

# Appendix **6**

## **Philippines Country Review: Economy and Environment in the Philippines: Issues and Imperatives**

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## **Appendix 6**

### **Philippines Country Review**

**A.6 Economy and Environment in the Philippines:  
Issues and Imperatives**

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**1. Introduction**

With its rich and vast array of natural resources, the Philippines should be among the most affluent countries in the world. But like most other similar naturally-endowed countries, it appears to have fallen victim to the “natural resource curse,”<sup>1</sup> the phenomenon whereby countries and regions with an abundance of natural resources tend to have worse development outcomes than those that are less endowed (see Auty 1993; Sachs and Warner 1995).

A richly-endowed archipelagic country of around 7,100 islands, the Philippines traces a long history of geological formation that has yielded a unique assemblage of bio-physical ecosystems teeming with biological and natural resources. Its 30 million hectares (300,000 square kilometers) of land area, which had 70 percent forest cover just over a century ago, hosts an extremely rich and diverse array of plant and animal species that has put the country among the top mega-diversity countries in the world. Similarly, its 36,289 kilometers of coastline and its abundant inland waters endow it with an extremely rich array of marine and freshwater resources acknowledged to be among the richest and most diverse in the world. Conservation International (CI) reports that the Philippines possesses more than 50,000 documented plant and animal species, more than 65% of which are found nowhere else on Earth. Furthermore, more new species are discovered in the country every year than in any other country in the world.

The country’s mineral resources are similarly among the richest in the world. In terms of minerals per unit of area of land, it is considered to be the fifth most mineral-endowed country in the world. While it does not have the substantial petroleum resources of its Southeast Asian

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<sup>1</sup> This observation has also been described as the “paradox of plenty.”

neighbors Indonesia and Malaysia, it is the world's second largest producer of geothermal power, with its available capacity of 1,900 megawatts supplying 16% of the country's installed electric power generation capacity. Sources of water are likewise abundant, with potential water supplies well beyond the country's requirements.

With such abundance of natural wealth, the Philippines possesses all the necessary basic elements that should be able to support broad-based industrialization, self-sufficiency, and prosperity. But instead of harnessing its superior natural wealth to fuel a dynamic and broad-based economic development over the years, the country found its economy lagging behind most of its neighbors for more than four decades. The economy found new dynamism in the 1990s amid aggressive reforms under President Fidel V. Ramos, but the Asian financial crisis of 1997-98 cut short what appeared at the time to be a building momentum of growth. Subsequent reversals in the quality of politics and governance set the country back once again in its efforts to keep in step with its dynamic East Asian neighbors.

The relative weakness of the Philippine economy through the years has translated into weak human development and environmental indicators as well. Nearly a decade after the turn of the 21<sup>st</sup> century, it faces the challenge of persistently narrow, shallow and hollow economic growth,<sup>2</sup> which has been accompanied by worsening poverty,<sup>3</sup> and continued degradation of the environment and depletion of the nation's natural resource base.

This paper takes stock of the environmental situation in the Philippines amidst its mixed record of economic development. Section 2 reviews the environmental consequences of the country's economic growth experience. Section 3 highlights priority policy issues and thrusts to achieve proper balance among the social, economic and environmental dimensions of development in the country. Section 4 describes institutional and other implementation hurdles that must be overcome to ensure proper translation of the priority policies and measures into action and achieve their desired impacts. The concluding section provides a summary and draws attention to priority areas for future action.

## **2. Economy and the Environment: Past Record**

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<sup>2</sup> See Habito (2005).

<sup>3</sup> Latest official data report poverty incidence in the country to have risen from 24.7 percent of families in 2003 to 26.9 percent in 2006.

The World Bank's 2004 Philippine Environmental Monitor (PEM 2004) described the Philippine economy as one that "remains acutely dependent on natural resources. The rural sector employs some 11.2 million people, and is a substantial contributor to national gross domestic product. In 2003, it generated 632 billion Philippine pesos (PhP) through agriculture, fisheries, and forestry-based industries." In terms of contribution to total output, services now actually dominate the Philippine economy, accounting for about half (49 percent) of total output, with industry accounting for 31 percent (21 percent from manufacturing), and agriculture providing the remaining 20 percent. However, the share of agriculture in total employment, at 37 percent, is much larger than its output share, while services and industry account for 49 and 15 percent, respectively. This implies that labor productivity in agriculture is low relative to the other major sectors. One direct consequence of this is a much higher incidence of poverty in the rural areas, which account for about 70 percent of poor Filipinos.

