES

Table 2. Environmental Degradation caused by selected economic activities
1992 to 1998 (in million pesos)

Type of Economic Activity	1992	1993	1994	1995	1996	1997	1998
Total	3,795	5,276	6,962	7,660	9,649	8,905	8,895
Agriculture, Fishery and Forestry	587	864	1,494	1,634	1,938	2,105	1,820
Manufacturing Industry	2,216	3,186	3,990	4,194	5,727	6,800	7,075
Mining Industry	244	295	408	507	581
Land Transport Services	748	931	1,070	1,325	1,403

Note: Environmental degradation estimated based on the maintenance cost approach

\$1 = Php 43

Source: NSCB 2010

Table 3. Summary indicators of environmental protection expenditures in 1992

	Philippines	Republic of Korea	Costa Rica	Colombia
Total EPE/GDP	n.a.	1.72	n.a.	1.08
Government EPE/GDP	0.37	0.79	0.39	0.37
Capital EPE/Total EPE	61	49.7	50	72.7
EPE by environmental media/Total EPE	39	50.3	50	27.3
Forest and non-forest ecosystems	n.a.	n.a.	28	2.7
Air	n.a.	18.3		2.4
Water and soil	n.a.	46.9	14	30
Waste	n.a.	30.1	36	19.4

n.a.: Not Available

1. Includes only government environmental protection expenditures

2. Figures for Korea are for 1995

Source: Table adapted from Alfieri 1998

For *Regulating Ecosystem Services*, there is data available for the number, types and costs of climate-related disasters impacting the Philippines over the last decade (Figures 1-3). To a degree, such information can be used as basis for assessing the macro-economic role of regulating ecosystem services to mitigating natural hazards. As mentioned in the previous section, the National Disaster Coordinating Council (NDCC) estimates around Php15B in damages or 0.5 percent of the annual GDP is lost due to climate-related extreme weather events.

REGULATING ECOSYSTEM SERVICES

Figure 1. Number of weather and climate-related disasters in the Philippines, 1990–2009

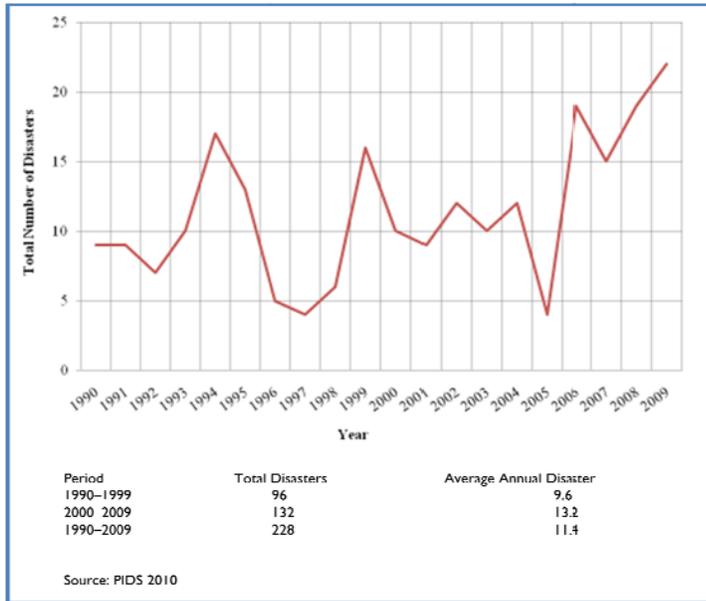
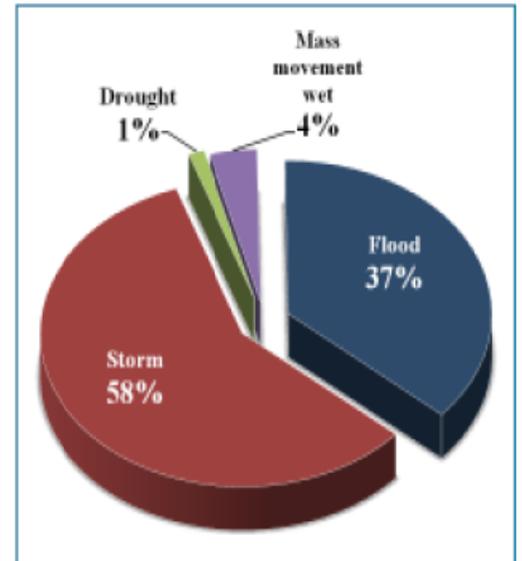
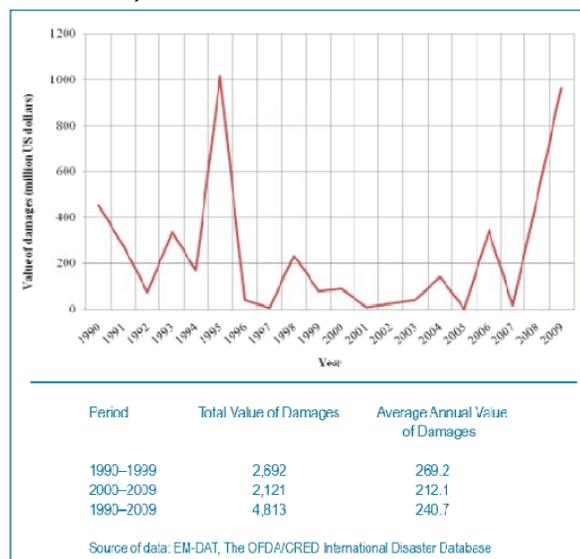


Figure 2. Type of weather and climate-related disasters in the Philippines, 2005–2009



Source of data: EM-DAT, The OFDA/CRED International Disaster Database

Figure 3: Estimated value of damages due to weather and climate-related natural disasters in the Philippines, 1990–2009 (US million dollars)



Source: Israel 2010

Finally, for *Cultural Ecosystem Services*, there is available data on growth trends among the top 10 tourist destination sites in the country. Arguably, almost all 10 sites are revisited for their natural beauty or exceptional environmental qualities—short of being officially declared as ecotourism sites (Table 4). Such data can be used as basis for assessing the current and potential value and contribution of cultural ecosystem services, such as the tourism industry, to national development.

CULTURAL ECOSYSTEM SERVICES

Table 4: Top 10 Tourist Destinations

Destinations	2008	2009	Growth Rate
Cebu	1,596,238	1,615,982	1.24%
Camarines Sur	721,024	1,566,447	117.25%
Metro Manila	1,350,789	1,442,183	6.77%
Baguio City	814,975	770,187	-5.50%
Davao City	655,661	669,864	2.17%
Boracay Island	634,263	649,559	2.41%
Cagayan de Oro	325,843	359,867	10.44%
Zambales	308,482	323,271	4.79%
Bohol	282,498	313,317	10.91%
Puerto Princesa City	221,736	268,942	21.29%
Camiguin	253,051	267,776	5.82%
Cagayan Valley	266,679	266,962	0.11%
Negros Oriental	221,045	240,199	8.67%
Ilocos Norte	183,203	193,092	5.40%
Total	7,835,487	8,947,648	14.19%

Source: Department of Tourism 2010

There is therefore an immediate need and opportunity to seize the infrastructure as established among others by the PEENRA System under the NSCB, and further refine and develop methodologies towards ecosystem service-oriented datasets. Such datasets would be generated for the purpose of better informing economic planners and decision makers towards safeguarding and enhancing the economic value of ecosystem services—appreciated as both enabling and limiting factors from a macro-economic and national development perspective.

Some success has been seen over the years towards using environmental valuation towards the development of economic and social welfare policies, for instance, cost-benefit analysis favouring the phase-out of lead gasoline to save on health costs (Manansan et al. 1998), setting appropriate rent costs for grazers (Batcagan 2000), and exploring the economic implications of rice self-sufficiency and alternative land-use patterns (ENRAP 1998).

Further valuation exercises can then be undertaken to develop appropriate policy tools that can either respectively generate commensurate compensation for unrecoverable environmental damages from industries, or create the case for larger investments into environmental protection so as to secure and enhance the economic value of ecosystem services. Valuation exercises and policy tools to avoid the degradation of regulating ecosystem services that would otherwise mitigate the incidence of floods and landslides, and hence reduce the loss of lives and production, can be mobilized to strengthen climate change adaptation and disaster risk reduction from a macro-economic perspective.

Ecosystem services from a local perspective

While the Philippines has only begun, if at all, to consider ecosystem services from a macro-economic perspective, much work has already been done considering ecosystem services for local level applications.

Indeed, rich experiences abound for Payment for Ecosystem Services (PES) schemes being applied across the country. Payments for Ecosystem Services in relation to ecosystem services valuation can be interpreted as elevating environmental accounting towards establishing schemes, which then directly invest value for poverty alleviation and biodiversity conservation.

Lasco and Tongson (2005), in the proceedings of the first National Conference-Workshop on PES, summarize how international and national experiences on PES had already advanced significantly with several best practice examples emerging out of the United States, France, the Netherlands, Colombia, Costa Rica, China, Nepal and Indonesia. For the Philippines, the Workshop highlighted 10 major PES sites worth developing further and emulating as a basis for future PES schemes in the country:

- For Watershed Protection Services:
 - The Kalahan Forest Reserve in Nueva Vizcaya and Bakun, Benguet Province (under the Rewarding Upland Poor for Environmental Services program)
 - Maasin Watershed in Iloilo
 - Balian Watershed in Laguna
 - Mt. Canlaon Natural Park (with La Tondeña Distillery)
- For Carbon Sequestration:
 - The Tanay Streambank (with the Laguna Lake Development Authority)
- For Marine Bio-prospecting
 - The Bataan National Park
- For Landscape/Seascape Beauty
 - The Tubbataha Reef
- With the Private Sector
 - El Nido (with the Ten Knots Groups)
 - Zamboanga City Water District

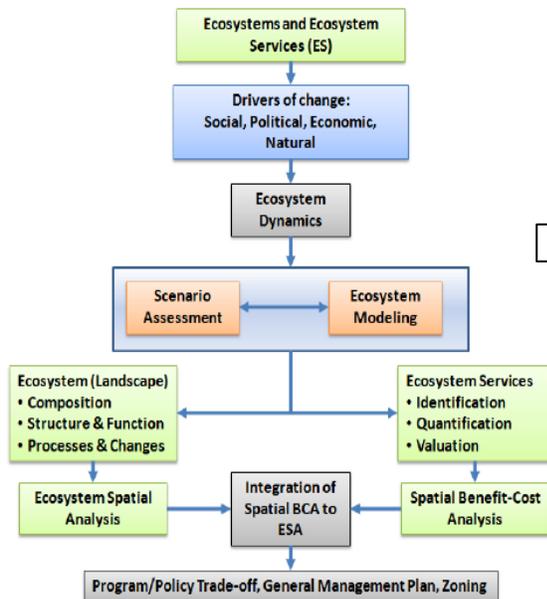
While the details of these sites are outside the scope of this report, all 10 examples showcased how one particular or a set of ecosystem services can be valued based on their economic contribution to an area or operation. By partnering with surrounding communities or with relevant users, a scheme can subsequently be developed towards incentivizing through either payment or with non-financial benefits the active conservation and/or enhancement of the ecosystem services. Thus in this process of partnership, economic integrity and value of the area or operation is also maintained.

It was concluded by the Conference that PES schemes should be further pursued as a means towards poverty alleviation and biodiversity conservation that is participatory and inclusive. It was also noted that PES schemes almost inherently facilitate several opportunities for public-private partnerships that further enhance the sustainability prospects of certain sites and operations in favour of conserving and enhancing ecosystem services for the mutual benefit of communities and businesses.

On a related development, since 2006, the Resources, Environment and Economics Center for Studies (REECS) in partnership with the United Nations Development Programme has been developing methodologies for “Ecosystem Spatial Analysis” and “Spatial Benefit Cost Analysis” out of the Samar Island Natural Park under Phase I of the Samar Island Biodiversity Project.

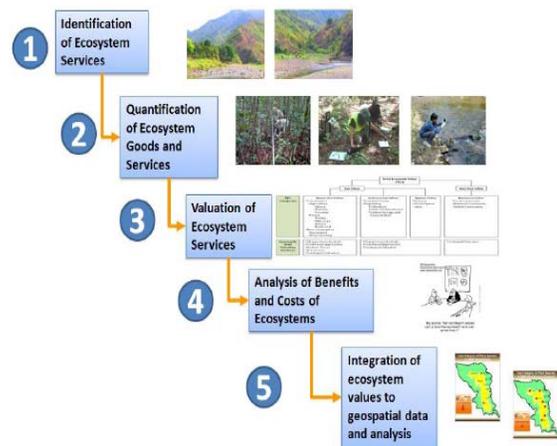
In summary, the methodology intends to incorporate the costs and benefits to conservation planning—in terms of both the use and non-use values of focal ecosystem services—that potentially present equal or greater levels of biodiversity with fewer resources than plans that do not consider costs. Castillo et al. (2010) developed an initial manual for such a methodology based on the Samar experience and presented the frameworks below that are useful for considering ecosystem service values in ecosystem/protected area management planning:

Figure 4. Framework for Ecosystem Spatial Analysis and Benefit Cost Analysis



Source: Castillo et al. 2010

Figure 5: Major Steps in Spatial Benefit Cost Analysis of Ecosystems



Source: Castillo et al. 2010

Details of the methodology, which feature several quantification and valuation techniques, can be found in the original publication.

Among examples of how such methodologies have been applied include calculating appropriate ship grounding costs in Tubbataha Reef Natural Marine Park (TRNMP) and assessing willingness-to-pay and unrealized revenues for the Sohoton Natural Bridge National Park (SNBNP) in Samar.

For the TRNMP, on the basis of fines collected from entities responsible for ship grounding incidents in the Park, it was found that between 1995-2006, perpetrators were charged an average of Php 4,000 per square meter of damage caused (Table 5). In a study commissioned by Conservation International in 2006, REECS utilized both a production cost approach and a restoration cost approach as assisted by Ecosystem Spatial Analysis to assess appropriate fine rates for ship grounding incidents.

For the production cost approach, REECS found that the annual economic value per square meter in the TRNMP as a result of values generated from recreation, research, fish-production, and non-use values of the Park amounted to an estimate of Php208-211 per square meter per year, which multiplied to 45—which is average number of years required for coral reefs to regenerate—is Php9,500 per square meter (Table 6).

REECS then used a restoration cost approach to calculate for the estimated cost of restoring the damaged coral reef and arrived at a cost of Php 14,964 (Table 7). Averaging both the production cost and restoration cost approaches, the TRNMP should in fact be charging ship grounding violators Php 12,000 per square meter of damage, or Php 8,000 more than its existing rate (Table 8) (REECS 2006).

Table 5. Park Violations and Fines Imposed in TRNMP, 1995 to 2006

Violation	No.	Average Area Affected	Years Covered	Range of Penalties Imposed
Ship grounding	11	319 sq. m. per grounding	2003-2005	Php 4,000/ sq.m. (4 cases)

Table 6. Annual Economic Value of TRNMP

Type of Value	Total Annual Value(Php)	Value per Ha. (Php)	Value per sq. m. (Php)
Recreation	3,085,518	43,479	0.348
Research	15,395,498	464	0.05
Fish Production	6,780,400	2,040,000	204
Non-Use	1.1 B to 2.2 B	33,602 - 63,268	3.36 – 6.33
TOTAL	1,125,270,416 - 2,215,270,416	2,077,545 - 2,107,211	207.76 - 210.73

Note: USD\$1 = Php 43

Table 7. Restoration Costs for M/Y Island Explorer Grounding at Apo Reef Marine Natural Park and Potential Grounding at TRNMP

Component	No. of Months	Total Cost, ARNMP	Total Cost, TRNMP
Organization Building: establishment of home base on-site	1	488,000	488,000
Emergency Biological Triage: Action planning, training and staff development	6	1,957,690	2,339,290
Strategic Completion of Salvage Operations, including hiring a barge with a crane	2	1,820,400	1,947,600
Stabilization of Substrate and Structural Restoration: excavation, construction work, and repair of multiple damaged sites	21	11,224,770	12,560,370
Coral Transplantation: Transplantation of species originally found at the site	42	9,625,420	12,296,620
Enhance Biological Restoration: Developing chemo-inductive substrates or “flypapers” to recruit larvae on the reef	36	7,585,020	7,585,020
Administration Cost (10% of project cost)		3,270,130	3,721,690
Monitoring Cost (5% of project cost)	12	1,635,065	1,860,845
Maintenance of Equipment (2% of project cost)		654,026	744,338
TOTAL	120	38,260,521	43,543,773
Cost per sq. m.		13,148	14,964

Note: USD\$1 = Php 43

Source: (except for TRNMP column): Bringas, J. et al. 2005

Table 8. Recommended Fines for Ship Grounding Violation in TRNMP

Fine	Amount, in Php/m²	Valuation Method
Minimum	9,500	Production Approach
Maximum	15,000	Restoration Cost Approach
Average	12,000	

Note: USD\$1 = Php 43

As for the SNBNP in Samar, REECS, with support from USAID, investigated the willingness-to-pay of both local and foreign visitors/tourists to the Park—which, then, had not considered formally charging entrants. After conducting a series of surveys and interviews involving different parameters, it was concluded that the SNBNP was in fact allowing an estimated Php206,000 of potential annual revenues to go unrealized, solely on the failure of the Park to account and accommodate for the willingness-to-pay of visitors (Table 9) (REECS 2010).

