Philippines experience, lessons and challenges in environmental mainstreaming

Ella Antonio, Steve Bass, and Donna Gasgonia

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for IIED, UNDP and UNEP

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Foreword

In the Philippines, more than 65 million people, or two-thirds of the total population, directly depend on natural resources for a living. The poor rely most heavily on the natural environment to sustain basic livelihood needs. The majority of the coastal poor depend on subsistence fishing, which accounts for 34 per cent of the value of all fishing production. The natural environment shields most of the 81 per cent of the population that is vulnerable to natural disasters.

Natural resources also contribute significantly towards the country's economy. The net economic value of various coastal and marine resources is almost $480 million per year, about one-half of which is contributed by fisheries of various types. Forest products made up 1.4 per cent of total export value in 2005. Together, agriculture and fisheries sectors contribute about 20 per cent of GDP and directly employ about 40 per cent of the labour force. In addition, mining and quarrying contributed 21.1 per cent to annual GDP growth.

Ironically, despite the significant contribution by natural resource-based sectors, poverty is most stark amongst these sectors. Fisherfolks and farmers are the poorest among the country's basic sectors. Communities living in and around areas rich in mineral resources hardly benefit from the windfall gains from mining proceeds.

This situation is what the Poverty-Environment Initiative, undertaken by the United Nations Development Programme and the United Nations Environment Programme in partnership with the Department of Interior and Local Government, the Department of Environment and Natural Resources and other national and local partners aims to address. In addressing a given poverty-environment linkage, a key response is to turn the natural resource base into an instrument for poverty reduction. Forests, minerals, land, water, biodiversity are capital resources that can benefit the poor if correctly managed. Concretely, this means integrating poverty and environmental concerns into planning, budgeting and decision-making processes, to reconcile the two and achieve poverty reduction without sacrificing the environment.

At the international level, the Rio+20 Summit will serve as a platform to lay the basis of a post-2015 (MDGs) agenda that will zero in on sustainable development goals. This povert-environment linkage is expected to be at the forefront of discussions during the summit, and its outcomes will likely offer more ideas to be adopted and adapted in the Philippines context.

In the many years to come, the efficient and effective use of environment and natural resources will continue to determine the direction of poverty reduction and in a larger sphere, even the survival of humankind.

Renaud Meyer
UNDP Country Director

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Views in this paper constitute a broad (but not always complete) consensus amongst the authors in our independent capacities and are not necessarily the views of our organisations. The authors' backgrounds are summarised below:

Ella Antonio is Director of the Earth Council (Asia-Pacific) and President of Brain Trust, Inc. She had an extensive career in the National Economic and Development Authority, mainly in the areas of planning; policy, programme and project review and monitoring and evalutation; and performance and futures assessment. She has been pursuing work in the same areas, particularly focusing on the various dimensions of sustainable development (such as poverty, environment, institution and governance) in both her NGO and consultancy work.

Steve Bass is Head of the Sustainable Markets Group at the International Institute for Environment and Development (IIED), working on the interaction of environmental management and poverty reduction. Previously DFID's Chief Environment Adviser, he also worked for IUCN as coordinator of various National Conservation Strategy processes. He was the facilitator of the learning group which produced this paper.

Donna Z. Gasgonia is a practicing lawyer who has conducted paralegal trainings since 1984 on human rights and natural resources management to indigenous peoples, upland dwellers and coastal communities in the Philippines. Presently connected with the NGO – Earth Rights Peoples Rights, she previously worked at the Department of Environment and Natural Resources, the Senate Committee on Cultural Communities, the National Anti-Poverty Commission and the Presidential Commission on the Urban Poor from 1987 to 2000.

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Acronyms

4Ps	Pangtawid Pamilyang Pilipino Program
ADB	Asian Development Bank
ADMP	Ancestral Domain Management Plan
ADSDPP	Ancestral Domain Sustainable Development and Protection Plan
ARMM	Autonomous Region of Muslim Mindanao
AVLDA	Allah Valley Landscape Development Alliance
CADT	Certificate of Ancestral Domain Title
CAR	Cordillera Autonomous Region
CARP	Comprehensive Agrarian Reform Programme
CBFM	Community-Based Forest Management
CBFMA	Community-Based Forest Management Agreements
CBD	Community-based Distribution
CCC	Climate Change Commission
CCT	Conditional Cash Transfer
CENRO	Community Environment and Natural Resources Officers
CEPU	Coastal Enforcement Protection Unit
CFSA	Community Forest Stewardship Agreements
CIDSS	Comprehensive and Integrated Delivery of Social Services
CLUP	Comprehensive Land Use Plan
CNC	Certificate of Non-coverage
CRMO	Coastal Resources Management Office
CSCCSD	Civil Society Counterpart Council for Sustainable Development
CSO	Civil Society Organisation
CSR	Corporate Social Responsibility
CUPE	Catch Per Unit Effort
DA/BFAR	Department of Agriculture/Bureau of Fisheries and Aquatic Resources
DENR	Department of Environment and Natural Resources
DILG	Department of Interior and Local Government
DOE	Department of Energy
DRR	Disaster Risk Reduction
DSWD	Department of Social Welfare and Development
EA	Environmental Assessment
ECA	Environmentally Critical Area
ECC	Environmental Compliance Certificate
ECP	Environmentally Critical Project
EE	Environmental Education
EGD	Environmental Guarantee Fund
EIA	Environmental Impact Assessment
EIS	Environment Impact Statement
EITI	Extractive Industries Transparency Initiative
ELAC	Environmental Legal Assistance Centre
EMB	Environmental Management Bureau
EMF	Environmental Monitoring Fund
ESD	Environment and Sustainable Development
ESDE	Environment and Sustainable Development Education
FARMC	Fisheries and Aquatic Resources Management Council
FISH	Fisheries Improved for Sustainable Harvest

FLUP	Forest Land Use Plan
FPIC	Free, Prior and Informed Consent
GDP	Gross Domestic Product
GNP	Gross National Product
GoP	Government of the Philippines
HDI	Human Development Index
HPI	Human Poverty Index
IAP	Indoor Air Pollution
ICM	Integrated Coastal Management
IEC	Information, Education and Communication
IIED	International Institute for Environment and Development
IP	Indigenous People
IPRA	Indigenous Peoples Rights Act
IRA	Internal Revenue Allocation
ISF	Integrated Social Forestry
ISSP	Information Systems Strategic Plan
KGV	Kitanglad Guard Volunteer
LA21	Local Agenda 21
LDC	Local Development Council
LGU	Local Government Unit
LIT	Local Implementation Team
MDC	Municipal Development Council
MDGs	Millennium Development Goals
MGB	Mines and Geosciences Bureau
MMT	Multi-partite Monitoring Teams
MOA	Memorandum of Agreement
MTPDP	Medium Term Philippines Development Plan
NAMRIA	National Mapping and Resource Information Authority
NAPC	National Anti-Poverty Commission
NCIP	National Commission on Indigenous Peoples
NEDA	National Economic Development Authority
NIPAS	National Integrated Protected Areas System
NRM	Natural Resource Management
NSCB	Philippine National Statistical Coordination Board
OAP	Outdoor Air Pollution
ODP	Ozone Depletion Potential
PA	Protected Area
PA21	Philippine Agenda 21
PACBRMA	Protected Area Community Based Resource Management Agreement
PAMB	Protected Area Management Board
PAMP	Protected Area Management Plan
PATLEPAM	Philippine Association of Tertiary Level Educational Institutions in Environmental Protection and Management
PCSD	Philippine Council for Sustainable Development
PDMS	Poverty Database Monitoring System
PDP	Philippines Development Plan
p/e	Poverty/environment
PEI	Poverty-Environment Initiative
PEPP	Philippine Environment Partnership Program
PNNI	Palawan NGO Network Inc.
PNOC	Philippine National Oil Company
RUP	Resource Use Permits

RZR	Riparian Zone Re-vegetation
SAPA	Special Use Agreement in Protected Areas
SB	Sangguniang bayan
SDMP	Social Development and Management Plan
SP	Sangguniang panlungsod
UNCSD	United Nations Conference on Sustainable Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
VSL	Value of Statistical Life
WAVES	Wealth Accounting and Valuation of Ecosystem Services
WB	World Bank
WRDP	Watershed Resources Development Project

Introduction and summary

Why mainstreaming poverty and environment is important: With so many of the world's poorest suffering environmental deprivations and with the economy experiencing both a squeeze on natural resources and escalating environmental hazards such as climate change, the need to include environment in major poverty reduction and development initiatives has never been so great. But integrating environment and development is not an easy task, when considerable gulfs exist between the respective institutions, policies, knowledge systems and even belief systems.

In the Philippines, as in almost every country, environmental management and poverty reduction are considered to be policy priorities. Yet they have been treated as two very separate endeavours, despite the root causes of the respective problems being often the same: poor governance and economic policy. This lack of coherence matters: it is not just a question of bureaucratic or intellectual neatness. Poverty-blind environmental action can be damaging – as in the case of people being displaced from protected areas; equally, so can environment-blind poverty reduction initiatives – as in the case of overuse of soils and forests, 'raiding nature' for temporary gain.

The purpose of this paper: There is a need for real leadership to bring the worlds of environment and poverty reduction together, so that policies and initiatives are mutually supportive. But what leadership is out there and what mechanisms have already had some success? These challenges suggest the need to pool expertise from different backgrounds; to reflect on the full range of poverty/environment mainstreaming experience to date; to learn about what works in properly addressing the environmental deprivations of the poor; and to unleash innovation systems where success has been elusive.

How this paper was prepared: UNDP-Philippines, IIED and the UNDP-UNEP Poverty Environment Initiative (PEI) assembled a group of 20 respected Filipino individuals, invited in their personal capacity. The group had considerable experience in environment, poverty reduction, development and finance, and in initiatives that aim to integrate these concerns. The group had a mixture of government, civil society, local government, academia, social enterprise and private sector backgrounds. It met in a retreat facilitated by IIED, where it shared perspectives on progress made over approximately twenty years in integrating environment issues into policies, plans and investments in the Philippines. It deliberated on what is needed next to be more effective in meeting future needs – in a country which is urbanising, growing rapidly in population and economic output, and in a world which is seeing increasing incidences of climatic and environmental change.

This paper presents the group's findings, identifying approaches to poverty/environment mainstreaming that can be built on, success factors and future challenges in environmental mainstreaming, and laying out an agenda for action. It is hoped that this agenda will inspire UNDP and UNEP's support to poverty/environment integrated initiatives in the Philippines, and all other initiatives that aim to 'green' economic development and poverty reduction in the country.

Mechanisms for mainstreaming poverty and environment: It is often thought that 'mainstreaming' is primarily a planning function. Yet this paper describes how effective mainstreamed outcomes, where poverty and environmental protection are achieved together, can benefit from several mechanisms being deployed – not only in the formal planning system but also in business, civil society and media. Case studies are explored, covering a range of mainstreaming mechanisms:

- *Integrated planning*: the Philippine Council for Sustainable Development (PCSD); the Philippine Environmental Impact Statement System
- *Integrated finance and accounting:* environmental valuation and accounting; EcoBudgeting
- *Integrated field activities:* integrating poor people's needs in Protected Areas; integrated coastal management (ICM); anti-poverty programmes
- *Partnerships focused on local government units (LGUs):* Process-Bohol; Allah Valley Landscape Development Alliance; the EcoGov project; integrated natural resource management
- *Progressive business practice:* Corporate Social Responsibility
- *Education*: environmental awareness and education

Summarising success to date: The national policy framework in environment and poverty reduction includes a number of initiatives that can shape linked action and investment, although they need rationalising. Key elements include:

- the PCSD's considerable experience of cross-sectoral and cross-institutional debate and planning in poverty/environment issues, and effective international engagement;
- the National Anti-Poverty Commission (NAPC) and the National Climate Change Commission (CCC) have effective 'top-bottom' links which can enable the localisation of sustainable development (required by law).

Many national regulations on natural resource management have become more responsive to poor people's needs and capabilities, including the Mining Act, the Electric Power Industry Reform Act, the Climate Change Act, and the Indigenous Peoples Rights Act.

Integration tools and methodologies are becoming widely used, opening up opportunities to involve both poor groups and environmental issues. The country's professionals are adept at using participatory tools, and EIA is a standard integration tool for government and business, being commonly used by all sectors and in most programmes.

LGUs have very strong powers and tools to integrate p/e issues, as a result of the Local Government Code. In areas that are prone to natural disasters or have strong natural resource-based tourism potentials, LGUs have realised the value of environmental protection and rehabilitation for survival and sustainable development, and have undertaken programmes that have become p/e integration success stories.

Community-based natural resource management programmes are proving to offer good livelihood opportunities often at significant scale, promoting equitable access to resources and encouraging environmentally friendly technologies, such as Community-Based Forest Management and the Coastal Environment Program.

Payments for environmental services are being introduced as market-based instruments, with some evidence of success in watershed payments producing better quality of life for poor communities and improved ecosystems. The economics of p/e issues are becoming clearer, and appropriate investments are on the increase, though more could be done to explore natural capital stocks, flows and potentials.

Lessons from the Philippines' experience: Although the poverty/environment mainstreaming initiatives explored are highly diverse, there appear to be some common lessons:

- A focus on specific issues, places and people provides a stronger incentive for linking p/e issues than making a general, abstract case to 'mainstream'.
- Actual experience of events, notably natural disasters, has often been a key driver of improved attention to poverty/environment issues.

- The real needs, potentials and indeed action have thus tended to be at LGU level, where the decisions can be made, the authority to act now lies, communities are demanding change, and the actors can work together in practical ways.
- Although local action is key, national government as well as LGUs have a critical role in providing the proper and conducive planning and financial environment for unleashing local governance potentials.
- There is a necessary tension between top-down and bottom-up mainstreaming approaches. Both are needed, and it is positive that civil society organisations are also aware and active in addressing many poverty/environment issues.
- Interdisciplinary understanding and cooperation have been critical success factors: especially where those seeking to reduce poverty have understood that poverty is multi-faceted, including environmental dimensions; and where those seeking to improve the environment have understood that social capital to manage them is key.
- Environmental economics expertise, obtaining economic evidence of the value of environmental assets, the costs of environmental hazards and their distribution amongst poor people, helps to inform decisions.

Remaining blocks to effective mainstreaming: Several constraints remain, in spite of progress. The political economy of environmental issues and the associated hierarchy of powers, are often not conducive to integrating environmental sustainability into the decisions and activities of all institutions. The President makes the key decisions, yet each Presidency's attitudes to environment and poverty have been different. In contrast, government institutions with responsibilities for environment and poverty reduction, the Department of Environment and Natural Resources (DENR) and Department of Social Welfare and Development (DSWD), have always had relatively lowly positions in the government and bureaucratic hierarchy, limiting their ability for advocacy and for coordinating their programmes with other agencies. Both environment and financial/development planning authorities are built around natural resource exploitation for export purposes, and are not well informed about long-term ecological limits. There is not enough emphasis on accountability to local people, on equitable benefit-sharing, or on reinvesting in the resource base and its local values. LGUs' fiscal basis does not support attention to those environmental assets on which poor people depend. Finally, environmental mainstreaming, like sustainable development, is not well understood in the Philippines, as in many other countries – sometimes being felt to be an external imposition by foreign or donor interests, even where it is inherent in local culture.

This paper offers details of the policy, institutional, capacity and informational constraints, noting that successes to date often offer the seeds for solutions to tackling those constraints. However, it is clear that it takes time to build confidence and change attitudes, incentives, procedures and behaviour among mainstream institutions. 'Mainstreaming' should thus be viewed as a multi-year institutional change endeavour – not a short-term 'project'.

Recommendations: A ten-point agenda is offered for improving environmental mainstreaming in the Philippines, to better tackle poverty and improve the sustainability of economic growth. It emphasises work at two levels, to change the way that institutions view poverty/environment links and the decisions they make. Firstly, 'from the bottom': a range of actors in local government units, working with poor groups to identify best environmental practices that also support poverty reduction. Secondly, linking this to work 'from the top': engaging the central financial, economic and development authorities that set the Philippines Development Plan (PDP); identifying good policies that support local needs and environmental goods and services, at a bigger scale than has been achieved so far.

1. *Establish a programme of governance reform to support pro-poor use of environmental assets;* supporting long-term wealth generation for local people with (a) greater transparency and accountability in disbursements of resource revenue, (b) improved benefit sharing of revenues, and thus (c) better delivery of basic services to poor groups.

2. *Clarify national policy coordination and establish an overarching forum on poverty/environment issues,* reinvigorating the PCSD as a high-level forum to network together all the many initiatives, both inside and outside of government, that have been attempting mainstreaming – perhaps with a green economy mandate; and/or streamlining the respective functions of PCSD, CCC, and NAPC.

3. *Ensure environment is both a sector and a cross-cutting component in the Philippines Development Plan* and that the PDP is well informed of (a) the relative returns on investment in environmental management and restoration, and consequently (b) the case for capacitating and capitalising both environmental institutions and the social capital that is needed for good environmental management. The PDP should be based on a common poverty framework that includes environmental assets and hazards and their positive and negative links to poor people's livelihoods, employment, health and security.

4. *Focus on the Local Government Unit for making real progress in p/e mainstreaming,* ensuring detailed awareness of the different types of poor groups, their specific environmental constraints and opportunities, and of how p/e issues are linked on a spatial basis. Incentives are needed for LGUs to invest in environmental assets as solutions to poverty, notably altering the LGUs' Internal Revenue Allocation system, to give better account of land area and environmental assets. Planning based on watersheds, river basins or ecosystems – as opposed to the current administrative basis – would force planners to use the environment as the platform for economic and social development, rather than regard environment as an afterthought in socio-economic planning.

5. *Sharpen budget processes to keep better track of environmental costs, benefits and risks.* Budgetary decisions, given their central, regular and compulsory nature, are often the strongest signal regarding current environmental intentions. The environmental needs and potentials of poor people need to be fully reflected in public expenditure review and budgeting procedures, deliberations and decisions. P/e indicators within organisational performance indicators and performance-based budgeting are key tools. Analogous improvements at LGU level are also needed, such as building on the good ecoBudget experience.

6. *Supplement the national accounts with accounts of changing stocks and flows of environmental assets.* Development is a process of building wealth through managing a nation's portfolio of financial, human, social, manufactured and natural capital. Natural capital, which is so important for poor groups, has been ignored for too long in the national income accounts. A new World Bank partnership, 'Wealth Accounting and Valuation of Ecosystem Services' (WAVES), offers some practical ways forward in assessing stocks, flows, damages, and associated revenues and costs.

7. *Update environmental planning procedures with a better integration of social issues.* The Philippines' EIS system needs strengthening to cover relevant poverty impacts, including changes to social capital associated with managing environmental capital. This might involve the preparation of supplements to the many existing handbooks that are already in use (rather than new volumes).

8. *Improve the enabling environment for the private sector to make p/e central to its business models and operations.* Government action is critical to encourage businesses to innovate, in order to improve resource efficiency, equity among beneficiaries, and national competitiveness. Businesses need to move beyond philanthropy or 'do no harm' approaches, towards an approach where business models are designed to directly achieve social and environmental outcomes with every unit of production, and to include poor groups as economic actors. A simple 'challenge framework' might help companies to improve their attention to the environmental needs and capabilities of poor groups.

9. *Research and promote a 'best-bet' catalogue of field programmes and partnerships that integrate poverty and environmental goals.* This would require rigorous comparative studies of initiatives, such as those described in the case studies, assessing their real impact on people, environments and their costs and benefits. Promising approaches should be enriched by drawing on international experience, which suggests that effective p/e approaches are simple to understand by all stakeholders, have low transaction costs, do not require the continued presence of outside bodies and offer relevant and predictable incentives.

10. *Bring together an integrated research and information base on p/e issues.* Philippines' research communities on poverty have been separate from those on environment; they might now be linked in a p/e research round table, perhaps attached to PCSD. Linking national information bases on poverty with those on environment is a huge task, and some precursors might be tried first. Notably, the top-line information needed for national wealth accounting (6 above); agreeing a poverty framework with integrated environmental criteria to include in monitoring frameworks for household surveys and/or poverty levels; and project-level spatial linking of information.

[1] Why environment matters to Philippines development

It has never been more important to integrate environmental considerations into the key decisions and institutions that shape development – or 'environmental mainstreaming'. This assertion is increasingly strong at the international level. Most governments, development banks and UN agencies are calling not only for improved environmental safeguards to accompany investments but also for improved resource accounting and valuation to make the most sustainable use of environmental assets such as soils, water, forests, fisheries and aquatic resources. As we shall make clear, this is also the trend in the Philippines. The major Philippines challenges – poverty reduction, economic growth, and improving resilience to environmental change and disasters – are all linked. Each challenge includes integral environmental dimensions; dimensions that have too often been ignored.

Firstly, there is international consensus that poverty can no longer be measured in simple financial units (dollars-per-day) or food security measures (cost-of-food-basket) alone. The Millennium Development Goals (MDGs) describe many dimensions of poverty beyond income and food, each of which include environmental deprivations; particularly MDG7, which focuses on environmental sustainability. The poorest people worldwide – and in the Philippines – describe their poverty not just in financial terms but also in terms of environmental deprivations. They describe a lack of access to clean water and sanitation for health; lack of farm-to-market roads and electricity; poor soils and diminished forest cover threatening land-based livelihoods; exposure to environmental hazards; and so on. Understanding of such wider dimensions of poverty is highly incomplete, however, and consequently they are too rarely included in development or poverty reduction policies, plans, targets and initiatives.

Secondly, there is a growing understanding that development patterns dominated by economic growth alone can become damaging. Growth and development are not interchangeable. While economic growth in the right places and within ecological limits is a contributor to development, any development which is continually dominated by growth objectives is unsustainable. A recent paper in the scientific journal, *Nature* (2009)[1], indicated that global economic activity has already breached three of nine 'planetary boundaries':

- *biodiversity* is being destroyed at 10-100 times the natural extinction rate;
- the *nitrogen cycle* is being disrupted by excessive pollution through fertilizer run-off, and other pollutants;
- and *climate change* has already occurred to an extent that built-in temperature rises will increase the incidence of floods, droughts and temperature stress, and associated health and livelihood problems, especially in tropical zones.

Exceeding each one of these boundaries – or experiencing the 'side-effects of growth' – tends to affect poorer people most. Poor people cannot afford the physical protection from the ensuing hazards such as pollution and floods, the substitutes for the foregone environmental services such as clean water and shelter, or indeed the insurance to compensate for losses. Clearly, better knowledge and response strategies are needed to minimise environmental change – or to improve resilience to it. We will look at the Philippines' fitness in this regard.

[1] Rockström, J.; Steffen, W.; Noone, K.; Persson, Å.; Chapin, F. S.; Lambin, E. F.; Lenton, T. M.; Scheffer, M.; Folke, C. (24 September 2009), "A safe operating space for humanity", Nature 461 (7263): 472-475

Thirdly, there is public and political confusion about what the paths for improving human wellbeing should be, with the result that both poor people and ecosystems lose out. Countries with higher levels of GDP tend to have higher UN Human Development Indices: higher educational levels, life expectancy, better health, and so on, as well as a higher income per day. From this we might conclude that, for poorer countries and people at least, economic growth needs to be accelerated if the urge for 'modernisation' is to be satisfied. Until such time that true wealth indicators – of clean fresh air, pesticide-free organic food, social capital, and traditional healing – are also popularised, rural areas will always be bluntly judged as poor, their poverty being measured by their lack of access to formal services and cash income. There are two paradoxes here: one, that some rural people do not feel themselves to be poor, appreciating their wealth in other forms of capital, notably social, cultural and environmental; but this is not supported by official policy. Two, that due to the onslaught of telecommunications and mass media, more and more rural people themselves have come to believe that mainstream education, medicine, manufactured goods and cash are the only standards of wealth, yearning for the perks of urban development and ignoring their other assets. Meanwhile, others are able to reap the benefits of environmental asset-stripping – such as the elites in charge of forest and mining companies.

The links between environment and development are clearly more complex than we have introduced above. In this paper, we go on to examine progress and prospects for better integration of environmental and poverty reduction objectives in the Philippines. Our narrow aim is to establish a baseline to inform a major new UN joint programme with Philippine authorities – the UNDP/UNEP Poverty/environment Initiative (PEI). Our broader aim is to inform the longer-term process of institutional change that will bring debate, understanding, awareness, politics and action in the hitherto separate fields of environment and development into greater synergy for the benefit of Philippines people and environments.

[2] Linked development and environment issues facing the Philippines

A wide range of development and environment issues face the Philippines, and point to both the urgency of environmental mainstreaming and opportunities for it.

Approximately 33 per cent of Filipinos live below the poverty line.[2] The Asian Development Bank (ADB) concludes that Philippines' overall economic growth, while significant, has translated into disappointingly little poverty reduction in recent years.[3] The benefits of prevailing non-inclusive growth patterns are enjoyed by elites more than the majority. Income inequality in the Philippines is among the highest in South East Asia, with a Gini coefficient per capita income of 0.45.[4]

The Philippines is ranked 105th out of 182 countries in the Human Development Index (HDI) and 54th among 135 countries in the Human Poverty Index (HPI). Both of these measure factors beyond the standard cash income and food basket criteria. The HDI measures human development in three dimensions: living a long and healthy life (measured by life expectancy); being educated (measured by adult literacy and gross enrolment in education); and having a decent standard of living (measured by purchasing power parity and income). The HPI ranks countries based on the probability of not surviving to age 40, the adult literacy rate, people not using an improved water source, and percentage of children underweight for age. It is noteworthy that in the same year, the Philippines ranks 4th highest in remittances, with US$ 16,291 million being transferred, with an average US$ 185 per person remittance. The high level of cash remittances with little human development suggests that cash is not enough to meet immediate needs and that there are few incentives for migrants to invest in longer-term developmental activities.[5]

Poverty is unevenly distributed and is more severe and widespread in rural areas than in urban areas, with a poverty incidence of almost 49 per cent compared to 19 per cent.[6] The rural poor live predominantly in Mindanao and the Visayas, depending primarily on subsistence farming and fishing for a livelihood. The urban poor are concentrated in Luzon. Mindanao Island has the highest poverty *incidence* at 38.8 per cent but Luzon Island has the highest *number* of poor families: (almost 2 million).[7] The four provinces of the Autonomous Region of Muslim Mindanao (ARMM) are amongst the ten poorest provinces, making this region the poorest in the country. The Ifugao province of the Cordillera Autonomous Region (CAR) of Luzon, home to one of the largest indigenous populations, is also among those provinces with severe poverty. Communities in these two regions, ARMM and CAR, are particularly isolated and under-serviced, living amid uncertainty and conflict and benefitting little from investment in economic or social infrastructure. However, both ARMM and CAR are primarily conflict areas, meaning they lack more than simply education and health facilities or livelihood opportunities. ARMM autonomy has so far done little to tackle poverty and illegal activities have caused environmental degradation.