Over the past two decades, and especially in the 1990s, the Philippines undertook aggressive reforms in the form of liberalized trade and investment policies, privatization, and deregulation of key industries including the oil, banking and finance, telecommunications, domestic air transport, and shipping industries. Economic progress attained in this period, especially in the 1990s, is largely attributed to such market-based policies and the increased participation of the private sector in the development process, all aimed at enhancing growth and competitiveness of the Philippine economy, as espoused in the Medium-Term Philippine Development Plan. However, Philippine Agenda 21 (PA21), the planning document embodying the country's national sustainable development strategy, observes that

"...while there is an acceleration in economic growth, there is evidence that environmental quality is fast deteriorating, as dramatized by the increased incidence of environmental disasters such as problems associated with mine tailings, deforestation, pollution, salt-water intrusion and a host of other destructive activities. The regenerative capacities of already fragmented areas in various bio-geographic zones are similarly threatened."

The problem with environmental degradation that accompanied the economy's growth lies in its close interlinkage with what remains the country's paramount challenge of widespread poverty. One in every three Filipinos (33 percent) is poor, and 70 percent of the poor live in the rural areas. PA21 continues:

"The harm from environmental degradation invariably falls more heavily on the poor. At the same time, poverty drives people into environmentally degrading economic activities, as

in the uplands, the coastal fisheries, or small-scale mining. The poverty-environment nexus is thus a critical front in the pursuit of sustainable development, making poverty reduction a critical concern in the country's sustainable development agenda.”

Thus, the pattern of economic growth over the years has dealt the country's poor a double blow: the economy's narrow, shallow and hollow growth has provided them little benefit and led them to left farther behind; at the same time, the harm from the attendant environmental degradation has fallen more heavily on them as well.

In examining the impacts of the country's economic development experience on the environment, these may be grouped into the green (biodiversity and forestry-related), blue (coastal and marine resources-related), and brown (solid waste, air and water quality, and mining-related) environmental issues. Each are discussed in turn below.<sup>4</sup>

## 2.1 Green Environment Issues

### 2.1.1 *Forest Depletion*

The Philippines' forest cover is estimated to have declined from 21 million hectares (or 70 percent of its total land area) in 1900 to just around 7.2 million hectares (24 percent) as of 2005, with less than a million hectares left in primary forests. On the other hand, biologists estimate that forests must comprise more than half the land area of the Philippine archipelago for the interrelationships of ecosystems to be sustainable. With such rapid pace of forest depletion in just over a hundred years, per capita forest cover in the Philippines is now the lowest in Asia (World Bank 2004), with the remaining primary or intact forests continuously under threat. All this has resulted from land conversions, swidden (slash-and-burn) farming, and illegal logging, apart from destruction due to forest fires and natural causes such as pest infestations, and typhoons. Between 1990 and 2005 alone, an estimated 3.2 million hectares of forest cover was lost, and it is estimated that the country continues to lose its forests at the rate of 157,400 hectares or 2% per year.<sup>5</sup>

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<sup>4</sup> The following sections draw liberally from World Bank (2004), ECP (2005), PCSD (2006) and Ibon Foundation (2006).

<sup>5</sup> Data are estimates by Haribon and other NGOs, as cited in World Bank (2004) and Ibon Databank (2006). DENR estimates tend to be lower.

In the early 1960s, the timber industry was the country's largest foreign exchange earner. From being the world's biggest exporter of tropical hardwoods in the 1970s, the Philippines had turned into a net importer of forest products by the 1990s. It is estimated that the country now imports 60% of its wood requirements. At the height of commercial logging operations in the country, there were 420 logging firms who had been given licenses to extract timber from the majority of the forested areas. As a result of unsustainable management and massive deforestation, estimated to have peaked at 300,000 hectares per annum in the late 1960s, the industry began to decline in the 1980s. At present, forestry accounts for less than 1 percent of GDP.

Figure 1 is a visual depiction of the dramatic depletion of the country's forest cover through the past century, from 70% cover in 1900, to 24% as of 2005.