Table 9. An assessment of the willingness-to-pay and net-present value of the SNBNP

Current Entrance Fee	Existing Willingness to Pay (WTP) of Average Recreationist	WTP if Park Facilities are Improved	Total WTP/year (multiplied across average number of visitors per year)	Net Present Value of Park 12% discount rate for recreation services alone (840 ha)	Net Present Value/hectare at 12% discount rate for recreation services alone
Php 0	Php 2.87-14.96	Php 39.17	Php 205,745.89	Php 1.71 M	Php 2,041.13

Note: USD\$1 = Php 43

It would certainly be of interest to scale-up and further pilot this methodology with the objective of capturing the value of ecosystem services in most especially triple burden areas, critical watersheds, and protected areas. Such efforts would hope to better and realistically inform management and economic planning towards the benefits and costs to biodiversity conservation.

Cruz (2011) in his presentation to the National Economic Development Authority (NEDA) on methods towards assessing land capability in consideration of projected climate impacts such as floods, droughts and landslides, offers a possible breakthrough for integrating climate change under such a methodology. If merged with the methodology as proposed by REECS and Castillo et al., a powerful methodology can potentially result to, not only spatially projects the value of certain ecosystem services in an area, but also considers the impact of climate change to that value—hence providing an opportunity to “climate-proof” those areas and offer a more robust basis for sound socio-economic decision making.

Indeed, momentum towards applying ecosystem service valuation and PES at macro and local levels is growing with increasing interest towards developing REDD+ in the Philippines. Similarly, the World Bank engaged the Climate Change Commission, through the NCCAP and its concept of “Eco-Towns”, to participate in the Global Partnership for Wealth Accounting and Valuation of Ecosystem Services (WAVES), which can potentially support more serious national efforts towards developing valuation applications to link environmental and economic planning.

ANNEX 6

Participatory Problem and Solution Finding Analysis

ANNEX 5

PARTICIPATORY PROBLEM AND SOLUTION FINDING ANALYSIS

A key aspect in the FAA 118/119 preparation process was the diagnosis of the forestry and biodiversity management and development issues, and problems including the identification of corresponding solutions to address these. To systematize the process, the team used the “participatory problem-solution tree” diagnostic tool that involved a four-step process as briefly described below

Step 1 – Identification of Drivers of Ecosystem Changes

The first step involved the specification of a context for organizing and classifying the myriad of issues and problems directly and indirectly generating pressure on the terrestrial forest ecosystem and the biodiversity resources. One organizing context found to be appropriate for this assessment is the “Drivers of Change in Ecosystems and their Services” specified in the *Ecosystems and Human Well-being: A Framework for Assessment* under UN’s Millennium Ecosystem Assessment (MEA) of the United Nations. This assessment framework underscored the need to understand the drivers or factors that cause changes in the ecosystem and ecosystem services before any meaningful interventions to mitigate the impacts can be carried out. The MA framework has identified the following drivers of ecosystem changes:

- Demographic drivers
- Economic drivers
- Socio-political drivers
- Science and technology drivers
- Cultural and religious drivers
- Physical, biological, and chemical drivers

Based on the MEA framework, and taking stock of the local landscape, this study adopted and used the following factors to classify the problems and issues in the forestry and biodiversity sectors:

- Demographic drivers
- Natural drivers
- Scientific, technical and technological drivers
- Socio-cultural drivers
- Economic drivers
- Governance drivers

Step 2 – Problem Tree Analysis

The second step was problem analysis through the formulation of a problem tree that identified the development problems in general and then specified the “cause and effect” relationship of the problems. The causes were classified in accordance with the drivers/factors adopted for this study. The Problem Tree analysis was performed with the participation of the members of the Technical Working Group (TWG) created for this study and the representatives of the different stakeholder groups through a series of consultation workshops.

Step 3 – Solution Tree Analysis

The next step was to specify the responses or solutions to address the issues and problems identified under Step 2. To elicit the inputs of the stakeholders, Solution Trees were constructed during the consultation workshops. These suggested solutions were then classified under the different drivers for ecosystem changes.

Step 4 – Synthesis and Integration

The final step in the problem-solution finding process was the construction of the problem and corresponding Solution Trees (as shown below) derived from the inputs and results of the consultative workshops.

The Problem Tree

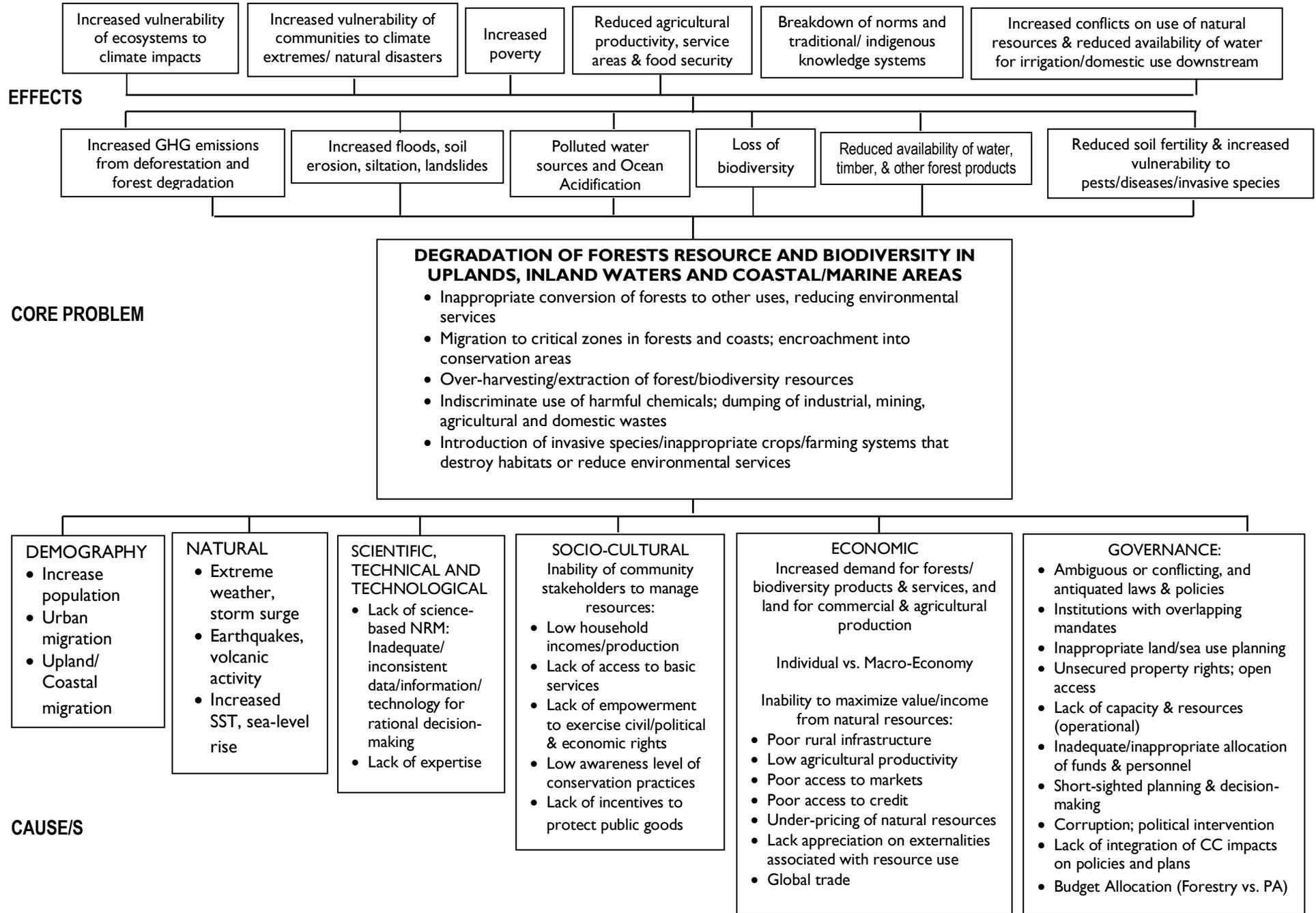
The Problem Tree demonstrates the manner in which the causes of the core problem operate as a continuum; demography, natural occurrences, scientific, technical and technological issues, as well as socio-cultural, economic, and governance factors interact with, and in some cases compound, each other. For instance, while it has certainly become “popular” to cite governance gaps as the major cause of the core problem, it can and has been argued that the impacts of both macro- and micro-economic events, which may be out of the government’s control (e.g. international financial crisis, increasing oil prices), cascade into pressures for increased demand for forests and biodiversity products and the conversion of land for commercial and agricultural uses. Similarly, continued population increase in rural areas and extreme weather events create pressure towards lower household incomes, hence upland and coastal migration, which in turn contribute to the core problem. Once understood as a continuum, the Problem Tree then sheds some valuable light into the interplay of drivers that promote ambiguous and conflicting laws and policies, inappropriate land/sea planning, and over-constrained budgets, as well as overall public attitudes towards the problem. Consequently, this approach avoids narrowly placing the blame and all reform efforts on government alone.

Moving on from the causes, the Problem Tree then articulates the effects of the core problem, or rather how the core problem then further manifests into the degradation of ecosystem services.

It demonstrates how the degradation of forest resources and biodiversity in uplands, inland waters, and coastal/marine areas reduce the quality of or deplete ecosystem services which serve a broad array of provisioning, regulating, supporting, and cultural services to communities and as such, the Philippine economy as a whole.

Where for instance, over-harvesting of forest and biodiversity resources as a core problem significantly reduces the ability of ecosystems to regulate floods, soil erosion, siltation and landslides, and also pests and diseases. Likewise the same activities also threaten provisioning ecosystem services such as water and food security. The inappropriate conversion of forests into other uses as a core problem, on the other hand, contributes to increased greenhouse gas emissions while at the same time compromising supporting ecosystem services such as nutrient recycling and soil formation needed for primary production, as well as potentially displacing cultural ecosystem services leading to the possible breakdown and indigenous norms and knowledge systems.

PROBLEM TREE



The Solution Tree

The Solution Tree specifies the recommended measures/interventions aimed at addressing the causes of ecosystem changes identified as part of the Problem Tree analysis. As shown in the Solution Tree, the key intention to respond to the problem of forest and biodiversity degradation is the conservation of these resources measured in terms of:

- Trend of forest conversion reversed to improve the provision of environmental services
- Migration to critical zones in forests and coasts; Prevention of encroachment into conservation areas
- Sustainable and environment-friendly-harvesting/extraction of forest/biodiversity resources
- Regulated use of harmful chemicals and adoption of appropriate disposal system for industrial, mining, agricultural and domestic wastes
- Regulated use of invasive species/adoption of appropriate crops/farming systems that promote land and resource conservation

There are a number of measures to support this conservation intention most of which would deal with the issues of governance, natural, and scientific/technical/technological factors of ecosystem changes.

SOLUTION TREE

CONSERVATION AND PROTECTION OF FOREST RESOURCES AND BIODIVERSITY IN UPLANDS, INLAND WATERS AND COASTAL/MARINE AREAS

- Trend of forest conversion reversed to improve the provision of environmental services – *Note*: Reversing the trend in selected regions; In the regions where the trend will be sustained, it should have measurable indicators
- Migration to critical zones in forests and coasts; prevention of encroachment into conservation areas
- Sustainable and environment-friendly harvesting/ extraction of forest/biodiversity resources;
- Inland water (ground and surface waters)
- Regulated use of harmful chemicals and adoption of appropriate disposal system for industrial, mining, agricultural and domestic wastes
- Regulated use of invasive species/ adoption of appropriate crops/farming systems that promote land and resource conservation
- Strengthen good environment governance system with high regards to customary practices; *Note* : Community participation, disclosure and transparencies etc.

DEMOGRAPHY

- Reduction of population growth rates
- Responsible parenthood
- Effective education and learning
- Multicultural approach
- Food security

NATURAL

- Adaptation strategies
- Promotion of soft engineering projects
- Zoning of areas affected by disasters
- Provision and updating of envi data
- Reforestation
- Promote drought-resistant crops
- Improve monitoring capability of weather and weather events
- Enhancement of early warning system for DRM
- GIS mapping
- CC and DRM integration in local planning
- Financial support for CCA and DRR
- IEC on climate change

SCIENTIFIC, TECHNICAL AND TECHNOLOGICAL

- Capacity building of national and local agencies and stakeholders
- Provision of technologies
- Research on terrestrial and inland water ecosystems biodiversity
- Sharing of expertise and research results
- Comprehensive inventory of NR and biodiversity
- Upgrade of maps and info GIS mapping
- Strengthen local land use planning and implementation
- Resource monitoring
- Alternative energy sources
- Increase coverage of sewerage system in the country

SOCIO-CULTURAL

- Improve livelihood opportunities
- Integrated socio-economic concerns to environmental programs
- Introduction of non-extractive livelihood
- Intensify wood production through CBFM, CADT, co-management of forest lands
- Enterprise development in buffer zones
- Organic farming
- Agroforestry
- Coop development
- Value chain analysis
- Promote local/culture-based NR practices
- Improve social services access

ECONOMIC

- Promotion of general welfare/ interest
- Market-based instruments
- Resource valuation/PES
- Deny markets of illegally cut logs
- Value added to forest products

GOVERNANCE

- Harmonization of laws, policies, plans, rules, regulations, and procedures, and mandates
- Passage of the Land Use Bill and the SFM law
- Use reef-to-ridge/landscape approach
- Establishment of more PAs
- Passage of SFM bill
- Complete final forest boundary delineation
- Tenurial instruments
- Improve forest protection
- Strict enforcement
- Creation of *bantay dagat*
- Stricter penalties
- Capacity-building of LGUs in environmental governance
- Formulation of land and water use plans at the local level with FLUP as integral part of the local plans
- IEC
- MIS
- Local leadership and participation in NRM
- Convergence of environment and development programs and projects at all levels
- Increased funding
- Integration of NRM in peace process
- Promote payment for environmental services
- Promote PPP in environmental management and development
- Anti-corruption efforts
- Encourage third party monitoring

ANNEX 7-1

List of Ongoing Environmental Projects

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION	
						LP	GP	GOP	TOTAL		
MULTI-LATERAL PROJECTS											
BIODIVERSITY											
1	Samar Island Biodiversity Project (SIBP) Phase II	The Samar Island Biodiversity Project is being implemented within the Samar Forest Reserve, which comprises around 360,000 hectares. The Project would establish the Samar Island Natural Park (SINP), a new protected area zoned for multiple uses centering on protection, but providing for sustainable harvests of non-timber forest products, and institute a comprehensive range of ancillary conservation measures to protect the park from human pressures. Park management would be operationalized in partnership with forest-edge communities with the aim of establishing a "social fence" against threats.	Forest-Edge Communities	Biodiversity	Region VIII - Eastern Samar, Western Samar & Northern Samar	UNDP-GEF/ TRAC		1,580.00	1,000.00	2,580.00	2008-2011
2	Globally Important Agricultural Heritage System (GIAHS)	The GIAHS aims to provide a systematic support to conservation and adaptive management of GIAHS from site to national to global level strategy project implementation. Seven countries, including Chile, China, Peru, Algeria, Morocco, Tunisia and the Philippines (through the Ifugao Rice Terraces (IRT)) representing five different agricultural heritage systems, were selected as pilot areas. The inclusion of IRT in this global initiative will help provide opportunity for the country to redress the erosion of traditional practices and customary use of biological resources among the indigenous communities.	Small-Scale farmers, traditional & indigenous family, target communities within GIAHS sites (IRT)	Forestry and Biodiversity	CAR - Ifugao	FAO/GEF		500.00	1,000.00	1,500.00	2008-2013