[2] National Statistics and Coordination Bureau 2006
[3] Asian Development Bank. Poverty in the Philippines: causes, constraints, and opportunities. 2009
[4] Draft Philippines Country Environmental Analysis, ADB, 2008
[5] Human Development Report 2009
[6] PIDS 2000
[7] ADB Poverty in the Philippines: causes, constraints and opportunities, 2009

The Philippines is not on track in meeting the Millennium Development Goals. As of August 2010, the 'MDG Watch' of the National Statistical Coordination Board reported that the goal of reducing poverty incidence to half of the 45.3 per cent baseline in 1991, to 22.7 per cent in 2015, is not likely to be met, since the poverty incidence in 2006 was recorded at 32.9 per cent. The poverty gap ratio of 13 per cent in 1991 may be achieved, however, since the ratio was recorded at 7.7 per cent in 2006. From data available in April 2010, it is already clear that many MDGs are not on track. This is particularly evident with MDG2 (primary education), MDG5 (maternal mortality), MDG6 (tackling lethal diseases) and MDG7 (environmental sustainability, notably secure tenure in slums).

For Goal 7 on Ensuring Environmental Sustainability, MDG Watch reports the following data:

- the proportion of land area covered by forest increased from 20.5% in 1990 to 23.9% in 2003
- the consumption of ozone-depleting CFCs in Ozone Depletion Potential (ODP) tonnes went down from 2,981 in 1990 to 681 in 2006
- the ratio of protected area to maintain biological diversity to surface area increased to from 8.5 in 1990 12.7 in 2006
- the number of species threatened with extinction increased from 183 in 1992 to 221 in 2006
- the proportion of population with access to a safe water supply increased from 73% in 1990 to 84.1% in 2008, nearing the target of 86.5% by 2015
- the proportion of households with a sanitary toilet facility increased from 67.6% in 1990 to 89% in 2000, exceeding the target of 83.8% by 2015
- the proportion of households with access to secure tenure declined from 91% in 1990 to 81.2% in 2000.

The government's own assessment of the sustainability of key environmental assets is also not favourable. The DENR itself has declared that, "the Philippines suffers from severe deforestation, declining fish production and overflowing trash. Over 100,000 hectares of forests are lost every year. About 70 per cent of coral reefs are destroyed – overfishing and destructive fishing practices threaten the country's food security. Less than 40 per cent of solid waste is collected; the rest clogs rivers and streets. Almost 58 per cent of all groundwater is contaminated, with only seven per cent of domestic effluents being managed." Although forests in the Philippines have increased in area, much is secondary growth forests, agro-forestry farms and tree plantations. Forest biodiversity has been reduced: the Philippines is one of seventeen megadiverse countries in the world but it is also one of the hottest 'hot spots' for habitat destruction, and only 800,000 hectares of virgin forest are left. This is the outcome of both legal and illegal logging in the 1970s, which generated substantial revenues for the country.[8] The DENR's own environmental sustainability assessment identifies official ratings from 'poor' to 'bad' (see Table 1). Here the lack of good data is worrying, however, especially in relation to many years of environmental advocacy.[9]

A majority of the Philippines' poor people depend directly upon the quantity and quality of environmental assets that can support their livelihoods. An estimated two-thirds of the Philippine population depends directly on natural resources for a living – the agriculture and fisheries sectors alone contributing 20 per cent to GDP and directly employing about 40 per cent of the labour force. Amongst these, the poor rely most heavily on the natural environment to sustain basic livelihood needs:

- Subsistence municipal fishing accounts for only 34 per cent of the value of all fishing production (the *total* fisheries contribution to GDP in 2008 was only 2.4 per cent) yet it constitutes 50 per cent of the dietary protein requirements of coastal communities.[10]

[8] In the 1990s, when logging was banned in most areas, legal logging concessionaires abandoned their concessions, leaving them vulnerable to illegal logging and migrations of poor people who felled accessible trees, established settlements inside the forest areas, and converted them into farm lands. There are areas where local governments established government centres inside forest lands. Some were declared CBFM areas, which created secondary growth forests, agro-forestry farms and tree plantations, but these can no longer qualify as virgin forests. At the same time, indigenous peoples reclaimed their ancestral domains and prevented further migration. This protected most of the virgin forests and also allowed them to reforest their domains – but the reforested areas will also not be considered virgin forests.

[9] MDG Watch Statistics from the National Statistical Coordination Board

[10] Philippine Children's Foundation, 2005

- Forestry and hunting sustains the livelihoods of 44,000 families and forest products made up 1.44 per cent of total export value in 2005.
- Small-scale mining has been both environmentally disastrous and created unhealthy livelihoods, particularly the illegal or underground sectors.

[Table 1] Indicative Environmental Sustainability Rating[11]

ENRindicator	Indicator value	Indicative threshold/ standard	Index rating	Index rating Class	Sustainability rating class
Forest cover[1]	34	50%	2	Poor	Low
Live coral reef[2]	30	50%	2	Poor	Low
Mangrove cover[3]	27	50%	2	Poor	Low
Seagrass beds[4]	50	50%	3	Fair	Fair
Fish CUPE[5]	1.17	1.0-1.5 tm/hp	3	Fair	Fair
Wildlife endangerment[6]	50	40%	2	Poor	Low
NIPAS degradation[7]	50	40%	2	Poor	Low
Soil erosion extent[8]	46	50%	3	Fair	Fair
Solid waste disposal[9]	65	80%	2	Poor	Low
Land conversion rate[10]	3,500	2,000 ha/yr	2	Poor	Low
Extent of air pollution[11]	50	20%	1	Bad	Very low
Extent of water pollution[12]	15	20%	3	Fair	Fair
Compliance to water abstraction limit[13]	6	50%	1	Bad	Very low
Mine tailings[14]	90-100	50%	1	Bad	Very low
Overall index rating			**2.07**	**Poor**	**Low sustainability**

Notes:
1. % forest cover in total forestlands
2. % live cover remaining in good to excellent condition or with 50-100% cover
3. % cover remaining
4. % cover remaining
5. Ratio of latest CUPE with average of last 5 years
6. % of endangered wildlife (50% of 283 endemic species of mammals and birds)
7. % of NIPAS areas degraded (proxy indicator – % of the total number of national parks degraded)
8. % of total eroded areas suffering from moderate to severe erosion
9. % of solid wastes in Metro Manila that is collected and properly disposed of
10. Number of hectares of agricultural lands converted annually
11. % of total number of monitoring stations in Metro Manila exceeding standards for TSP
12. % of total number of waste bodies surveyed that are polluted
13. % compliance to withdrawals limits

Source: DENR[12]

Consequently, environmental deprivations and vulnerabilities make up a large part of how people experience poverty. Environmental degradation in the Philippines can be hugely damaging to poor people's livelihoods, as well as to the economy as a whole. Box 1 identifies four broad groups of people whose poverty has distinct linkages to environmental conditions: the upland, lowland, coastal and urban poor.

[11] Source: Department of Environment and Natural Resources. 2006. "Framework Plan for Environment & Natural Resources Management 2006". Indicative Environment Sustainability Rating Table. Vol 1
[12] 'Framework Plan for Environment & Natural Resources Management 2006'. Indicative Environment Sustainability Rating Table. Vol 1

[Box 1] Four broad groups of poor people and their environmental conditions[13]

1. The upland poor: the upland poor, often referred to as the 'poorest of the poor', primarily consist of cultural or tribal communities, slash-and-burn shifting cultivators or *kaingineros* and rice and corn farmers who have been forced to resettle due to lack of security of tenure in agricultural areas. They are typically subsistence farmers, often with no alternative source of income. These farmers usually cultivate informally tenured land, have extremely limited access to infrastructure, market and social resources and face high food insecurity due to the seasonal availability of crops. They live in areas operationally defined as areas with a slope of 18 degrees or more, which constitutes just over half of the land in the Philippines[14].

Forest fires are a regular part of much slash-and-burn cultivation in upland areas and result in soil erosion 250 times greater than the natural loss from primary forest[15]. The degradation of upland environment has resulted in low productivity, underutilised land and slow diversification in the agricultural sector, and reduced forest product flows, which in turn have reduced earnings.

The cumulative effect of this degradation is severe and has affected lowland and coastal areas: flooding and sedimentation of rivers and lakes has resulted in the loss of fertile cropland and has shortened the life-span of reservoirs supported by dams, affecting both hydroelectric power and water supply. Furthermore, every year, the rainy season brings an average of 20 typhoons that destroy crops and wash away topsoil[16].

2. The lowland poor: the lowland poor consist of landless agricultural workers and small farm owners and cultivators who own between one and three hectares. The landless have neither ownership nor farming rights and typically earn a living from the sale of labour to either plantations or smaller farms. While agriculture is the major source of income for the lowland poor, off-farm income opportunities, particularly seasonal migration to urban centres by household heads, play a role.

Many of the environmental concerns that affect the livelihoods of the lowland poor are externalities of upland environmental degradation. Denudation of upland watersheds in turn degrades irrigation infrastructure, thus irrigated land has become partially rain-fed, which in turn has reduced rice yields. Upper watershed erosion and degradation leads to an average annual loss of 4,200 hectares of wet season irrigated land and 2,700 hectares dry season irrigated land. This amounts to a production loss of approximately 24,000 tonnes annually.[17] The prevalence of uncultivable land has also resulted in increased migration of lowland farmers to upland areas. Lowland farmers are also under pressure from population pressure and competition for land and resources from large-scale commercial enterprises.

3. The coastal poor: approximately two thirds of the country's population resides in coastal areas. Of the over one million fishing labour force, over 60 per cent are engaged in small-scale and subsistence municipal fishing.[18] The majority of municipal fishers are poor, with about 1.3 million Filipinos deriving direct income from small-scale fishing.[19] These fishermen do not use boats, or they use boats weighing less than three tonnes, operate in inland waters and marine waters within three miles of the coast, and receive low yields per unit effort. Nevertheless, municipal fishing accounted for a third of the value of all fishing production and a third of the volume in 2004,[20] with fish constituting half of the dietary protein requirements of coastal communities.[21]

[13] Inputs to PEI concept note; Sanath Ranawana and Paul Steele, 2009
[14] Draft Philippines Country Environmental Analysis, ADB, 2008
[15] Draft Philippines Country Environmental Analysis, ADB, 2008
[16] Philippine Children's Foundation, 2005
[17] FAO 2000
[18] Framework Plan for Environment and Natural Resources Management' Volume I, DENR, UNDP, 2006
[19] "Gender Issues within the Population-Environment Nexus in Philippine Coastal Areas', Article for Coastal Management Journal: Issue 33(4), August 2005
[20] Philippine Children's Foundation, 2005
[21] "Gender Issues within the Population-Environment Nexus in Philippine Coastal Areas', Article for Coastal Management Journal: Issue 33(4), August 2005

Given the importance of municipal fishing to the livelihoods of the coastal poor and the Filipino economy, the extent of coastal and marine resource degradation affecting fisheries is staggering. Nearly half of coral reefs, which produce 10 to 15 per cent of the country's marine fishery, are under high threat from destructive fishing methods such as blast, cyanide, near-shore trawling and Muro-ami, siltation coming from denuded watersheds and pollution from domestic and agricultural waste. The same causes have resulted in a 30 to 50 per cent loss of seagrass over the past 50 years, which serves as a habitat for near-shore fish species and filters sediment and sewage. Mangrove cover, which protects against coastal erosion and storm surges, has declined from 450,000 hectares in 1928 to 112,000 hectares in 2002, and remains threatened by extraction as fuelwood and construction material.

Over-fishing is evident from the decrease in municipal fisheries and the rate of increase in production of commercial fisheries. The ADB estimates that the economic loss of over-fishing is Ph6.5 billion (US$125 million) annually in lost fish catch.[22] The livelihood of poor fishers is further threatened by the encroachment of illegal commercial fishing in municipal waters.

4. The urban poor: the rapid urbanisation of the Philippines, with more than two million people being added to the urban population annually, is straining the capability of the country to provide adequate infrastructure, social services and urban environmental infrastructure. Together with a lack of rights for recent migrants into cities, increasing numbers are obliged to live in slums which are very poorly serviced. This in turn increases the vulnerability of the poor to the health impacts of air and water pollution. In urban areas, the poor suffer disproportionately more from exposure to indoor and outdoor pollution and water pollution because they lack the resources to take preventative or curative measures; indeed, the Philippines has one of the highest rates of respiratory illnesses amongst urban populations. In Manila, Tuberculosis incidents per 1,000 residents are 159 times higher in poor settlements than in the rest of the city.

We can also look at poverty/environment links in terms of the sectors in which people find their livelihood – the poorest being fishermen and small farmers, with some alarming problems among informal miners too.

Fishing is the poorest sector, with a 49.9 per cent poverty incidence in 2006. Fisheries have become an 'employer of last resort' in some coastal areas, where they are the only accessible source of food, cash income, and livelihood. Nearly half of fishermen are poor, the highest incidence of poverty among the fourteen basic sectors in the Philippines economy. In terms of regional poverty incidence, ARMM registered the second highest poverty incidence of fishermen at 65.6 per cent in 2006, Region IV-B registered 4th at 52.6 per cent and Region IX ranked 6th at 50.1 per cent.[23]

Illegal fishing or the use of explosives, toxic substances and improper fishing apparatus, can rapidly destroy coral reefs and deplete fish stocks. Poor fishermen from some islands will man illegal vessels, while local fishermen are helpless to stop them. In general, fish stocks are collapsing. Half a century ago, it would be commonly told that if a basket were left by the shore in the morning, it would be filled with enough fish for the family's lunch and dinner before noon. Today, fishermen must fish all night at great distances and yet still return home with barely enough fish to feed their families.[24]

The action by some poor groups – promoted by fishing elites – therefore leads to environmental damage, which then spreads poverty elsewhere in the fishing community. Other factors, such as poor governance, confusing policies, lack of telecommunications facilities, and the relative remote location of the areas, may have also exacerbated the local condition of the fishing communities.[25]

[22] Draft Philippines Country Environmental Analysis, ADB, 2008
[23] National Statistical Coordination Board, 2006 National Accounts. Note: The 2006 data was used to compare production and poverty incidence since the poverty incidence for 2008 is not yet available.
[24] Halcon 2010
[25] Note that law enforcement in the three regions mentioned is probably the lowest in the Philippines. ARMM, Region IV-B and Region IX are contiguous regions in south western Philippines where the Muslim separatist movement – Moro Islamic Liberation Front – and pirates – Abu Sayyaf – operate.

As we shall see in Section 3, in some areas where industry players are present, marine protected areas have been set up with many local poor fishermen deputised as fish wardens by the DA/BFAR. Aquaculture is also comparatively well covered by policies. To respond to environmental damage that results from the lack of compliance with environmental standards or confusing policies, three departments – the Department of Agriculture (DA, where the Bureau of Fisheries and Aquatic Resources (BFAR) is situated), the Department of Environment and Natural Resources (DENR), and the Department of Interior and Local Government (DILG) – issued a joint memorandum for the planning, management and control of aquaculture development to mitigate impacts on the environment.[26] The proponent of an aquaculture project is obliged to conduct an Environmental Impact Assessment (EIA) with assistance from DA/BFAR for fishery related activities. Meanwhile, the Local Government Unit (LGU) ensures public participation through public hearings and the dissemination of information in coordination with the Fisheries and Aquatic Resources Management Council (FARMC) – composed of fishermen, fish operators and other local stakeholders. The DENR issues the Environmental Compliance Certificate (ECC) if the project is approved.

The second poorest sector is small-scale farmers, with a poverty incidence of 44 per cent in 2006. Most poor farmers live in the uplands, where the soil is not suited for commercial farming. National data for agricultural production are dominated by lowland farmers who engage in trading. In general, the lowland farmers are investing in increasing productivity, while the growing population of upland farmers is putting more pressure on the uplands' environmental resources, where the soil is not adequately fertile from the outset.

ARMM topped the poverty incidence of farmers at 62.3 per cent, followed by Region IX at 54.7 per cent and Region X at 54.3 per cent. Note that ARMM and Region IX, both located in Western Mindanao, again registered the highest poverty incidence for the farmers.[27]

Mining is a growing occupation with poverty and environmental implications. Since 1992, under the administration of President Fidel V. Ramos, the potential for mineral production has changed the uplands into an environmental asset, albeit through the non-renewable extraction of minerals. Some large-scale mining companies have initiated Corporate Social Responsibility (CSR) schemes, strict compliance with environmental standards, and advocated for transparency in the mining industry. The DENR Mines and Geo Sciences Bureau issued policies on environmental compliance, environmental monitoring and social development, as well as mandating royalties for indigenous peoples when mining activity is conducted within ancestral domains. Infractions by mining companies are investigated. Suspensions, cancellations and revocations are ordered by the DENR when infractions are confirmed.

Small-scale mining is on the increase and, in theory, miners are accountable to the Provincial Mining Regulatory Board, headed by the Provincial Governor. There are reports, however, of unregulated small-scale mining activities destroying the environment and creating significant health hazards to miners. Since mining control is devolved to the LGUs, many DENR policies do not apply in practice to small-scale miners.

Dependence on environmental resources is not a simple issue: whilst the resources can offer a route out of poverty, they are often at best a 'safety net' in times of trouble, and can even be a poverty trap. Issues of access, geography, governance and finance are all determinants, and all of these need to be favourable to enable people to reduce their poverty through use of natural resources. Yet, all too often, apparent environmental richness can be illusory:

[26] Joint DA-DENR-DILG Administrative Order No. 1, series of 2008.
[27] NCSB 2009 Annual Report

- *Accessibility* is often the key issue: many environmental assets are effectively inaccessible to poor groups through insecure tenure, lack of access to technologies to manage them, or lack of access to markets to realise income from them.
- That can be exacerbated by geography: not only an issue of resource endowments but also of isolation from services and transport routes.
- As we explore later, *regulatory and market governance*, or the lack of it, can send contrary signals to poor groups as to the incentives to invest in – or to degrade – natural resources. State ownership of natural resources is considered imperative under current policy for national development but is poorly controlled. Where there is a popular belief that state resources are public property available to anyone on a first-come first-served basis, the very poor go to the forests and cut the most accessible trees, convert the area to slash-and-burn farms, or dig mining tunnels without proper technology.
- In many instances, poor people *borrow money or are offered credit illegally* by small financiers, who buy the logs or ores at very low prices. Unfortunately, the legitimate private sector will generally not provide the capital needed by the truly capable poor to make these enterprises viable. Moreover, banking laws make it difficult for the agreement- or permit-holders to get a credit line using their 'tenure instrument or permit' as collateral. Community-based forest management agreements and small-scale mining permits may be accessed by the "capable poor", provided they install or undertake environmental measures. The incentives to carry out these measures are reduced if people cannot raise the finance.

The institutions through which poor people access, use, benefit from, and sometimes degrade environmental assets are often informal and difficult to reach. This exacerbates the above problems. The informal economy, in which poor people are key players, can provide a safety net in times of difficulty. This may be more important than the formal institutions, which are the subject of much poverty and environmental policy. Different measures need to be available to encourage good practice in the informal economy – such as education, access to innovations and small loans.

The cost of this environmental damage amounts to several percentages points of the Philippines' GDP. Although there are few routinely collected figures, and no process for putting such figures to an established policy forum, the World Bank has recently reviewed the available information. It offers credible figures for several costs of environmental damage, although all of these estimates are conservative and many omit knock-on impacts:[28]

- *Outdoor air pollution* (OAP) associated with transport costs amounts to more than $1,600 million per year, or more than 1 per cent of the gross national product (GNP) in the Philippines. This includes direct costs of disease, income loss from mortality, and the willingness to pay for risk reductions of premature mortality (the value of statistical life, or VSL).
- *Indoor air pollution* (IAP), associated with about half the population using fuelwood or charcoal for cooking, is more than $600 million per year VSL. Around 15,000 people die prematurely due to OAP each year, and IAP is also linked to almost 6,000 deaths per year.
- *Water pollution, poor sanitation, and poor hygiene* are directly linked to 34 million cases of illness each year, especially diarrhoea – with total costs of up to $2,800 million VSL – a cost that is significant at nearly 1-2 per cent of national income per annum, and disproportionately borne by the poor.
- *Coastal resource degradation*, notably as a result of overfishing, costs $120 million each year.
- *Agricultural land degradation*, notably from excessive cultivation and soil erosion, costs an annual $150 million in lost on-site productivity and a further $600 million in off-site costs, such as sedimentation of dams.
- *Forest degradation* incurs direct costs of at least $60 million through over-extraction of products and conversion of the land to other uses, as well as many indirect costs resulting from damage to soils and watersheds.

[28] World Bank 2009

The Philippines continues to suffer from environmental hazards such as floods, typhoons and climate change, which also affect poor groups disproportionately. The Global Climate Risk Index 2010 of the NGO Germanwatch ranked the Philippines 9th out of 192 countries most severely affected by extreme weather events from 1990 to 2008:

- *Natural disasters* endanger some 85 per cent of the Philippines' $86 billion annual GDP, and 50 per cent of the land area.
- *Sea level rise* poses a particular threat, as 70 per cent of the country's 1,500 municipalities are along the coast; the National Mapping and Resource Information Authority (NAMRIA) estimated that a sea level rise of 100 cm would inundate 129,114 hectares, affecting approximately two million people.[29]
- *Typhoons* affect both lives and property. Of the twenty typhoons expected each year, five will cause major damage.[30] For example, over 9.3 million people were adversely affected by typhoons Ondoy and Pepeng, leaving 956 dead and 736 injured. Damage and losses were estimated to be 2.7 per cent of GDP. Total income losses were Php 50.3b, much of which was suffered by informal workers with family-based livelihoods.[31, 32]

Two things are really notable here: these costs are huge, and the poor suffer in terms of lives and livelihoods (even if financial losses are greatest for companies). The poor are also less resilient to natural disasters or to changes in weather, as they have no means of insurance or resorting to alternative livelihoods. Moreover, levels of vulnerability and risk seem to be rising.

[Box 2] 2010 damages associated with the El Niño Phenomenon

Damages:	
Agricultural land affected	536,420 hectares
Total production loss	788,738 tonnes
Estimated cost of production loss	Php 12.08 billion
Power cuts in Mindanao with water level volatility:	
Region IX	6 hours rotational power interruption
Region X	6 – 2 hours power interruption per day

Source: Situation Reports from the National Disaster Coordinating Council, 2010

The major spatial correlations between environment and poverty seem clear, in spite of the paucity of information in the Philippines on their links. Although there is reasonable information on individual environmental assets and hazards, and on poverty levels, this information is not routinely linked on a spatial basis. At a very broad level, however, there seem to be two major correlations (see Figure 1):

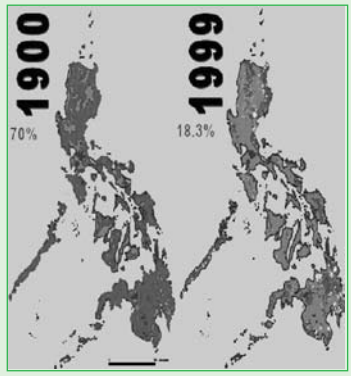
- fisheries and forests are in increasingly bad shape, and fishermen and farmers are among the poorest people;
- disaster-prone areas and regions with high poverty rates coincide.

Governance factors contribute to the continuing persistence of both poverty and environmental problems, as well as the limited effectiveness of most anti-poverty responses.

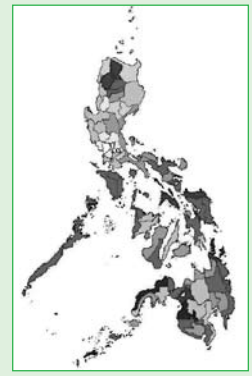
Most of the deeply entrenched governance causes of poverty are to do with issues of power. Many are the cause of environmental problems, too: as the theologian CS Lewis has expressed it: what we often perceive as people's damaging power over nature turns out, invariably, to be the power of some people over other people. Many powerful vested interests believe that they will not be

[29] The Philippines: Country Environmental Analysis, World Bank, 2009
[30] WB 2009
[31] Dr. Romulo A. Virola, National Statistical Coordination Board Secretary General "The Devastation of Ondoy and Pepeng", NSCB website
[32] Typhoons Ondoy and Pepeng:Post Disaster Needs Assessment (PDNA), Philippines Development Forum. PDNA estimates differ from those of the NDCC, which selectively count losses in the public sector but not private sector impacts.

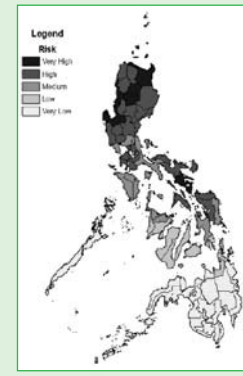
[Figure 1] Poverty's spatial correlation with environmental problems – deforestation and typhoons



Decline of the Philippine Forest
Source: Environmental Science for Social Change



Poverty incidence 2006
Source: Manila Observatory and DENR



Typhoon risk
Source: Manila Observatory and DENR

well-served by an open consideration of environmental problems, such as where they may be involved in illegal logging and fishing. At another level, even pro-poor institutions that value the environment are not open to all aspects of poverty reduction (for example, the Roman Catholic Church's intransigence on contraception).

The entrenchment of vested interests is exacerbated by corruption. Transparency International has ranked the Philippines near the bottom of its transparency index, at 141st out of 179 countries (for 2008); and the World Bank Institute also suggests that good governance indicators have declined in the last decade, in terms of people's voice, the accountability of organisations, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption.[33] Some have suggested there is an entrenched level of corruption in relation to the use of environmental assets: environmental compliance certificates, title or tenure, and user rights are particularly vulnerable to corruption, especially in forestry and coastal sectors. This also suggests the great challenge poor groups face if they wish to tackle corruption – in part because information is simply not made available. The Philippines-based NGO Social Weather Station places the DENR in the 'very bad' category.[34] While corruption is acknowledged to be an underlying cause of many of the Philippines' problems, very few cases have been filed, adjudicated, or resolved (WB 2009).