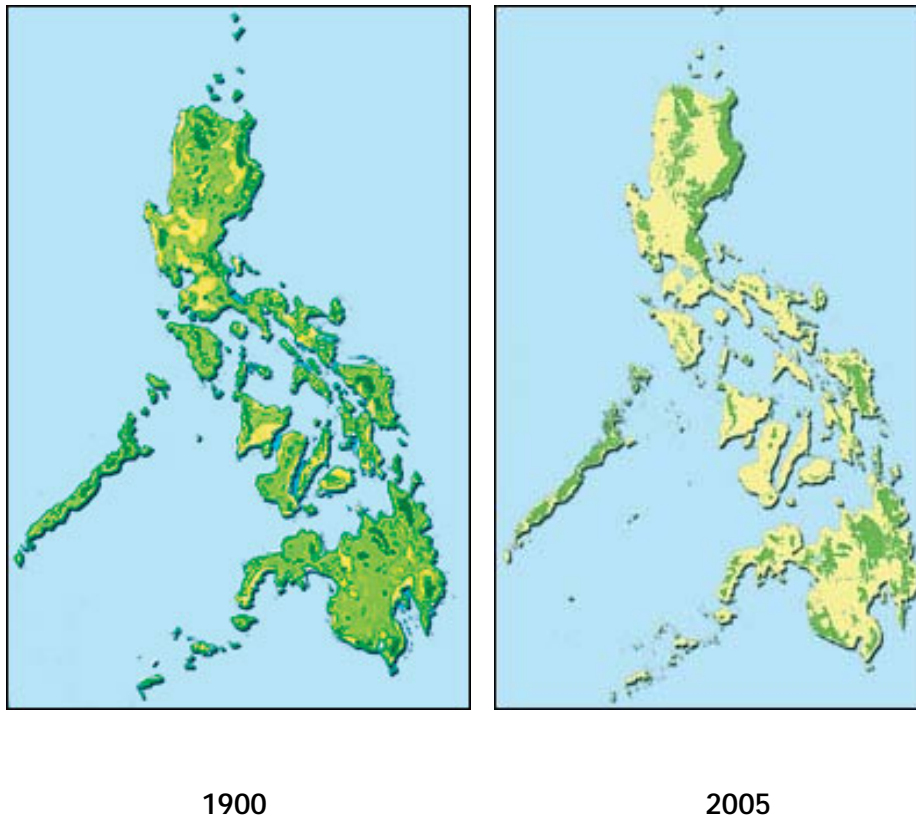
### 2.1.2 *Biodiversity Loss*

The Philippines is one of the world's 18 "mega-diversity" countries, which together account for between 60 and 70 percent of global biodiversity. It has also been identified by the International Union for Conservation of Nature (IUCN) as a biodiversity "hotspot" – that is, a country where biodiversity is subject to extreme threat from deforestation, conversion, fragmentation of natural habitats, unregulated trade, and overall low environmental quality.

Animal diversity is very rich in the country, with over 1,000 species of non-fish vertebrates identified, 48% of which are endemic to the country. For mammal species, 64% are endemic, while 70% are endemic for reptiles, 75% of amphibians, and 44% of birds. Nearly 200 vertebrate species are now threatened by extinction. Endemic species such as the Cebu flower pecker, the golden-crowned flying fox, the Philippine cockatoo, the Negros forest frog, and the Philippine eagle are barely surviving in remaining small forest fragments.

Forest destruction has been the single biggest threat to biodiversity in the Philippines. Hunting for trade, trophy or meat, especially of birds, is a major threat to the country's animal biodiversity. Still another threat is the reckless introduction of exotic species to the islands. The risks associated with biotic invasions have increased enormously in the past 40 years. Among the most damaging invasive alien species in the Philippines have been the giant cat fish, black bass, the golden snail, toads including the marine toad, and the American bullfrog. Aquatic plants like the water hyacinth and water fern have also had a significant adverse impact on wetland biodiversity.

**Figure 1. Philippine Forest Cover, 1900 & 2005**



Source: Ibon Foundation (2006)

## 2.2 Blue Environment Issues

Water comprises more than four-fifths of Philippine territory, based on the 200-nautical-mile exclusive economic zone covering some 2.2 million square kilometers defined by the government in 1976. The Philippine archipelago lies in the “coral triangle”, the center of the most diverse habitat in the marine tropics. Philippine coral reefs comprise about 26 percent of the total reef area in Southeast Asia, and are recognized to be among the richest and most diverse in the world, with about 464 species of hard corals and more than 50 species of soft corals identified. However, over 30 percent of the coral reefs in the country are considered to be in poor condition. Moreover, there has been a steady decline in the quality of the coral reefs, with only a tiny 0.24 percent reported to be in excellent condition in 2004, against 4.3 percent in 2000 and 5.3 percent in 1991. Ninety-eight percent of these reefs are under medium or high



threat.<sup>6</sup>

An estimated 60 percent of the Filipino population of 89 million live within the 832 municipalities lying along the archipelago's 36,289 kilometers of coastline. Coastal fishing activities account for an estimated 40-60% of total fish catch, with the fisheries sector accounting for 4.3% of GDP. Exports of fishery products amounted to PhP26 billion in 2002, with the top commodity exports being tuna, shrimp, and seaweed. The Philippines is also the largest producer of aquaculture products in Southeast Asia, dominated by seaweed production. In 2002, a total production of 3.4 million tons of seafood was recorded, with an average annual rate of production increase of 2.5 percent between 1990 and 2002. The fishing industry provides employment to about one million people (3.3 percent of the country's labor force), of which 68 percent is accounted for by the municipal fishing sector, 26 percent by aquaculture, and the remaining 6 percent by commercial fishing.<sup>7</sup>

Apart from fish and seafood, coral reefs, mangrove forests, and sea grass beds contribute to the richness, diversity and productivity of coastal and marine resources. These resources also attract tourists, creating local business opportunities and thereby generating further income and employment.