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION
						LP	GP	GOP	TOTAL	
3	Rehabilitation and Sustainable Use of Peatland Forests in South-East Asia	Local Community	Biodiversity	Region VIII - Leyte; CARAGA - Agusan Marsh	ASEAN/ GEF		262.00		262.00	2009-2013

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION	
						LP	GP	GOP	TOTAL		
4	Expanding and Diversifying the National System of Terrestrial Protected Areas in the Philippines (EDNSTPAP)	The EDNSTPAP was conceptualized to address key barriers/threats in biodiversity conservation (i.e. bio-geographical representative, limited capacity for PA management, and inadequate system for financial planning, budgetary management and revenue generation) and to expand and strengthen the terrestrial PA system in the country by developing new PA models and building capacity for effective management of the system.	Local Government Units (LGUs), Non-Government Units (NGOs), Local Communities, and Indigenous Peoples (IPs)	Protected Areas	CAR- Kalinga, Mt. Province; , Zambales, Tarlac, Bulacan; Region 4A - Rizal, Quezon; Region 4B - Mindoro Oriental, Mindoro Occidental; Region 7 - Cebu; Region 8 - Southern Leyte; Region 13 - Agusan del Norte, Surigao del Norte, Agusan del Sur; and ARMM - Tawi-Tawi	UNDP-GEF		3,500.00	6,492.48	9,992.48	Nov. 2009- Nov. 2014
5	Partnership for Biodiversity Conservation: Mainstreaming in Local Agricultural Landscapes	The project aims to demonstrate how Local Governments Units (LGUs), with enhanced capacities, and working together with local and national partners, can plan and management economic activities and growth in ways that meet landscape-level biodiversity conservation and sustainable use objectives in critical biogeographic regions.	LGUs, NGOs and Communities	Biodiversity	Region II - Cagayan, Quirino; Region 4B - Occ. Mindoro, Palawan; Region VI - Antique, Iloilo, Capiz, Aklan, Negros Occ.; Region XI - Davao Oriental; Region XIII - Agusan del Norte, Surigao del Norte	GEF UNDP		4,500.00 301.40	12,220.66	16,720.66 301.40	June 2010- June 2016

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION	
						LP	GP	GOP	TOTAL		
COASTAL/MARINE											
6	Integrated Coastal Resources Management Project	The project will cover provinces and municipalities surrounding marine biodiversity corridors of national and global importance as identified by the Philippine Biodiversity Conservation Priorities, as follows. (i) the Babuyan corridor along the northern coast of Luzon, (ii) Ticao Pass – San Bernardino Strait – Samar corridor, (iii) Daanbantayan corridor straddling the Visayas Sea and the Tanon Strait, (iv) Pujada Bay corridor, (v) the Zambales marine ecosystem in the Luzon Sea, and (vi) Siquijor small-island marine ecosystem between the Bohol Sea and Sulu Sea. Six provinces and 68 municipalities within the marine biodiversity corridor and ecosystems identified were then selected based on strategic location, status of communities that can potentially benefit from the program, and willingness of provinces and municipalities to support the program.	Coastal Communities in project sites	Coastal/Marine, Forestry	Regions II - Cagayan; Region III - Zambales; Region V - Masbate; Region VII - Cebu, Siquijor; Region XI - Davao Oriental; Region IVB - Romblon (TA only)	ADB/GEF	33,800.00	9,000.00	19,520.00	62,320.00	July 2007-June 2013

PROJECT TITLE		DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION
							LP	GP	GOP	TOTAL	
MULTI-SECTORAL (ENR)											

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION
						LP	GP	GOP	TOTAL	
7 National Programme Support-Environment and Natural Resources Management Project	The NPS-ENRMP is a budget support program that will directly support the DENR to meet major thematic thrusts prioritized in the Medium Term Development Plan (MTDP 2004-2010) related to Environment and Natural Resources management. The Program will ensure that DENR will have timely availability of budgetary resources for operation and capital expenses to finance agreed priority activities under its regular program. Focusing expenditure on priority rather than broad based operations and activities will, in turn, enable the agency to manage budgetary resources more strategically, improve resource allocation, operating efficiency, and overall effectiveness in delivery of services. The GEF grant component will provide financing for the application of an integrated ecosystem management approach in priority watershed areas & selected sites of global significance. The Components are: 1) Policy, Planning, Monitoring and Evaluation; 2) Integrated Ecosystem Management; and 3) Strengthening Environmental Management.	DENR & LGUs	Forestry, Mines, Protected Area, Biodiversity & Environment	Nationwide (SIM); GEF sites: Region 4A - Rizal & Quezon; Region 5 - Camarines Sur & Camarines Norte; Region 6 - Negros Occidental; Region 12 - North Cotabato, Sultan Kudarat; ARMM - Maguindanao	WB/GEF	50,000.00	7,000.00		57,000.00	November 2007-December 2012

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION
						LP	GP	GOP	TOTAL	
8	Environment and Natural Resources Capacity and Operations Enhancement Programme (ENR-CORE)		Multisectoral	Nationwide	UNDP		1,520.00		1,520.00	2005-2009 (ext. 2010-2011)

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION	
						LP	GP	GOP	TOTAL		
9	Strengthening Coordination for Effective Environmental Management (StrEEM)	The STREEM Project aims to generate global environmental benefits through improved coordination in the implementation of the MEAs in the Philippines. Specifically, it intend to establish/strengthen cross-sectoral/convention institutional and coordination structures and mechanisms at local and national levels to comply with the Country's commitments under the three (3) Multilateral Environmental Agreements (MEA) i.e. the UNCBD, UNCCD and UNFCCC and ensure mainstreaming of the MEA activities in the work plan of the concerned national government agencies and at the same time enhance synergies, collaboration, coordination and complementation of activities and task among the different actors of the three conventions on MEAs.	3 MEA Focal Point Agencies (PAWB, EMB & BSWM), DFA, LGU Puerto Princesa, CSOs, PCSD		Region IVB - Palawan	UNDP/ GEF		475.00	515.00	990.00	June 2009-June 2012
ENVIRONMENT											
10	Ozone Depleting Substances Phase-Out Investment Program - Phase II	Ozone depleting substances (ODS) like chlorofluorocarbons (CFC) are chemical substances known to slowly deplete the ozone layer, allowing the entry of ultraviolet (UV) rays that cause sunburn, eye damage, and skin cancer. Upon this discovery, countries came together and crafted the Montreal Protocol that Deplete the Ozone Layer. The Philippines, being a signatory to the Montreal Protocol is committed to eliminate CFC consumption by 50% by CY2005, 85% by CY2007, and total phase-out by CY2010. Thus, the Project	Consumers of ODS in the manufacturing sector, servicing sector, Concerned government agencies, and the general public	Environment	Nationwide	Multilateral Fund of the Montreal Protocol		30,000.00	in-kind	30,000.00	2002-2011

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION	
						LP	GP	GOP	TOTAL		
		aims to enable the Philippines to meet the CFC phase-out obligations.									
11	Manila Third Sewerage Project (MTSP)	The Project is a companion to the on-going MTSP being undertaken by MWSS. It intends to identify impediments to cooperation among sector agencies, and to non-conventional investments in sewerage and sanitation. The Project will assist MWSS in pursuing higher investments in sewerage and sanitation by its concessionaires and in piloting suitable technology for septage disposal. MTSP will provide technical assistance for project management, monitoring, evaluation, and dissemination.	Metro Manila (general public serviced by MWSS)	Environment	NCR - Metro Manila	WB/GEF		5,000.00		5,000.00	November 2007- November 30, 2012

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION
						LP	GP	GOP	TOTAL	
12	MDGF I656: Joint Programme on Strengthening the Philippine Institutional Capacity to Adapt to Climate Change	NGAs, LGUs & Academe	Climate Change & Environment	Nationwide; Demo sites: CAR; NCR - Metro Manila; Region 5 - Albay, Sorsogon; Region XIII - Agusan del Norte	UNDP/ Spain MDG Achievement Fund		1,500.00		1,500.00	Dec. 2008- Dec 2011

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION
						LP	GP	GOP	TOTAL	
13	Integrated Persistent Organic Pollutants Management Project	All affected communities	Environment	NCR - Metro Manila; Region 3 - Zambales	WB/GEF		8,640.00	15,880.00	24,520.00	June 2010-June 2014

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION	
						LP	GP	GOP	TOTAL		
14	Chillers Energy Efficiency Project	The project will secure the early replacement of 250 energy-inefficient, large-size chillers ((R-11, R12, R-22, R-123, R-134a) for the first two years of the project and additional ones for a span of seven years with an incentive of 20% of the cost of chillers plus an exemption of the import tax. It will provide assistance to stimulate accelerated conversion of CFC-based chillers to new and more energy efficient (EE) technology. This assistance will include provision of financial incentives and a robust policy framework thereby addressing well-documented techno-economic barriers and overcoming market barriers to improved energy efficiency. The project components are: 1) Incentive Scheme for Investments in Energy Efficient Chillers; 2) Measurement, Monitoring and Validation; 3) Technical Assistance; and 4) Project Management	Major cities of the Philippines (Cebu City, Davao City, Metro Manila, among others)	Environment, Climate Change		WB/GEF		45,570.00	in-kind	45,570.00	January 2011-2020
15	Philippine Climate Change Adaptation Project Phase I	The Philippine Climate Change Adaptation Project Phase I has four major components: (1) Strengthening the enabling environment for CCA ; (2) Demonstrating Climate Change Adaptation Strategies in the Agriculture and Natural Resources Sectors; (3) Enhanced Provision of Scientific Information for Climate Risk Management; and (4) Project Management.	DENR-PAWB, DA-BSWM, NIA, DOST-PAG-ASA and Phil. Crop Insurance	Climate Change		WB/GEF		4,999.00	2,310.00	7,309.00	June 2010-2015

PROJECT TITLE		DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION
							LP	GP	GOP	TOTAL	
BILATERAL PROJECTS											
BIODIVERSITY											
I	Partnership for Biodiversity Conservation (PBC)-II	"USAID Partnership for Biodiversity Conservation Program supports biodiversity conservation in the Philippines by increasing capacity of local and national environmental law enforcement bodies. The Program objective contributes to USAID's mission of strengthening the ability of Philippine national and local government units and communities to address critical threats to the country's globally significant coastal and upland resources and promoting good governance – transparency and accountability – in enforcing environmental laws."	National Government, LGUs, communities	Biodiversity	Nationwide	USAID				640.00	October 2009-September 2014

PROJECT TITLE		DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION
							LP	GP	GOP	TOTAL	
2	Coral Triangle Support Partnership Project	The goal of CTSP is to improve the management of biologically and economically important coastal and marine resources and associated terrestrial ecosystems that support the livelihoods of peoples and economies in the Coral Triangle.	people and communities in the Coral Triangle	Biodiversity, Marine	Palawan, Tawi-Tawi and Verde Island Passage (Batangas & Mindoro Occidental)	USAID / WWF				6,000.00	September 2008- October 2013

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION
						LP	GP	GOP	TOTAL	
3	Biodiversity Conservation through Management of Natural Resources (BCMNR)	LGUs. Communities	Forest, Coastal and Marine	KBAs of Bukidnon, Mt. Diwata and Hilong-Hilong, and Southern Palawan	USAID/ RI/ Enterprise Works/ VITA				1,000.00	January 2011 - January 2013

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION	
						LP	GP	GOP	TOTAL		
4	From ridge to reef: an ecosystem-based approach to biodiversity conservation and development in the Philippines (EB-ABCD Philippines)	This Project aims to address key threats to biodiversity conservation in the Mt. Malindang Natural Park in Misamis Occidental, northern Mindanao, considered as one of high priority conservation areas in the country because of its rich flora and fauna. These resources are threatened by economic activities of people living inside and outside the park, who often source additional income from the park through illegal activities. USAID is supporting activities that: a) reverse degradation of coastal resources by addressing downstream effects of forestry and agriculture; b) enhance livelihoods of people; and, c) build capacity and manage information and database for decision-making.	LGUs, communities	Forestry, Freshwater, Marine	Watersheds of Langaran and Layawan Rivers within Mt. Malindang Protected Area in Misamis Occidental	USAID/ WorldFish Center/ SEARCA/ ICRAF				1,000.00	February 2011- February 2013
5	Danajon Bank Marine Park Project: collaborative effort to manage a large MPA	This is a 3-year project to be implemented from 2011-2013 as a collaborative effort of 17 municipalities and cities of 4 provinces and 2 administrative regions of the Danajon coral reef ecosystem, the only double barrier reef in the country and one of among six worldwide. The goal of the Project is to improve the quality of life of stakeholders through effective management of a large-scale MPA, and improved fisheries, habitats, and economic opportunities. Project activities include: a) collecting baseline biophysical, socio-economic,	LGUs and communities	Coastal and Marine	4 provinces & 17 municipalities and in 2 regions: 1) Bohol: Tubigon, Clarin, Inabanga, Buenavista, Getafe, Talibon, Trinidad, Bien Unido, Ubay, C.P. Garcia 2) Cebu: Lapu-Lapu & Cordova 3) Leyte: Hindang, Hilongos, Bato, Matalom 4) Southern Leyte:	USAID/ Coastal Conservation and Education Foundation, Inc.				500.00	January 2011- January 2013

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION
						LP	GP	GOP	TOTAL	
		institutional, policy and governance information; b) formulating and adopting a Governance Framework Plan, MPA Management Plan; c) developing constituencies and support for the MPA establishment and management; and, d) planning and catalyzing tourism enterprises and livelihoods.		Maasin in the Danajon Coral Reef Ecosystem areas						
6	Rehabilitation and conservation of Romblon Passage Marine Corridor through integrated community-based coastal resource management (CBCRM) approaches	This Program aims to rehabilitate and conserve the coastal and marine resources of Romblon Passage Marine Corridor through integrated CBCRM strategies involving the coastal communities of the Municipalities of Romblon, San Agustin, Sta. Maria and Calatrava. Strategies include: a) rehabilitating and enhancing marine habitats; b) protecting and managing threatened and endangered marine species sea turtles, marine mammals and giant clams; c) generating knowledge and managing information through the Coastal Resource Management Resource Center; d) strengthening community-based organizations to co-implement resource management plans with LGUs; and, e) formulating an integrated resource management plan for the 4 municipalities.	LGUs and communities	Coastal and Marine	Romblon Passage Marine Corridor (Municipalities of Romblon, San Agustin, Sta. Maria and Calatrava)	USAID/ SIKAT Center for the Development of Indigenous Science & Technology, Inc.			360.00	January 28, 2011- January 27, 2013

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION
						LP	GP	GOP	TOTAL	
7	Mainstreaming Climate Change in Biodiversity Planning and Conservation in the Philippines	National and local governments, communities	Forest, Natural resources and Biodiversity	Mt Apo Natural Park in Davao, Mt Kitanglad Range National Park in Bukidnon, Northern Sierra Madre Natural Park in Isabela, and Ikalahan Ancestral Domain in Nueva Vizcaya	USAID/ ICRAF				990.00	January 13, 2011 - January 12, 2013

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION
						LP	GP	GOP	TOTAL	
8	BALANCED (Building Actors and Leaders for Advancing Community Excellence in Development) Project	marine biodiversity areas in collaboration with LGUs	Coastal and Marine Management	Leyte, Bohol, Oriental and Occidental Mindoro and Batangas.	USAID / CI / PFPI				5,000.00	Ongoing (December 2010- December 2012)