Too few poor people benefit from the country's rich natural resources – which are sometimes extracted from right under their own feet or above their heads. From the perspective of poor people, further governance deficits mean that – irrespective of the quality of environmental assets to sustain livelihoods, or of the particular threat posed by environmental hazards – they cannot use these resources, protect themselves from hazards, or counter more powerful players. The poor usually lose out on a proportionate share of benefits from natural resource wealth. This is due to several factors: the limited capacity of poor people, as claim holders, to exercise their rights and engage with state institutions; prevailing competition policy; and the perceived unresponsive capacity of the State – it is not seen to be accountable and transparent, or to engage with claim holders and deliver services. This 'tilted playing field' is kept uneven by the capture of natural resources, and associated claims and markets, by more capable middlemen, organised groups, local elites, and large corporate entities.

[33] WBI (World Bank Institute). 2008. Governance Matters VII: Governance Indicators for 1996-2007. Washington, DC: WBI.
[34] Social Weather Station. 2008. www.sws.org.ph

A significant proportion of the rural poor are landless and have no legal rights to access natural resources from their surroundings. This is especially true for those occupying the mountains with slopes of 18 per cent and above, which are by law generally classified as forest lands.[35] The security of land and resource tenure is a fundamental requirement for building sustainable NRM-based livelihood programmes, as it provides the necessary incentive structure to encourage a long-term commitment.

The ADB also stresses that governance and institutional constraints limit the effectiveness of most anti-poverty responses. From the perspective of government and local government, many of these constraints concern government capacity and resources. There is weak local government capacity for implementing poverty reduction and environmental programmes, let alone linking them; targeting of many poverty programmes is weak; and there are serious resource gaps in requirements if the MDGs are to be attained by 2015.[36]

Over time, the Government of the Philippines has launched several programmes to grant tenure over land and other resources to the poor. Although these have addressed the core issue of granting tenure, they have often not had the desired effect, due to various distortions in the policies and programmes. For example, forest lands suitable for agro-forestry have been awarded to upland farmers, including indigenous peoples, through stewardship agreements for 25 year periods, renewable for a further 25 years. The Integrated Social Forestry (ISF) tenure programme of the DENR was launched in 1975,[37] and some stewardship agreements that expired after 2000 were converted into Community Based Forestry Management Agreements (CBFMAs) for another 25 years. However, necessary resource use permits (RUP) for areas covered by the CBFMA were suspended under the administration of President Gloria Macapagal Arroyo. Soy farmers holding the CBFMA were unable to use or benefit from the resources.

The failure of the Comprehensive Agrarian Reform Programme (CARP) is popularly attributed to the lack of support services for the farmers who received titles. Landlords used to provide support services such as ready credit for fertilizers, tools, cash for the school fees of farmers' children, road maintenance and water systems. But when the landlords left, the government failed to fill the void. Furthermore, commercial banks were prohibited from recognising land reform titles as collateral for small business loans. This forced most farmers to borrow money at exorbitant rates, leaving them unable to escape from poverty.

Particular opportunities and constraints face the estimated nine to twelve million indigenous people in the Philippines, many of whom are amongst the poorest and most marginalised in the population. After decades of struggle by indigenous peoples, the Indigenous People's Rights Act (IPRA) was passed in 1997. This is the first time that a state in the region explicitly recognised the rights of indigenous people to their ancestral domains, to self-determination, and to the free exercise of their culture. The Act affirms that native title is the major basis of the ancestral domain rights of indigenous people. The Act defines ancestral domain as all areas which belong to, are occupied or possessed by indigenous cultural communities and indigenous people by themselves, or through their ancestors continually to the present (except in given circumstances where they have claimed private ownership), based on their customs and traditions since time immemorial, and which are required to meet their socio-cultural and economic well-being. This domain consists of lands, inland waters and coastal areas traditionally occupied or possessed by indigenous people.[38, 39]

[35] Revised Forestry Code, Presidential Decree 705.
[36] Asian Development Bank. Poverty in the Philippines: causes, constraints, and opportunities. 2009
[37] PD 705, MNR regulations
[38] It is important to distinguish indigenous peoples (IPs), from the Muslim Filipinos, who make up the dominant population in ARMM. Muslim Filipinos are generally not considered as IP. However, some IP groups who embraced Islam recently remain classified as IP, provided they occupy a distinct traditional territory. In Mindanao, there are areas claimed by the MILF that are occupied traditionally by the IP. For this reason, the recent MOA-AD between the GOP and the MILF was strongly opposed by the IP communities of Cotabato and Zamboanga. It was declared unconstitutional by the Supreme Court.
[39] Subject to prior vested rights, ancestral domains also include forests, pastures, burial grounds, worship areas, and other resources that indigenous people may no longer exclusively occupy and use but that can be accessed for their subsistence and traditional activities.

The enumeration does not include minerals and sources of energy. The right to develop covers the right to utilise natural resources within the ancestral domain and to negotiate the terms and conditions for the exploration of these resources. Therefore, although minerals are part of the ancestral domain, the right of ownership does not extend to them. The Philippine Constitution explicitly provides that all minerals are owned by the State.[40]

The law offers an option to apply for a Certificate of Ancestral Domain Title (CADT), which formally acknowledges such rights, subject to three responsibilities which have an environmental emphasis: (1) maintain ecological balance; (2) reforest open and denuded areas; and (3) observe laws. However, issuing the CADT does not automatically provide benefits. The resources inside the ancestral domain need to be economically valuable to warrant extraction or management: an Ancestral Domain Sustainable Development and Protection Plan (ADSDPP) is needed to identify viable projects that the LGU or the private sector supports. Otherwise, the CADT by itself is not recognised by banks as collateral for loans[41] (UNDP 2007).

Encouraged by interest groups and advocates, a number of LGUs have tended to become myopic in their views. This has occurred precisely at a time when broader views – of the links between poverty, and between local, national and domestic markets – should be shaping local government action. Instead, the attitude has sometimes been one of "we know more what direction we would like our provinces to take, because we are more knowledgeable about conditions in our areas." The disconnect between national policies, plans and programmes with those at the local levels is such that – even if the national provisions are clear – they are not implemented at local level. There is particular discord in environmental, land use and taxation policies (particularly in the minerals sector). While the laws are clear, some LGUs and NGOs advocated their own interpretation of the laws, sowing further confusion and uncertainty into the paths of investors or business. Tackling such governance constraints may appear to be the overriding challenge, yet the required action is not necessarily in these domains. Rather, it is in educating local leaders and the public in what the Philippines can achieve, and what the people and local leaders can and should do in order to realise the potential.

Finally, the complex, locally-diverse links between people and their environment are key to people's wellbeing, yet are poorly explored. Consequently, the twin battles against both poverty and environmental degradation are carried out far too separately. The ADB notes that, aside from the shortages of resources and the governance constraints noted above, multidimensional responses to poverty reduction are needed. Particularly, in researching the complex root causes of chronic poverty and identifying the many ways in which Filipino households remain vulnerable to environmental shocks and risks.[42] We would also include identifying their dependence on – and potential for sustainably managing – environmental assets. The informational and institutional constraints to the process of 'environmental mainstreaming' are explored further in section 5.

A poverty framework can be suggested to describe current and potential poverty reduction strategies in the Philippines: Figure 2 illustrates the links between four major framework components that address the needs of the poor: forms of capital; approaches; interventions; and enabling conditions. The figure depicts the existing poverty reduction framework, which enables us to identify links that might be strengthened, such as the synergy among the programmes and strengthening the environmental component:[43]

[40] Sec. 3 (a), sec. 7 (a) and (b), IPRA; Article XII, Sec.2 Philippine Constitution
[41] In some cases, the IP members 'sell' portions of the CADT to non-IP people, although this is not allowed by law.
[42] Asian Development Bank. Poverty in the Philippines: causes, constraints, and opportunities. 2009
[43] This framework is by Ella Antonio, drawing from the draft report "Towards an Integrated Operational Approach to Rural Poverty Reduction in the Philippines" that the author and others prepared for the World Bank Philippines (2010).

- *Poor people* in the figure are differentiated into chronic or core poor, and transitory or borderline poor, to enable a more appropriate application of interventions. In the above discussion, we explored the needs of the poor on a spatial basis – upland, lowland, urban and coastal (see Box 1); and on a sector basis – the problems facing poor fishermen and farmers.

- *Forms of capital* are critical. Eradicating poverty requires generating and expanding five basic forms of capital: human, social, financial, physical and natural capital.

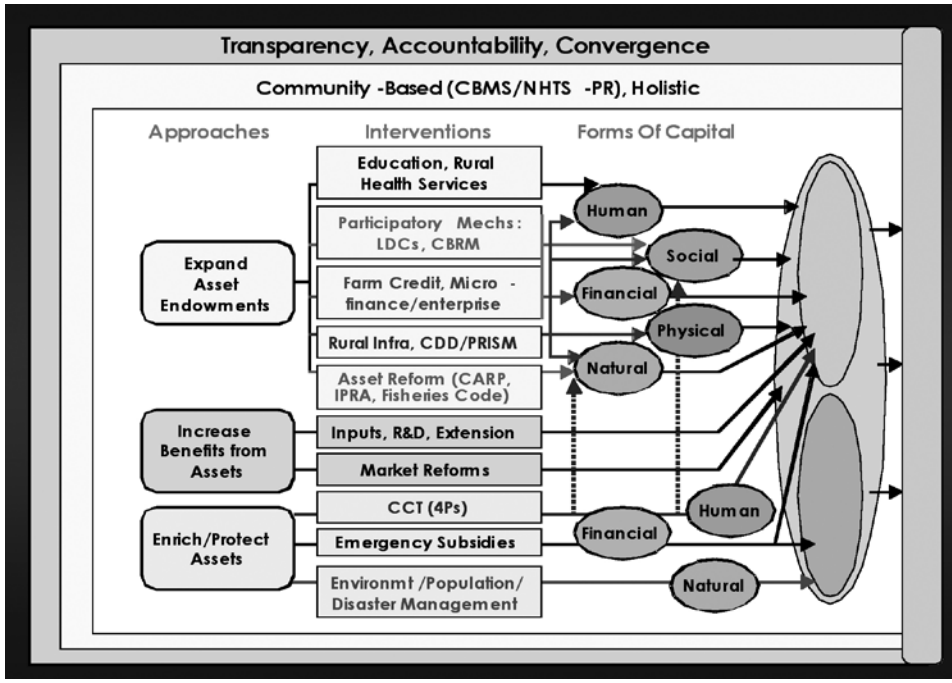
- *Three approaches* or broad objectives have so far been adopted in the Philippines: (a) *expanding asset endowments* in the five forms of capital; (b) *enhancing access by poor groups* to the benefits that may be derived from these assets; and (c) *protecting asset endowments* and thus managing the risks facing them.

- *Interventions* by the various agencies of government have been varied, for example: the extension of social services to enrich human capital; implementing participatory and community-based programmes to strengthen the social capital; providing credit to farmers and enterprises as a means to enlarge financial capital; building community infrastructure such as in KALAHI to expand the physical capital; and reforming policies and natural asset ownership structures to maximise the benefits sustained from environmental or natural capital.

- *Enabling conditions* include a range of planning, monitoring, governance and institutional capabilities and controls that, so far, have not been well informed by p/e issues – and hence the need to strengthen mainstreaming.

Protecting and improving the conditions of natural capital is therefore imperative to improve the lives of the poor, and an examination of successes and gaps in the whole poverty framework can offer insights for improving joint p/e objectives. Most of the work on natural capital is aimed at national, corporate and community level; there is a need to target individuals as well. This focus on the individual is the rationale for conditional cash transfers (known as Pangtawid Pamilyang Pilipino Program or '4Ps'). So far, these have focused on strengthening human capital and safety nets in cases of emergency (for example, rice subsidy during the rice crisis), and emergency employment during the financial crisis. The 4Ps also has the potential to integrate environmental protection, rehabilitation or enhancement activities (such as the practice of solid waste management, forest management and flood protection) so that the considerable public expenditure also produces long-term social and environmental value.

[Figure 2] Philippine Poverty Reduction Framework



The fact that poor people face so many linked environment and poverty problems points to the urgent need for environmental mainstreaming, but it also hints at opportunities for mainstreaming. Unless the environmental foundations for poverty reduction are secure – accessible and productive soils, water and natural resources – there is a strong risk that poverty will be persistent, or that development gains may be eroded. A foundation for securing those environmental foundations is social capital: education can break the vicious cycle of poverty/environment degradation by improving the way that people value and manage the environment. When poverty and environmental problems are understood together, the common underlying causes of both (largely poor governance) and the common aims of both (essentially wellbeing) will be pursued with more rigour and vigour.

Clearly, *relevant* environmental issues urgently need to be integrated into 'mainstream' development and poverty reduction decisions and institutions. Whenever mainstream decision-making procedures ask questions about the costs, benefits, risks and distributional impacts of policies, plans or investments, there is potentially an entry point or opportunity to mainstream *environmental* costs, benefits, risks, and so on. Although relevant poverty/environment links are rarely considered to date, there is scope to ask such questions at several stages in mainstream decision-making – from the policy formulation stage, to planning, budgeting, implementation, monitoring and evaluation of the results of investments, surveys, and beyond.

But how successful have such approaches to integrated decisions, and specifically 'environmental mainstreaming' efforts, been to date in the Philippines? We examine the Philippines experience in the next section.

[3] Case studies of Philippines progress in environmental mainstreaming

The Philippines has made good progress in some aspects of environmental mainstreaming and is internationally known for it. This is particularly so in the case of The Philippine Council for Sustainable Development and the country's implementation of Agenda 21 at national and local levels. Both were high-profile pioneering initiatives that served to chart the course for many countries in implementing international agreements on sustainable development. They are described as our first case study below.

Internationally, there has been a presumption towards such national and local-level plans and strategies as a way to link environment and development. The PCSD, PA21 and LA21 approaches that we describe below attempt, primarily, to improve policies and plans. Latterly, with donor-sponsored poverty reduction strategies being a touchstone for aid, integrating environmental clauses in PRSs and other forms of national plan has been seen as a principal means for mainstreaming. Yet comprehensive plans and strategies have a tendency to suffer from more attention being given to their preparation than to their implementation – or to the practicalities and politics of implementation in a real world. Thus the Philippines (indeed, the world) is littered with nicely 'integrated' plans that are little more than visions at best, or fig-leaves at worst.

In practice, the integration of environment and poverty issues is often the result of other forms of initiative, some of which could complement mainstreaming via plans. Many relate to decisions both 'upstream' and 'downstream' of plans. Some are more bottom-up than the government-organised plans tend to be, and thus benefit from greater buy-in and are grounded in local contexts. Others focus themselves on fewer issues and more clearly, or at least more immediately, address people's priorities. We have attempted to identify these on the basis of their actual impact on environment and development and then to draw out their drivers, rationales and characteristics. They include a wide range of institutional mechanisms in civil society and business, as well as national and local government, that complement such government-led planning. As a whole, such initiatives can help to 'wire together' the many institutions concerned with environment and development and forge a more coherent approach. We offer short case studies of each, and group them into six categories – though several initiatives exemplify more than one category:

1. Integrated planning systems
2. Integrated finance and accounting mechanisms
3. Integrated field activities
4. Partnerships focused on LGUs
5. Progressive business practice
6. Educational work

[3.1] Integrated planning systems

a. The Philippine Council for Sustainable Development – an early global leader in integrating poverty and the environment[44]

The history of the Philippine civil society and its shaping of the environmental movement explains why the country readily embraced the concept of a national multi-stakeholder body to integrate economic, social and environmental objectives, as internationally agreed at the 1992 Rio Earth Summit, and why it was the first country to establish the associated body: in this case, the Philippine Council for Sustainable Development (PCSD). The declaration of Martial Law in 1972 had curtailed rights and freedoms to such an extent that nationalistic Filipinos searched for other means of expressions and avenues for protestation. Environmental protection served the purpose because it was not considered a subversive or a prohibited agenda, and natural resource depletion and environmental degradation were rapidly ensuing and already clearly evident then. This began the Philippine environmental movement and intensified the establishment of civil society organisations (CSOs) that were advocating for poverty alleviation and environmental protection.

Civil society figured prominently in the toppling of the Marcos regime and rise of the Aquino administration during the 1986 People Power Revolution. Against this backdrop, the 1987 Constitution embraced democracy and established people's rights to organise and participate in nation-building. Article XIII, Section 16 states that, "The right of the people and their organisations to effective and reasonable participation at all levels of social, political, and economic decision-making shall not be abridged" and mandates the State to facilitate the establishment of adequate consultation mechanisms. The Constitution also expressly recognises the right of people "to a balanced and healthful ecology in accord with the rhythm and harmony of nature". Together with provisions for equitable distribution of wealth and expanding productivity as a key to raising the quality of life for all, the Constitution has provided a sound foundation for national efforts towards sustainable development.

The institutional mechanism: the PCSD

The Constitution and the wide democratic space opened up by the Aquino administration made the creation of multi-stakeholder bodies for development issues, including those addressing environment and sustainable development (ESD), a natural process in the country even before the PCSD came into being. For instance, the Strategic Environmental Plan for Palawan Act, which created the Palawan CSD, was passed in June 1992. The PCSD itself was created on September 15 1992, only three months after the Rio Summit, with a great deal of ease, as the government readily agreed to the proposal of the environmental CSO leaders to establish the multi-stakeholder and multi-sectoral body. The early successes of the PCSD helped to set a precedent for other countries in the world and to establish local level equivalents.

The PCSD produced many early good experiences to learn from – raising awareness, generating information, participation and planning. It spearheaded the formulation of Philippine Agenda 21 (PA 21) that took almost two years to complete, since the PCSD intentionally underwent a highly consultative and participatory process. It subsequently localised PA 21 and encouraged the setting up of its local analogues. While eighteen bodies have been specifically created as local SD councils to date, there are actually multi-stakeholder local development councils (LDCs) at all levels of governance, created in compliance with the 1991 Local Government Code. LGUs have been using the LDCs in handling ESD matters.

[44] Case study by Ella Antonio

The SD Strategy and Action Plan: The Philippine Agenda 21

The formulation of Philippine Agenda 21 was intense and exhaustive in terms of its process, but compelling and understandable for many mainstream actors in terms of substance. The institutional mechanism (the PCSD) was strongly in place, the stakeholders were open and prepared, and the agenda already had its beginnings in the Philippine Strategy for Sustainable Development, which was also formulated with strong participation of civil society before the Earth Summit.

PA 21 set out the principles and guidelines for sustainable national development. It established the integrity of environmental systems as the foundation for development initiatives, calling for productivity to increase but only within the limits of the natural environment's carrying capacity (WB 2009). It offered a framework for coordinating and integrating medium- and long-term sector strategies and action agendas.

PCSD success stories and outcomes

PCSD has become well-known worldwide for its successful processes and substantive innovations that include the following:

- *Counterparting*, which means that both government and civil society equitably share in the process and substantive agenda of the PCSD to give life to the meaning of stakeholder. The civil society set up a counterpart council (Civil Society Counterpart CSD or CSCCSD) with its own secretariat. It undertakes its own processes and consensus-building prior to PCSD deliberations. The government recognises it as an equal partner. For instance, it provides CSOs with adequate positions, sometimes funded, in Philippine Delegations to UNCSD Sessions. This has often conferred the Philippine Delegation with a uniquely strong role in exercising multi-stakeholder participation in UNCSD Sessions.

- *Self-determination*: each stakeholder group chooses its representative to the Council, as opposed to the government designating the members. This practice forced the stakeholder groups (CSO, business and labour) to develop respective selection processes that best suited each group, and insulated the government and the PCSD itself from political influences.

- *Trust building*: the PCSD invested time and effort in building trust among the stakeholder groups to improve working relationships and facilitate consensus building – the internally agreed mode of decision-making. Levelling workshops were undertaken and less-controversial issues, such as elimination of leaded gasoline, were tackled first.

- *Institutionalisation of the Environmental Impact Assessment System* in the project development cycle to ensure consideration of environmental impacts in social and economic development programmes.

- *Integrating climate change impacts* in the Philippine Development Plan, to ensure that climate change mitigation and adaptation are considered in social and economic development strategies.

- *PA 21* and its localisation is the best of the many success stories of the PCSD. In practice, PA 21 defines the shape of the PCSD and *vice-versa*. In this way, sustainable development in practice is about people and not just plans – about integrating as many stakeholder perspectives, capabilities and needs as possible, rather than an arbitrary technical equation to link social, environmental and economic objectives. The participatory process that PA 21 underwent and the deliberate communication and advocacy programme that accompanied it, substantially raised awareness and consciousness about ESD and inspired concrete actions

from stakeholders all over the country. The process improved relations and forged stronger partnerships among the PCSD's members and stakeholders, generated many lessons and honed various skills.

There are many more small successes which, taken together with the above, are significant, especially considering the challenging context for policy change. It is not surprising therefore that the Philippines was recognised globally for the PCSD and its successes. It became a model case for setting SD governance arrangements and agendas, and the PCSD had been asked to mentor a number of countries. This recognition was demonstrated by the Philippine election to the chairmanship of the 6th Session of UNCSD and Group of 77 and China at the same time. The PCSD exemplified strong leadership in both and introduced the multi-stakeholder debate, an innovation in the UNCSD process. The cooperation and assistance by PCSD members was instrumental in performing these leadership roles well.

Challenges

The reputation enjoyed by the PCSD internationally belies the significant challenges it faces at home in ensuring good, long-term governance for sustainable development. Since its establishment, the PCSD has been operating in an environment that is beset by challenges, some of which are briefly assessed below.

- Being the creation of an Executive fiat, the PCSD is unstable as a government body. Presidents who do not give priority to ESD, or who do not want to rest on the laurels of former Presidents, can readily choose to ignore or abolish it altogether. The PCSD suffered such a fate in the recent past when it became virtually dormant and only a vestige of its former self – at least in terms of government participation, which was cut from eighteen to three Council members. The PCSD could also be weakened in form and powers by new bodies especially those that are created by law, such as the Climate Change Commission, and chaired by the President, who outranks the PCSD's Cabinet-ranked chairperson, the Secretary of Socio-Economic Planning.

- The PCSD does not have a dedicated budget and is supported by only a small secretariat in a unit within NEDA's agriculture department. Whilst they may be experts, PCSD supporting personnel have further tasks and responsibilities, and hence can only give limited time and attention to PCSD matters. Financial resources are mobilised through project development to support PCSD activities. The CSCCSD has also been faced with lack of resources, institutional issues, and weakening technical support.

- Today, PA 21 is just one of the many strategies and action agenda pertaining to ESD in the country. Others include the Medium Term Philippines Development Plan (MTPDP), Framework Strategy and Program on Climate Change, and Biodiversity Strategy and Action Plan. In this sense, the PCSD is a victim of its own success in calling for greater attention to environment. However, and in spite of it being enhanced in 2004, PA 21 has failed to sustain primacy over other strategies and exercise its role as the over-arching ESD strategy.

Nonetheless, the PCSD remains a viable mechanism despite its challenges. NEDA has reactivated it and made it an active participant in the formulation of the MTPDP for 2011-2015. It continues to coordinate the preparation of country's positions on ESD issues in global discussions. While problematic in some sense, being lodged within NEDA facilitates its integrative and oversight roles and capabilities, and maintains its regional and local reach. It may again have been given a vote of confidence in the international arena when the Philippines was elected Vice Chair in UNCSD 18 and re-elected in the same position for UNCSD 19 for 2011.

b. The Philippine Environmental Impact Statement System – beginning to work for poverty reduction, but facing stakeholder obstacles[45]

One of the earliest – and still most rigorous – approaches for environmental mainstreaming in the Philippines is the Environmental Impact Statement (EIS) system. It was, established in 1982 and is administered by the Environmental Management Bureau of the Department of Environment and Natural Resources (DENR-EMB). The EIS system provides an organised means to plan for good environmental outcomes based on scientific information, offering a more objective means to evaluate and review (and approve or decline) plans than previous approaches, which were more subject to vested interests. Increasingly it has enabled the public to make their voice heard about proposed projects. Moreover, the EIS system is no longer viewed as a one-off 'licence to operate', but has become a continuing system to ensure that projects are well implemented and improved, with conditions applied to keep track of contentious issues and to enable independent monitoring. There remain some weaknesses in implementation and some ambiguities about social issues. As the EIS system has become such a major vehicle for environmental mainstreaming, it is timely to review its strengths and weaknesses.

We take as our basis the June 2007 World Bank (WB) and Asian Development Bank (ADB) discussion paper on how the EIS system has been working.[46] The paper concluded that the system had several strengths, each of which we comment on below:

Strengths

(1) *The EIS system offers an action-forcing mechanism*: the law (PD 1586) requires that the proponents of all projects, undertakings and programmes (whether owned or operated by government or private entities) which have potential to cause adverse effects on the environment, must conduct an environmental impact study and produce an Environment Impact Statement (EIS) and must then secure an Environmental Compliance Certificate (ECC) prior to implementation.

(2) *It is an effective planning tool*: the EIS system is certainly now understood to be a planning tool for continuous improvement of investments and not a means to issue a one-off permit. All positive and negative impacts of a project are identified or predicted through baseline data gathered during the study. From there, mitigating measures, especially for any likely negative impacts, can be laid down and form part of an environmental management plan, which is considered a commitment of the proponent. Such measures can also be specified as conditions of the ECC with which the proponent can be required to comply.

(3) *It offers a means for public participation in decision-making about development projects*: the procedure of evaluating and reviewing applications should involve extensive public consultation, public scoping and public hearing – significant channels for the public to ventilate their concerns and issues about the project. While public hearings are mandatory under the EIS system, especially for environmentally critical projects, other public participation requirements are optional on the part of the proponent. In many cases, however, they are implemented because they are known to be able to resolve issues concerning social acceptability that are critical for the approval of the project.

(4) *It can also serve as an instrument for tackling special and vested interests*: the ADB commented that the EIS system is an instrument for tackling special and vested interests. But PD 1586 offers fair treatment to all projects regardless of the identity of the proponent. This is a considerable improvement on the past when political links were more important to secure approval than environmental and social plans and performance. The only exception today would be extreme cases, where it is considered to be of national interest, or an emergency measure to prevent larger-scale damage and degradation of environment resulting from calamity. Only such

[45] Case study by Donna Gasgonia and Engineer Cesar Siador, EIA and Management Division Chief, Environmental Management Bureau, DENR
[46] WB/ADB Discussion Paper 42331 – The Philippine Environmental Impact Statement System: Framework, Implementation, Performance and Challenges, June 2007.

exceptional cases can be exempted by the President from undergoing the EIA process, following the recommendation of the DENR-EMB.