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION	
						LP	GP	GOP	TOTAL		
9	Philippine Tropical Forest Conservation Foundation (PTFCF)	<p>PTFCF leverages and augments support for forest conservation and REDD+ efforts/ project development and management to complement USAID projects; assists in environmental defense (legal assistance) and law enforcement, as well as promotion of PPP and livelihoods in all its projects</p> <p>It has reforested 100,000 hectares and subjected 1.1 M hectares under improved management</p> <p>As a mobilizer of local communities, organizations, and businesses, while at the same time ensuring complementation with USAID projects, PTFCF is able to contribute towards healthy and climate resilient ecosystems, enhance the provision of ecosystem services, as well as provide several "green jobs" for inclusive growth.</p> <p>To a degree, PTFCF's work has also provided social safety nets through its legal and livelihood efforts.</p>	LGUs, Eco-Gov, Enterprise Works, FPE, Local NGOs	Forest Conservation and REDD+		USAID					Ongoing

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION	
						LP	GP	GOP	TOTAL		
10	Camiguin Coastal Resource Management Project (CCRMP)	The CCRMP is a coastal resource management initiative that will address the complex issues of the sustainable management of coastal and marine and sustainable economic activities particularly in the province of Camiguin. It has a total project cost of P116 Million and will be implemented for five (5) years. This project has five (5) components, namely: a) Institutional Strengthening; b) Pilot Area development; c) Community-Based Projects; d) Resource Mobilization; and e) Learning and Communication.	Fisherfolk, coastal women and children, municipalities	Coastal	Region X - Camiguin	NZAID		1,638.29	536.59	2,174.88	June 2007-2012

PROJECT TITLE		DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION
							LP	GP	GOP	TOTAL	
11	Environment & Rural Development (EnRD) Program - Phase 2	The program focuses on three areas: (i) promoting policies and strategies at National and Local levels, which are conducive towards the conservation of the environment and the sustainable use of natural resources; (ii) ensuring that Government Agencies and Local Government Units (LGUs) offer sustainable and sound service packages and strengthening cooperation among and between these actors; (iii) promoting sustainable technical and managerial procedures in natural resource management. Key components of the EnRD Program include: 1) Policy Advocacy and Strategic Steering; 2) Governance of Natural Resources at the Local Government Level; 3) Management of Coastal Fisheries; 4) Community-Based Forest Management; and 5) Food Security.	LGUs, NGAs and POs	Forestry, Coastal & Environment	Region VI - Iloilo; Region VIII - Provinces of Leyte & Southern Leyte	GTZ		14,957.00		14,957.00	July 2009-2012
ENVIRONMENT											
12	Alliance for Mindanao Off-Grid Renewable Energy (AMORE) Project	"Amore is an eleven-year project of the United States Agency for International Development (USAID) in partnership with the Government of the Republic of the Philippines, through the Department of Energy and the Autonomous Region in Muslim Mindanao (ARMM) and the private sector through former Mirant Philippines and SunPower, provides a sustainable approach to bringing electricity to these remote communities with clean and renewable energy."	Remote rural communities in Mindanao	Modern Energy Services	90 municipalities in 13 provinces: Basilan, Davao City, Davao del Norte, Davao del Sur, Lanao del Sur, Maguindanao, Sultan Kudarat, Sulu Tawi-Tawi, Zamboanga City, Zamboanga del Norte, Zamboanga del Sur, Zamboanga Sibugay	USAID/ Mirant Ph / SunPower				6,000.00	October 2009 - September 2013

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION
						LP	GP	GOP	TOTAL	
13	Philippine Sanitation Alliance Project (PSA)	LGUs, general public	Water and Sanitation	6 cities: Malaybalay, Naga, Muntinlupa, Dumaguete, Iloilo and Calbayog	USAID / AECOM International				1,600.00	October 2008-September 2011

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION	
						LP	GP	GOP	TOTAL		
14	Volunteers in Environmental Governance(VEG)-II	The VEG-II Project aims to build the capacity of local governments and their communities in enhancing coastal environment protection and food security through the development and implementation of integrated coastal management (ICM) plans and environmental education. It builds on successful activities from VEG-I, particularly on: a) project design and management (PDM) workshops; b) PCV special projects fund; c) environmental trainings; and, d) environmental resources (e.g. equipment and information resources).	PCVs, LGUs, general public	Natural Resources and Biodiversity	18 municipalities in provinces of Albay, Cagayan, Cebu, Leyte, Mindoro Oriental, Negros Oriental, Palawan, Pangasinan, Siquijor	USAID / PCV				550	October 2004 to September 2012
15	The Climate Change and Clean Energy Project (CEnergy)	"The Climate Change and Clean Energy Project (CEnergy) supports the Philippine government's integrated strategy to climate and energy policy that aims to curb the rapid progress of climate change. The project focuses on the power and transport sectors, which have been identified as the major sources of the country's greenhouse gas emissions. The project adopts a multi-pronged approach that is designed to mitigate climate change through the improved utilization of clean and renewable energy in power and transport."	key government entities, private sector, media, transport groups, and the academe	Climate Change and Clean Productive Energy	Metro Manila: Quezon City, Makati, Naga City, Cebu City, Navotas City, Pasig City, Zamboanga City, San Fernando City, La Union, Laoag City, Iloilo City & Bacolod City	USAID/ International Resources Group (IRG)				8,500.00	Ongoing (May 2010- September 2013)

PROJECT TITLE		DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION
							LP	GP	GOP	TOTAL	
16	Philippine Water Revolving Fund Support (PWRP)	This Program aims to increase access to financing for creditworthy water service providers through a co-financing mechanism developed by USAID, JICA, Department of Finance and private financing institutions, where the Local Government Unit Guarantee Corporation and USAID's Development Credit Authority guarantee the loans. Additional programs components include technical assistance on water and sanitation project preparation, and strengthening of water and finance sector through strategic reforms.	National Government, LGUs, communities	Water and sanitation	Meycauayan Bulacan, Silang Cavite, Davao City, Iligan City Lanao del Norte, Puerto Princesa City Palawan, San Fernando Pampanga, Zamboanga City	USAID/ JICA/ DOF / Development Alternatives Inc.				5,000.00	October 2008- September 2011

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION	
						LP	GP	GOP	TOTAL		
17	Adaptation to Climate Change and Conservation of the Biodiversity in the Philippines	In response to the challenges of mitigating the effects of climate change, the Philippine Government established the Inter-Agency Committee for Climate Change (IACCC), which is supported by a Secretariat in the Environmental Management Bureau of the Department of Environment and natural Resources. The IACCC and the Secretariat are responsible to adopt the obligations of the UN Framework Convention on Climate Change (UNFCCC) in the Philippines. As such, the body can take the lead role in formulating and mainstreaming climate change adaptation policies and strategies. The project will strengthen existing structures such as the IACCC through intensive consultation, capacity building and training. A Biodiversity Fund shall be established to finance approved project proposals which are rated based on the following funding criteria: expected contribution to the conservation of terrestrial and marine biodiversity; contribution to carbon sinks and increasing the resistance potential of ecosystems to climate change. Monitoring of the implementation of selected projects shall be also undertaken and lessons learned shall be effectively shared and disseminated.	Small scale farmers or fisherfolk in the buffer zone of the protected areas	Climate Change & Environment, Biodiversity	Nationwide	GTZ		4,838.89		4,838.89	December 2008- November 2011

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION	
						LP	GP	GOP	TOTAL		
18	Disaster and Climate Risk Management	Supports the Philippine Government—with other donor agencies and local and international NGOs—in enhancing the capacity of national government agencies, local government units and communities, in disaster risk reduction and climate change adaptation. Assistance has included identifying and addressing disaster and climate hazards and risks and increasing the resiliency of vulnerable communities. Australia has provided \$10.6 million since 2006 and committed an additional \$9.16 million until 2013 to support the implementation of new policies and disaster and climate risk management activities, including responding to rehabilitation requirements of the Greater Metro Manila Area.	National Government, LGUs, communities	Climate Risk Management	Nationwide	AusAid				19,760.00	2006-2013
Forestry/Upland											
19	Community-Based Forest and Mangrove Management Project in Panay and Negros	The CBFMMP is in line with Executive Order 263 declaring Community Based Forest Management (CBFM) as the national strategy to ensure sustainable development of the country's forest resources. CBFMMP is being implemented by the DENR in partnership with the Land Bank of the Philippines, and with the support from the German Government through the KfW and GTZ. Adopting the CBFM approach, the project shall	LGUs, poor farmers including indigenous people (IP), POs	Forestry and Coastal	Region 6 – Aklan (Kalibo, Tangalan, Batan, Malinao, New Washington), Antique (San Remegio, Sibalom, Tibiao, Patnongon, Sebaste), Capiz (Pilar, Dumarao, Sapián), Iloilo (Dingle, San Dionisio, Maasin, San Joaquin, Carles), Negros	KfW	5,777.78	4,333.33	2,527.78	12,638.89	2009-2015

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION	
						LP	GP	GOP	TOTAL		
		pioneer an innovative financing mechanism that is designed to encourage sustainable resource management through investment packages that dovetail livelihood/infrastructure development measures with natural resource management initiatives. The Loan and Financing Contribution to be extended by KfW shall be used to fund loans ("sub-loans") to be granted by the LBP for financing livelihood and rural infrastructure activities in close cooperation with the DENR.			Occidental (Kabankalan, Ilog, Cauayan, Candoni) Region 7 - Negros Oriental (Bindoy, Bayawan, Sibulan)						
20	Enhancing Natural Resources Management through Enterprise Development	The project involves the enhancement of environmental management and development of livelihood opportunities for forest dwelling communities through improved forest use. It has four main components, namely; (a) Capacity Building, (b) Enterprise Development, (c) Guidebook Development, and (d) Policy Review and Formulation.	POs and upland Communities in forested areas; LGUs, DENR & other agencies; NGO; & private sector	Forestry	Region 1 - Pangasinan; Region 2 - Cagayan; Region 3 - Bataan; Region 4B - Palawan; Region 6 - Iloilo; Region 8 - Leyte; Region 10 - Camiguin; & Region 11 - Davao Oriental.	NZAID		302.40		302.40	2008-2011
21	Climate-Relevant Modernization of Forest Policy and REDD Piloting in the Phils.	The project aims at the development of an improved forest policy and of specific incentives for avoided deforestation, for forest protection and rehabilitation and for conservation of biodiversity. It focuses on the elaboration of a REDD strategy with innovative elements of conservation and piloting of measures in and around selected protected areas of the Philippines. The project will enhance the capacities of Philippine partners for planning and implementation of climate relevant forest measures,	Upland watershed-based communities and policy makers	Climate Change/ Forestry	Nationwide	GTZ		3,734.04	691.49	4,425.53	October 2009- September 2012

PROJECT TITLE		DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION
							LP	GP	GOP	TOTAL	
		conflict mitigation, securing land use rights, and improving local livelihoods. Beside avoided deforestation, rehabilitation and sustainable management of tropical forests, the project will contribute to improved adaptive capacities and protective functions of forests.									
ODA - JAPAN											
22	Project for Improvement of Flood Forecasting and Warning System in the Pampanga and Agno River Basins (Phase III)	"The project aims to improve the existing gauging stations and telecommunication facilities for fast data transmission of observed data to ensure the issuance of timely and reliable warnings to flood-threatened communities."	Pampanga Agno River	River	Region III - Pampanga	Japan-ODA					2009- Ongoing
Business Sector											

PROJECT TITLE		DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION
							LP	GP	GOP	TOTAL	
1	Hamilo Coast Project	"The Hamilo Coast project is an innovative approach towards sustainable coastal development. Through a partnership with Costa Del Hamilo Inc., three major initiatives towards sustainability are currently being implemented, designed to minimize and manage coastal and terrestrial development impacts and to maintain the region's overall ecological integrity"	Coves along Hamilo Coast, MPAs: Santelmo, Etayo, and Pico de Loro; Barangay Papaya enforcement team	Coastal		WWF / Costa Del Hamilo Inc. / SM					Ongoing
2	Project Connect	"With the development of education modules advocating energy efficiency and conservation plus renewable energy in selected elementary schools, high schools and universities, Project Connect aims to synergize technology with education to nurture and inspire a fresh generation of environmental stewards. Lessons deal mostly with climate change and energy efficiency."	selected elementary schools, high schools, and universities	climate change, energy efficiency	Nationwide	WWF / SMART communications					2010-Present

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION	
						LP	GP	GOP	TOTAL		
3	Bright Skies for Every Juan Program	"Every time someone books a Cebu Pacific flight online, they get the chance to offset their carbon footprints by donating a small amount (commensurate to the carbon their flight will release into the atmosphere) to WWF's Climate Adaptation Project in Sablayan, Mindoro. This project benefits the people and the nearby Apo Reef."	people and communities in Sablayan, Mindoro and the nearby Apo Reef; Cebu Pacific passengers	Climate Change Biodiversity	Nationwide	WWF/ Cebu Pacific Airlines					Ongoing
4	Sta. Rosa Watershed Conservation Project	"Coca Cola Company has poured themselves into studying the Sta. Rosa watershed and revitalizing the Ilagan watershed."	Sta. Rosa watersheds and nearby communities; water consumers of the district	Climate Change, inland water		WWF/ Coca-Cola Company					Ongoing
5	Abuan Watershed Conservation Project		Abuan Watershed and nearby communities; water consumers of the district	Climate Change, inland water	Ilagan, Isabela	WWF/Coca Cola Company					Ongoing
6	Marikina-Sapinit watershed Conservation Project		Marikina-Sapinit Watershed and nearby communities; water consumers of the district	Climate Change, inland water		Coca Cola Company/ Philippine Disaster Recovery Foundation					Ongoing
7	Caliraya Watershed Conservation Project		Caliraya Watershed and nearby communities; water consumers of the district	Climate Change, inland water	Lumban, Laguna	Coca Cola Company					Ongoing

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION	
						LP	GP	GOP	TOTAL		
8	Butuanon Watershed Conservation Project		Butuanon Watershed and nearby communities; water consumers of the district	Climate Change, in-land water		Coca Cola Company / Soil & Water Conservation Foundation					Ongoing
9	Talomo-Lipadas Watershed Conservation Project		Talomo-Lipadas Watershed and nearby communities; water consumers of the district	Climate Change, in-land water		Coca Cola Company					Ongoing
10	Ring of Fire Project	The Ring of Fire initiative aims to replicate the Philippines' global success in sustainable geothermal production for Indonesia's largely untapped geothermal energy resources.	General Public	climate change, energy efficiency	North Cotabato	EDC / WWF					Ongoing
11	Project EcoKids	"project EcoKids – educating children about the environment, throughout various public schools in the metro."	public school children in the metro	Climate Change	NCR	WWF / HSBC					Ongoing
12	Climate Change Adaptation Project in Apo Reef and Sablayan, Occidental Mindoro					WWF / Cebu Pacific					Ongoing
13	Risk Assessment and Management, Climate Change					WWF / Bank of the Philippine Islands					Ongoing / 2011
Civil Society Organizations											

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION	
						LP	GP	GOP	TOTAL		
1	Go Green Philippines	"The areas to be covered by Go Green as proposed by the DENR Region VII are as follows: > Forest Management - planting of <i>pangantuon</i> (white wood) trees, as well as other trees such as <i>ipil</i> (brownish wood) and <i>sibucao</i> (red wood) trees, buri propagation and bamboo planting. > Coastal Environmental Program - protecting of coral reefs and establishing sea shell sanctuaries. > Livelihood Projects - helping rural communities through livelihood programs and skills training and education that can also support the fashion jewelry industry.	communities in the island of Cebu; fashion industry	Forestry, Coastal	Region VII: Cebu	Cebu Fame Foundation					2007-2015
2	Corporate Greenhouse Gas Accounting Program	"Companies can avail of either an in-house seminar and/or a mentoring assistance program to develop their GHG emissions summary, which can subsequently serve as basis for their GHG management / reduction programs."	private companies	Climate Change	nationwide	PBE					Ongoing
3	Environmental Management Programme for Industry Competitiveness (EPIC)	EPIC seeks to enhance business competitiveness in the global market through environmental management. It aims to strengthen private sector initiatives to reduce the environmental footprint of industry.	businesses and industries	Climate Change	Nationwide	PBE					Ongoing

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION	
						LP	GP	GOP	TOTAL		
4	Industrial Waste Exchange Program	"The Industrial Waste Exchange Program (IWEP) encourages the exchange of waste of one industry by another industry for re-use or C68recycling. The ultimate goal of the waste exchange is to: (1) reduce the environmental impacts from industrial waste disposal (2) generate economic returns through the promotion of resource recovery from industrial waste"	industries	climate change, energy efficiency	nationwide	PBE					Ongoing
5	La Mesa Watershed	As of October 2007, 1,381 of the 1,600 hectares needing rehabilitation have already been planted out." "With this rehabilitation project, La Mesa is now considered a "carbon sink" as it absorbs 3% of the total carbon emissions of Metro Manila.	La Mesa watershed; Metro Manila residents	forestry, in-land water	NCR: La Mesa, Quezon City	ABS-CBN Bantay Kalikasan					Ongoing
6	La Mesa EcoPark	"La Mesa Eco-Park envisions a better environment for our children. In pursuit of this vision, La Mesa Eco-Park's mission is to spread environmental awareness by serving as a living, outdoor classroom and laboratory for environmental education and by being a venue for healthy outdoor recreation. "	La Mesa watershed; communities nearby; general public	forestry, in-land water, biodiversity	NCR: La Mesa, Quezon City	ABS-CBN Bantay Kalikasan					Ongoing
7	Bantay Baterya	The Bantay Baterya Project aims to create a sustained public awareness on the health and environmental hazards posed by the indiscriminate handling of junk batteries, to recover and reprocess junk batteries in an environmentally safe manner.	general public	climate change	Nationwide	ABS-CBN Bantay Kalikasan					2000- ongoing

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION	
						LP	GP	GOP	TOTAL		
8	Bantay Langis	"The project aims to educate and inform the public on the dangers of improper handling and disposal of used industrial and engine oil; and to disseminate information on the environmentally-sound technology for the treatment and recycling of used oil. The project follows the Bantay Baterya Project procedure. The Bantay Langis Project requests companies for donations of used industrial and engine oil earmarked for disposal."	general public	Climate Change	Nationwide	ABS-CBN Bantay Kalikasan					2007- ongoing
9	Kapit Bisig sa Ilog Pasig	"On March 2008, Bantay Kalikasan, the environment arm of the foundation, signed a Memorandum of Agreement (MOA) with the Department of Environment and Natural Resources (DENR), making the former co-manager of the Pasig River Rehabilitation Project. The main goal is to revive the waters to Class C. Bantay Kalikasan, in partnership with concerned local government units, government agencies, the private sector, non-government organizations, and the general public, will be addressing the problem by mitigating pollution at source. This gave birth to Bantay Kalikasan's very own Kapit Bisig sa Ilog Pasig, a project for the rehabilitation of Pasig River."	Pasig River and nearby communities	Climate Change, in-land water	NCR: Pasig, Manila	ABS-CBN Bantay Kalikasan					2008-on going
10	The Climate Change Adaptation – Disaster Risk Management	This project is the Manila Observatory's pilot project for community-based, inter-program work which aims to integrate present disaster risk management concerns with long-term climate change response and overall sustainable development through capacity-building and technical assistance.	Mag-Asawang Tubig watershed	in-land waters	Calapan City, Municipalities of Naujan, Victoria, Baco, San Teodoro, and Puerto Galera	Ateneo de Manila University, School of Science and Engineering, Manila Observatory					Ongoing

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION	
						LP	GP	GOP	TOTAL		
11	GREEN (Green Resources for Environmental Education and Networking) Program	The Ayala GREEN (Green Resources for Environmental Education and Networking) Program is an advocacy campaign promoting environmentally-sound practices along the areas of energy, water, air and solid waste through IEC (information, education and communication) campaign materials development, capacity building, monitoring and partnership building with various organizations	Ayala development projects; office, residential and commercial establishments; buildings and malls administrators and managers; general public	Energy, Water, Climate Change,	Makati City, Taguig City, Quezon City, Muntinlupa City	Ayala Foundation					2009-ongoing
12	Preventing Extinctions Programme: Cebu Flowerpecker	To identify and implement conservation actions for the Cebu Flowerpecker	Cebu flowerpecker	Biodiversity	Cebu	Haribon / BirdLife International					October 2009- December 2012
13	Building on Success: Turning Policy Advantages into Conservation Gains for Internationally Important Conservation Areas across the Birdlife Partnership	To improve collaboration and implementation of Convention on Biological Diversity and Ramsar agreement	environmental policy-makers	Biodiversity	Nationwide	Haribon / BirdLife International					July 2009- June 2011
14	Establishment of Nursery on Native Tree Species at the Caliraya Watershed	To establish a nursery of native tree species as a means of educating and getting the active participation of various sectors in the campaign for forest restoration	Caliraya Watershed and nearby communities	Forestry, Biodiversity	Caliraya	Haribon / Coca Cola Foundation					December 2009 - December 2011
15	Forest and Climate Protection Project in Panay	To provide local level support to community-based project implementation around the Panay Mountain Range	Panay Mountain range and communities nearby	Forestry, Biodiversity	Panay Island, Negros	Haribon / GIZ					November 2010 – December 2013
16	Forestry Project	To restore 3 hectares in the Manleluag Spring Protected Landscape	Manleluag Spring	Forestry	Malabobo, Pangasinan	Haribon / BirdLife International					September 2010- August 2013
17	Toyota Foundation	To implement forest management including policy formulation. To conduct training on forest management. To raise awareness	environmental policy-makers, general public	Forestry, Biodiversity	Nationwide	Haribon / BirdLife International – Toyota Foundation					January 2011- December 2011

PROJECT TITLE	DESCRIPTION/ THEME	TARGET BENEFICIARIES	PROJECT ECOZONE FOCUS & MAJOR INTERVENTION	PROJECT LOCATION	FUNDING AGENCY/ IMPLEMENTING PARTY	PROJECT COST (USD \$ '000)				PROJECT DURATION	
						LP	GP	GOP	TOTAL		
	on forest management. To implement livelihood activities										
18	Climate Change Adaptation Strategies for Protected Areas and Island ecosystems, Climate Vulnerability Assessment		General Public	Climate Change	nationwide	WWF / European Commission					Ongoing / 2015
19	Live Reef Fish Trade			Biodiversity, marine		WWF / Danish International Development Agency					Ongoing /2011
20	Climate Solutions for Asia: Visions for a low carbon future in key Asian emerging economies	Regional work on policy advocacy and lobbying	Philippines	Climate Change	Nationwide	WWF-UK					Ongoing/ 2011
21	Implementing Climate Adaptation Strategies in the World's Most Outstanding Natural Places			Climate Change	Colombia (Pacific coastal region of the Chocó Darién ecoregion); Madagascar (North-West region of Diana); Philippines (The Island Garden of Samal (IGACOS) in Davao del Norte region)	WWF / European Commission					Ongoing / 2015
22	Integrating Population, Reproductive Health and Coastal Resources Management Actions in Tawi-Tawi, Mindanao, Philippines			Climate Change, Coastal	Tawi-Tawi	European Commission					Ongoing / 2014

Sources: DENR-FASPO
 USAID PHILIPPINES
 FOUNDATION FOR THE PHILIPPINE ENVIRONMENT
 WWF Philippines
 MTPDP for 2011-2016

ANNEX 7-2

List of Pipeline Environmental Projects

PROJECT NAME	DESCRIPTION/OBJECTIVES	SECTOR	FUND SOURCE	LOAN PROCEEDS	GRANT PROCEEDS	GOP COUNTERPART	TOTAL	LOCATION
FIRM PIPELINE				295.34	12.49	58.95	386.77	
LOAN PROJECTS				293.84	4.00	58.67	376.51	
1. Forestland Management Project (formerly ProFORM)	<p>The project aims to strengthen forestland management through collaborative and holistic implementation of comprehensive and sustainable forestland management strategies in three critical river basins, i.e. Upper Magat and Cagayan, Upper Pampanga and Jalaur covering a total area of 182,400 hectares in Regions 2, Cordillera Administrative Region (CAR), 3 and 6.</p> <p>The Project area consists of 120,500 ha of forestland in Upper Magat and Cagayan River basins extending over Nueva Vizcaya and Quirino provinces in Region 2, and Ifugao in CAR; 36,000 ha of the same in Jalaur River Basin in Iloilo province of Region 6. Those forestlands are segregated into 18, 4, and 3 sub-project areas in the Upper Magat, Pampanga, and Jalaur River basins, respectively.</p>	Forestry/ Upland	JICA	93.84		28.47	122.31	Region 2 - Nueva Viscaya&Quirino; CAR - Ifugao; Region 3 - Carranglan&Pantabangan Region 6 - Iloilo
2. Agusan River Basin Integrated Water Resources Management	<p>The project is a response to the need to place the ARB under comprehensive management in active partnership with the local government units, communities, other national government agencies and other stakeholders to ensure the optimum utilization and sustained delivery of benefits derived from the river basin. Such actions will achieve global benefits while improving the socio-economic well-being of the impoverished communities within the ARB, who in large part are directly dependent on the agricultural and natural resources found within the basin. The intended impact of the project is reduced poverty, improved health and living standards in the ARB, conservation of significant biodiversity and maintenance of the integrity of coastal ecosystem. The desired outcome of the project is improved water resource management, through effective implementation of an integrated "ridge to reef" system, with government and the community working in partnership to raise the quality and productivity of rivers and wetlands, biodiversity, forestlands, and agricultural lands in the ARB in a sustainable manner.</p>	Multi-sectoral	ADB/GEF	80.00			80.00	Region 11 - Compestela Valley; CARAGA - Agusan del Norte &Agusan de Sur
3. Integrated Natural Resources and Environmental	<p>The project aims to manage the upper river basins and component watersheds to support poverty reduction, watershed management, biodiversity conservation and climate change policy objectives with emphasis on developing the capacities of the</p>	Forestry/ Upland	ADB	100.00			154.20	CAR - Mt. Province, Kalinga; Region 7 - Bohol; Region 10 - Bukidnon&Misamis Oriental; and ARMM -
			IFAD	20.00				
			GEF		2.50			

PROJECT NAME	DESCRIPTION/OBJECTIVES	SECTOR	FUND SOURCE	LOAN PROCEEDS	GRANT PROCEEDS	GOP COUNTERPART	TOTAL	LOCATION
Management Program (INREMP)	local governments, institutions and upland communities as development partners. Consistent with the conservation and management efforts to improve the integrity of these watersheds, sustainable livelihoods and enterprises as well as private investments will be pursued by the project. The Project approach is consistent with the national objective of developing specified environment and natural resources management functions and responsibilities to local governments, as expressed in Republic Act (RA) 7160, the local Government Code (1991), the recognition of indigenous peoples rights to their ancestral domains (RA 8371), and the adoption of Community-Based Forest Management as the main strategy for sustainable forest management (Executive Order 263). Capacity building efforts will (i) develop the ability to increase the scientific basis upon which environmental management targets for river basins and watersheds can be established; (ii) evaluate national and provincial policy enabling conditions; and (iii) developing management capacities for LGUs to manage watersheds as enterprises.		CC Fund		1.50			Lanao del Sur
GRANT PROJECTS				1.50	8.49	0.28	10.26	
4. HCFC Phase-out Management Plan (HPMP)	The HPMP is an overarching strategy to describe the country's overall strategy in HCFC phase-out strategy from 2010-2040 with an initial cost estimate for the entire period (2010 to 2040) of about US\$25 million. For the Stage One phase-out (2013 freeze and 2015 10% reduction), the current estimated cost is US\$4.7 million. As the World Bank is implementing the preparation grant, the Bank shall engage the consultants. The Bank will review the consultant's work and reports prepared, and will help in the finalization of the HPMP. The Philippine Ozone Desk (POD) will provide assistance to the consultants in conducting data surveys, provide inputs to document required, review consultant reports, initiate the first draft of the HPMP, and provide all logistic support.	Environment	WB				TBD	NCR - Metro Manila

PROJECT NAME	DESCRIPTION/OBJECTIVES	SECTOR	FUND SOURCE	LOAN PROCEEDS	GRANT PROCEEDS	GOP COUNTERPART	TOTAL	LOCATION
5. Removing Barriers to Invasive Species Management in Production and Protection Forests in Southeast Asia	To protect forest biodiversity by managing IAS through strengthening of policy, creating awareness, building capacity, implementing management strategies at pilot sites and strengthening regional cooperation in the management of IAS.	Forestry	UNEP/GEF		0.52		0.52	TBD
6. Bulacan Integrated River System Development Project (BIRDeP)	<p>General Objective:</p> <p>To provide technical assistance on environmental management and improvement of the MMO WQMA</p> <p>Specific Objective:</p> <ol style="list-style-type: none"> 1. To develop an Environmental Investments Plan for the MMO 2. To review and/ or develop appropriate plans on industry relocation, and integrated land use planning and zoning in the MMO 3. To develop the MMO river rehabilitation program, including an Operational plan 4. To conduct bioremediation of the MMO river system 5. To develop/ conduct Feasibility Studies on treatment and Management of wastewaters from for priority commercial and industrial sectors 		ADB				TBD	Region 3 - Bulacan & Pampanga
7. Integrated Water Quality Project for the Laguna Lake, Pasig River and Manila Bay	Aims to develop a programmatic program approach in protecting and managing the 3 major bodies and its tributaries with funding from different donors.		WVB		4.23		4.23	NCR & Region 4A (Manila Bay, Pasig River and Laguna Lake)
8. Establishment and Rehabilitation of Marine Protected Areas for Climate Change Adaptation and Biodiversity	<ul style="list-style-type: none"> • Protection, rehabilitation and designation of Marine Protected Areas encompassing 6,000 ha coastal ecosystems (coral reefs, sea grass areas, secondary mangrove woods) for the improved resilience and adaptation to climate change as well as increased productivity of coastal waters. • Conservation of marine biodiversity in the project region and as part of the regional Coral Triangle Initiative. 	Biodiversity	GTZ		3.73	0.28	4.01	Visayas

PROJECT NAME	DESCRIPTION/OBJECTIVES	SECTOR	FUND SOURCE	LOAN PROCEEDS	GRANT PROCEEDS	GOP COUNTERPART	TOTAL	LOCATION
Conservation in the Philippines as a part of the Coral Triangle Initiative								
7. Solid Waste Management Application to Access Urban Financing Partnership Facility (ADB)		Environment	ADB	1.50			1.50	
8. German Financial Cooperation Centre for Biodiversity Conservation in the ASEAN Region Ref. "Biodiversity Small Grants Project"		Biodiversity	GTZ				TBD	TBD
SOFT PIPELINE				19.35	0.00	3.78	23.13	
I. Hazardous Waste Management Program	<p>In cognizant of the current situation on hazardous waste management and in view of the pending Philippine Hazardous and Radioactive Waste Management Act at the House of Representatives (Lower House) and the Senate of the Philippines (Upper House), it is imperative to conduct an assessment of how effective the implementation of RA 6969, its Implementing Rules and Regulations, and other related policy issuances.</p> <p>The Project, through the proposed technical assistance from the Government of Japan, shall involve the preparation of a national hazardous waste status report, and updating of the National Hazardous Waste Management Framework formulated in 2002.</p>		JICA				TBD	Region 3 - Bulacan

PROJECT NAME	DESCRIPTION/OBJECTIVES	SECTOR	FUND SOURCE	LOAN PROCEEDS	GRANT PROCEEDS	GOP COUNTERPART	TOTAL	LOCATION
2. Forest and Climate Protection Panay	<p>The project will implement activities towards conservation of forests in the Panay Mountain Range with an integrated conservation and development approach. REDD+ pilot measures will be conducted in close cooperation with the BMU-funded project 'Climate-relevant Modernization of the National Forest Policy and Piloting of REDD' with a focus on biodiversity conservation and improving livelihoods.</p> <p>Activities comprise improved land use planning and introduction of locally adapted agroforestry technologies, building of an alliance of concerned provinces and municipalities, establishment and development of protected areas for endangered species („Critical Habitats“) in the framework of decentralized spatial planning for the entire forest area of 50.000 ha, participatory planning approaches and integration of measures in the annual budget planning of communities, as well as dissemination of an ecologically sound agroforestry, large scale reforestation and supply of local households with renewable energies (predominantly from reforestation areas).</p>		GTZ		2.70	0.35	3.04	Region 6 - Panay Island
3. FS on Sanitary Landfill Construction for Solid Waste on Northern Mindanao			KOICA					
4. Geographic Information Database for the Philippines			KOICA					
5. Global Mercury Project Phase II			UNIDO					

PROJECT NAME	DESCRIPTION/OBJECTIVES	SECTOR	FUND SOURCE	LOAN PROCEEDS	GRANT PROCEEDS	GOP COUNTERPART	TOTAL	LOCATION
6. Establishment of Geo-spatial database of Baguio City and the coastal areas of Lingayen Gulf in the Philippines for CCA			KOICA					
7. Bicol River Basin and Watershed Management Project (BRBWMP)	To restore, sustain and enhance the productive capacity, and protective functions of the natural resources of the watersheds of the Bicol River Basin, with the aim of reducing poverty amongst the inhabitants through raising individual household income, while minimizing their exposure to flooding, sedimentation, and other water related natural disasters.		WB	15.12		3.78	18.90	Region 5 - Albay, Camarines Sur & Camarines Norte
8. Promotion for the Development of Appropriate Solid Waste Management Facilities in the Phils.	To strengthen the technical evaluation capability of National Solid Waste Management Commission (NSWMC) and the Regional Ecology Centers (RECs) and support the LGUs for the preparation of the application documents for development of solid waste management facilities.		JICA	4.23			4.23	Region 4B - Oriental Mindoro, Occidental Mindoro & Marinduque; Region 5 Sorsogon & Albay; Region 11 - Davao & Compostela Valley
9. Development of Caniaw into a Heritage Reforestation Site			TBD		0.75		0.75	Region 1 - Bantay-Vigan, Ilocos Sur

Source: DENR-FASPO

ANNEX 7-3

DENR Funded Projects under the GAA

ANNEX 7-3
DENR PROJECTS FUNDED UNDER THE GENERAL APPROPRIATIONS ACT

This Annex outlines the ongoing “regular/locally funded” projects of DENR on forest and biodiversity management with funds provided under the General Appropriations Act. Listings of these projects are provided in the table below followed by a summary assessment of these projects.