(5) *It indirectly contributes to sustainable development*: while the avoidance of environmental and social damage may seem a good enough contribution to sustainable development, the real added value of the EIS is in directing investment and creating jobs through sustainable enterprise. A mining company with environmental clearance, for example, can bring several billion US dollars to help shape a greener economy, committing to create 15,000 jobs and implement programmes for the protection of environment and social benefits.

Weaknesses

(1) *The EIS system is administered by a central agency (the DENR-EMB) whereas most environmental and social issues are locally specific*: furthermore, the system is expected to resolve technical issues using scientific procedures, which do not adequately address social issues.

(2) *Small business activities are covered by the EIS system, which can potentially overwhelm it*: the ADB has commented that this results in too many EIAs that can overwhelm the DENR-EMB. This may have been true when the EIS system was in its infancy, when every project was required to have an impact study. But since the early 1990s the processing of the ECC applications of SMEs (including small-scale mining enterprises) has been devolved to the regional offices of EMB as well as to community environment and natural resources officers (CENROs) and LGUs. This more decentralised EIS system has also qualified which types of project are covered by the system. Those not covered can be issued with a certificate of non-coverage (CNC). The processing time of ECC applications was reduced from 120 days to 40 days at the central office for Environmentally Critical Projects (ECPs), from 60 days to 20 days at the local level, and one day processing time for CNCs (reduced from the usual 15 days).

(3) *It is unclear which activities the system focuses on*: there is insufficient information about the types of project covered by the system. So, in some instances, it is not clear whether particular projects require an EIS. Previously, the EMB relied only on Proclamation 2146, which declares ECPs and Environmentally Critical Areas (ECAs). But the proclamation was updated in 2011; so, with the qualifications discussed in point 2 above, implementation of the system is now more focused.

(4) *Its processes and procedures have sometimes been perceived to overlap with other laws and other agencies*: PD 1586 does not overlap with the procedures of other laws and agencies. Issues and concerns of a project under the jurisdiction of other agencies shall not be considered to require an ECC. Both EIA – and ECC as its outcome – help other agencies to make decisions within their mandates by involving them in the review process. The permitting procedures and requirements of LGUs and other agencies are no longer required in issuing an ECC. Rather, the latter is a clear stand-alone procedure. Perhaps there is some ambiguity about social acceptability issues, which are indeed the responsibility of the LGUs. The EIA process does not make decisions about social impact (see point 1 above) but can offer useful material to help LGUs decide on a project: information on the socio-economic programmes, presented in the EIS; as well as contextual information about many existing economic and social issues, such as poverty, health, and education.

(5) *There is insufficient systematic feedback from assessed projects, notably on the impacts that were actually realised:* the EIS System is now taking actions to institutionalise a mechanism to monitor and assess project impacts. Multi-partite Monitoring Teams (MMTs), with voluntary stakeholder membership, are now being created for an approved project as an ECC condition. Furthermore, a Memorandum of Agreement has established financial requirements – the Environmental Guarantee Fund (EGF) and Environmental Monitoring Fund (EMF) – to ensure that monitoring takes place. The project must then submit its own compliance monitoring report, which, in turn, needs to be validated by the MMT. In this way, the MMT mechanism broadens the participation of the public in monitoring the project, and the EGF Trust Fund enables any rehabilitation and

payment of damages that may become necessary as a result of a project's operation. The EMF consists of cash deposited in the bank for defraying stakeholders' monitoring expenses. Meanwhile, the regular function of DENR-EMB to monitor compliance and assess impacts of project operations continues separately from the MMT. The net effect is greater scrutiny over whether or not a project contributes to sustainable development.

It is time to communicate the benefits of the EIS system better as a continuous improvement planning tool, and to close remaining gaps in its mandate and capacities to deliver the system. This is particularly important because not all social and environmental interest groups work well with the system; indeed, some work against it, not always with useful outcomes. The DENR-EMB itself has noted that several groups, such as the church, NGOs and some LGUs, are heavily influenced by their political interests. They refuse to understand the role of EIS as a planning tool and especially its regulatory role for permits, authorization, and so on. To explore these issues further, in Box 3 we investigate the case of the Rio Tuba Nickel Mining Corporation.

[Box 3] Rio Tuba Nickel Mining Corp[47]

RTNMC operates a nickel mine site and a hydrometallurgical process plant complex in Barangay Rio Tuba, Municipality of Bataraza, Palawan. From 1991 to 2004, RTNMC had invested almost Php 135 million for environmental protection connected to mining. This is an unusually large amount compared to competitors, and covers the construction and maintenance of soil erosion control measures, dust suppression, and reforestation of 203 hectares within mined-out areas and a further 132 hectares outside them.[48]

In the process of developing the hydrometallurgical process plant, an Environmental Impact Assessment (EIA) was called for. Conducted in November 2000 by the DENR-EMB itself, some concerns were raised during the EIA meetings and consultations. RTNMC subsequently hired consultants to conduct further studies to answer these concerns and the EIA process concluded with an ECC being successfully issued in July 2002.

Two NGOs, Environmental Legal Assistance Centre (ELAC) and the Palawan NGO Network Inc. (PNNI), however, sought a recall of the ECC issued by the DENR Secretary. Failing in that, they subsequently filed a petition. This was dismissed by the Court of Appeals in 2003 and finally denied by the Supreme Court in 2004, on the grounds that all issues raised by the two NGOs had already been addressed and responded to in the EIA process. In the appeal, the petitioners (ELAC and PNNI) alleged that the DENR Secretary abused his discretion when he issued the ECC to RTNMC. However, the Court of Appeals ruled that the records of the case, especially the facts as submitted by the parties, showed that the procedural requirements under the DENR regulations had been complied with.[49]

According to the WB/ADB discussion paper, the Rio Tuba experience reveals how the Philippine EIS system is vulnerable to NGOs who refuse to recognise the EIA and endeavour to use the court to raise exactly the same issues already addressed by the EIS process. In the Rio Tuba case, this caused a delay of two years, after which the Supreme Court decided in favour of the company and the integrity of the EIS procedure, dismissing the ELAC/PNNI petition for lack of legal basis. From RTNMC's point of view, it supports the principle of Sustainable Development for a 'pro-people, pro-community and pro-environment orientation and goals', declaring

[47] Box based on inputs from Jose S. Saret (Rio Tuba Nickel Mining Corp, RTNMC); and Arturo T. Manto (Coral Bay Nickel Corporation, CBNC)
[48] Other mining companies cite the RTN as a good model to convince local stakeholders. Several have sent local officials, civic groups, and indigenous peoples leaders on field trips (lakbay-aral) to RTN.
[49] "Furthermore, the records of this case reveal that the procedures in the issuance of the ECC have been complied with contrary to the assertion of petitions. The procedure is as follows: 1) scoping, 2) identification of EIARC members, 3) formal scoping report, 4) review of the report, 5) agreed upon scope which will be the basis of EIA and review of EIS, 6) adjustment of scope, 7) submission of EIS, 8) initial review by the EMB, 9) substantive review by the EIARC (within 60 days), 10) EIARC report, 11) recommendation of EMB director (within 15 days), 12) issuance of ECC (within 15 days), and 13) transmittal of ECC to EMB (within 10 days). The facts of the case as above narrated show that the outlined procedure has been followed." (Lipin Otadan, et al. vs. The Secretary of the DENR, et al., C.A. GR SP no. 75014, 30 Sept. 2003, pp. 8-9).

socio-economic development, environmental protection, pollution control, safety and health as RTNMC's priorities. All EIA requirements were complied with, and the EIA was conducted in a participatory and transparent manner. This resulted in an almost 80 per cent support rating in the perception survey, and endorsements from local government offices, NGOs, host community residents, people's organisations, and tribal councils, among others. RTNMC believes that its sincerity in realising commitments to communities, who are the most sensitive stakeholders of the mining project, earned it the support and trust of these communities. Its investment in information, education and communication (IEC) activities enabled a faster flow and accurate dissemination of information between the company and the stakeholders. Further, the use of third-party consultants enabled access to impartial and technically sound project assessment and recommendations.

What lessons can we learn from the Rio Tuba Nickel Mining Corporation case? Firstly, it is no longer enough just to object to a project on principle – NGOs who intervene in the EIA process should get sound technical advice before taking a stand. Secondly, investment in communications tools to empower concerned communities to offer their own facts and opinions can be more effective and equitable than a reliance on NGOs to speak 'for' communities. Thirdly, after the ECC is issued, effective monitoring should be based on a community-based approach, where community members are well informed about the project and its Social Development and Management Plan (SDMP), and have the technical training and capability for it. Fourthly, the authorities (EMB) should carefully select the EIA reviewers or resource persons based on qualifications and impartiality in carrying out their functions.

[Box 4] Philippine Environmental Impact Statement System

The Philippines approach to EIA has all the basic elements of a good environmental assessment (EA) system, as identified by the International Association of Impact Assessment; such as the inclusion of screening, scoping, independent review, public participation, disclosure, and monitoring. This was the conclusion of a 2007 World Bank-Asian Development Bank review on the legal and institutional frameworks for EIA, as well as its effectiveness and efficiency in practice. EIAs have indeed been able to compel proponents to disclose the environmental impacts of their projects.

To date, however, EIAs have had limited utility as a planning tool because, in most cases, they are applied downstream of key feasibility decisions. Implementation also suffers from centralised administration that is disconnected from the real local environmental issues on the ground; from over-emphasis on compliance with rigid bureaucratic procedures, rather than effective investigation of substantive and technical contents; from overlap with many laws; and from a complex and poor system of follow-up and monitoring. These constraints mean that its contribution to achieving sustainable development has been 'difficult to pin down'.

Although attention to EIAs seems to have been more about procedure than outcomes, the study notes that there is still a need for procedural improvements. To maximise the contribution of the EIA to local planning and decision-making, it suggests decentralisation and deconcentration of the EA functions to, respectively, the Local Governments Units and Regional Offices of the DENR. It also proposes streamlining EIA requirements to make it more cost-effective for the project proponent, the DENR, and LGUs; and it suggests complementing EIAs with strategic EA. Finally, it calls for focusing EA resources on activities that are truly environmentally critical – which would be aided by better mapping of environmentally critical areas.

Source: World Bank and ADB 2007[50]

[50] World Bank and ADB (Asian Development Bank). 2007. The Philippine Environmental Impact Statement System: Framework, Implementation, Performances and Challenges. World Bank

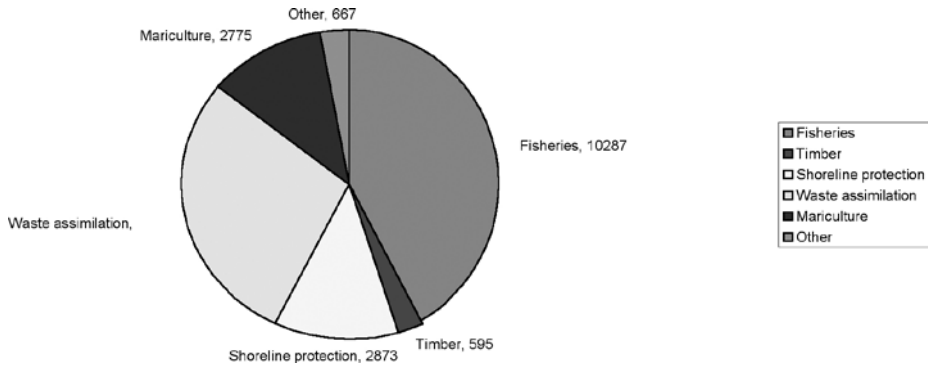
[3.2] Integrated finance and accounting mechanisms

c. Environmental valuation and accounting – an emerging approach revealing the costs and benefits of coastal and marine resource use[51]

Green accounting could be a promising mainstreaming approach and there is already some experience in the Philippines to date, beginning with a USAID green accounting project. It is already integrated in some income accounts and handled by NSCB. Here, we explore the findings from a 2008 study of the net economic value of the Philippines' various coastal and marine resources (CMRs), prepared with the support of the World Bank.

This study valued CMRs as providing benefits of almost $480 million per year, of which fisheries of various types contribute almost half, ecosystem services of shoreline protection and waste assimilation making up most of the rest. The study also gave estimates of other values, such as carbon storage. Further values might also be added, including many important to poor people, such as cultural values and alternative sources of energy and food. Although $480 million is less than 0.3 per cent of the Philippines' GNP, if the valuation had been done in relation to the needs of the poor – or rather the 'GDP of the poor' (Sukhdev 2005) – CMRs would make up a much higher percentage. Indeed, the study notes that 'at least 64 per cent of the benefits from all coastal ecosystems (mangroves, seagrass beds, coral reefs and other coastal ecosystems) accrue locally; most of the rest are considered national benefits'.

[Figure 3] Net benefits from coastal and marine resources (million PhP)



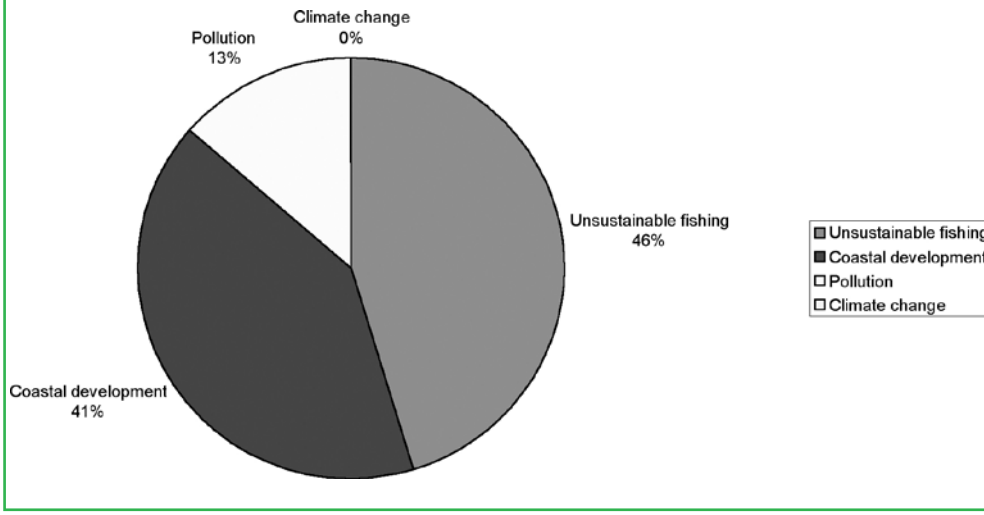
Source: World Bank, 2009; adapted from Padilla 2008.

When Padilla, the study's main author, conducted the *valuation on a per-hectare basis*, mangroves stood out as by far the most valuable CMR (Php 8,859 per ha), and they produce all the values in Figure 3. Coral reefs are the second most valuable (Php 1,487 per ha), followed by seagrass beds (Php 921 per ha). Again, factoring in a measure of the dependence of poor people on a particular resource might increase the value of mangroves still further, especially as they are relatively accessible to poor groups.

Finally, Padilla's assessment of the costs of environmental degradation of CMRs was PhP 5.7 billion a year, or about one-quarter of the estimated net economic benefits. Almost half of the environmental costs are due to unsustainable fishing, largely from overfishing (for example, driving down economic rents from fishing), with smaller shares attributable to pollution and the conversion of mangroves. The biggest single economic cost of CRM degradation is therefore caused by the direct users of the resource (fishers) – necessitating a social approach to managing fishers. This is difficult, however, since many fishers are poor and in remote areas, where normal controls and regulations are difficult to implement.

[51] The case draws extensively from Padilla, Jose. 2008. Analysis of Coastal and Marine Resources: A Contribution to the Philippines Country Environmental Analysis. Manila: World Bank.

[Figure 4] Cost of environmental degradation in coastal and marine resources (%)



Source: World Bank, 2009; adapted from Padilla 2008.

d. EcoBudget – key environmental management tool in Tubigon, Bohol[52]

The Municipality of Tubigon in Bohol province encompasses a variety of ecosystems that are vital to its social and economic development. Despite being a 'first class' municipality,[53] the local economy remains highly dependent on agriculture, fishery and the tourism industry. The continued strength of each of these is directly linked to the health of the municipality's natural resources. Tubigon's citizens, especially the poorer people, are reliant on ecosystem services for sustenance, livelihoods and recreation. Yet these services were never systematically valued, and maintenance of the health of the ecosystems was never budgeted for. Tubigon therefore required a tool for simple and effective monitoring and evaluation of the conditions of its ecosystems, to inform its development directions and strategies.

The solution – as Tubigon municipality saw it – was to adopt the ecoBudget process. EcoBudget is an environmental management tool uniquely designed with and for local governments, developed by ICLEI – Local Governments for Sustainability. EcoBudget allows municipalities to plan, monitor and report on natural resource consumption within a municipal boundary. It has three main components which mimic the phases of the financial budgeting cycle: budget planning, spending and balancing. Citizen and stakeholder participation are strongly encouraged and are considered critical to success. The analogy with mainstream budgeting is that environmental values are as important as financial values, and thus some kind of budget is essential for tracking and investing in them. The budgeting unit is not financial, but environmental assets and values, with associated targets being 'trees planted', 'area covered', and so on.

Tubigon started implementing ecoBudget in 2005 to improve the way it tackles its major environmental issues, as well as to quantify the impacts of its existing environmental initiatives. The yearly monitoring of the ecoBudget targets, and its presentation in the form of the Master ecoBudget, both draw attention to the environmental issues in question and increase the support for the planned countermeasures. To Tubigon, ecoBudget proved to be both a good management

[52] Case study by Vic Aquitania and Ella Antonio.
[53] First class municipalities are those earning incomes of P50million and above.

tool and an effective instrument for decision-making and monitoring. Over the years, ecoBudget was integrated in the comprehensive development plan and the annual investment plan of the Municipality. Reporting was linked to already existing reporting mechanisms, such as the State of the Local Government Report, submitted yearly to the Department of Interior and Local Government. This ensured continuing support to achieve the long term targets and drew the attention of decision-makers to particular issues identified within the ecoBudget process.

Key actors, institutional arrangements and process

In April 2005, Tubigon's Local Chief Executive issued an Administrative Order establishing the ecoBudget Local Implementation Team (LIT), composed of nine key technical personnel from the different departments of the Municipal Office, and coordinated by the Municipal Planning and Development Coordinator, who also served as the project manager. The LIT was mandated to (a) prepare the Annual Master ecoBudget, a sample of which is shown in Table 2; (b) serve as the steering committee for the implementation of the ecoBudget initiatives, as identified in the master ecoBudget; and (c) act as the coordinating link between the bureaucracy, expert groups and the local stakeholders.

The ecoBudgeting process starts with the preparation of the Master ecoBudget by LIT, taking into account the issues affecting the various areas of responsibility of the municipal departments. The draft Master ecoBudget is then submitted for review and deliberation by the Municipal Development Council (MDC), the planning body of the municipality. As required under the Philippine Local Government Code, the MDC consists of representatives of all *barangays* (smallest administrative unit), *Sangguniang Bayan* (legislative body), the Congressperson with jurisdiction over the municipality, and civil society (the number of which must not be less than 25 per cent of total membership).

The MDC reviews and fine tunes the contents of the ecoBudget, focusing on indicators, targets and measures. It prioritises and shortlists the proposed measures based on importance, practicability and capacity of the stakeholders to implement. The members are thus encouraged to inform and consult their constituents and other stakeholders before the ecoBudget is submitted to the *Sangguniang Bayan* for approval and ratification into a municipal ordinance. The public will again have the opportunity to contribute to the ecoBudget during the *Sangguniang Bayan* process, as it is required by the Code to hold public hearings before any local law is passed.

Upon ratification, the LIT prepares an Annual Work Plan, in coordination with the province of Bohol, for incorporation in the provincial budget and eventual submission to the national Budget and Management Department. Once budgeted, the LIT implements the measures in close cooperation and coordination with all concerned.

LIT regularly conducts mid-year evaluations to determine the progress against the targets set out in the Master ecoBudget. Consultative meetings with local stakeholders are conducted and results of the evaluation are reported to the MDC for information and action. No political action is undertaken unless it is indicated by the evaluation report.

Results and outcomes

The ecoBudget is merely a tool to support other sustainability approaches in Tubigon, such as the coastal resource management programme. It does however add real value by ensuring that initiatives for managing the ecosystem are actually funded and undertaken as planned and on schedule. Outcomes resulting solely from its implementation are, therefore, not measurable but it is clear that the ecoBudget has enhanced Tubigon's coastal resource management programmes, which, in turn, have substantially improved the conditions of its ecosystems and social and economic situation. It

has also become evident that due to the participatory processes employed in all the environmental programmes of Tubigon, including the ecoBudget, the residents have become better aware, empowered, inspired and committed to take care of their environment and natural resources.

Success factors

The Tubigon ecoBudget has been hailed internationally for its successful implementation and has become a role model for numerous municipalities in many parts of the world. The success of the ecoBudget in Tubigon may be attributed to the following:

- *The strong participatory approach that enabled local communities and stakeholders to implement and assume ownership* of the measures agreed upon in the Master ecoBudget. It enabled stakeholders to openly discuss appropriate policies, procedures and structures that improved the municipality's capability to address and manage environmental issues. It has also improved political commitment toward sustainability, due to the early participation of politicians in the process.

- *Continuing commitment and support of the local government officials and stakeholders*. The chief executive, LIT, MDC and, Sangguniang Bayan, have been instrumental in the continuing adoption of the pioneering initiative. The integration of the programmes, project and activities of the ecoBudget into the annual work plans of the various municipal departments ensured their sustained implementation and funding.

- *The sustained information and education campaign*, regular dialogues, partnerships and alliances with stakeholders have addressed erroneous perceptions and prejudices. These also helped a lot in the evaluation process and in adjusting targets and readjusting initiatives.

- *Lesson-learning.* Many lessons have been learned in the five years of ecoBudget implementation. One is that environmental mainstreaming does not need additional financial resources. Political imprimatur, support and internal coordination can realign existing resources and synergise activities for much stronger impact at least cost. Another lesson is that community participation and empowerment require more time and effort but the returns in terms of facilitated and supported implementation are much greater. Further, active lesson-learning has itself informed, adjusted and strengthened the ecoBudget approach that led to its improved implementation.

Remaining challenges

There remain a few challenges that Tubigon continues to address, such as:

- Inability of Tubigon to implement its plans in full, due to a lack of formal powers and limitations posed by priorities and policies of higher political and administrative levels. For instance, it is unable to regulate quarrying, as the issuance of permits and regulation of operations are not within the municipality's jurisdiction. Also, municipal budget allocation is limited by provincial priorities, which in turn is limited by the national fiscal situation and priorities.

- Violations of protected areas by some fishermen and outsiders still occur. The usual reason is economic, as their financial needs become greater than their ability to earn income.

Overall, the municipality has been successful in addressing sustainable tourism and strengthening the local fishery by protecting coastal zones, mangrove areas and coral reefs. The ecoBudget is certainly a key contributor in ensuring the right kinds of investments take place.

[Table 2] Environmental master budget, Province of Bohol, Municipality of Tubigon

issue	resource	Indicator	Reference year value 2004	Actual Value 2006	Actual Value 2008	Actual Value 2009	Long-term target (2015)	Action Plan / Countermeasures
POTABLE WATER SUPPLY	Drinking Water	# of sources positive of Coliform	4 out of 12 sources in Municipal Waterworks positive of coliform	0	5 out of 12 sources tested negative	6 out of 12 sources tested negative	All sources tested negative	Chlorination and conduct monthly sample testing
		Turbidity concentration of suspended solids (ntu)	12 Municipal Waterworks Sources don't meet DOH Standard (ntu)	6	No data	9 out of 12 sources meet the Standard max. allowable value of 5 NTU (range 0.11 to 3.02)	100% of Municipal Waterworks Sources meet DOH Standard	Rehabilitation and upgrading of the Tubigon Municipal Waterworks System and to construct a filtration plant
		% of non-revenue water [NRW] (systems loss)	60%	57.69%	52.32%	39.23%	20%	- Metering programme - rehabilitation of pipes & leakages - elimination of illegal connections - Monthly monitoring of NRW
FOREST COVER COASTAL ZONE	Mangrove Forest	Area covered or reforested	550 hectares	553.75	556.75 hectares	566.75 hectares	600 hectares	Annual tree planting & reforestation project
FOREST COVER UPLAND ZONE	Timber and Fruit Tree	# of new trees planted	0	4,279 trees	6,789 trees	5,616 trees	20,000 trees	- mobilisation of people's organisations - procurement of seedlings - upgrading of nurseries
		Survival rate		75%	75%	85%	70%	- regular monitoring
DEGRADED MARINE HABITAT	Coral Reefs/Sea Grass Beds	# of established MPAs	5 MPAs	7 MPAs	9 MPAs	9 MPAs	12 MPAs	
		Coral and seagrass cover	40% cover	41%	45% cover	48% cover	70% cover	
		# of hectares established as MPAs	196 hectares	240 hectares	314 hectares	314 hectares	287 hectares	
SOLID WASTE DISPOSAL	Good built environment	% reduction of solid waste in tons m^3	0%	49.19%	40%	50%	30%	Waste segregation and regular garbage collection
		% of households practicing segregation	0%	80.60%	90% of total HHs	90% of total HHs	98% of total HHs	- conduct IEC per barangay - posting of signs - conversion of open dumpsite to controlled dump - monitoring

In the five years that Tubigon has been undertaking ecoBudgeting, the process has been improved and made more efficient. Tubigon has mastered the approach, such that it now acts as a mentor to the municipality of Stung Treng in Cambodia and four municipalities in Bohol (Maribojoc, Talibon, Jagna and Pilar), where ecoBudgeting will be replicated. Tubigon now plans to step up and integrate its ecoBudget and Poverty Database Monitoring System (PDMS), a tool for poverty diagnosis and action planning at the community and local government level. PDMS ranks poverty incidence or deprivations down to the household, cell or cluster of cells in a particular village of the 47 municipalities and one city in the Province of Bohol. This forms the basis for interventions by the local governments. The core indicators include health, nutrition, access to basic amenities, shelter, and peace and order to name a few. The province, however, includes environmental indicators that are directly linked to poverty, such as water supply and water quality, sanitation, crop production, volume of water required per hectare, forest cover, marine habitat, and solid waste.

[3.3] Integrated field activities

e. Integrating poor people's needs in Protected Areas – officially organised mechanisms help reinvigorate local approaches to sustainability[53]

Protected Areas' (PAs) roles in poverty reduction are contentious and changing. In the Philippines, as elsewhere in the world, population and economic pressures on land resources have increased to the extent that the viability and desirability of land set aside entirely for nature protection has been called into question. Several schemes have been developed to try to reconcile the needs of biodiversity conservation and local people's (natural resource dependent-) livelihoods.

In the Philippines, the Protected Areas Management Board (PAMB), a multi-sectoral body composed of government officials and local stakeholders, is responsible for the management of a protected area with defined territorial boundaries. The PAMB prepares the protected area management plan (PAMP). Aside from the plan, the park dwellers are encouraged to organise themselves, if not yet organised, to enter into a Protected Area Community Based Resource Management Agreement (PACBRMA) with the DENR. These agreements provide tenure to the park dwellers for a period of 25 years, renewable for another 25 years, provided they abide by the park regulations and management plan. DENR also issues Special Use Agreement in Protected Areas (SAPA) for designated areas inside the protected area. The SAPA allows the following activities inside the protected area: (a) ecotourism facilities; (b) campsites; (c) communication facilities; (d) transmission lines; (e) irrigation canals/waterways; (f) rights of way; (g) aquaculture; (h) scientific monitoring stations; (i) agro-forestry; (k) forest plantation.[54]

Where the protected area overlaps with the ancestral domain of indigenous peoples, a harmonised plan is prepared, subject to: (a) the use of natural resources like wildlife species based on existing policies, legislations, rules and regulation; (b) access to natural resources for family use and sustenance based on established customs and traditional practices as reflected in their Ancestral Domain S,ustainable Development and Protection Plan (ADSDPP) or Ancestral Domain Management Plan (ADMP); (c) construction of infrastructure in accordance with the Environmental Impact Assessment (EIA) system; (d) management arrangements and commitments of stakeholders; (e) monitoring and evaluation; and (f) recognition of the existing property rights regime.[55] If only the ADSDPP exists, it will be enhanced to ensure the protection and conservation of biodiversity. If no ADSDPP exists, the indigenous community shall formulate a management plan in consideration of the PAMP.[56]

[53] Case by Felix Mirasol (Kitanglad Nature Park Superintendent) and Donna Gasgonia
[54] DENR Administrative Order No. 2007-17
[55] Joint DENR-NCIP Memorandum Circular No. 2007-01, section 8.
[56] Joint DENR-NCIP Memorandum Circular No. 2007-01, Management of Overlapping Protected Areas and/or their Buffer Zones and Ancestral Domains/Lands

[Box 5] Involving indigenous peoples – more on provisions in the ancestral domains

As of June 2009, the NCIP had issued 107 Certificates of Ancestral Domain Title (CADTs) to indigenous communities covering 2.7 million hectares. Each community is encouraged to prepare an Ancestral Domain Sustainable Development and Protection Plan (ADSDPP). The ADSDPP is the consolidated plan of indigenous communities within an ancestral domain for the sustainable management and development of their land and natural resources, as well as the development of human and cultural resources based on their indigenous knowledge, systems and practices. The ADSDPP is subject to three obligations: (a) maintain ecological balance – by preserving, restoring and maintaining a balanced ecology in the ancestral domain by protecting the flora and fauna, watershed areas, and other reserves; (b) restore denuded areas – by actively initiating, undertaking and participating in the reforestation of denuded areas and other development programmes and projects, subject to just and reasonable remuneration; and (c) observe laws – by observing and complying with the provisions of the Indigenous Peoples Rights Act (IPRA) and the rules and regulations for its effective implementation.[57]

The ADSDPPs form the basis for the NCIP Five Year Master Plan for indigenous communities.[58]

- The NIPAS law provides for the formulation of protected area management plans (PAMP) while the IPRA law provides for the ADSDPP. Both cannot exist independently of each other.[59]
- The Congress House of Representatives recently approved a Bill (HB # 6719, December 2009) that would allow environmentally protected areas to keep 75 per cent of any income to sustain their status, amending the NIPAS law. This bill removes the authority of the DENR to use this income, which it has under the NIPAS law.

Case Study – Mt. Kitanglad[60]

The Mt. Kitanglad mountain range is a major watershed and the home of rare and endangered wildlife. Of the 55 species of mammals found there, 15 are endemic, including the pygmy fruit bat and the giant flying fox (the largest bat in the world). Of the 133 species of birds found there, 15 are endemic, including *Coracina mogregori, Otus mirus, Trichoglossus johnstoniae, Basilornis miranda* and *Leonardia woodii*.

As in many nature parks, illegal activities have depleted the forest, oftentimes carried out by local residents. The DENR decided to address the problem by tapping the potentials of the same local residents: their theory was that, to be successful, environmental protection needs the support of the local people. Information Education Campaigns (IEC) were launched to create awareness about the laws on protected areas, watersheds and wildlife – and then to move to management by the community. Eventually, the DENR issued seven Community-Based Forest Management Agreements (CBFMA) and two Protected Area Community-Based Resource Management Agreements (PACBRMA) in the Mt. Kitanglad Range Natural Park.[61] A total of 344 Kitanglad Guard Volunteers (KGVs) were deputised by the DENR to protect the remaining forests under such agreements.

This has had huge environmental benefits – greatly reducing forest violations from 78 cases in 2007 to just two cases in 2010. The KGVs were instrumental in the discovery of two nesting sites of the Philippine eagle and they participated in implementing the Biodiversity Monitoring System of the DENR. Cognizant of the importance of the Biodiversity Monitoring System, the Bukidnon indigenous peoples (IP), as well as long-term upland dwellers of Kitanglad (non-IP), form a 'social fence', responsible for screening migrants who enter the park.

[57] Indigenous Peoples Rights Act (IPRA), R.A. 8371, Sec. 9.
[58] NCIP Administrative Order No. 1, series 2004.
[59] Joint DENR NCIP MC No. 2007, s. 01, Management of Overlapping Pas and/or their Buffer Zones and Ancestral Domains/Lands.
[60] Case study by Felix Mirasol, Protected Area Superintendent Mt. Kitanglad Nature Park and Donna Gasgonia.
[61] Republic Act 8978 declared Mt. Kitanglad a protected area.

The local people have also received immediate benefits. The Provincial Government of Bukidnon gave a monthly honorarium of Php 3,000 (US$ 68) to each barangay, and group insurance for the volunteer KGVs since 2002. LGUs surrounding the park also provide annual funding support for the basic logistical costs of the KGVs. Other benefits for the KGVs are livelihood projects, such as the production of abaca, citronella and eucalyptus, and opportunities to get involved in tourist services and labour for infrastructure development inside the park. The LGU buys seedlings produced by the women's association in backyard nurseries. The seedlings are given to civic organisations for planting, and linked to the province-wide "Bukidnon Greening Program". Upland communities have become contractors of the DENR Upland Development Program, showcasing modern technologies in upland farming to address siltation and sedimentation. The DA "No Contour, No Assistance" programme has provided fertilizers, seeds and other technical assistance to farmers who adopted contour farming.

But what are the longer-term implications of this programme to local residents? It seems as if the programme is helping to reinvigorate the integrated approach to the land that has traditionally existed, but is making it robust to contemporary needs. KGVs have relied on their farms and landholdings within the park's upland areas, and some have previously extracted resources in the park illegally. Through training activities, these farmers have now also become proactive forest guards with a strong sense of ownership over the park: Kitanglad is the ancestral domain of the Bukidnon indigenous people and the wellspring of the Bukidnon culture and traditions. They have thirteen CADTs (Certificate of Ancestral Domain Title) and an ADSDPP (Ancestral Domain Sustainable Development and Protection Plan). Tribal leaders also orient the visitors about their culture and traditions. Mountain climbers and hikers are required to observe a tribal ritual before they enter the park.

The Council of Elders of the Bukidnon IP became the IEC arm of the PAMB. Aside from formulating culturally-sensitive policies within the park, the council has helped mediate and resolve conflicts, especially those resulting from the differing interpretations of the NIPAS act and the IPRA. The Council aims to codify their customary practices eventually: this should prove to be an interesting local example of poverty/environment principles.

f. Integrated coastal management (ICM) – an exemplar programme in Ubay, Bohol improves local economy, environment and empowerment[62]

Overfishing is a common problem in the Philippines, affecting both the environment and poor people. The fisherfolks of the municipality of Ubay on the island province of Bohol had been complaining of a dwindling catch over five years. The reduction in fish yields was due to a range of very damaging fishing practices – use of dynamite, cyanide fishing, illegal mesh sizes, and use of Danish seine nets. Since 1998, there had been a system of volunteer Bantay Dagat (sea watchers) but it was ineffective. Firstly, the volunteers lacked accountability, legal and technical skills. Secondly, several members took advantage of their being Bantay Dagat volunteers and condoned illegal fishing or even directly committed it.

A more formal system was called for. The appropriately-named 'FISH' project – Fisheries Improved for Sustainable Harvest (FISH) reviewed the Bantay Dagat, purged it of its undeserving members, broadened its volunteer membership to include government officers, and improved its qualifications and accountability.[63] Thus the Coastal Enforcement Protection Unit (CEPU) was established in 2003 as a reformed Bantay Dagat. New volunteers came from the government, who were paid regular salaries through their respective offices but received additional compensation or incentives for their involvement in the Bantay Dagat.

[62] Case study by Alpio B. Delima.
[63] The FISH project was introduced by the Coastal Resource Management Program (CRMP) of the Dept. of Agriculture/Bureau of Fisheries and Aquatic Resources (DA/BFAR) with technical and financial support of USAID.

This strengthened enforcement had some significant outcomes. Better law enforcement improved the quality of the municipal waters, resulting in richer marine resources. The increased fish catch provided economic benefits to around 1,492 municipal fisherfolks. More residents volunteered to help with law enforcement. Trust and confidence of the general public in the uniformed and non-uniformed enforcers increased because of the more professional manner by which they enforced the law. The local government was pleased with the work, its allocation to the project steadily increasing from Php 1.5+ million in 2007 to Php 2.4+ million in 2009.

How did this work? Rather than pushing out volunteers and replacing them with officials, a Coastal Resources Management Office (CRMO) was created to assess and strengthen the capacity of the Bantay Dagat. The Municipal Government of Ubay purged the Bantay Dagat of tainted members and replaced them with new members. To improve the ability of Bantay Dagat volunteers both to do their work and to be held accountable, government employees were encouraged to volunteer enforcement services in exchange for specialised training and additional allowances based on how much work they volunteered. Many of the CEPU members who were government employees from non-fishery departments learned new skills and knowledge on the maritime environment, for example chart reading, use of the global positioning system, scuba-diving, fish visual census and paralegal skills. The Bantay Dagat was thus transformed into an effective CEPU and became the police arm of the CRMO.

From 2005, commercial fishing boats were also excluded from the municipal waters. This enabled local municipal fishers to catch more fish for their own consumption and for sale in the local market. The FISH survey in 2006 showed that there was already a 6-8 per cent increase in fish catch of pelagic fish species – as well as increased sightings of turtles, dolphins and whale sharks. While resident fishers could see the benefits and complied with the laws and ordinances, non-resident fishers created problems by intruding into the municipal waters.

The approach is also influencing other local government units in the Philippines. More than 35 LGUs and international organisations have visited Ubay to learn from the Municipal Government about how the CEPU works for marine ecosystems and poverty reduction. CEPU members have developed volunteer reporting networks to establish collaboration between coastal barangays for surveillance. This has also enhanced inter-agency courtesies among the Philippine National Police, the Philippine Coast Guard, the Philippine Navy and BFAR as well as the barangay governments. This kind of inter-agency collaboration has also led to other benefits – improved coastal clean-up, tree planting and livestock dispersal.

The work paid a lot of attention to transparency and to generating a sense of shared ownership. Periodic meetings in the coastal barangays ensured that the CEPU reported its activities and discussed its concerns with the communities. Rapid field appraisal was carried out using simple materials and pre-designed forms, with strong facilitators skilled in public speaking or mediation. Attention was given to ensuring that CEPU personnel recognised that they are the first line of response in the event of a fishery violation, with selected personnel being given training in fishery law enforcement. Between them, the CEPU possessed skills in navigation, identification of fish species, marine wildlife, mesh sizes, fishing gear and the ability to determine whether fish had been caught by explosives, chemicals or organic substances. Recognising the importance of shared ownership of the legal enforcement initiative with local groups, they took care to impart basic knowledge and skills to community-based enforcers at the barangay level.

What of the future? The Ubay CRMP project is now ready to be replicated in other coastal towns. One of its strengths has been gaining the full support of the local government executive and legal departments that enacted an ordinance for the CEPU. A local ordinance should create the CEPU so that it will have a legal identity and cannot be easily changed if a new set of political leaders is

elected. The public will need to be made aware of the CEPU through public hearings conducted prior to the enactment of the ordinance. Once the ordinance is passed, a regular budget will need to be allocated to the CEPU. In such ways, the pro-poor management of Philippines municipal fisheries can be secured into the future.

LGUs were declared the frontline agencies in the formulation, planning and implementation of ICM programmes, being challenged to reflect changing social, economic and environmental conditions and needs. LGUs do not shape these ambitious strategies on their own, however. NGOs, civic organisations, academe, people's organisations, the private and corporate sectors and other concerned stakeholder groups are engaged in planning, community organising, research, technology transfer, information sharing, investment, and training programmes. The rules and regulations for developing and managing particular municipal waters are developed locally by Fisheries and Aquatic Resource Management Councils (FARMCs). These are composed of fisherfolk organisations or cooperatives and NGOs in the locality; but they are assisted by the LGUs and other government entities.

The Municipal/City FARMCs (a) assist in the preparation of the Municipal Fishery Development Plan and submit the plan to the Municipal Development Council; (b) recommend the enactment of municipal fishery ordinances to the local legislative council (*sangguniang bayan,* SB, or *sangguniang panlungsod,* SP); (c) assist in the enforcement of fishery laws and regulations in municipal waters; (d) advise the SB/SP on fishery matters through its Committee on Fisheries, if such has been organised; and (e) can perform other functions assigned by the SB/SP.[64] FARMCs may recommend the establishment of fisheries reserves for education, research or special management purposes. They may also recommend the cultivation of mangroves to strengthen the habitat and spawning grounds of fish, where no commercial fishing is allowed.[65, 66]

Ubay's participatory Fishery Development Conservation Programme worked closely with fisherfolk organisations and formed community-managed resource councils in almost all coastal barangays. It gained strong local grassroots support, improved credibility of the fisheries policy among local stakeholders, an integrated Municipal Fisheries Ordinance and enhanced local governance and accountability of local fishery resource management measures. A recent study concluded that, "while Ubay's fishery protection and conservation program has achieved moderate economic gains and improved fishery stocks, the greatest gain has been empowering local fisherfolk to directly influence barangay and municipal policy and development plans. Their participation in local village fishery resource councils, coastal resource assessments, seaborne patrols, habitat monitoring, and reviews of local and community ordinances has given them a stronger voice in the sustainability of local fishery resources."[67]

g. Anti-poverty strategies – KALAHI and 4Ps programmes as means for also improving environmental management[68]

Poverty incidence in the Philippines has been persistently high and still affects over 30 per cent of the population. The suffering that this causes has been a compelling motivation for past administrations to make poverty reduction their centrepiece programme. Each administration designed its brand of poverty reduction programme, except for the nascent Aquino Administration which instead intensified and expanded the programmes of the previous administration. The programmes all focused on improving economic and human conditions, with

[64] Fisheries Code, R.A. 8550, sec. 74.
[65] Fisheries Code, sec. 80-81.
[66] LGUs are mandated by law to provide funds for the FARMCs in the annual LGU budget. The fund is based on a percentage and could be substantial. All the FARMC has to do is to submit an annual work and financial plan and how to use the fund to further protect and develop the fisheries and municipal waters.
[67] Mercado, E.S. 2008. A Case Study of Ubay, Bohol on Sustainable Coastal and Fishery Resource Management: A Contribution to the Philippines Country Environmental Analysis. World Bank.
[68] Case study by Ella Antonio..

environmental considerations being largely incidental until very recently. Today, two of the major poverty reduction programmes (in terms of cost and coverage) are being made more sensitive to environment and natural resource (ENR) concerns – both in a safeguard sense and in enabling more positive ENR contributions to poverty reduction.

KALAHI (Linking Arms Against Poverty)

KALAHI was launched in 2003 as the national strategy of the Arroyo administration for improving local governance and reducing poverty. It aims to strengthen the capability of LGUs to design, implement and manage community projects with strong participation of stakeholders. It adopts two strategies for an holistic approach to poverty reduction: *community driven development (CDD)*, where the process is anchored on self-determination of projects decided on and implemented by the community; and *convergence*, where government entities and other stakeholders coordinate and integrate the delivery of services in target areas.

KALAHI built on the country's long experience in CDD that had been brought about by decentralisation under the 1991 Local Development Code, as well as on the strong democratic and participatory practices in the country. It also brought to the fore good elements and experiences of the Comprehensive and Integrated Delivery of Social Services (CIDSS), a community development programme implemented by the Ramos administration more than 10 years ago. As such, the World Bank-supported project under KALAHI was eventually referred to as KALAHI-CIDSS. This was to differentiate it from the other variants that are funded by government and other sources such as KALAHI-Conflict Areas, KALAHI-Caravan; KALAHI-Agrarian Reform Zones.

KALAHI-CIDSS began implementation in 2003 and has recently been extended by significant additional funds from World Bank ($59.1 million) and US Millennium Challenge Corporation ($140 million). Lessons learned from previous processes and experiences have been used to perfect the design. It has received several accolades, including being chosen as one of five best-designed projects amongst 200 selected World Bank-supported projects; the best public sector project; and, recently, the Presidential Citation for outstanding contribution to poverty alleviation. Amongst many innovative features of the project, perhaps the most innovative is the direct transfer of funds into the proponent community's KALAHI-CIDSS bank account. This cuts the processing time, eliminates intermediaries that are often the source of leakage, builds downward accountability, and strengthens the confidence and capability of the community to manage the funds.

Its other notable feature is the ability to improve environmental conditions in poor communities and to protect the environment from the impacts of construction of small-scale infrastructure. A DSWD report[69] shows that, as of August 2010, 5,326 sub-projects of KALAHI-CIDSS directly benefit around 1.2 million households. Of these, 545 are categorised as addressing environmental protection and conservation through drainage structures, marine sanctuary, flood control, sanitation facilities and soil erosion control. While this number constitutes only 10.2 per cent of the total, many other sub-projects (1,119) are environment-related, such as eco-tourism, and especially water supply system.

As a World Bank project, the KALAHI-CIDSS is subject to an environmental safeguard assessment. According to the Bank's project appraisal document, "*Environmental issues in the Project would relate primarily to impacts caused by small-scale infrastructure construction. Environmental impacts caused by such activities are not expected to be that significant.*" Notwithstanding this, the project put in place Environmental Impact Assessment Guidelines[70] that provide for (a) a negative list of prohibited

[69] Breakdown of sub-projects as of August 2010, KALAHI-CIDSS website (www.kalahi.dswd.gov.ph.
[70] Environment Impact Assessment Framework, KALAHI-CIDSS website (www.kalahi.dswd.gov.ph).

investments with potentially adverse environmental impacts; (b) the use of an environmental screening that identifies prohibited projects (for example, community roads into protected areas); and (c) the mitigation of negative impacts from sub-projects that are not on the negative list. According to the Bank, *"The important achievement the Project can claim is that communities became aware of their responsibilities in complying with government laws related to protecting the environment and preserving the heritage of the indigenous peoples."*

Pantawid Pamilyang Pilipino Program (4Ps) – a Conditional Cash Transfer programme

Conditional Cash Transfer (CCT) programmes are getting a great deal of press internationally, and countries in Asia, led by Indonesia and the Philippines, have been actively developing and adapting them. The Philippine programme *Pantawid Pamilyang Pilipino Program*, or 4Ps, was initiated by the Arroyo Administration, with assistance from the World Bank, in the latter part of 2008. Contrary to usual practice, the Aquino Administration also pursued the 4Ps and substantially expanded it, even though its effectiveness had not yet been conclusively proven in the country. The administration has high hopes for the CCT scheme, having observed the successes of its application in other countries, particularly Brazil, Mexico and Indonesia. The administration is quite convinced that having adapted the CCT scheme to local conditions, it will likewise work well in the country. Upon the assumption of the Aquino Administration in July 2010, the five-year 4Ps was just barely into its second year of implementation and was just gaining momentum. The number of households covered by the 4Ps at that time was just one million, still insignificant to make a real dent in overall poverty. For these reasons, and in order to fulfil his commitment to fight poverty, President Benigno S. Aquino III increased the budget of DSWD, the department implementing 4Ps, by 123 per cent to P34.5 billion for 2011. The 4Ps receives the bulk of the increase (P11billion of P19.5 billion), nearly doubling the 4Ps total budget and enabling it to target 2.3 million poor households in 2011. In support of the 4Ps, development institutions such as the World Bank ($405 million), Australian Aid, and Japan International Cooperation Agency, have been contributing to the implementation of the 4Ps. Recently, the Millennium Challenge Corporation approved an assistance of $227 million to cover 172,488 households.

According to the DSWD[71], the 4Ps aims to break the intergenerational poverty cycle by investing in poor people in the form of cash assistance to improve their health, such as through pre- and post-natal care for pregnant women and preventive check-ups and vaccines for children, as well as their nutrition and education. It is a major programme for attaining the country's MDG targets. The generic CCT approach is focused on improving personal rather than environmental well-being, and the 4Ps was designed similarly. But there are also real potentials to tackle the environmental aspects of poverty.

Experience from other countries that have implemented CCT widely shows that CCT programmes that focus on the *individual* cannot eradicate poverty on their own. They need to be accompanied by complementary programmes, particularly those that work at *community* and *national* levels. This includes programmes that are geared towards creating employment, providing ready access to health care, improving the quality of education (such as building schools, improving facilities, and building teacher capabilities), and other initiatives that address the full range of deprivations that make up poverty, including deprivations in access to local and global public goods. KALAHI-CIDSS is one such complementary programme, helping to address poverty issues at the community level through the provision of small infrastructure and other support services. The converse may be seen in examining the experience of environmental programmes, which they tend to focus on *either* the national level *or* community levels. Yet the environment also has private individual implications, such as health, in addition to community aspects like local public goods; and national or global aspects, including biodiversity and climate change, all of which need attention. It

[71] Pantawid.dswd.gov.ph

may even be argued that more attention should be paid to the individual's environmental needs and that CCT may be a way to achieve this, because: (a) *personal* well-being is closely tied to a healthy ENR; and (b) the poor must be motivated as *individuals* to invest time and effort on ENRs to reap the health, livelihood and other wellbeing benefits. For these reasons, CCT should be a suitable programme to mainstream ENR in poverty reduction and there is much potential to build on 4Ps' success here.

There were initial efforts to (a) study the advisability of applying 4Ps to ENR management; and (b) determine appropriate mechanics for a "4Ps for ENR" as basis for preparing the implementation guidelines. "4Ps for ENR" would be a pioneering initiative and can set the stage for an integrated poverty/ENR framework. DSWD recently decided, however, that instead of making it an additional conditionality, environment matters shall be covered in the Family Development Sessions that parents must participate in as one of their responsibilities under the programme. The 4Ps has integrated a livelihood programme for graduating beneficiaries. This has been linked to ENR programmes such as the National Greening Programme that aims to reforest at least 2.5 million hectares. Graduating beneficiaries are engaged in the production of seedlings, development of nurseries and planting.

[3.4] Partnerships focused on LGUs

A significant number or environmental management functions have been devolved to LGUs (Box 6).

[Box 6] Environment and Natural Resources functions devolved to LGUs

- Regulation of environmental impacts of small and medium-scale enterprises under *Kalakalan* 20 Law (Republic Act 6810)
- Establishment of greenbelts and tree parks under the Local Government Code (Republic Act 7160)
- Management of communal forests and watersheds (Republic Act 7160)
- Integrated social forestry projects (Republic Act 7160)
- Community-based forestry projects (Republic Act 7160)
- Regulation of fishing in municipal waters (Republic Act 7160 and Republic Act 8550)
- Regulation of minor mineral extraction like small-scale mining and certain scales of quarrying and sand and gravel gathering (Republic Act 7160)
- Regulation of nuisance and pollution under the Clean Air Act (Republic Act 8749)
- Solid waste management under the Ecological Solid Waste Management Act (Republic Act 9003)
- Anti-smoke belching program (Republic Act 8749)

Source: League of Municipalities of the Philippines 2005

h. Process-Bohol – bringing human population and coastal resources into a more harmonious relationship[72]

Cogtong Bay in Bohol Province covers about 10,000 hectares of municipal waters, with about 2,000 hectares of mangrove trees that represent 32 of the Philippines' 47 species. It is shared by three municipalities: Candijay, Anda and Mabini – the former being the subject of this case study. Candijay is a 'fourth class' municipality,[73] whose population is generally poor. It has a population of 30,389, growing at 2.2 per cent in 2000 – higher than that of the province – and unemployment at about 18 per cent. A majority of the households (68 per cent) live below the Philippine income poverty threshold. As a result, Candijay has high incidence of malnourishment (4.4 per cent) and school dropouts (12.8 per cent).

[72] Case study by Mario Limocon and Ella Antonio.
[73] Fourth class municipality earns an income of more than P20million but less than P30million.

The majority of the inhabitants rely heavily on fishing for income and subsistence. Illegal fishing has been rampant and the mangroves were not properly managed, seriously threatening the ability of the coastal and marine ecosystems to support and sustain marine life. A survey of coral coverage was conducted outside the marine protected area. It revealed that only 11 per cent of hard corals, and 2 per cent of soft corals were alive. A number of programmes were attempted in the bay to rectify the situation. These included planting mangroves and control of illegal fishing through co-management. Although some improvements were observed, they proved inadequate in raising the yield of the bay to the level where it could feed the population. With the population growing faster than the ability of the bay to provide livelihood and sustenance, there was a need both to help families to cope with their needs and to ease the pressure on the use of resources in the bay.

Initiatives

Faced with this twin problem, PROCESS-Bohol, a local NGO, developed a way to link population management with coastal resource management in cooperation with the fisher folks and local officials in Candijay. Through funding assistance from the David and Lucile Packard Foundation (channelled through the PATH[74] Foundation Philippines), PROCESS-Bohol's work has had some remarkable results:

1. *Cogtong Bay resource management*: enabled fisherfolks, through their participation in the fishery and aquatic resource management council (FARMC), to (a) help craft a five-year coastal resource management plan and push through the passage of a municipal fishery ordinance; (b) strengthen seaborne patrol and periodic monitoring of marine habitats, particularly in marine protected areas; (c) intensify the information drive with fellow fishers; and (d) lobby for the declaration of Kawasihan islet as a marine protected area.