PROJECT TITLE	DESCRIPTION	LEAD AGENCY	SUPPORT AGENCY	Target Beneficiaries
1. Community-based Forest Management Program	The CBFMP integrates all the learnings and approaches of upland people-oriented forestry programs, projects, and activities in the past. The program formalizes access to forestlands by the upland farmers through the issuance of Community-based Forest Management Agreement (CBFMA) to qualified community/people's organizations. The program works in partnership with the LGUs particularly in site identification, planning, community organizing, training and IEC. At times, the participating LGUs provide financial support in the conduct of these activities.	DENR	FMB, LGUs	Upland communities
2. Upland Development Program	Initiated by DENR in 2008, the UDP was designed primarily as a support to the Hunger Mitigation Program and eventually was made as a support program for the government's Economic Resiliency Plan Economic Resiliency Plan: Comprehensive Livelihood and Emergency Program (CLEEP). The objectives are to create immediate employment and incomes for poor households and peoples organizations, through infusion of forestland development investments. These objectives would be achieved by engaging POs engaged in CBFM activities for nursery establishment and seedling production; individual farmer-members of the POs for farm lot and agroforestry farm development, reforestation of open and denuded lands, and mangrove rehabilitation; and other community members for reforestation activities.	DENR	FMB, LGUs	Upland communities
3. Watershed Prioritization and Preparation of Integrated Watershed Management Plans	The DENR identified about 154 hectares of priority watersheds covering about 12.4 million hectares that are in dire need of rehabilitation and management (DENR, 2006). The prioritization process would involve the survey and characterization of the watersheds to determine those areas needing and requiring critical protection to support water supply for irrigation, power, domestic and industrial purposes. Subsequently, watershed management plans would be prepared to define the land use policies including the management prescription for the priority watersheds.	DENR	FMB, NIA, NPC	Upland communities, lowland farmers, commercial, industrial, institutional, and domestic user of water and power supply
4. Updating of the Master Plan for Forestry Development	The DENR-FMB prepared in 1990 the Philippine Master Plan for Forestry Development to serve as the blueprint for forest development and management. The intention was to address the growing problem of forest degradation while at the same time provide the needs for wood of the forest industries and other forest products (food, water, energy, and other commodities) including watershed protection. The plan was revised in 2003 based to incorporate the direction of the sector and the 10 major strategic priority programs including the strategic targets. Subsequent	DENR	FMB	Upland communities, users and producers of forest products

PROJECT TITLE	DESCRIPTION	LEAD AGENCY	SUPPORT AGENCY	Target Beneficiaries
	regional forestry master plans were prepared. The FMB intends to update this year (2011) the 2003 Master Plan to reflect the current trends and global focus of forest management.			
5. Forest Boundary Delineation	This project is in compliance with the provision of the Constitution for the delineation of the boundaries between forestlands, national parks and agricultural lands. The conduct of the assessment and delineation is guided by DENR-AO 2008-24 that outlines the administrative structure and the technical procedures and outputs of the project.	DENR	NAMRIA, FMB	LGUs, other NGAs, General public
6. Public and Private Sector Participation in Reforestation	Reforestation of open and denuded forestland is undertaken both by the government (primarily DENR) and the private sector. Reforestation efforts of the DENR are done mainly "by administration", meaning the DENR field operating units directly undertake the reforestation activities. On the other hand, reforestation by the private sector is done by the TLA holders (as part of their obligations) and holders of IFMAs, SIFMAs, TFLA, PLA, ITPLA and CBFMAs	DENR	FMB, private sector, communities	Upland communities, private sector, other NGAs
7. Forest Protection	The DENR undertakes forest protection activities in around 6.9 million hectares of untenured forestlands. This is done through regular surveillance and monitoring for protection from fire, pests, and diseases including encroachment and illegal resource extraction (DENR, 2009). The forest protection program of the DENR also involves the strengthening of the Multi-sectoral Forest Protection Committees. The DENR regional offices have identified "hotspots/critical areas" where they would focus their protection activities.	DENR	FMB	
8. Forest Information System	This project was started in 2007 by the FMB to provide a facility for the efficient management of forestry data and for an effective statistical system to support decision-making (DENR, 2009). The FIS, together with the other sectoral information system of the DENR, will be integrated in a nationwide DENR web portal consistent with the Information System Strategic Plan of the agency as approved by the National Computer Center. The FIS modules, designed to provide nationwide statistical and geographic information on the forest situation, have already been developed and deployed in the forest management service (FMS) of the DENR-regional offices and their respective PENROs and CENROs. Trainings on the use of the FIS have been conducted for the FMS and these offices are now in the process of populating the data and maps required in the FIS.	DENR	FMB	LGUs, other NGAs, communities, academe, private sector, NGOs, Pos

PROJECT TITLE	DESCRIPTION	LEAD AGENCY	SUPPORT AGENCY	Target Beneficiaries
9. National Greening Program	This program, authorized under Executive Order No. 23 and operationalized through DENR-MC 2011-01, intends to plant 1.5 billion trees in about 1.5 million hectares within six years from 2011-2016. The trees would be planted in forestlands, mangrove and protected areas, ancestral domains, civil and military reservations, urban areas under the greening plan of the LGUs, inactive and abandoned mines sites, and other suitable lands. The NGP would involve the participation of national government agencies, LGUs, civil society groups, the private sector and peoples organizations in the seedling production, community mobilization and IEC activities, plantation development; the harmonization of all tree planting activities and other greening activities (e.g., UDP, Luntiang Pilipinas) of all sectors under the NGP; and the provision of incentives and accrual of benefits to beneficiary communities who will also be considered as priority in the Conditional Cash Transfer (CCT) Program of the government	DENR	FMB, LGUs, IPs, communities, LGUs, private sector	Upland communities, LGUs, Pos
10. NIPAS Establishment and Management	As the main agency for the implementation of the NIPAS law, the DENR, through its Protected Areas and Wildlife Bureau and the Protected Areas, Wildlife and Coastal Zone Management Service of the regional field units undertakes a number of activities in support of its mandated responsibilities under NIPAS. These include the establishment of the initial components of the NIPAS, disestablishment of initial components of NIPAS found not suitable for PA purposes, and operationalization of the established PAs.	DENR	PAWB, PAMBs	PAMB members, communities within Pas
11. Community-based Program for Protected Areas	Cognizant of the importance of community participation in the management and protection of the PAs, the DENR started the implementation of the Community-based Program in Protected Areas (CBP-PA) through the issuance of DAO 2002-02. Under this program, the DENR would issue tenurial instruments to qualified organizations of migrant communities and indigenous people who are interested in participating in the implementation of activities consistent with the PA Management Plan. Called the Protected Area Community-based Management Agreement of PACBRMA, the qualified community organizations are given tenure over suitable portions of the PA for 25 years renewable for a like period. In turn, the community organizations have the responsibilities of the development and protection of their respective tenured areas consistent with the approved Community Resource Management Plan.	DENR	PAWB, PAMBs	Communities within Pas
12. Wildlife Conservation and Protection Program	This program is in support of the implementation of RA 9147 or the Wildlife Resources Conservation and Protection Act. The program likewise reinforces the country's commitment to the Convention on International Trade in Endangered Species (CITES) and the International Union for the Conservation of Nature and Natural Resources. The activities under this program include the following: creation/operation of Regional Wildlife Management Committee; creation of Wildlife Traffic Monitoring Unit; regulation of Wildlife Collection and Trade (issuance of	DENR	PAWB	

PROJECT TITLE	DESCRIPTION	LEAD AGENCY	SUPPORT AGENCY	Target Beneficiaries
	permits/wildlife farm permit, Wildlife Collectors Permit, Local Transport Permit for Wildlife); wildlife Law Enforcement Capability Building; and establishment and Maintenance of Wildlife Rescue Center			
13. Wetlands Conservation Program	This program is part of the response of the Philippine Government to its commitment as signatory to the RAMSAR Convention on Wetlands of International Importance. The key activities under this program include the following: preparation of National Wetland Action Plan; updating of wetlands critical to biodiversity conservation; and waterfowl census.	NEDA	PAWB	Communities hosting wetlands
14. Cave Management, Protection and Conservation Program	This program is in support to the implementation of RA 9072 or the National Caves and Cave Resources Management and Protection Act and its IRR (DAO 2003-29). The program's key activities include: assessment, mapping, and classification of caves; management planning for caves under DENR jurisdiction; capacity-building and operationalization of Regional Cave Committees; strengthening of Regional Cave Assessment Team; partnership building in the implementation of the Cave Management Plan	DENR	PAWB	LGUs and communities hosting the caves

Sources: DENR Organizational Performance Indicator Framework, 2009
DENR Work and Financial Plan for 2010
DENR Accomplishment Reports for 2010
Documents provided by FMB and PAWB on description of major programs and projects

Forest Resources Management

The DENR, through its Forest Management Bureau and Forest Management Services of the regional field units, currently implements a number of strategies, programs and projects in the forestry sector. A description and appraisal of the more significant programs and projects are provided below. The appraisals were drawn from a cursory analysis of the design and status of implementation, results of assessment report on the status of implementation of the DENR Framework Plans (DENR, 2009) including feedbacks obtained from the key informant interviews done for the PESA study.

1) Community-based Forest Management Program (CBFMP)

Assessment

- Focus has been on the granting of CBFMAs and has limited impacts on forest resource development and livelihood assistance
- Implementation has been hampered by:
 - Lack of post -CBFMA technical and social services to ensure food security and improve timber and non-timber production (only 195 CBFM-CARP projects were provided material inputs for the establishment of agro-forestry farms)
 - Lack of CBFM coordinators at the CENRO level
 - Insufficient funds for infrastructure support (e.g., farm to market roads)
 - Lack of forest and business management skills
 - Poor market information and linkages
 - Unstable policy environment (e.g., harvesting of plantation trees inside CBFM areas)
 - Lack of access to credit facilities
- Linkage of the CBFM with watershed, forest protection, UDP and other forest and biodiversity resource management plans, programs and projects including land use and development plans of LGUs uncertain (there is possibility that CBFM areas overlap with the areas of other projects)
- Weak monitoring and assessment of status of implementation and compliance with CBFMA conditions (cutting of naturally standing trees, abandonment, sale of rights).
- Need to institutionalize FLUP in the functions of CENROs and ensure that implementation mechanisms of FLUP are carried out and linked with the CLUP and CDP of LGUs
- Need to do evaluation of the biophysical and socio-economic impacts of CBFM program including its relevance in addressing the issue of migration and settlements development in the uplands.

2) Upland Development Program (UDP)

Assessment

- Project is orientated more on poverty alleviation rather forest watershed rehabilitation
- Continuity and sustainability of UDP in question due to fund constraints.
- Possibility that coverage of UDP overlaps with CBFM areas
- No report and maps to show that the UDP areas that were planted coincide with the identified critical watersheds needing rehabilitation and whether these UDP areas are consistent with the prepared Watershed Management Plans or FLUPs.
- There is no plan that would show the extent of coverage, location and corresponding targeted site-specific beneficiaries.
- Report provides only the hectareage that were planted but no report on number and species of trees planted including survival rates

3) Watershed Prioritization/Preparation of Integrated Watershed Land Use Planning Assessment

- Need to facilitate the completion of watershed management and land use plans for the remaining identified critical watersheds.
- Need to resolve policy conflict for the multiple land and resource use within critical watersheds
- Lacks field level implementation
- WMPs need to be harmonized with the different land use and development plans at the regional (RPPF, RDP), provincial (PDPFP), and municipal levels (CLUP, CDP) and with the PA and biodiversity and other resource management plans.
- Could serve as the basis for integrating all development plans for a comprehensive and coordinated effort at the catchment level.

4) Updating of the Master Plan for Forestry Development Assessment

- It is important to undertake and complete the updating of the MPFD due to the major changes in the global outlook on the role forestry in mitigating the impacts of climate change.
- Owing to the tedious process of preparing a detailed national level master plan, it may be possible to just provide a coarse-grained Forest Management Framework Plan at the national level that can serve as the context and guide for the formulation of a more detailed downstream hierarchical plans at the regional, provincial, and municipal levels.
- The national framework plan and corresponding lower level plans can be further expanded to integrate biodiversity conservation and management concerns to ensure that forest resource management and biodiversity conservation are mutually reinforcing at all levels of the undertaking.
- The WMPs that have been prepared can serve as the starting document for the preparation of the lower level plans once the National Forest and Biodiversity Management Framework Plan (NFBMFP) is completed. The preparation of the subsequent WMPs consequently should be consistent with the NFBMFP.

5) Forest Boundary Delineation Assessment

- Need to facilitate the completion of the forest boundary delineation including the passage of the corresponding laws for on-ground demarcation purposes.
- Need to ensure the integrity of the boundary surveys through ground validation and overlay analysis with the recent land use cover maps of NAMRIA.
- The final forest boundaries would be important inputs to a reliable and consistent land information system that is critical in the preparation of responsive land use plans at the various hierarchical levels.

6) Public and Private Sector Participation in Reforestation Assessment

- Public sector reforestation mainly undertaken through community-based programs/projects.
- Almost nil reforestation efforts “by administration”
- Private sector participation in reforestation and plantation development constrained by the lack of financial support and marketing program including unstable policies to support and strengthen private sector participation
- Need to operationalize innovative financing mechanisms (e.g., securitization of forest resources, carbon trading/CDM, Payment for Environmental Services)

7) Forest Protection

Assessment

- Need to clearly define scope, coverage, and measurable and verifiable results from this project/activity.
- Inadequacy of monitoring, reporting, assessment and validation of the effectiveness of forest protection activities in terms of the increase or decrease of the forest cover in untenured areas.