2. *Population management*: engaged the local people in family planning in order to ease long-term pressure on both ecosystems and breadwinners. This included:
   (a) providing couples and sexually active youth with ready access to family planning commodities and services, by making sari-sari stores (local convenience stores) serve as the community-based distribution (CBD) units;
   (b) informing and educating target beneficiaries through inter-personal communication and counselling at the household level, focused group discussion at the purok/sitio (sub-village) level and attendance at barangay council and general assembly meetings at the village level;
   (c) training women of reproductive age, their male counterparts and youth to become family planning educators; and
   (d) installing in strategic and conspicuous locations educational materials such as posters and leaflets, and distributing these to the midwives and barangay health workers.

3. *Income augmentation*: developed land-based livelihood projects to supplement marine activities and relieve the pressure on them, with capital support from PATH Foundation Philippines, for (a) natural hog farming and *lechon* (roasted pork) retailing; (b) beauty parlour businesses serving as CBD outlets; and (c) fish processing and vending, and oyster culture.

Challenges

The biggest challenge encountered by the project was conflict with pro-life teachings of the Roman Catholic Church. Authorities locally have a significant influence over parishioners and accused the project of promoting abortion, which is considered to be against the Catholic faith. The matter was included in the homilies and echoed by lay ministers in their own preaching. Myths and misinformation were widely circulated, leading to worrying misconceptions about the use of

[74] Program for Alternative Technology on Health

contraceptive pills and discouraging the use of condoms. Project implementers dealt with these accusations by allowing people to decide for themselves, and providing opportunities for the acceptors to relate their experiences to others. The strong collaboration with the LGUs and health professionals in engaging with local people allowed the project to attain its objectives. When some participating couples stopped using contraceptives to prioritise food and schooling from their household expenditure, livelihood assistance was provided to augment their incomes.

Results and outcomes

The latest information from the Provincial Planning and Development Office of Bohol shows that annual population growth rate of Candijay has declined significantly, to just 0.36 per cent, based on the 2007 census. Unfortunately, fish catch monitoring was discontinued after the project phase-out, so there are no data to show the project impact on fish catch. However, there have been significant growths in hard and soft corals in designated MPA, from 1 per cent and 18 per cent in 2003 to 4 per cent and 36 per cent in 2005, respectively. Despite the change in local administration, the LGU remains active in coastal resource management programmes and has even developed potential sites into eco-tourism destinations; for example, Kawasihan islet, and mangrove stands in barangays Panadtaran and Panas.

Success factors

1. *Existence and strong collaboration of committed institutions.* These include the FARMC, people's organisations, NGOs (including PROCESS-Bohol), and LGUs. Community participation was greatly facilitated by a general realisation within the community that these parties were cooperating and working hard for the common good. The LGU helped through its strict enforcement of fisheries laws, by designating protected areas, and by being open to support a range of activities that could further the success of the project. The private sector, through the Alturas Group of Companies, sustained the supply of affordable family-planning commodities to CBD outlets. It also supplied grocery and household items to sari-sari stores, making access for these goods easier for the community.

2. *Clear messaging and extensive information, education and communication.* This changed behaviours, allowing the mainstreaming of environment initiatives in poverty reduction. Through education, the community appreciated the need to manage and protect the bay's resources. By countering myths and scepticisms, many couples were readily encouraged to accept and use contraceptives.

3. *Access.* Ready access to information and family planning commodities and services led to a high number of acceptors. Access to capital augmented incomes to meet basic needs and the purchase of contraceptives.

i. Allah Valley Landscape Development Alliance – partnerships for watershed and disaster risk management[75]

Allah Valley Landscape in Mindanao is drained by two major rivers and their 40 or so tributaries. It forms a major source of water, especially for agriculture. The landscape, which straddles parts of South Cotabato and Sultan Kudarat provinces, is planted with rice and corn in the lowlands, and pineapple and bananas in uplands, making it the key source of income for the population and of food for Mindanao. It has four major lakes, one of which, Lake Sebu, is a popular tourist destination and the biggest source of tilapia, an important commercial fish for Mindanao. It has high biodiversity and is home to the endangered Philippine eagle and the tarsier, one of the smallest

[75] Case study by Ella Antonio

primates in the world. Equally important, the landscape is rich in culture, being largely populated by various tribes (T'boli, Manobo, B'laan, Maguindanao), as well as settlers from Luzon and Visayas.

There are a number of challenges to managing the Allah Valley landscape, such as weak enforcement of forestry laws, an inadequately developed ability to manage the watersheds, and low appreciation for watershed protection. These problems have resulted in rapid deforestation and consequent upland erosion, massive siltation of river systems, and migration of river banks. An Asian Development Bank study showed that bare land in Allah watershed more than doubled from 12,296 hectares in 1981 to 25,354 hectares in 2000. Downstream and low-lying areas of the landscape have experienceddisastrous flooding, which have cost both lives and millions of pesos in damaged crops and infrastructure. Damaged irrigation facilities have further compromised agricultural productivity and constrained the incomes of an already poor population.

To address these problems, protect and enrich natural resources, and sustain socio-economic growth and development, the Allah Valley Landscape Development Alliance (AVLDA) was established in 2003 through a Memorandum of Agreement. It serves as a mechanism for cooperative and coordinated actions and brings together: local chief executives of South Cotabato and Sultan Kudarat, 10 municipalities[76] in these provinces, and one city (Tacurong City); representatives of six National Government Agencies; and the head of the NGO coalition that largely represents the indigenous peoples. The LGUs contribute P500,000/month for provinces and municipalities alike for the identified activities and operations of the AVLDA secretariat.

In addition to these members, many stakeholders – such as farmers, landowners, industries, cooperatives, students, banks and water districts – have become partners, and participate in the activities and initiatives of AVLDA. Development institutions have come to see the value of the alliance and provided assistance. AVLDA programmes include several activities that involve communities from planning to implementation stages. They also make use of low-cost, biological and indigenous technologies, instead of costly and inflexible engineering solutions, such as:

- Community-based assessments and mapping of resources and flood hazards, which link satellite images, aerial photos, and indigenous knowledge. These have formed the basis for environment, socio-economic and land use planning.

- Reforestation and upstream resource co-management arrangements in forestlands with the Protected Area Management Board and the Provincial Multi-Sectoral Forest Protection Committees. Through these engagements and consultations with communities, laws and ordinances to protect the watershed and prevent further siltation of the rivers were developed and implemented.

- Riparian zone re-vegetation (RZR), where 10,000 endemic bamboos plants were planted along the riverbanks to delineate the buffer zone and address the braiding and migration of river systems. This 'green infrastructure' (that is, non-engineering solutions to riverbank stabilization) was agreed upon in multi-stakeholder processes to protect rivers and streams from erosion, improve water flow, and minimise siltation at the lowest cost.

- Complementing RZR, indigenous dykes are built, especially in areas readily breached by floodwaters. These are constructed from rocks and stones from the rivers and reinforced by bamboos, which are expected to eventually grow and take root.

[76] Lake Sebu, T'boli, Surallah, Sto. Nino, Banga and Norala, Isulan, Esperanza, Lambayong and Bagumbayan

- A key component of the AVLDA programme is the continuing and regular provision of public information and solicitation of feedback on the importance and conditions of the Allah Valley watershed and river systems. The IEC uses various media and modalities such as face-to-face dialogues, radio news and reports, and internet reporting.

Results and outcomes

The AVLDA initiatives were largely undertaken between 2007 and 2010. Hence, the impacts have yet to be realised, as the initiatives take several years to yield discernible outcomes. Nonetheless, there have been some observable results, such as:

- more aware and empowered population, who have became stewards of the environment;
- stronger cooperation among local governments, civil society, business and communities;
- use of lessons and experience to identify new initiatives or improve on-going programmes;
- creation of Environment and Natural Resources Offices in participating municipalities that now handle the initiatives of the Alliance within their jurisdictions; and
- support from more stakeholders and funding institutions.

Challenges

As a pioneering initiative covering a wide and complex area, AVLDA has been faced with a number of challenges. The key challenge is that of scale – project partners are aware that the initial initiatives were grossly inadequate to address the enormous problems of the landscape that have been worsened by climate change. For instance, flooding continues to occur, sometimes at an increasing intensity than witnessed by the communities in the past and used as their basis for hazard mapping. The floods wiped out many of the planted bamboos along the riverbanks, with only 10 per cent surviving, most of which were planted upstream. The indigenous dykes have so far covered too small an area to actually make a dent in the flooding problem. There are strong views that regular dams are needed to prevent floods. But this requires huge investment which is not readily available, LGU contributions being too small to finance them. Meanwhile, financial contributions by some LGUs do not arrive either on time or in full, as a result of their limited budget and other prevailing priorities. While AVDLA has improved awareness and experimentation, it is clear that more needs to be done at a landscape-wide scale, including considering how far biological solutions really can substitute for engineering solutions.

Success factors

Commitment to the cause and continuing strong cooperation among the members and stakeholders of the Alliance are the biggest drivers for success. The Alliance is able to pursue important initiatives because stakeholders work together as a single entity. It also involves key stakeholders in planning and programme formulation, so that they become active participants in the implementation of plans and programmes. The Alliance's strong internal communication mechanism has provided important information that has changed people's attitudes. It offers a strong basis for tackling future problems.

j. The EcoGov project – helping local government units to take up their environmental mandates[77]

The EcoGov or Philippine Environmental Governance Project is implemented by the DENR, with financial and technical assistance from USAID. It was developed in recognition that 'decentralization initiatives of the national government have placed tremendous responsibilities on local governments to implement necessary environmental projects, in order to ensure that delivery of essential services meets adequate standards of performance, but also to respond to

[77] Case study by Donna Gasgonia.

serious interrelated concerns related to environmental degradation, global climate change and food security'.

In partnership with LGUs, ARMM and the DILG, EcoGov seeks to achieve peace and economic security by reducing environmental threats through good governance in three ecosystems: (1) forests and forest lands management; (2) urban environmental management; and (3) coastal resources management.

EcoGov's strategic actions are: (1) reduce overfishing and the use of destructive fishing practices; (2) reduce illegal logging and conversion of natural forests; and (3) improve the management of solid wastes and wastewater. It recognises that there are inadequate financial incentives for LGUs to offer basic services in ways which have benign or even positive environmental impacts. An EcoGov survey of over one hundred local governments showed, "a pressing need for a better understanding of the sources, options and mechanisms for sustainable Environment/Natural Resources (ENR) financing, and how to design, package and implement well formulated bankable projects".[78]

In Box 7, we examine one case study – that of a partnership between LGU, PNOC and DENR to co-manage Dauin's forest, facilitated by EcoGov. This explores an example where poverty reduction and environmental management are being achieved together. The forest occupants of a geothermal forest reserve are maintaining a healthy forest cover by enforcing the law against illegal loggers, whilst earning money from livelihood activities that use the forest resources in a manner that complies with the rules and regulations of the government. A joint management agreement ensures this.

Following this model, the DENR-Forest Management Bureau (FMB) hopes to attract more private sector investments in forestry, particularly by committing funds for the formulation of Forest Land Use Plans or FLUPs. A clearer picture of the costs, benefits and risks – and of stakeholder motivations – across the EcoGov portfolio could help in establishing a strategy to scale up the pursuit of both poverty reduction and environmental outcomes within LGU jurisdictions.

[Box 7] Partnership between an LGU, DENR and the Philippine National Oil Company to co-manage Dauin's forest for environmental and poverty reduction benefits

The Philippine National Oil Company (PNOC) holds a 130,000 hectare reservation that covers the entire municipality of Dauin, Negros Oriental, and more notably the 5,729 hectares of Dauin's forest land. How well Dauin's land is used – and who gets the benefits and bears the costs – is therefore very much under the control of PNOC.

Whilst in general, forest lands are under the jurisdiction of the DENR, this is not the case for the PNOC geothermal reservation. Nor does the Municipal Government of Dauin have authority over the land use of the area, although the area is supposed to be managed pursuant to a Forest Land Use Plan (FLUP). Furthermore, the upland farmers occupying the forest lands cannot own the land under Philippine laws. This lack of tenure discourages them from long-term investments or good farming practices, since the farmers can be displaced anytime, especially by PNOC and the DENR.

The Municipal Government of Dauin wanted to generate revenues from the vast forest lands, even though these are inside the PNOC reservation; the tourism potential of the forest was particularly attractive. The Municipal Government also recognised its responsibility to help its people through compatible or

[78] The four action points of the EcoGov conference on ENR financing are: (1) establish a network of local governments to share information on best practices in ENR financing; (2) develop an information base on sources of ENR financing; (3) provision of technical assistance and capacity building for LGUs in tools and mechanisms related to ENR financing; (4) conduct a series of focused, roundtable investment meetings that bring together LGU project proponents with prospective funders.

[79] This case study was prepared with the support of Development Alternatives Inc. It draws on the EcoGov website, EcoGov Stories: "LGU, PNOC, DENR partnership: Groups merge interests to co-manage Dauin's forest" USAID, Development Alternatives Inc., DENR http://ecogovproject.denr.gov.ph/docs/Success_stories.htm

non-invasive community-based LGU-driven enterprises. PNOC, on the other hand, needed to secure the geothermal energy assets of the reserve. At this point, the possible EcoGov project arose. When the local chief executives of Negros Oriental attended an orientation seminar conducted by EcoGov, this opened up the possibility of a Memorandum of Agreement (MOA) between the Municipal Government of Dauin and the DENR. A Technical Working Group was organised, a series of trainings were held on how to formulate the FLUP, and the EcoGov team met with the mayor, the PNOC officials and local farmer-leaders, and persuaded them to join the planning activities. These meetings provided the fora for these stakeholders to resolve their conflicts and agree on a co-management scheme for the area. It also gave PNOC the confidence to release 4,847 hectares to the Municipal Government for co-management.

The FLUP Joint Management Agreement by Dauin, DENR and PNOC, signed on 9 May 2005, formalises the right of the LGU to manage its forests and create an untested, yet more collaborative scheme of co-managing forest lands.

At PNOC's request, therefore, the DENR issued Community-Based Forest Management Agreements (CBFMAs) and Community Forest Stewardship Agreements (CFSAs) to four local farmers' organisations. The agreements provide 25 years tenure to the farmers' organisations in return for the responsible protection of the forests. Where before the farmers converted forest lands into slash-and-burn farms and cut branches and trees for charcoal, there is now improved agroforestry and forest conservation. PNOC provided livelihood projects and technical assistance in agro-forestry and capital build-up to the farmers' organisations.

k. "Integrated" natural resource management programmes – a long road not yet fully travelled[80]

The Philippines has long adopted an "integrated approach" to its management frameworks for natural resources, environment and ecosystems. The Medium-Term Philippines Development Plan, 2004-2010 requires that "*[environment and natural resources] management will continue to be holistic and integrative… [and shall] uphold participatory and community-based processes within the principle of good and shared governance and responsibility*".[81]

In practice, this "holistic and integrative" approach varies according to the social and environmental context but full integration remains elusive. The most notable experience in terms of integrating social concerns has been through community-based forest management. In relation to environmental concerns, watershed management experience stands out.

For several decades, programmes and projects (Table 3) that incorporate the elements of integrated watershed management were implemented to meet different objectives – albeit all having a common thread of rationalising land and forest resources management, while directly or indirectly addressing watershed and water resources concerns.[82] These programmes and projects aim variously at policy and institutional reform and capacity development, and particularly at spatial plans and their administration[83].

[80] Case study by Romy Acosta and Ella Antonio.
[81] NEDA. http://www.neda.gov.ph/plans_and_reports/MTPDP/Updated_MTPDP%202004%20to%202010.pdf accessed 18 October 2010
[82] Francisco, H. Watershed-based water management strategy: why push for it. In Rola A., H. Francisco, J. Liguton (eds.), Winning the water war. (PIDS: Makati, 2004)
[83] Acosta, R., in Francisco (ibid.), updated by R. Acosta October 2010

[Table 3] Integrated Watershed Management Programmes and Projects

Programme/Project	Objectives/Description
The Upland Development Program	Accelerate the restoration of environmental service functions of vital watersheds and protected areas through: (a) engaging people's organisations with CBFM Agreements, for example, Protected Area Community-Based Resource Management Agreement or similar tenure arrangements; (b) engaging small-area farm holders, including private small landholders, within identified priority areas for carrying out appropriate soil and water conservation activities on their land; and (c) direct implementation of rehabilitation activities by DENR with LGUs, communities and civil society organisations.[84]
Multiple-use river basin management programme	Developed and implemented comprehensive multiple-use forest management plans in three major river basins and conducted extensive training programmes to develop multiple-use forest managers. The lessons learned and experiences gained helped to reinforce policy – as reflected in the Revised Forestry Code (PD 705), which provides that only the uses that "will produce the optimum benefits to the development and progress of the country, and the public welfare, without impairment or with the least injury to its resources, shall be allowed[85]".
Regional Resources Management Project of the ENR Sector Adjustment Program (SAP)[86]	Developed the capability of LGUs and communities to plan, generate and service small-scale community-based NRM and livelihood sub-projects in 28 major watersheds. It tackled upland poverty by improving community organisation, enhancing skills for NR management and sustainable upland agriculture, securing NR and land tenure arrangements, and improving access to financial resources for livelihood improvements.
Forestry Sector Program and Forestry Sector Project (FSP)[87]	Major reforms in policy and operations of DENR in forest rehabilitation and community stewardship of forestlands; and contracted out reforestation of open and denuded public lands to families, communities, LGUs, and corporations. The sector project (1993-1999) aimed to reverse upland and mangrove forest degradation; promote broad-based community participation, forest protection and law enforcement; and reduce poverty.
Watershed Resources Development Project (WRDP)[88]	Involved (a) formulation of a policy and institutional framework for the water sector and a national water resources management strategy; b) adoption of a river basin approach, integrating land use policies and agricultural practices with water management; c) preparing catchment management plans to properly maintain and manage upstream watersheds; and d) emphasising decentralised management with participation of stakeholders. It has five components: a) Water Resources Planning and Management Improvement; b) Catchment Management Improvement; c) Improvement and Repair of National Irrigation Systems; d) Institutional Strengthening of NIA and Irrigation Associations; e) Environmental Improvement.
Philippine Canada Environmental and Economic Management	Improving watershed ecosystems management in Metro Cebu and Davao City. It was designed to strengthen and enhance capacities to adopt innovative government, industry and local community governance systems to manage watershed ecosystems.

[84] DENR Memorandum Circular 2008-05, The 2009 Upland Development Program (Reforestation and Agroforestry), sec. 3
[85] Presidential Decree No. 705, Revised Forestry Code
[86] ENR Sectoral Adjustment Loan (ENR-SECAL) financed by the World Bank
[87] ADB, OECF and JBIC–financed
[88] From Javier, J. The Philippine strategy for improved watershed resources management revisited, in Acosta, op.cit.

Southern Phil Irrigation Sector Project	An irrigation project with a Watershed Management Subcomponent.
Natural Resources Management Program (I & II)	Aimed to develop a policy environment conducive to ecologically sound and sustainable economic growth with special attention to tropical forests, biodiversity and forest products industry. Its Forest Resource Management Component covered: CBFM; ancestral domains management; policy studies; IEC; and training. Its Coastal Resources Management Component tried to achieve sustainable coastal resources management and reverse resource degradation. The other subcomponents were: Policy Implementation and Dialogue; IEC; Development of Learning Areas; Enterprise Development; and Training.
EcoGovernance Program	Improve: a) LGU capabilities to carry out good EcoGovernance; b) DENR's and other national government agencies' capabilities to support LGU initiatives on EcoGovernance; and c) DENR and LGU capabilities to derive institutional support from regional/local service providers for EcoGovernance undertakings. EcoGOV covers the promotion of sustainable upland and forest development; improvement of solid waste management; and improvement of ability to enforce environmental laws on coastal resources.
Model Forest Approach for Sustainable Forest Management in the Asia Pacific Region	Implemented in the Ulot watershed in Samar Island to strengthen the national policy framework for sustainable forest management; develop field-level model forest; strengthen capacities for appropriate land and forest use practices; strengthen capacities to enhance information flows and communication of experiences and technologies; facilitate collaboration between agencies, stakeholders and related programmes.
Southern Mindanao Integrated Coastal Zone Management Project	Attempt to demonstrate holistic and sustainable ENR management over the large and complex river basin and marine environment of Mt. Matutum Protected Landscape - Sarangani Bay Protected Landscape - Malalag Bay Area. It utilised participatory and co-management approaches to address the broader, cross-sectoral resource management issues through integrated strategic interventions and investments that consider the linkages between coastal, urban, upland and forest ecosystems with watersheds as the basic planning unit.
Community-Based Forest Management Strategy and Program	This is a major initiative to devolve the management of forestlands, resources and watersheds to local communities and indigenous peoples. The aim is to place nine million hectares of 'public' forestlands under the stewardship of organised CBFM communities.

Community-based forest management (CBFM) offers a variety of ways to scale up new legal rights for communities to benefit from forests. Following much bad experience of, for example, resettlement, the government has recognised the reality that 'the community is there to stay' in forest areas, and, moreover, that the community needs empowering if forests are also to be there to stay. A number of approaches have been made to enable CBFM, using government seed capital and very often with CSOs as intermediary catalysts to help communities with their plans. Some considerable success in terms of both forest and community needs is leading many LGUs to adopt the CBFM strategy as a way to support poverty reduction and environmental goals. The full economics of the CBFM approach are not yet clear, however – including the possible sources of payments and/or markets for them – and neither is community access to CBFM schemes universal.

The vision of integrated NRM is more ambitious than the enabling conditions to support it and take it to scale. The enumeration of externally-financed initiatives, ranging from broad 'sectoral adjustment' and

'sector' programmes, to area-specific and sub-sector specific projects, indicates the richness of lessons and experiences that could bring about 'Integrated Natural Resources and Environment Management' (INREM) in the country. There have been many efforts to pinpoint what things did not work, where, and why the desired 'holistic and integrative' ENR management model(s) are still not mainstreamed in the Philippines. Very similar reasons are cited time and again in ex post diagnostics, such as the lack of capacity of national executing agencies, insufficient readiness and capacity of LGUs and local communities, inadequate information and information systems, inefficiencies and moral hazards, policy failures, and insufficient appreciation of market forces.[89]

In his review of foreign-assisted programmes, Jensen[90] attributed the limited successes of the programmes to alleviate poverty and address environmental degradation to the following:

- Long and costly process of sustainable forest management necessitates follow-on or continuing programme and activities.
- Patronage politics and bureaucratic procedures deter devolution and decentralisation of resource management, and weaken the democratisation of resource use rights.
- Ineffective policy implementation resulting from: (a) lack of understanding and inconsistent interpretations of policies; (b) constant policy changes due to frequent change in administration at both the DENR and LGUs; and (c) lack of political will.
- Inability of programmes to emphasise and make beneficiaries appreciate the economic values of natural resources for their own benefit.
- Graft and corruption, which affect programme implementation.

Another review of upland development programmes in Southern Philippines[91] further identified constraints to resource management activities, some of which are enumerated below:

- Insufficient and untimely delivery of planting materials exacerbated by lack of clarity on who has the authority or responsibility for the provision and delivery of these materials.
- Low survival rates of seedlings due to poor handling and lack of care and monitoring.
- Inadequate sources of cash income that leads to unsustainable practices such as use of borrowed money from microfinance facilities for purposes other than intended and rampant charcoal-making.
- Appreciation of need to protect the forests resulting from environmental awareness campaigns and community-level training activities were evident in reviewed provinces. However, concrete activities for protection have either been minimal or unsupported.
- Inability of Comprehensive Watershed Plans and Barangay Development Plans to be fully integrated in Municipal Development Plans for budgeting and actual implementation.

The lessons and experiences, as well as results of *ex post* diagnostics as cited above, should guide future initiatives to avoid failures. A more comprehensive stock-taking should be made by national agencies directly concerned with ENR. The important role of local governments, local communities and indigenous peoples in INREM needs to be re-emphasised and more avenues should be explored and opened for their greater involvement in INREM.

[89] R.T. Acosta, pers. comm.
[90] Jensen C, "Development Assistance to Upland Communities in The Philippines", International Fund for Environmental Resources and World Agroforestry Center, 2003
[91] Bidad, W.D. and Non, D.M., "Assessment of the Upland Development Program in Sarangani and South Cotabato Provinces for the Upland Development Programme in Southern Mindanao, 2005.

[3.5] Progressive business practice

I. Corporate Social Responsibility – business leadership in linking some p/e goals in the tourism and mining sectors[92]

Historically, the Philippines was richly endowed with natural resources. Today, however, the level of poverty in the country is substantially higher than that of its neighbours, who had far less in terms of natural resources initially. Moreover, much of the country's natural resources, which logically would provide its people's basic needs like food, shelter and livelihood, are reducing to critical levels.

The same is true for the people who depend on natural resources. Next to fisherfolk, farmers are the poorest. Much forest and agricultural land has been converted to residential and commercial property, mostly for middle- and upper-classes; this leaves farmers and indigenous people without land to till and make productive for their basic needs. This bleak picture clearly indicates that poverty and environment are so interlinked that as the state of the environment diminishes, poverty directly increases and vice versa. It is imperative, therefore, that these two areas of vital national, social and economic concern be treated jointly.

At present, the common practice is to treat them separately. At the national level, DENR[93] is mainly responsible for environmental concerns, and NAPC[94] for poverty. At the local government level, each province, municipality, city and barangay usually has an environmental officer. These officers hardly ever focus on the impact of environmental activities and developments on the poor.

The level of poverty in the Philippines worries the more enlightened private sector actors. Today, there are numerous 'corporate social responsibility' (CSR) projects or initiatives, most of which focus on environment or poverty alleviation. Exceptionally, there are some CSR projects or, perhaps more interestingly, core business activities that are focused on generating environmental value that also benefits the poor. A clear case is the establishment of marine sanctuaries supported or even initiated by coastal tourism resorts in the areas near them. A specific example is that of the resorts in Mactan – below:

CSR linking tourism and coastal needs[95]

In the 1980s, the Bohol Strait between the Islands of Mactan and Cebu on the northwest and Bohol on the southeast was reported to be totally devastated because of dynamite fishing. Visibility underwater was nil. In the 1990s, with funding and technical assistance from USAID, a marine sanctuary was established on the small islands of Hilutungan. Initially considered quixotic by local fisherfolk, the project was so successful that, by the mid-2000s, the colourful corals and fishes came back to life, so much so that the fishing harvest increased. This boon to their economic welfare was recognised by the fisherfolk such that in the end they became passionate protectors of the marine sanctuary. Moreover, the marine life in the core of the sanctuary became so colourful and attractive that it gave birth to a new source of livelihood – eco-tourism. Divers and snorkelers from the hotels in Mactan went to the island using pumpboats and were happy to pay the environmental fee for the continued management of the sanctuary. Downstream livelihoods such as pumpboat services, dive instructors, tour guides, food and souvenir sales also thrived.

Based on the success of Hilutungan, a similar project was initiated in 2004 off the coast of Olango Island, near Mactan Shangrila Resort Hotel, which the resort generously supported. Today the same poverty/environment (p/e) benefits are enjoyed by the hotel and the local community.

[92] This section combines work by Grace Favila and Nelia Halcon. Favila G. "Insights on the Poverty/Environment Initiative", BUSINESS AND ENVIRONMENT (a publication of the Philippine Business for Environment). First Quarter 2010, pp. 10-11.
[93] Department of Environment and Natural Resources
[94] National Anti-Poverty Commission
[95] By Grace Favila

The marine ecology in the area greatly improved, making the hotels more attractive to local and foreign tourists. The local community is also benefitting economically from the richer fish harvest and tourism activities.

CSR in mining[96]

This initiative has been driven in large part by the need to establish the legitimacy of modern approaches to mining at national level, and to gain access to export markets that are concerned about unsustainable approaches. Whilst mining is already a 'star performer' in economic terms, measured in its contribution to national accounts, in addition, standards and practices have recently been developed to help realise its poverty-reducing role and, as far as possible, to ensure it is also environmentally sustainable. These have built on the existing, quite strong, science-based EIA system in the Philippines and on the experience of social development management programmes (SDMPs) that are prepared in association with DENR, and on wider experience of CSR in the Philippines.

A CSR approach has been developed by the Chamber of Mines, and is elaborated in its CSR Guidebook, published in 2010. It integrates environmental management, community management and development, health and safety, security and human rights, labour, and management and governance. It is intended to offer a self-regulating mechanism that unites all stakeholders in embracing responsible mining practices in the Philippines. The CSR approach amounts to a deliberate integration of public interests into corporate decision-making, honouring the triple bottom line of people, planet and profit. It helps companies to frame their attitudes toward and relationships with stakeholders; be they investors, employees or communities.

Mining companies themselves assume responsibility for the impact of their activities on the environment, employees, communities and other stakeholders. They also assume responsibility in monitoring and ensuring adherence to legal and ethical standards, and international norms.

It is realistic in recognising that the mining industry's principal contribution to sustainable development is an economic one, necessitating investment of revenue to developmental activities that can ensure: future development and wellbeing of communities; environmental protection and rehabilitation of land to allow its subsequent beneficial use; and social cohesion or the reduction of social disruption to communities. In embracing CSR, companies have to identify the interests, concerns and objectives of various stakeholders and address their often varying needs.

A key stakeholder of all mining companies, and therefore a strong focus of the CSR initiatives, is the community. The protection of the rights of affected communities, including the rights of indigenous communities, is considered paramount in a local context, which empowers communities to effectively participate in both determining priorities for development and making decisions on matters that affect their rights and lives. The economic benefits brought about by mineral resource development, such as trust funds, education and skills training, social infrastructure and other social development initiatives, are expected to ensure a better quality of life for the affected communities.

Protection of the environment is a basic consideration in all stages of mining operations. Initiatives to safeguard the ecological integrity of affected areas, areas of biodiversity and locations of cultural significance are described in the Chamber of Mines' CSR Guidebook. So also are the disclosure of the company's environmental management plans, programmes and performance, environmentally-friendly technologies, and the establishment of contingency plans for preventing and controlling environmental impacts. Companies are encouraged to invest an annual budget for their environmental protection programme that includes rehabilitation, reforestation, and pollution

[96] By Nelia Halcon

control programmes for mined out areas, slope stabilization, silt control and water quality control projects, waste water treatment and recycling, solid waste disposal projects, and other mitigating control programmes.

Responsible corporate governance principles that nurture trust and promote company integrity through effective self-regulatory practices and management systems have to be adopted, and performing due diligence and risk assessments is essential in management decision-making. The CSR Guidebook also entrenches the idea of adopting of a disclosure policy. This ensures that the public have access to information that enables them to evaluate the company's compliance with responsible mining practices.

The CSR Guidebook will be a living document that will guide the entire industry into acting beyond its legal obligations, to ensure the long-term development of the country's mineral resources. It will continually evolve and improve as it is implemented. A CSR Institute will be established, with a core of community relations specialists training community relations officers on the ground.

Mining companies' Social Development Management Programs (SDMP)

As of May 2010, the Mines and Geo-Sciences Bureau/DENR had approved 387 Social Development Management Programs (SDMP) of mining companies. The SDMP is a comprehensive five-year plan for the implementation of community programmes and projects. It is based on consultation with the host and neighbouring communities, looking toward the sustained improvement in their living standards by creating responsible, self-reliant and resource-based communities. Two good examples can be offered:

One is the SDMP of Philex Mining Corporation in Benguet Province, approved in 2003 by then DENR Secretary Elizea Gozun, and amounting to P61 million to be expended in five years. The company's programme includes a livelihood programme with a total allotment of P19 million; health programmes with P3.4 million; an educational/training programme with P 5.8 million; and an infrastructure programme allocated 32.7 million. This is in addition to the already existing programmes undertaken by the company since it started operating.

Another good example is the SDMP of Rio Tuba Nickel Mining Corporation, located in Bataraza, Palawan. A total of P95.4 million has been spent since 2004 on infrastructure (P29.8 million). community development (P17.2 million), livelihoods (P14.4 million) and education (P34 million). The indigenous community of Palawan benefitted in all these programmes, with a total allocation of P36.5 million (see attached table).

Awards for CSR – an approach spreading amongst the Philippines Chamber of Commerce and Industry

The PCCI has recently popularised CSR amongst its members. CSR provides livelihood opportunities and encourages environment-friendly activities for poor communities – but does not emphasise the link between environment and poverty. However, several big companies have supported environmental projects that have also improved the well-being of the beneficiary communities. PCCI annually confers awards on companies for Excellence in Ecology and Economy (E3). In 2009, the E3 awardees were a real estate development company (environment landscaping, among others) and a bakery (zero waste management). PCCI Chairman and 35th PBC Awards Chairman, Miguel B. Varela, said that the E3 Award, "hopes to increase awareness and appreciation of the business sector on practical environmental programmes that companies can implement. This award will highlight the best environmental practices which can be replicated by

other companies." PCCI Vice President for Environment, Felipe L. Gozon, added that the award, "is made more significant given the rash of natural calamities and unusual weather patterns, which are attributed to climate change. By focusing on environmental best practices, PCCI hopes to galvanize all stakeholders, particularly the business sector, to come up with concerted efforts to protect and manage our environment." SM Supermalls, for example, an E3 awardee in 2008 for the Large Enterprise Category, implements four types of environmental programmes: (1) solid waste management, (2) water conservation, (3) energy efficiency, and (4) air quality efficiency. In addition, in 2009, the DENR awarded eight companies with the "DENR Seal of Approval" for their strict compliance with environmental standards. This is an eco-label that the companies may use in their product labels or promotional campaigns. The awards were part of the Philippine Environment Partnership Program (PEPP) of the EMB, aimed at encouraging local industry self-regulation by providing incentives and rewards.

[3.6] Education

m. Environmental awareness and education: a key strategy for poverty reduction[97]

Environmental education (EE) in the Philippines gained ground in the early 1970s, following the formation of a number of environmental NGOs – a critical mass which was to shape the Philippine environmental movement. As a result of the NGOs strongly advocating for their causes, the public became better informed and about natural resource conservation and environmental protection. As this awareness heightened, the environmental movement strengthened and, as the movement grew, the demand for greater knowledge came with it. In time, the Philippine Council for Sustainable Development decided to address EE by creating the Sub-Committee on Information and Education.

In the same period, environmental protection and pollution prevention began to be taught in schools. Some universities set up environment programmes, such as the Public Education and Awareness Campaign for the Environment of Miriam College, which eventually evolved into the Environmental Studies Institute. The Philippine Association of Tertiary Level Educational Institutions in Environmental Protection and Management (PATLEPAM) was established in 1995 to promote EE and management. It does this through information exchange, capacity-building, curriculum development, collaborative programmes on instruction, and research and development.

EE and information also became key features of many programmes in various media outlets. There were, for example, documentaries about the environment on the country's two major media networks; and the multi-media (radio, TV, internet) weekly programme of EARTH Institute Asia, Inc., *Kalikasan, Kaunlaran* ("Environment, Development"). Meanwhile, a huge body of material on the environment was produced by civil society organisations (CSOs) across various types of media.

Many private companies have for some time been regularly conducting EE for their employees, in support of a corporate commitment to attain environmental performance goals. Among these are training programmes on Environment Management Systems and ISO 14001, Environmental Audit, and Environmental Health and Safety. The business sector has been supporting government and CSOs in undertaking projects and running competitions and award programmes that raise awareness and generate support for environmental protection.

Private companies also created the Philippine Business for the Environment (PBE), a non-profit organisation, to help improve their corporate environmental and social responsibilities, and hence their profitability. It has a heavy emphasis on communications, including: (a) short courses to help

[97] Case study by Elenida Basug and Ella Antonio

companies build environmental management capacity; (b) mentoring companies to measure and reduce their carbon footprints using the Greenhouse Gas Accounting Protocol; (c) "Trash Talk" series in malls, schools and companies by its Recyclers' Speakers Bureau, to promote recycling and resource recovery; and (d) an interactive programme module that combines fun classroom activities with an outdoor water trail, used by over a thousand students, school officials and science teachers.

Environmental associations and networks have likewise pursued EE programmes. For instance, the Pollution Control Association of the Philippines regularly conducts skills and technology improvement exercises for Pollution Control Officers.

The government has also been running numerous programmes that raise environmental awareness, in many cases in cooperation with CSOs and private sector. Examples are:

- Environmental campaigns with umbrella CSOs such as Earth Day Network, Partnership for Clean Air, Ecowaste Coalition; and DENR's Adopt-an-Estero Programs with private sector, like Manila North Tollways Corporation, Philippine Mine Safety and Environmental Association, Amkor Technology Philippines, Inc., San Miguel Foundation, Inc., Skyway O & M Corporation, and an array of other private sector partners outside Metro Manila.

- Year-round national events such as World Water Day and Philippine Water Week, International Earth Day, Philippine Earth Month, World Environment Day, Philippine Environment Month, National Clean Up Month, International Coastal Clean Up Weekend, National Clean Air Month, National Environmental Awareness Month, Global Warming and Climate Change Consciousness Week. (DENR).

- Production of EE materials, such as television advertisements about water conservation; scale model and audio-visual presentation on Industrial Ecowatch; brochures on solid waste management, greening of industries, and so on; posters about climate change and good practices in environmental laws; and 'state of brown environment' reports. (DENR).

- Annual National Search for Sustainable and Eco-friendly Schools. (DENR, DepEd, CHED, and SMART Communications, Inc.).

- Curricula enhancements by integrating environmental concepts in subjects such as science and health; geography, history and civics; values education; technology and livelihood education; and music, arts, and physical education. (DepEd).

- Honing technical skills (for example, repair and maintenance of vehicles), while infusing EE through lectures on topics such as climate change and solid waste management. (TESDA).

- Funding of research on Environmental Awareness, Protection and Study under the National Higher Education Research Agenda. (CHED).

Challenges

Notwithstanding the above programmes and initiatives, environmental education in the country remains beset by many challenges. This is mainly due to the complexity of the issues and the magnitude of the population that the programmes are trying to reach, which includes, among others, 42,000 barangays; about 41,000 elementary schools; and more than 1,600 colleges and universities. The specific challenges include the following:

- inadequate capability to appropriately integrate EE into curricula at all educational levels;
- difficulty of reaching and conducting training for small- and medium-sized industries, which

usually need EE and training the most;
- insufficient data and information to support the shaping of the basic content in environment and sustainable development education (ESDE);
- lack of qualified and trained teachers on ESDE;
- fragmented and uncoordinated information and education programmes;
- lack of funds for running training programmes, the production of educational materials in various media, and actual promotion; and
- difficulty in getting EE to groups in poor areas, and addressing their specific resource needs to undertake EE activities.

Response and impacts

Recognising that many of these constraints could be linked to the weak policy and political profile of EE, the Philippine Congress passed the Republic Act (RA) No. 9512, "Act to Promote Environmental Awareness through Environmental Education and for other purposes" in 2008. This law recognises the people's right to a balanced and healthful ecology, and asserts that the State shall protect and advance this right. It declares the State policy to "promote national awareness on the role of natural resources in economic growth and the importance of environmental conservation and ecological balance towards sustained national development (Sec 2, RA 9512)."

The Act provides for the following:
- integration of EE in curricula at all levels and types of schools and educational institutions, such as barangay day-care centres, and indigenous learning programmes;
- celebration of "Environmental Awareness Month" in the country every November;
- strong collaboration between government agencies in developing and undertaking public EE and awareness programmes that are built on good quality and science-based information and knowledge; and
- building of capacity through the development of training programmes and educational materials.

The Act provided the impetus for government to do more than it had been doing and to mobilise more agencies for the purpose. Further programmes were initiated and the Inter-Agency Steering Committee on Environmental Education was created. More importantly, the National Environmental Education Action Plan for Sustainable Development for 2009 to 2014, the Road Map to R.A. 9512 implementation, was developed to address EE challenges. Some of the key actions are:
- maintain a common resource facility and expand the resources and materials for environmental information, education and communication exchange;
- train teachers and trainers and establish baseline information on environmental education training needs in both the formal and non-formal sectors;
- develop curricula that are relevant at the local level and support instructional materials development;
- maximize the use of other communication modes and venues, such as multi-media and alternative media;
- build or strengthen partnerships and networks among stakeholders at all levels to facilitate and improve communication, and to raise awareness;
- mobilise resources to fund environmental education programmes.

Both the law and the programmes boosted awareness and actions concerning environmental care and protection. Recent natural and environmental disasters further heightened awareness and intensified official and voluntary activities. Unfortunately, the impacts of the law and all EE programmes could not be definitively assessed to date. The DENR is still conducting the Baseline National Survey on Awareness, Knowledge, Attitudes and Practices on Environmental Concerns

project, which will cover teachers, LGUs and Pollution Control Officers as respondents, for the purpose. Nonetheless, there have been observable improvements in environmental awareness and actions such as:

- more media coverage, space and airtime for environmental matters;
- a great deal more self-organised and innovative environmental events in schools, government agencies, business enterprises and associations, and LGUs;
- greater response (both financial support and volunteerism) to government environmental programmes, even from government agencies and LGUs, which have limited resources; and
- resolution of flooding in many areas in Metro Manila.

The law focused on institutional mainstreaming and integration of actions, which led to better coordination and synergy. However, the law did not provide for deliberate budgeting or a fund sourcing mechanism, and therefore this matter remains a key issue to date.

As we have pointed out in section 2, while transforming governance is often the overriding challenge, the most tactical action is not necessarily in these domains. Rather, it is in educating local leaders and the public in what the Philippines can achieve and what the people and local leaders can and should do in order to realise the potential.

[4] Summarising Philippines achievements and lessons in environmental mainstreaming

[4.1] Mainstreaming achievements – a quick stock-take

Building on the discussion of case studies in Section 3, this section provides a 'baseline' summary of overall progress achieved and of lessons learned. Section 6 develops the thesis that much of this progress can be scaled up and built upon, with an agenda focused on p/e integration enabling conditions. Notably, these would be on: making p/e issues more politically attractive; better recognition of the attributes and needs of existing mainstreaming initiatives; and better coordination of institutions with poverty and environment mandates.

The national policy framework in environment and poverty reduction has evolved initiatives that will shape linked action and investment, although they will need rationalising. Key elements are:

- The PCSD has considerable experience of cross-sectoral and cross-institutional debate and planning in poverty/environment issues – although its political influence has waned.
- The National Framework Strategy on Climate Change was formulated in 2010 to strengthen the adaptation both of natural ecosystems and of human communities to climate change, and to chart a cleaner development path for the country in the process.
- The National Disaster Risk Reduction and Management Council now has the joint mandate of protecting the wellbeing of people and safeguarding the national economy and environment through financial investment in disaster risk reduction (DRR). The National DRRM Framework and Plan takes a multi-hazard approach to building the disaster resilience of communities and institutions.
- Three coordinating institutions have integrating mandates and a concern for p/e issues: the National Anti-Poverty Commission (NAPC), the National Climate Change Commission (CCC), and the PCSD. The (later) NAPC and CCC have effective *'top-bottom' links*: the CCC has taken over one of the major responsibilities of PCSD – that of localising SD, which is mandated by law; and the NAPC allows the basic sectors or CSOs to legally claim more participation in its work.

National regulations on natural resource have become more responsive to poor people's attributes and needs. Key pieces are:

- The IRR of the Philippine Mining Act provides for an annual allocation of operating costs for the welfare of the population and environment of the mining community (increased to at least 1.5 per cent in May 2010), and the law accords priority to the employment of local labour.
- The Electric Power industry Reform Act mandates an environmental charge (per kilowatt-hour) for rehabilitating and managing watersheds that feed hydroelectric power plants. The programmes financed from this have generated employment and livelihood improvements for the upland poor.
- The Climate Change Act created a coordinating Commission that includes social (health, social welfare and development) and environment agencies, PCSD and LGUs, and it provides training and funds for adaptation, especially for rural and poor populations.
- The Indigenous Peoples Rights Act provides for free, prior and informed consent (FPIC), enabling indigenous people to reject investments detrimental to their environment.

LGUs have very strong powers and tools to integrate p/e issues, as a result of the Local Government Code. Comprehensive Development Planning has much potential. Particularly in areas that are prone to natural disasters or have strong natural resource-based tourism potentials, LGUs have realised the

value of environment protection and rehabilitation for their survival and sustainable development. They have undertaken programmes that have become p/e integration success stories.

Community-based natural resource management programmes are being aggressively promoted and implemented. Community-Based Forest Management, the Coastal Environment Program, and other initiatives, promote equitable access to resources, encourage environmentally friendly technologies, and provide livelihood opportunities. Often at significant scale, they are proving at least to support safety nets for poor people, if not always routes out of poverty.

Integration tools and methodologies are becoming widely used, opening up opportunities to involve both poor groups and environmental issues. The country's professionals are adept at using participatory tools, which are now integral to most processes and programmes. EIA is a standard integration tool for government and business sectors since becoming a requirement, especially for new businesses. Impact assessment, monitoring and evaluation, and strategic planning tools are also commonly used by all sectors and in most programmes.

The economics of p/e issues are becoming clearer, and appropriate investments are on the increase. Economists have explored different ways of valuing environmental assets and assessing environmental costs – though not yet expressing this adequately in relation to the poor, or changing mainstream decision-making procedures. Payments for environmental services are being introduced as market-based instruments, however, with some evidence of success in terms of better quality of life for poor communities and improved ecosystems.

In summary, we might assess Philippines' progress in p/e mainstreaming to date against the following framework, which views mainstreaming as a society-wide institutional change agenda.[98] This is subjective but serves at least to indicate the dimensions (if not the degree) of progress made, and where further progress may be needed:

Component of poverty/environment mainstreaming	Progress to end 2010
1. Experimentation and innovation	
2. Policies and planning instruments improved	
3. Resource management regimes for joint p/e objectives	
4. Policies and instruments implemented	
5. Broad awareness of p/e issues	
6. Finance and investment available for p/e opportunities	
7. Information on p/e issues available	
8. Political vision for p/e joint achievement	

[98] Dalal-Clayton and Bass,. 2010

[4.2] Mainstreaming lessons

The poverty/environment mainstreaming initiatives explored in Section 3 are highly diverse – being driven variously by central and local government, business and civil society, and covering planning, finance and field work. Yet there appear to be some common lessons in tackling poverty/environment issues. These can usefully inform the p/e mainstreaming agenda for the future, which we propose in Section 6, and the work of PEI and other initiatives that intend to integrate environment and poverty reduction.

A focus on specific issues, places and people can be more effective in linking p/e issues than merely making a general case to 'mainstream' environment. Mainstreaming can seem like an abstract concept, or a bureaucratic imposition. Only when specific contexts – their p/e problems and opportunities – are described and aired, can the point of mainstreaming become clear.

Actual experience of events, notably natural disasters, has often been a key driver of improved attention to poverty/environment issues. Strategies and mechanisms for preparedness and response tend to be strengthened or developed every time a disastrous event strikes, meaning that the country has developed a considerable degree of expertise, which is now being tapped by others.

The real needs, potentials and indeed action have tended to be at LGU level. It is here where the issues are clearer, the decisions need to be made, communities are demanding change, and the actors can work together in practical ways. With focused and sustained awareness-raising and capacity-building for LGUs and key stakeholders, these powers may be unleashed and these tools could become potent entry points to environmental mainstreaming.

Although local action is key, national government as well as LGUs have a critical role in providing the proper and conducive environment for unleashing local governance potentials. They are also central to promoting mainstreaming and coordination both at the local level and between the local and national levels, particularly in the areas of planning, policy-making and budgeting.

There is a necessary tension between top-down and bottom-up mainstreaming approaches – and both are needed. Centrally organised government processes for environmental mainstreaming can set useful frameworks, but are not enough. For example, the PCSD could never have supplied all that is needed for progress in the field. It is therefore positive that civil society organisations are also aware and active in addressing many poverty/environment issues – albeit sometimes in geographically isolated ways. Other 'tracks' for mainstreaming are needed, in civil society, business, media – and LGUs especially.

Interdisciplinary understanding and cooperation have been critical success factors: where those seeking to reduce poverty have understood that poverty is multi-faceted, they have actively sought out the environmental dimensions. Conversely, where those seeking to improve the environment have understood that environments are both locally-specific and depend upon social capital to manage them well, they have looked into the capabilities, norms and needs of poor groups in the area. There is also some evidence that engaging with good environmental economics expertise, obtaining economic evidence of the value of environmental assets, the costs of environmental hazards and their distribution amongst poor people, helps to inform decisions. This kind of interdisciplinary working is critical but it takes time to build confidence and change attitudes, incentives, procedures and behaviour among mainstream institutions.

Although mainstreaming has buy-in at the local level, and in response to disasters, there is enduring resistance to its longer-term institutionalisation. Yet the concept of 'green growth' as a way to make more sustainable use of environmental assets is attracting the attention of central government

and big business – though at present it is not necessarily understood in a pro-poor sense. To make further progress, the agenda for mainstreaming needs to be framed in such positive ways; perhaps as 'prosperity creation' rather than 'poverty reduction', if not green growth as such.

Spectrum of increasing ambition in environmental mainstreaming:

- Improved **awareness** of env >
- Improved **information base** on env >
- Improved **voice** on env >
- Improved **policy, law, strategy** on env >
- Improved **capacity** to address env >
- Improved **budget and finance** to tackle env >
- Improved **environment and livelihood** conditions on the ground

[5] Remaining constraints to environmental mainstreaming

Many blocks to effective mainstreaming remain, in spite of progress, and future initiatives such as the PEI should concentrate on them. These fall into five linked categories: political economy and behavioural attitudes, policies and mandates, inter-institutional mechanisms, information, and capacities or resources.

[5.1] Mainstreaming constraints in political economy and attitudes

The political economy of environmental issues and the associated hierarchy of powers and their interests are perhaps the most significant factors in mainstreaming. All too often, they are not conducive to integrating environmental sustainability into the decisions and activities of institutions – and the Philippines is no exception.

The President always makes the key decisions, yet each Presidency's attitudes to environment and poverty have changed. Any member of the Cabinet may propose priority programmes, but exactly who gets priority in practice depends on the President. There has not been consistency between presidencies on p/e issues.

In contrast, the DENR and DSWD have always taken relatively lowly positions in the government and bureaucratic hierarchy. This sometimes limits their ability for advocacy and for coordinating their programmes with other agencies, which is exacerbated by the tendency of the government to prioritise financial stability and economic development.

Environmental mainstreaming, like sustainable development, is not well understood in the Philippines – or is felt to be an external imposition, even if it is inherent in local culture. As in many countries, its entry points and tools for implementation are not sharply identified and communicated, especially at the local levels. It is sometimes seen as a new and imposed concept from foreign or donor interests and thus gives the impression that it is complex and difficult to put into practice, and not something that local stakeholders will want. Many mainstream decision-makers are still not aware of the significance of environment-poverty links, or are at a loss on how to strengthen these links. Finance and budget agencies may see broad value in environmental assets but – lacking the tools, procedures and mandates – are still not sensitised enough to exercise leadership in integrating environmental issues into their processes and decisions. The DENR and the DSWD have a better awareness of poverty and environment links but the capacity to tighten up this link remains wanting.

Environmental and developmental authorities alike have traditionally pursued export potentials – rather than local populations' needs as a common priority. The DENR (and its component Bureaus for Forestry, Mining, Lands and so on) was established not to provide pro-poor programmes but to facilitate timber and mineral extraction by US companies, following the precedent set by the Spanish monarchy. Similarly, the DA-BFAR exists primarily to facilitate commercial fishing. Social forestry and social fishing are relatively recent developments not rooted in the institutions' incentive structures, despite recent efforts of donor-funded programmes: they were developed in response to problems such as deforestation and overfishing, rather than to p/e potentials.

There are fewer 'battles' between environmental authorities and financial/development planning authorities than in many other countries. Both environment and financial/development planning authorities are built around natural resource use for gains external to the local environment and stakeholder. There is little emphasis on accountability to local people, to equitable benefit-sharing, or to reinvesting in the resource base and its local values. Unusually, it may take the environmental

authorities to advocate for a pro-poor approach, with all the advantages for the environment that secure local control and incentives can bring, before the financial and development planning authorities will wish to enrich poverty programmes with environmental components.

The limited term of office of local government executives hinders long-term strategic thinking and governance. The three-year term has also led at times to corrupt practices, to the detriment of the environment and poor people. Local executives tend to prioritise and fast-track hard infrastructure development, as this produces the highly tangible results and visible structures upon which they believe they will be judged. In-depth assessment and impact studies of these are barely undertaken. And more difficult, time-consuming environmental management and management programmes involving poor groups are ignored.