8) Forest Information System (FIS)

Assessment

- Not yet fully operational especially at field levels.
- Inadequacy of data and GIS maps to be fully support forest resource planning, monitoring and evaluation.
- Varying level of competency on the use/application of FIS and GIS
- Limited public access

9) National Greening Program (NGP)

Assessment

- Too early to define its impact to forest resource rehabilitation efforts
- Need to draw up detailed plan (to respond to the “where, how, when, and how many and how much”)
- Need to undertake a parallel Strategic Environmental Assessment of the program to anticipate and mitigate potential negative environmental impacts and risks (e.g., Invasive species, dislocation, upland migration, etc.)

Biodiversity Management

The DENR through its Protected Areas and Wildlife Bureau and the Protected Areas, Wildlife, and Coastal Zone Management Service of the regional field units, implements the following biodiversity management programs/projects/ activities.

1) NIPAS Establishment and Management

Assessment

- The designation of critical biodiversity sites is a good starting point towards biodiversity conservation
- Implementation of NIPAS including management of declared and designated PAs hampered by:
- Lack of financial allocation from national budget
- Constraints in the access and use of the IPAF
- Limited manpower, technical expertise, enforcement capacities at the field level
- Biodiversity is not a priority concern of LGUs and other concerned NGAs
- Need to complete PAMP for proclaimed PAs and ensure that these areas are aligned/consistent with the identified KBAs
- Develop alternative management arrangements for KBAs outside PAs
- Update NBSAP and prepare implementation plans that are harmonized with forest management plans and other sectoral and spatial plans
- Need to incorporate biodiversity conservation and management in CBFM, FLUP, local land use and development planning

ANNEX 6-3 LIST OF DENR GAA-FUNDED PROJECTS 2011 FAA 118/119 REPORT

- Improve private sector participation in PA management through operationalize PES in proclaimed PAs and provision of regulatory, economic and financial incentives

2) Community-based Program in Protected Areas

Assessment

- Lack of comprehensive information settlements/occupants within PAs
- Inadequate social and technical support
- Limited capacities of POs to carry-out responsibilities in the PACBRMA

3) Wildlife Conservation and Protection Program

Assessment

- Lack comprehensive information system on wildlife resources and habitat inventory, permitting, monitoring
- Crime against wildlife/nature not yet mainstreamed in general law enforcement work
- Lack of capacity on legal procedures
- Lack of support (legal and financial) for wildlife law enforcers
- Need to integrate “upstream activities” of wildlife conservation and protection with PA management and forest protection.

4) Wetlands Conservation Program

Assessment

- Need to strengthen efforts at wetlands conservation and management through the provision of technical and financial assistance in the preparation of detailed plans to implement the National Wetland Action Plan
- Conduct of detailed inventory and biodiversity studies on important wetlands and peatlands and their associated flora and fauna composition

5) Cave Management, Protection and Conservation Program

Assessment

- Limited technical, logistics and financial capacities on cave assessment, research, and management.
- Need for IEC
- Need to strengthen LGU participation in cave management through incorporation of cave management concerns with environmental and ecotourism plans of LGUs

ANNEX 8

Recommendation Matrix

ANNEX 8 RECOMMENDATION MATRIX

Introduction

This portion presents the list of proposed strategic objectives and actions presented during the National Consultation held on 01 June 2011. These emerged from the workshop discussions that were considered to influence or change the behaviour of the 3 target groups (Producers/Owners, Consumers and Investors in NR Utilization).

The strategic objectives are:

1. Data Management and Information Systems;
2. Targeted law/regulations/plans enforcement linked to measurable biophysical and/or socio-economic outcomes;
3. Effective MRV of outputs and outcomes of public and private investments in ecosystem services;
4. Participatory process/conflict management
5. Subsidiarity;
6. Valuation studies for ecosystem services as foundation for PES; and
7. Innovative financing as founded on PES

STRATEGY NO.	STRATEGIC ACTIONS
1	1.1
	Complete forest delineation/demarcation with digitized maps and databases
	1.2
	Generate data and/or update forest cover and land use maps (to facilitate REDD-readiness among others), as well as for inland and coastal waters
	1.3
	Generate data and manage information on IKSP on forests, biodiversity and climate change impacts
	1.4
	Prioritize data collection and information management in highly vulnerable areas likely to experience triple burden
	1.5
	Design, complete, install, and operationalize integrated ENR-MIS at the national and local levels
	1.6
	Harmonize FIS and BIS with the LIS and other resource information systems (e.g., MGB, EMB, NAMRIA, etc.)
	1.7
	Generate and distribute official local-subnational-national vulnerability maps for climate change adaptation and DRR planning (building from SNC)
	1.8
	Collect and publish national experiences on REDD+ certification (e.g. VCS, CCBS) as template for building REDD+ and MRV regime in the country
	1.9
	Establish a clearinghouse mechanism under NEDA-DENR-CCC to collect and analyze as well as MRV local-subnational-national climate change mitigation and adaptation efforts (potentially through devolution of powers and/or incentive schemes such as PES to capture interest)
	1.10
	Update the National Biodiversity Strategy and Action Plan that addresses climate change impacts, mitigation and adaptation measures

	1.11	Share, transfer and apply knowledge, and technologies relating to biodiversity and ecosystems services
	1.12	Provide training on the use, maintenance, upgrading, and updating of the ENR-MIS and IDSS
	1.13	Build capacity for scientific research, including taxonomy and parataxonomy, and on standardized protocols on field monitoring, laboratory work and data analysis
	1.14	Empower local academic institutions and communities for environmental monitoring by enhancing tools, manpower development and logistical support such as field and laboratory equipment
	1.15	Provide training at local-subnational-national levels on climate change-related measures <ul style="list-style-type: none"> o Climate-proofing plans, including CLUPs and Annual Investment Plans o REDD+ in the Philippines as per the official National REDD+ Strategy o MRVing REDD+-relevant forest carbon data and safeguards/non-carbon dimension
	1.16	Engage and train the private sector to develop their potential role, contribution and opportunity for climate change and REDD+
	1.17	Empower the NCCAP by educating and training agencies and LGUs of its operational relevance
	1.18	Specialized training of NEDA, DBM, DOF, DILG, and HLURB on climate change, DRR, REDD+ and its economic dimensions (challenges and opportunities)
	1.19	Share, transfer and apply knowledge, science base and technologies relating to biodiversity and ecosystems services
2	2.1	Develop biophysical and socioeconomic baselines, indicators and targets
	2.2	Defining and operationalizing “climate-proofing” of national development plans and land-use planning
	2.3	Developing enforcement plans that are measured against the baseline indicators and targets
	2.4	Strictly enforce transparency and accountability in regional and local envi. workers such as revenues collected from extraction, processing and sale of natural products
3	3.1	Identifying ways to seek green investments, investment opportunities, regulations and incentives to further boost ecosystem service protection and enhancement, with consideration of climate change vulnerabilities and KBAs
	3.2	Support full implementation of the REDD+ Strategy and providing logistical support
4	4.1	Strengthen and mainstream the involvement of the stakeholders in the planning and M&E activities for the forest and biodiversity sectors through the various MFPCs, WMC, PAMBs, and other multi-stakeholder arrangements at the national and field levels.
	4.2	Prioritizing mobilizing participation from areas with triple burden, particularly local leaders, CBFM and PO Federations
	4.3	Engaging the private sector to develop their potential role, contribution and opportunity for climate change and REDD+ in the Philippines
	4.4	Through formal and informal education, improve enabling mechanisms for marginal and vulnerable communities access to livelihood opportunities, credit assistance, and other socio-economic infrastructure.

	4.5	Strengthen the design, installation, and operationalization of a Beneficiary Contact Monitoring to focus on the involvement of all stakeholders in the community including the Ips; Establishing the impact of climate change on Ips, fisheries and aquatic sector and CADTs in consideration of official vulnerability maps, and engaging participation from and mobilizing support for these communities
	4.6	Empowering decision-makers with simulation tools to enable them to better assess natural resource use for management options in consideration of ecosystem conservation and zoning alternatives
	4.7	Harmonization of LGU policies with National laws by assessing potential conflicts and overlapping policies ; Harmonization of environmental laws on shared resources such forests, lakes, rivers and coastal areas
	4.8	Fast-tracking establishment of the National Multi-stakeholder REDD+ Council to facilitate dispute resolution among others as per the National REDD+ Strategy
	4.9	Ensure that safeguards are provided for in the FPIC guidelines in the official international REDD+ mechanism and the National REDD+ Strategy and exploring how existing arrangements, coastal zones/ inland water concerns and existing forest licensing agreements can be integrated in the REDD+; Improvement of the provision of tenure rights and security of assets to marginal communities in the upland areas and other vulnerable areas including small scale resource users and IPs
5	5.1	Improvement of the ENR planning and enforcement capacities of LGUs and setting appropriate local standards or thresholds for environmental management of ecosystem services for effective resource development, use regulation and protection; Provision of assistance to LGUs to localize higher-level PA and watershed management plans and plan implementation within the framework of the LGU CLUPs
	5.2	Re-orienting and strengthening DENR and other NGAs to provide technical assistance to LGUs and other stakeholders at the community levels for an integrated management
	5.3	Improving access of LGUs and other stakeholders to ENR data and maps disaggregated at least at the municipal level
	5.4	Strengthen inter-agency collaboration and support to ecosystems research and research applications at the local levels
	5.5	Implement strictly the principle of inclusive governance with the spirit of shared learning and fair representation of interests
	5.6	Strengthen and expand the implementation of co-management arrangements of ecosystem resources between the DENR and the LGUs
	5.7	Deepen and expand the FLUP preparation and implementation to incorporate climate change and REDD+ and biodiversity conservation in concerns in forest management
	5.8	Preparation by the CENROs of an ecosystem-based ENR plans that can provide the context for lower level ENR plans of municipal and city LGUs
	5.9	NEDA, DBM, DOF as members of climate finance group to coordinate and facilitate devolution of funds

6	6.1	Developing tools, guidelines and capacity to conduct valuation studies for ecosystem services at macro- and micro-economic levels, national and local; Establishing and piloting opportunity costing/cost benefit analysis for REDD+ pilots areas to demonstrate feasibility of REDD+ as an alternative to certain exploitative economic activities; Improving data quality and methods of the PEENRA System so as to arrive at actual economic contribution and costs of ecosystem services to national and local development so as to better inform economic planning and commercial development in CLUPs; PEENRA just concerned with national; Possibility of formulating provincial level; Link to IRA; Opportunity Cost; Integrating vulnerability to risk assessment to valuation; Utilizing vulnerability and land capability assessments to generate appropriate zoning options and economic alternatives, with the objective of balancing development activities with sustaining and enhancing ecosystem services
	6.2	Valuating the economic contribution of specific ecosystem services in especially triple burden areas, for possible development of PES, ecosystem service subsidies, or PPP where appropriate, with special reference to enhancing regulating ecosystem services such as natural hazard mitigation
	6.3	Mainstreaming the calculation of macro-economic impacts of climate change to inform development planning, first at national level, then to subnational levels
	6.4	Proper valuation of identified and potential ecotourism areas to provide guidance on estimation of fees that will can used for PES
7	7.1	Empowering LGUs for sound financial management by providing them the tools and information as well as devolving decision making powers to conserve, enhance or utilize their resources
	7.2	Ring-fencing and earmarking LGU funds to conserve and enhance key ecosystem services (e.g. Establishing a green fund to directly finance conservation-oriented revenue generating activities such as ecotourism, forest protection, or development of non-timber forest products)
	7.3	Aggressively exploring and developing the eco-tourism potential of PAs and KBAs
	7.4	Improvement of regulatory instruments for forest resource management including fines and penalties to incorporate both the ecological and economic values of forest ecosystem services
	7.5	Expand, mandate the Climate Finance Group led by NEDA, DOF and CCC to develop innovative financing schemes which among others identifies tappable sources from the national budget/revenue and from international aid
	7.6	Fast-tracking the People's Survival Fund, and establishing its rules with preference for triple burden areas, and seed funding for possible PES schemes and/or ecosystem service subsidies
	7.7	Securitization of forest resources
	7.8	Establishing site-appropriate PES schemes including REDD+
	7.9	Strengthening the basis for prioritization of projects and programs for public and private investments

7.10	Establishment of “Eco-Towns” or “green growth zones” to facilitate low-intensity multiple use activities or RE activities for purposes of generating green jobs and channeling revenue into conserving “strict protection /core zones” and ecosystem services; Bundling specific business types/operations to specific ecosystem service stewardships that ultimately contribute to the business’s bottom line and benefit the surrounding ecosystem and community; Linking private sector with government, LGUs, and non-government resources, networks and expertise to facilitate ecosystem service-oriented investments and businesses
7.11	Exploring market mechanisms such as mandatory agriculture/agrarian loans, conditional cash transfers, transfer development rights, taxation, etc. to finance the protection and enhancement of ecosystem services
7.12	Identifying investment opportunities and priority areas for sustainable ecosystem services development through conduct of valuation studies and business modeling
7.13	Establishing, or where appropriate, repackaging existing incentives and regulations to attract investors to develop these areas (e.g. PPP, certification schemes, tax breaks, preferential loans, etc.)

ANNEX 9

Ranked Strategic Actions

ANNEX 9 RANKED STRATEGIC ACTIONS

The list of strategic actions below is the result of the workshop during the National Consultation. The workshop focused on the prioritization of strategic actions. Participants were divided into three groups, each comprised of pre-selected representatives from different participating institutions. Each group was assigned to specific strategies. The groups assessed the list of strategic actions (Annex 6) and rated the degree of contribution of the proposed strategic actions in the attainment of the strategic objectives. Strategic actions that contribute greatly to the fulfilment of the strategic objectives garnered higher points (3 as the highest, 1 as the lowest). The strategic actions that were ranked No. 1 were deemed priority actions.

The scores and ranking generally represent the appreciation/perception of each group to how critical the involvement of the marginalized communities, consumers and investors in the attainment of each strategic objective.

8-1 Strategic Actions 1-2

NO.	STRATEGIC ACTION	TARGET GROUPS			TOTAL	RANK	REMARKS
		MARGINALIZED COMMUNITIES	CONSUMERS	INVESTORS IN NR UTILIZATION			
2.4	Strictly enforce transparency and accountability in regional and local envi. workers such as revenues collected from extraction, processing and sale of natural products	2.8	2.56	2.52	7.88	1	
1.7	Generate and distribute official local-subnational-national vulnerability maps for climate change adaptation and Disaster Risk Reduction (DRR) planning and building from Second National Commission (SNC))	2.56	2.36	2.68	7.6	2	This is supposedly being consolidated by National Disaster Risk Reduction and Management Council (NDRMC)
2.2	Defining and operationalizing “climate-proofing” of national development plans and land-use planning	2.56	2.44	2.56	7.56	3	

NO.	STRATEGIC ACTION	TARGET GROUPS			TOTAL	RANK	REMARKS
		MARGINALIZED COMMUNITIES	CONSUMERS	INVESTORS IN NR UTILIZATION			
1.16	Engage and train the private sector to develop their potential role, contribution and opportunity for climate change and REDD+	2.12	2.28	2.64	7.04	4	
1.10	Update the National Biodiversity Strategy and Action Plan (NBSAP) that addresses climate change impacts, mitigation and adaptation measures	2.44	2.08	2.44	6.96	5	
1.11	Share, transfer and apply knowledge, and technologies related to biodiversity and ecosystems services	2.52	2.04	2.32	6.88	6	
1.2	Generate data and/or update forest cover and land use maps (to facilitate REDD-readiness among others), as well as for inland and coastal waters	2.4	1.84	2.6	6.84	7	
1.4	Prioritize data collection and information management in highly vulnerable areas likely to experience triple burden	2.6	1.88	2.28	6.76	8	
1.14	Empower local academic institutions and communities for environmental monitoring by enhancing tools, manpower development and logistical support such as field and laboratory equipment	2.48	2.04	2.24	6.76	9	