[5.2] Mainstreaming constraints in policies

Many policies that concern poverty and the environment are outdated and incoherent in relation to today's needs. This is clearly the case in forestry. The 1975 forest policy was drawn up at a time when the major thrust was massive commercialisation of state-owned forest. The focus has since shifted to community-based forest management and biodiversity conservation. To meet new demands, DENR has been issuing new regulations through administrative orders or circulars. Often these are short-term, inconsistent and/or easily alterable with changes in administration; they result in confused natural resource stakeholders, loss of credibility for DENR and discouragement of investments from the private sector. Sometimes the new rules have not been fully developed, so that they are difficult to implement, or have perverse effects.[99] Meanwhile, some provisions of the Local Government Code also conflict with a number of laws, such as the National Integrated Protected Areas System Act, Indigenous Peoples Rights Act and the Mining Code. Such conflicts are usually in the areas of jurisdiction and authority.

DENR's dual mandates for resource protection and utilisation are poorly integrated. The above problems compound an established dilemma that DENR has to face; notably that it is tasked both with "protecting the environment and conserving natural resources" as well as "promoting the utilisation of natural resources". These can be mutually reinforcing mandates which promote the principles of sustainable use. They can also, however, be the basis for conflicting views within the institution, often apparent during multi-stakeholder consultations, resulting in a lack of consensus and leaving these issues poorly integrated.[100]

Key areas of operational p/e policy are not yet fully developed, despite urgent needs – a key example being climate change. Although there has been an active legislative and institutional response to climate change from government, there is a lack of clear strategic and operational guidance on the management of climate change. Institutional mandates have changed significantly with recent Executive Orders but implementation rules and regulations are still to be worked out – including to further mainstream climate change risk management in national, local, and sector decision-making processes.

[99] Four examples of inconsistent regulation: (1) Executive Order No. 263 established community-based forest management as the principal national strategy for sustainable forest management. However, it is weighed down by too complicated rules with which POs have difficulty complying. Despite stringent procedures and implementation of the resource use permits (RUPs), it has been prone to abuse, and now RUPs are suspended, so that CBFMA holders cannot even apply for one. (2) Despite having made watersheds the basic planning area for forestry programmes and projects, there is no policy on integrated watershed management, although there is a Manual. (3) RA 7161 bans the cutting of mangrove species without exempting plantation grown mangroves, which is a great disincentive in the development of mangrove plantations by coastal groups. The same is true with similar CBFMAs. The general rule is that if, at the time of planting, the planter did not get a "certificate of planting" from the CENRO, the planter will not be able to get the RUP when it is time to harvest. (4) The Agriculture and Fisheries Modernization Act (AFMA) promotes commercial planting of high value crops in upland and forestland areas to improve upland farmer incomes, in effect negating the forest protection policy.
[100] 'Framework Plan for Environment and Natural Resources Management' Volume I, DENR, UNDP, 2006.

[5.3] Mainstreaming constraints in inter-institutional mechanisms

There is ineffective coordination between the various institutions concerned with the environmental issues facing poor people. There is no operating framework based on livelihood/environment links, but instead unreconciled overlaps, contradictions and gaps in responsibility for particular issues. President Arroyo's 10-point agenda, which was popularised through the slogan, "BEAT THE ODDS", was strongly criticised by civil society for not having a strong environment component, and several protest rallies were held.[101] Certainly, at national level, it has always taken top-level leadership to forge different sectors' institutions together – in this case poverty and environment institutions – or to leave them separate. President Arroyo demoted or dismantled many of the interagency mechanisms that potentially acted as integrating 'bridges' like the NAPC and the PCSD.

Where laws and policies conflict or overlap, organisations tasked to implement them become conflicted or do not take action. An example is the tension between national government, host LGUs and communities in relation to mining. Under the Mining Law, the national government concludes mining agreements with mining firms. Yet the host communities are requested to provide FPIC, and the LGUs are to issue the permit to mine. Mining, however, often appearing small-scale but with single financing, transformed into actual large-scale illegal mining, takes place even where these permits have not been given.

Existing yardsticks for measuring agency performance are inappropriate to p/e issues and agencies are unable to effectively connect their programmes to their goals. The societal or overall goal of the whole bureaucracy is poverty reduction and this is prominently stated in the organisational logframes of government agencies. The performance of an agency is evaluated using indicators that do not directly represent poverty reduction outcomes or impacts, however – either narrowly (monetary or food-basket terms) or broadly (including the environmental deprivations that make up true poverty). Rather, they measure inputs, such as the number of seedlings produced and planted, or weight of seeds and fertilizers distributed; and outputs, such as the weight of rice or minerals produced. As such, agency efforts and resources are directed at pushing inputs and improving production of outputs, instead of improving outcomes or creating meaningful impacts, on poor people and the environment.

Coordination is weak among DENR and environment-related agencies, and with agencies directly dealing with poverty reduction. This exacerbates the lack of consistency between programmes and societal goals. The current administration has tried to address this problem when it recently banned logging, following a series of devastating floods. In this urgent case, it successfully asked the DSWD and other relevant agencies to undertake programmes that would sustain the hundreds of thousands of families that have been dependent on logging and forest-based industries – but this was a one-off.

Until we began this exercise, the many different attempts at mainstreaming had not all been recognised and put 'on the same page'. Consequently, there has not been a long history of learning about the many ways that environment and poverty (or development) issues can be brought together through information systems, education, and field activity, including traditional practice, media, and so on; as well as the more obvious formal integrated planning mechanisms. Even these mechanisms have not been well exercised for p/e issues.

There is little experience of exercising the obvious 'entry points' for poverty/environment issues presented by mainstream policy and planning processes. The MTPDP 2004-2010 is significant here. It has five goals relating to environment: (a) sustainable and more productive utilisation of natural resources

[101] This is both a slogan and a mnemonic device, formed by rearranging the key targets within the 10-point Agenda: B-balancing the budget, E-education for all, A-automated elections, T-transportation and communication infrastructure, T-terminate hostilities with Moro Islamic Liberation Front and New People's Army, H-heal the wounds of EDSA, E-electricity and water for all, O-opportunities for livelihood and jobs, D-decentralizing development and DS-developing Clark and Subic.

through investment and entrepreneurship; (b) promotion of responsible mining; (c) improved protection of ecologically fragile areas; (d) creating a healthier environment for people; and (e) mitigating natural disasters to prevent the loss of life and property. These environmental objectives were all relevant to poor groups, and yet the MTPDP's analysis and plans were not specifically informed by poverty/environment links. The MTPDP 'update' of 2009 reviewed strategies and targets and addressed the debilitating impacts of the global financial crisis. It introduced climate change issues, but this issue is only narrowly treated – being mentioned, rather than fully addressed, in just two chapters, on 'Green Philippines' and 'Agribusiness'.[102] In contrast, however, there are several possible legal 'entry points' for poverty issues to be addressed in the Climate Change Commission. PDP, the successor to MTPDP (covering 2011-2016) is currently being formulated. As in the case of its predecessor, its main goal is to reduce poverty in a sustainable way. The desire to integrate environment in a meaningful way in the new PDP is strong but lessons of experience, relevant ideas and skills, and a strong political and bureaucratic push will be needed – all components that this paper wishes to address.

The Philippines has had limited experience in some of the key instruments needed to secure environmental issues in mainstream decisions and to drive green economies. Limitations are especially observed in the development and use of environmental fiscal and market-based instruments (MBIs). Little progress has been made here in comparison with similar countries in important mainstream areas; notably, public environmental expenditure reviews, environmental accounting, fiscal reform to tax environmental 'bads', such as pollution, or to reward environmental 'goods', such as water and biodiversity conservation.

Policy formulation and implementation of MBIs have been hindered by several factors: (i) perception of a loss of control or greater unpredictability of environmental outcomes by GoP regulators when an emission or effluent charge is contemplated; (ii) legislative restrictions placed on regulators for taxing pollution; (iii) lack of concrete evidence that past MBIs have actually worked; (iv) lack of information needed to formulate and manage a large MBI portfolio; and (v) lack of political and popular will to value hitherto unpriced environmental assets.[103] Due to the lack of economic instruments in general, the government has been unable to capture rents from the domestic and commercial drilling of private wells that has distorted water pricing and the allocation of scarce water resources.

[5.4] Mainstreaming constraints in information

Institutions give little priority to collecting and assessing information on poverty/environment links, since, until recently, few important mainstream stakeholders have demanded this. In part, this is due to a lack of interaction between government and poor groups on which p/e indicators actually matter. A study of the VIBANARA Multipurpose Cooperative CBFM area in Ilagan, showed that the people's organisation (PO) and the DENR have different priority indicators and that this indicates a possible mismatch in activities. There were at least 23 indicators of sustainability described in the study, with the most important for the people's organisation being the presence or absence of a participatory approach.[104] The DENR's new Information Systems Strategic Plan (ISSP) could be a vehicle for offering relevant environmental information to meet mainstream decision-makers' needs.

[102] WB 2009
[103] Draft Philippines Country Environmental Analysis, ADB, 2008
[104] Priscila Dolom, 'Criteria and Indicators for Assessing the Sustainability of a Community-Based Forest Management Project', XII World Forestry Congress, Quebec, 2003. Forest Development Center, University of the Philippines Los Baños, College of Forestry and Natural Resources, College, Laguna, Philippines

[5.5] Mainstreaming constraints in capacity and resources

There are several capacity and resource weaknesses in national bodies responsible for poverty and, even more so, for the environment. DENR's budget allocation, for example, has steadily declined over the years, from about 1.2 per cent of public expenditure in the late 1990s, to about 0.7 per cent in 2005 (World Bank 2007). Its programmes and staffing are skewed towards resource extraction industries, rather than resource protection and poverty reduction (World Bank 2009).

The lack of capacity at LGU level compounds the lack of national integration and leadership. Many LGUs have not fully internalised the major role in environmental management that has been formally decentralised to them and have been unwilling to invest sufficient effort and resources. This inaction is linked to a lack of awareness of the value of environmental management to the local economy and poor people's needs; the current low rates of return of environmental investment; and still unclear divisions of responsibility between national government agencies, which still assert some local roles. Many devolved forestry and small-scale mining functions are still controlled or supervised by the DENR, for example, and fisheries and coastal resources by the DA-BFAR (WB 2009). Even so, these agencies' lack of coordination is not helping the LGUs: their failure to integrate the Coastal Resource Management (CRM) Plan with the Comprehensive Land Use Plan (CLUP) prevents coherent zoning, resulting in inconsistent and conflicting land and water uses. The introduction of a separate CRM plan led to redundant planning exercises for LGUs, wasting resources.[105] Interagency committees and task forces have been created and Memorandums of Agreements signed to resolve these overlaps and gaps but in reality, most of the overlaps continue to be unresolved.[106]

LGUs' fiscal basis also works against environmental management. Income taxes go to national coffers and are apportioned through formulae that mean that host communities are unable to commensurately benefit from the exploitation of their natural resources. The basis for calculating LGUs' Internal Revenue Allocation (IRA) from the National Government is: 60 per cent dependent upon population size; 20 per cent linked to private sector investment; but only 20 per cent on land area. For an LGU with vast natural resources, producing environmental public goods, but proportionately fewer people and industry players, this works against integrating environmental concerns in the LGU's annual investment plan. A related issue is the inability of host communities and LGUs to maximise the proceeds from the mining of mineral resources. Decentralised administration and fiscal decentralisation were intended to create incentives for LGUs to invest in poor people's environmental attributes and needs but clearly these incentives are still elusive; thus there are big questions about the prospects for financial sustainability of pro-poor environmental management.

Several constraints hinder the effective participation of NGOs and many community organisations. Although participation by citizens and citizens' organisations is backed by a strong legal framework, it is remarkable how little the efforts of some about 60,000 NGOs influence key p/e decisions. Participation is limited by poor access to information on opportunities; lack of mechanisms for transparency in local decision-making; lack of feedback mechanisms; difficulties in integrating stakeholders' information into plans and implementation; and the lack of community organisational maturity to work with multiple government bodies. Another constraint to participation is the self perception of some poor groups, who do not know their political rights sufficiently, or are unaware of their potential political influence.[107]

[105] 'Framework Plan for Environment and Natural Resources Management' Volume I, DENR, UNDP, 2006
[106] Draft Philippines Country Environmental Analysis, ADB, 2008
[107] 'Rural Development Support Programme', Federal Ministry for Economic Cooperation and Development, Germany, 2007

Finally, high private interest rates and short time horizons mean that poor farmers do not invest in long-term environmental management and enterprise: for example, there are potentially good rates of return to be had from soil conservation but the time horizons are too long in relation to the debt incurred. The off-site benefits of a farmer improving soil conservation, such as lower sedimentation of rivers and dams, will not be included in farmers' decisions in the absence of a cost-effective system of payments for ecological services.

With constraints such as these, it is clear that environmental mainstreaming in the Philippines, as elsewhere, should be viewed as a medium-term institutional change process, and not just a short-term technical 'fix'. We consider this in presenting, in the next section, a medium-term agenda for action that engages the key institutional drivers of environmental mainstreaming.

[6] An agenda for improving Philippines environmental mainstreaming

We present a ten-point agenda for improving environmental mainstreaming in the Philippines, to better tackle poverty and improve the sustainability of economic growth. It emphasises work at two levels to change the way that institutions view poverty/environment links and the decisions they make. Firstly, '*from the bottom*' – a range of actors in local government units working with poor groups to identify best environmental practices that also support poverty reduction and related needs and constraints. Secondly, linking this to work '*from the top*' – engaging the central financial, economic and development authorities that set the Philippines Development Plan (PDP), identifying good policies and other enabling conditions that support local needs and public goods, and achieving a wider scale than has been achieved so far through the case examples explored above.

The agenda for change must be suitable for tomorrow's world, not just the world we find ourselves in today. This is a world of increasing population, accelerating economic growth and development, and increasing resource scarcity. There is stronger realisation of the 'nine planetary ecological boundaries' – not just that of climate change, with which policy is currently preoccupied – and consequently, there is a determination to invest natural resource capital to drive green growth.[108] Our recommendations therefore address the fundamental economic and governance changes needed to address the underlying causes of poverty and environmental problems, through good information and governance systems. They dispense with the outdated notion that government alone will drive, or can deliver, all the changes necessary, by building also on the potentials of civil society and business.

The agenda envisages a nested series of institutional outcomes that are both better for the environment and better for poverty reduction:

- *A compelling political vision* that addresses p/e issues in a positive way, such as 'prosperity creation through investing in the environment'
- *National enabling conditions and capacities* able to identify and scale-up mainstreaming approaches that work, and innovate to fill key gaps. Specifically:
  - *LGUs* capacitated to understand and act confidently and appropriately on environment/poverty links, and to account for results;
  - *businesses* encouraged to 'race to the top' in including environment and poverty as central elements of their business models and operations;
  - *CSOs* enabled to act as brokers between environment interests and poor groups;
  - *the Philippines'* global competitiveness secured in a world which is increasingly including environmental services in its demands;
  - *poor groups* participate in developing these outcomes and have the rights, information, markets and other opportunities to use and profit from environmental assets.

The current discussion on green growth could be a politically attractive entry point to raise the game for p/e mainstreaming in the Philippines. Natural resources can offer a route out of poverty. Debate on how to attract international climate and forest funds, where best to make green investments, how they will spur growth, and which can be inclusive of poor groups, is highly topical and will help to shape new standards for private investment. The debate is likely to lead to the formation of policies, instruments and business models that:

[108] Rockstrom J. et al. 2009. Nature 461, 472-475, 2009

- will enable natural resource-based industries to flourish over the long term, where before they might have been based on one-off asset-stripping of forests and fisheries;
- will shift from old, fossil-fuel-based energy, housing and transport infrastructures to modern clean energy systems based on cleaner sources – in some cases providing markets for natural resource industries in the form of demands for biological feedstocks;
- will provide payments for environmental services that hitherto were unrewarded and hence undersupplied, such as payments to forest-based people for forest, water and biodiversity protection and carbon storage;
- will support the creation of new jobs in green businesses, such as natural resource industries, recycling, and renewable energy; and
- will forge more inclusive forms of growth, in which poorer people are both active producers and satisfied consumers – often in the informal sector, in circumstances where the formal sector has not been able to provide employment.

The 10-Point Agenda consists of the following:

1. *Establish a programme of governance reform to support pro-poor use of environmental assets:* The new administration offers an opportunity to rationalise layers of environmental policy and regulation that had supported, on the one hand, asset-stripping for export, and on the other, mere poverty alleviation or safety nets for the poor. The shift in governance would be to support long-term wealth generation for local people. It is concerned with cutting out corruption, which has so far been a critical constraint to updating governance regimes. Instead it now offers a bold entry point for 'reshaping' governance regimes to emphasise (a) greater transparency and accountability in disbursements of resource use revenue (notably in mining, protected area management and commercial fishing), (b) greater benefit-sharing of fully disclosed revenues generated from environment and natural resources, and thus (c) better delivery of basic services to the remote and vulnerable rural poor.

2. *Clarify national policy coordination and establish an overarching forum on poverty/environment issues:* Over the last two decades, realisation of the integrated nature of emerging concerns, such as sustainable development, climate change and poverty reduction led to three national coordinating initiatives in these areas: CCC, NAPC and PCSD. While all three overlap in function, they continue to play unique roles and cover specific areas that would not be easy to dissolve, given the current bureaucratic structure and challenges. One option is therefore to streamline their respective functions. Presuming a likely future concern for green growth as a way to achieve sustainable development and the need to focus debate in one forum, a further option is to revive and update the PCSD as a high-level forum, with legal status (the NAPC and CCC have this already), a dedicated budget, and under the Office of the President. Whatever the organisational form, it will be useful for a p/e forum to network together all the many initiatives, both inside and outside of government, that have been attempting mainstreaming – such as some of those featured in our case studies.

3. *Ensure environment is both a sector and a cross-cutting component in the Philippines Development Plan:* It is encouraging that the PDP (the new MTPDP) will not only continue to include an environment chapter but will also have a cross-cutting dimension in other chapters. The environment chapter will need to be informed of the relative returns on investment in environmental management and restoration, and consequently the case for capacitating and capitalising both environmental institutions and the social capital that is needed for good environmental management. The other chapters will need to be informed by a common poverty framework (based, for example, on Figure 2). This would include environmental assets and hazards and their positive and negative links to poor people's livelihoods, employment, health and security, as well as to the resilience and competitiveness of the Philippines and its major export sectors. To ensure the p/e plan can be implemented, a common need is the development of capacity to use detailed planning tools, including the current toolkit of EIA, and coordination of their use.

4. *Focus on the Local Government Unit for making real progress in p/e mainstreaming*: It is at the LGU level where there is (or should be) detailed awareness of the different types of poor groups, of specific environmental constraints and opportunities, and of how p/e issues are linked on a spatial basis. There are also existing mandates to take integrated action. Altering the LGUs' Internal Revenue Allocation (IRA) system to give better account of land area and environmental assets may make it more attractive to LGUs to invest in environmental assets as solutions to poverty. Attractiveness will be improved if it is backed up by demonstrating how existing LGU programmes or projects can be good models for pro-poor growth, as is being proposed with the PEI, and by coherent planning policies and guidelines at the national level that support LGU action. Once national enabling conditions are in place, the provincial LGUs and DILG must be in a position to orchestrate and monitor progress. There is a significant, practical and exciting set of activities here that PEI can help to organise, ranging from helping LGUs with assessment of 'what works' that can be scaled up (including NGO and business p/e activities); to rolling out simple tools, such as checklists; to capacity-building for local planners. It may also be opportune to consider formulating a National Land Use Plan, ensuring that LGUs have coordinated Comprehensive Land Use Plans at all levels, and promoting planning based on watersheds, river basins or ecosystems – as opposed to the current administrative basis. This will force planners to use the environment as the platform for economic and social development, rather than regard environment as an afterthought in socio-economic planning. Finally, there are opportunities to promote and support a new form of cooperation amongst LGUs and stakeholders within an ecosystem – Environmental Alliances (see Allah Valley Landscape Alliance). There are at least 11 of these already in Mindanao alone (see table below). If alliances in infrastructure and social development are counted, there are many more.

Alliance	Focus
Bukidnon Watershed Protection and Development Council	Collaboration initiatives towards comprehensive landscape management and greater human security
Lake Mainit Development Alliance	Partnership building towards sustainable management of Lake Mainit
Agusan Marsh Development Alliance	Sustainable watershed management as a response to land and water problems
Lanuza Bay Development Alliance	Strengthening environmental governance through local policy formulation
Davao Gulf Management Council (DGMC)	Act as coordinating body working towards unified policy and programmes in the management of the Gulf
Ilana Bay Regional Alliance	Inter-LGU cooperation for participative decision-making processes; facilitates dialogue on coastal-related issues
Allah Valley Landscape Development Alliance	Stakeholder initiatives for protected area management
Southwestern Ligawasan Alliance of Municipalities	Working together to find common solutions to common problems

5. *Sharpen budget processes to keep better track of environmental costs, benefits and risks:* Budgetary decisions, given their central, regular and compulsory nature, are often the strongest signal regarding current environmental intentions. If improved attention is to be given to the environmental needs and potentials of poor people, this needs to be fully reflected in public expenditure reviews and budgeting procedures, deliberations and decisions. Proven processes to assess public expenditure, such as those developed by the World Bank, could be trialled, as well as p/e indicators within organisational performance indicators. Performance-based

budgeting may be a key entry point. While a big shift in public financial flows at national level is the acid test of p/e integration, analogous improvements at LGU level are also needed, such as building on the good ecoBudget experience.

6. *Supplement the national accounts with accounts of changing stocks and flows of environmental assets:* Development is a process of building wealth through managing a nation's portfolio of financial, human, social, manufactured and natural capital. Natural capital, which is so important for poor groups, has been ignored for too long in the national income accounts. It is therefore increasingly important to account for natural capital where it is increasingly scarce and where the link between natural capital and long-term growth needs to be secure. A new World Bank partnership, 'Wealth Accounting and Valuation of Ecosystem Services' (WAVES), offers some practical ways forward. Better physical accounts may be a useful first step, followed by valuation in key sectors. Ultimately, it will be important to know the costs of damage to soils, water, forests and biodiversity as, for example, a percentage of GDP or of the income of poor groups.

7. *Update environmental planning procedures with a better integration of social issues:* The Philippines' EIS system is a key mainstreaming tool but its procedures need strengthening to cover relevant poverty impacts, including changes to social capital associated with managing environmental capital. This might involve the preparation of supplements to the many existing handbooks that are already in use (rather than new volumes). A compilation of relevant DENR and EMB regulations about the EIA social development management programme or environmental monitoring system might help to clarify what people can do. Joint Memo Circular No. 1 also offers a useful entry point to integrated guidance in planning and budgeting. Funding and implementation of local plans and programmes would have some assurance through this synchronization.

8. *Improve the enabling environment for the private sector to make p/e central to its business models and operations:* Where businesses have innovated to address the environmental needs and potentials of some poor producers and consumers, we need to move beyond philanthropy or 'do no harm' approaches, towards an approach where business models are designed to directly achieve social and environmental outcomes with every unit of production. Businesses need to have the confidence, incentives and stability to invest in the ENR base and to create new green jobs that offer decent livelihoods, and to make a just transition away from jobs in 'dirty' or socially exploitative sectors. A simple 'challenge framework' might help companies to improve the focus of CSR on the environmental needs and capabilities of poor groups, as well as public accountability mechanisms. The work of the Chamber of Mines might be encouraged towards the next step of advocating for more transparency in the use of revenues generated through the excise tax.

9. *Research and promote a best-bet catalogue of field programmes and partnerships that integrate poverty and environmental goals:* While the general case can be made to invest more in linked p/e goals, the question of the best operational mechanisms and how to scale them up remains, especially for INREM projects. A best-bet catalogue of proven approaches could help. This would require rigorous comparative studies of initiatives such as those described in our case studies – assessing their real impact on people and environments, and their costs and benefits. Promising approaches should be enriched by drawing on international experience. CCT, for example, appears to be suitable in the Philippines for mainstreaming ENR in poverty reduction, and there is potential to build on 4Ps' success. Related experience elsewhere suggests that effective p/e approaches are simple to understand by all stakeholders, have low transaction costs, do not require the continued presence of outside bodies and offer relevant and predictable incentives. A major REDD-like scheme in Brazil, for example, pays farmers in forest

zones to practice farming without fire, with monthly bank credits halted for all farmers in the locality whenever satellite monitoring identifies fire.[109]

10. *Bring together an integrated research and information base on p/e issues:* Where research communities and databases on poverty have been separate from those on environment, there is now a need to bring them together to serve the above. Philippines' research groups might be linked in a *p/e research roundtable*, perhaps attached to PCSD. Linking national information bases on poverty with those on environment is a huge task, and some precursors might be tried first. These might include just the top-line information needed for national wealth accounting (6 above); agreeing a poverty framework (building on Figure 2) with integrated environmental criteria to include in monitoring frameworks for household surveys and/or poverty levels; and project-level spatial linking of information to help establish correlations. The DENR's recent Information Systems Strategic Plan (ISSP) should be seen as a vehicle to provide a coherent, integrated and decentralised set of data and information promptly and regularly to stakeholders working towards both poverty reduction and environmental management.

[109] Viana, 2010.

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Philippines experience, lessons and challenges in environmental mainstreaming

Many of the Philippines' poor people are suffering environmental deprivations. The economy is experiencing natural resource price volatility and escalating environmental hazards, such as climate change. The need to include environment in poverty reduction initiatives, therefore, has never been so great. But when considerable gulfs exist between the respective institutions, policies and knowledge systems, integrating environment and development is no easy task. Discovering what leadership is already out there, and what mechanisms have already had some success, can help to achieve this vital goal.

UNDP-Philippines, IIED and the UNDP-UNEP Poverty Environment Initiative (PEI) assembled a group of respected Filipino individuals to explore progress made over the last twenty years. Through thirteen brief case studies, successful approaches were identified, not only in the formal planning system but also in business, civil society and local government. This report presents these findings, together with a proposed ten-point agenda. This agenda recommends innovations 'from the bottom up' – a range of actors in local government units working with poor groups; and 'from the top down' – central authorities exploring, internalising and accounting for environmental and social outcomes in the Philippines development plan and budget process. This will help the Philippines to build a foundation for building inclusive green economies, which will make the best societal use of natural resources, whilst creating livelihoods and decent jobs – especially for the poor.

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