NO.	STRATEGIC ACTION	TARGET GROUPS			TOTAL	RANK	REMARKS
		MARGINALIZED COMMUNITIES	CONSUMERS	INVESTORS IN NR UTILIZATION			
1.15	Provide training at local-subnational-national levels on climate change-related measures o Climate-proofing plans, including Comprehensive Land Use Plans (CLUPs) and Annual Investment Plans o REDD+ in the Philippines as per the official National REDD+ Strategy o MRVing REDD+-relevant forest carbon data and safeguards/non-carbon dimension	2.32	2.04	2.36	6.72	10	Include GHG accounting, NCIP and Ancestral Domain Sustainable Development and Protection Plans (ADSDPP)
1.3	Generate data and manage information on Indigenous Knowledge Systems and Practices (IKSP) on forests, biodiversity and climate change impacts	2.52	2.04	2.12	6.68	11	NCIP should be included
1.5	Design, complete, install, and operationalize integrated Environment and Natural Resources-Management Information System (ENR-MIS) at the national and local levels	2.28	2	2.36	6.64	12	
2.3	Develop enforcement plans that are measured against the baseline indicators and targets	2.28	2.04	2.16	6.48	13	

NO.	STRATEGIC ACTION	TARGET GROUPS			TOTAL	RANK	REMARKS
		MARGINALIZED COMMUNITIES	CONSUMERS	INVESTORS IN NR UTILIZATION			
1.9	Establish a clearinghouse mechanism under National Economic Development Authority-Department of Environment and Natural Resources-Climate Change Commission (NEDA-DENR-CCC) to collect and analyze as well as MRV local-subnational-national climate change mitigation and adaptation efforts (potentially through devolution of powers and/or incentive schemes such as Payment for Ecosystems Services (PES) to capture interest)	2.04	2	2.36	6.4	14	state capture
1.6	Harmonize Forestry Information System (FIS) and BIS with the Library Information System (LIS) and other resource information systems (e.g., Mines and Geosciences Bureau, Environmental Management Bureau, National Mapping and Resource Information Authority, etc.)	2.2	1.76	2.32	6.28	15	The River Basin Control Office (RBCO) is also doing the River Basin Integrated Information Management System which includes mapping

NO.	STRATEGIC ACTION	TARGET GROUPS			TOTAL	RANK	REMARKS
		MARGINALIZED COMMUNITIES	CONSUMERS	INVESTORS IN NR UTILIZATION			
1.18	Specialized training for NEDA, Department of Budget and Management (DBM), Department of Finance (DOF), Department of the Interior and Local Government (DILG), and Housing and Land Use Regulatory Board (HLURB) on climate change, DRR, REDD+ and its economic dimensions (challenges and opportunities)	1.92	2.08	2.16	6.16	16	Include NCIP
1.13	Build capacity for scientific research, including taxonomy and parataxonomy, and on standardized protocols on field monitoring, laboratory work and data analysis	1.92	2	2.2	6.12	17	
1.1	Complete forest delineation/demarcation with digitized maps and databases	1.76	1.88	2.48	6.12	18	Currently being done by National Mapping and Resource Information Authority (NAMRIA); include National Parks; No consultation with National Commission on Indigenous People (NCIP) and IP communities; Should be coordinated with the NCIP
1.17	Empower the National Climate Change Action Plan (NCCAP) by educating and training agencies and LGUs of its operational relevance	1.92	1.92	2.28	6.12	19	Some of the respondents deleted 'NCCAP' and replaced it with 'CCC'; Include communities in

NO.	STRATEGIC ACTION	TARGET GROUPS			TOTAL	RANK	REMARKS
		MARGINALIZED COMMUNITIES	CONSUMERS	INVESTORS IN NR UTILIZATION			
							the trainings
1.8	Collect and publish national experiences on REDD+ certification e.g. Verified Carbon Standard (VCS), Climate, Community and Biodiversity Standards (CCBS) as template for building REDD+ and Measurement, Reporting and Verification (MRV) regime in the country	1.92	1.92	2.16	6	20	
1.19	Share, transfer and apply knowledge, science-based and technologies related to biodiversity and ecosystems services	1.28	2.16	2.4	5.84	21	
1.12	Provide training on the use, maintenance, upgrading, and updating of the ENR-MIS and Integrated Decision Support System (IDSS)	1.72	1.8	1.96	5.48	22	
2.1	Develop biophysical and socioeconomic baselines, indicators, targets	1.6	1.64	1.72	4.96	23	

8-2 Strategic Actions 3-4

NO.	STRATEGIC ACTION	TRAGET GROUP			TOTAL	RANK	REMARKS
		MARGINALIZED COMMUNITIES	CONSUMERS	INVESTORS IN NR UTILIZATION			
3.1	Identifying ways to seek green investments, investment opportunities, regulations and incentives to further boost ecosystem service protection and enhancement, with consideration of climate change vulnerabilities and Key Biodiversity Areas (KBAs)	3	3	3	9	1	Include DENR, NEDA, DILG, CCC, Department of Trade and Industry (DTI), Department of Tourism (DOT) as agencies responsible (key strategy no.3)
3.2	Support full implementation of the REDD+ Strategy and providing logistical support	3	3	3	9	1	Collapse 3.2-3.8 since these are reflected in the Philippine National REDD+ Strategy; Recommendation: Support full implementation of the REDD+ Strategy and providing logistical support
4.6	Empowering decision-makers with simulation tools to enable them to better assess natural resource use for management options in consideration of ecosystem conservation and zoning alternatives	3	3	3	9	1	

NO.	STRATEGIC ACTION	TRAGET GROUP			TOTAL	RANK	REMARKS
		MARGINALIZED COMMUNITIES	CONSUMERS	INVESTORS IN NR UTILIZATION			
4.7	Harmonization of LGU policies with national laws by assessing potential conflicts and overlapping policies; Harmonization of environmental laws on shared resources such forests, lakes, rivers and coastal areas	3	3	3	9	1	Combined 4.9 and 4.10; Recommendation: Full implementation of Rationalized Planning System (RPS), Comprehensive Land Use Plan (CLUP) and Coastal Resource Management Plan (CRMP) and integrate conflict management agenda
4.1	Strengthen and mainstream the involvement of the stakeholders in the planning and monitoring and evaluation (M&E) activities for the forest and biodiversity sectors through the various Multi-Sectoral Forest Protection Committees (MFPCs), Watershed Management Council (WMC), Protected Area Management Board (PAMBs), and other multi-stakeholder arrangements at the national and field levels.	3	2	3	8	2	This is already established; include Department of Agriculture (DA), DILG, NCIP, Presidential Adviser in the Agency responsible; Recommendation: Strengthen support and provide economic incentives to the biodiversity sector of the community
4.3	Engaging the private sector to develop their potential role, contribution and opportunity for climate change and REDD+ in the Philippines	3	2	3	8	2	

NO.	STRATEGIC ACTION	TRAGET GROUP			TOTAL	RANK	REMARKS
		MARGINALIZED COMMUNITIES	CONSUMERS	INVESTORS IN NR UTILIZATION			
4.9	Ensuring that safeguards are provided for in the Free and Prior Informed Consent (FPIC) guidelines in the official international REDD+ mechanism and the National REDD+ Strategy; Exploring how existing arrangements, coastal zones/ inland water concerns and existing forest licensing agreements can be integrated in the REDD+; Improvement of the provision of tenure rights and security of assets to marginal communities in the upland areas and other vulnerable areas including small scale resource users and Indigenous Peoples (IPs)	3	2	3	8	2	Recommendation: Proper execution/ implementation of tenure rights with proper alternative dispute resolution (ADR)
4.2	Prioritizing participation mobilization from areas with triple burden, particularly the participation of local leaders, CBFM and PO Federations	3	2	2	7	3	Incorporate prioritization of Community-Based Forest Management (CBFM) and People's Organization (PO) Federation
4.4	Improving enabling mechanisms for marginal and vulnerable communities access to livelihood opportunities, credit assistance, and other socio-economic infrastructure through formal and informal education.	3	2	2	7	3	

NO.	STRATEGIC ACTION	TRAGET GROUP			TOTAL	RANK	REMARKS
		MARGINALIZED COMMUNITIES	CONSUMERS	INVESTORS IN NR UTILIZATION			
4.8	Fast-tracking establishment of the National Multi-stakeholder REDD+ Council to facilitate dispute resolution among others per the National REDD+ Strategy	3	2	2	7	3	Recommendation: Establish National Multi-stakeholder REDD Council (NMRC) and support the mechanisms in conflict management resolution
4.5	Strengthening the design, installation, and operationalization of a Beneficiary Contact Monitoring to focus on the involvement of all stakeholders in the community including the IPs; Establishing the impact of climate change on IPs, fisheries and aquatic sector and Certificate of Ancestral Domain Title (CADTs) in consideration of official vulnerability maps, and engaging participation from and mobilizing support for these communities	3	2	1	6	4	combined 4.6 and 4.7; include fisheries and aquatic sector

8-3 Strategic Actions 5-7

NO.	STRATEGIC ACTION	TARGET GROUPS			TOTAL	RANK	REMARKS
		MARGINALIZED COMMUNITIES	CONSUMERS	INVESTORS IN NR UTILIZATION			
5.5	Strictly implementing the principle of inclusive governance with the spirit of shared learning and fair representation of interests	3	3	3	9	1	Clear boundaries; accountable to own areas; cooperation with other areas; authority to implement decisions; more equitable participation in decision making

NO.	STRATEGIC ACTION	TARGET GROUPS			TOTAL	RANK	REMARKS
		MARGINALIZED COMMUNITIES	CONSUMERS	INVESTORS IN NR UTILIZATION			
6.1	<p>Developing tools, guidelines and the capacity to conduct valuation studies for ecosystem services at macro and micro-economic levels, national and local; Establishing and piloting opportunity costing/cost benefit analysis for REDD+ pilots areas to demonstrate feasibility of REDD+ as an alternative to certain exploitative economic activities; Improving data quality and methods of the Philippine Economic Environmental and Natural Resource Accounting (PEENRA) System so as to arrive at actual economic contribution and costs of ecosystem services to national and local development so as to better inform economic planning and commercial development in CLUPs; PEENRA just concerned with national; possibility of formulating provincial level; link to Internal Revenue Allocation (IRA); Opportunity Cost; Integrating vulnerability to risk assessment to valuation; Utilizing vulnerability and land capability assessments to generate appropriate zoning options and economic alternatives, with the objective of balancing development activities with sustaining and enhancing ecosystem services</p>	3	3	3	9	1	<p>Collapse as key strategy (mother strategy); Revive PEENRA System; Valuation, negotiation, agreement in the macro and micro, valuation and development instruments; Mechanism for subsidy; "Bundled"</p>

NO.	STRATEGIC ACTION	TARGET GROUPS			TOTAL	RANK	REMARKS
		MARGINALIZED COMMUNITIES	CONSUMERS	INVESTORS IN NR UTILIZATION			
6.2	Valuating the economic contribution of specific ecosystem services in especially triple burden areas for possible development of PES, ecosystem service subsidies, or Public-Private Partnership (PPP) where appropriate, with special reference to enhancing regulating ecosystem services such as natural hazard mitigation	3	3	3	9	1	A score of '3' is given for consumers because they will carry the cost burden; communities as sellers
6.3	Mainstreaming the calculation of macro-economic impacts of climate change to inform development planning, first at national level, then to subnational levels	3	3	3	9	1	National and subnational level should be simultaneous. Integrate cost of disaster to climate change scenario building
7.1	Empowering LGUs for sound financial management by providing them the tools and information as well as devolving decision making powers to conserve, enhance or utilize their resources	3	3	3	9	1	Objective is to diversify resources and increase share of LGUs; Sound financial management (not entrep); Diversify sources of financing; Example: mining companies paying to local government only (for an efficient use of resources); Streamlining increasing access to funds intended for that particular activity; 3 for marginal communities on the basis that the plowback should be achieved

NO.	STRATEGIC ACTION	TARGET GROUPS			TOTAL	RANK	REMARKS
		MARGINALIZED COMMUNITIES	CONSUMERS	INVESTORS IN NR UTILIZATION			
7.2	Aggressively exploring and developing the eco-tourism potential of PAs and KBAs	3	3	3	9	1	There should equitable sharing.
7.3	Improving the regulatory instruments for forest resource management including fines and penalties to incorporate both the ecological and economic values of forest ecosystem services	3	3	3	9	1	Needs legislative action such as penalty system (maximum violation penalty fee)
7.6	Securitization of forest resources	3	3	3	9	1	Bangko Sentral ng Pilipinas (BSP) will secure; Opportunity cost; Venture capitalist to secure; Would need to build sophisticated market and sound feasibility study; Should build on private sector
7.7	Establishing site-appropriate PES schemes including REDD+	3	3	3	9	1	

NO.	STRATEGIC ACTION	TARGET GROUPS			TOTAL	RANK	REMARKS
		MARGINALIZED COMMUNITIES	CONSUMERS	INVESTORS IN NR UTILIZATION			
7.8	Establishment of “Eco-Towns” or “green growth zones” to facilitate low-intensity multiple use activities or RE activities for purposes of generating green jobs and channeling revenue into conserving “strict protection /core zones” and ecosystem services; Bundling specific business types/operations to specific ecosystem service stewardships that ultimately contribute to the business’s bottom line and benefit the surrounding ecosystem and community; Linking private sector with government, LGUs, and non-government resources, networks and expertise to facilitate ecosystem service-oriented investments and businesses	3	3	3	9	1	Bataan National Park, Subic, Pinatubo; Need to generate and determine demand for eco-town
7.9	Exploring market mechanisms such as mandatory agriculture/agrarian loans, conditional cash transfers, transfer development rights, taxation, etc. to finance the protection and enhancement of ecosystem services	3	3	3	9	1	

NO.	STRATEGIC ACTION	TARGET GROUPS			TOTAL	RANK	REMARKS
		MARGINALIZED COMMUNITIES	CONSUMERS	INVESTORS IN NR UTILIZATION			
7.10	Identifying investment opportunities and priority areas for sustainable ecosystem services development through conduct of valuation studies and business modeling	3	3	3	9	1	
7.11	Establishing, or where appropriate, repackaging existing incentives and regulations to attract investors to develop these areas (e.g. PPP, certification schemes, tax breaks, preferential loans, etc.)	3	3	3	9	1	Specific incentives: Property rights, policy stability, Environmental Impact Statement (EIS) and social and environmental sectors, subsidized financing and short venture; Enabling environment; Tax holiday
5.3	Improving access of LGUs and other stakeholders to ENR data and maps, disaggregated at least at the municipal level	3	2	3	8	2	

NO.	STRATEGIC ACTION	TARGET GROUPS			TOTAL	RANK	REMARKS
		MARGINALIZED COMMUNITIES	CONSUMERS	INVESTORS IN NR UTILIZATION			
5.1	Improving of the ENR planning and enforcement capacities of LGUs, and setting appropriate local standards or thresholds for environmental management of ecosystem services for effective resource development, use regulation and protection; Provision of assistance to LGUs to localize higher-level Protected Area (PA) and watershed management plans and plan implementation within the framework of the LGU CLUPs	3	1	3	7	3	Emphasis on planning
5.2	Re-orienting and strengthening DENR and other National Government Agencies (NGAs) to provide technical assistance to LGUs and other stakeholders at the community levels for an integrated management	3	1	3	7	3	New strategy for consumers
5.4	Strengthening of inter-agency collaboration and support to ecosystems research and research applications at the local levels	3	1	3	7	3	

NO.	STRATEGIC ACTION	TARGET GROUPS			TOTAL	RANK	REMARKS
		MARGINALIZED COMMUNITIES	CONSUMERS	INVESTORS IN NR UTILIZATION			
5.6	Strengthen and expand the implementation of co-management arrangements of ecosystem resources between the DENR and the LGUs	3	1	3	7	3	Include other agencies; DENR as part of the steering committee but LGU should be given authority to implement; scaling up success stories, use of co-management Memorandum of Agreements (MOAs) between DENR and LGU
5.7	Deepen and expand the Forest Land Use Plan (FLUP) preparation and implementation to incorporate climate change and REDD+ and biodiversity conservation in concerns in forest management	3	1	3	7	3	Low carbon integrated land use/development plan;
7.4	Expand, mandate the Climate Finance Group led by NEDA, DOF and CCC to develop innovative financing schemes which among others identifies tappable sources from the national budget/revenue and from international aid	3	1	3	7	3	
7.5	Fast-tracking the People's Survival Fund, and establishing its rules with preference for triple burden areas, and seed funding for possible PES schemes and/or ecosystem service subsidies	3	1	3	7	3	Include triple burden areas