The country's rich endowment of some of the world's most unique marine ecosystems has been increasingly threatened by over-fishing, pollution, and other human economic activities. Rapid population growth especially in coastal communities has put strong pressure on the country's coastal fisheries. The average annual fish catch exceeds 2 million metric tons, with nearly half made by municipal and subsistence fishers who operate small boats in shallow coastal waters.

While municipal fisheries dominated the sector in the early 1980's, contributing more than half the national output, its share had gone down to 30 percent by the 1990s. Furthermore, there was an observed slowdown in growth of total production of commercial fisheries, suggesting resource limitations in fish capture and threats on its long-term sustainability. There has been clear evidence that over-fishing is occurring in important fishery areas of the country, manifested in increasing effort required per kilogram of fish catch (see Figure 2). This decline of fishery resources in the country appears to be the combined effect of excessive fishing effort,

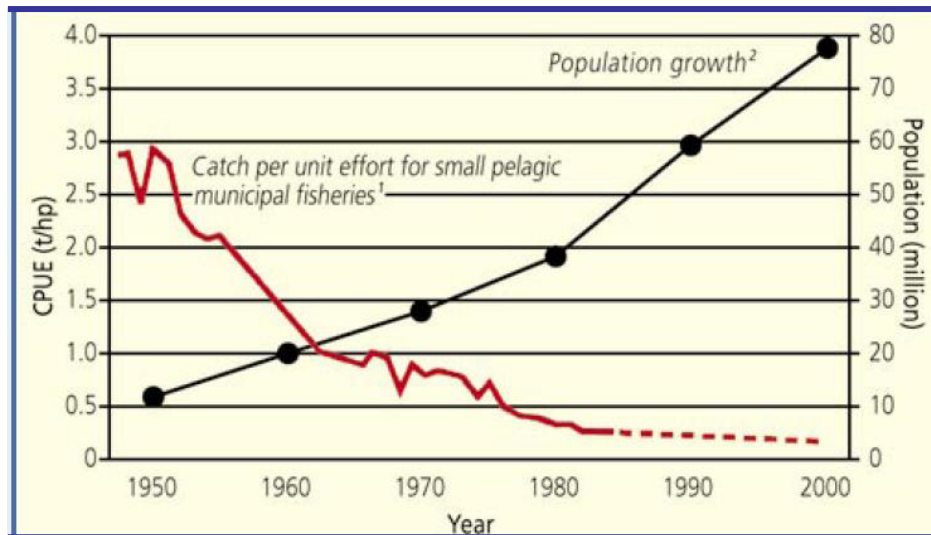
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<sup>6</sup> Data cited from various authors in World Bank (2004).

<sup>7</sup> Data cited from various authors in World Bank (2004).

inappropriate exploitation patterns, and coastal environmental degradation.

**Figure 2. Declining Fish Catch in the Philippines, 1950-2000**



Sources: Dalzell et al (1987) and NSO (2000), cited in <http://www.oneocean.org>.

There has also been massive loss of coastal mangrove forests over the years. Conversion to fishponds, charcoal-making and over-harvesting has historically been the cause of the dramatic loss of the primary mangroves in the Philippines. The most rapid decrease occurred during the 1960s and 1970s when the aquaculture industry expanded rapidly in response to favorable government policies. As of 2004, fishponds were estimated to cover about 289,000 hectares, 80 to 90 percent of which were in areas formerly covered with mangroves. This expansion occurred largely during a period when real prices for fish and shrimp were steadily rising. Between 1980 and 1988, the rate of conversion was still about 8,200 hectares/per year, in spite of a 1980 government ban on further conversion of mangroves to fishponds, and rules mandating the reversion of idle fishponds back to mangroves. Besides fishpond conversions, illegal cutting of mangroves for fuel wood, charcoal-making, and construction have also been major causes of the loss of the resources.

The vast majority (95%) of the remaining mangroves in the country are secondary growth areas. Only five percent are old or primary mangroves, and these are mostly found in the island of Palawan. While there now exists an official policy for mangrove protection, cutting of mangroves remains rampant all over the country.

## 2.3 Brown Environment Issues

Emissions into the atmosphere by both mobile (motor vehicles) and stationary sources (factories, power plants) have rendered the atmosphere hazardous to health in urban centers, especially Metro Manila, apart from contributing to the worsening climate change problem. Lack of public facilities for both solid waste and wastewater disposal amid growing urban populations has led to pollution and contamination of waterways and groundwater, again to the detriment of public health. Many years of intensive monoculture farming have degraded the quality of the soil in agricultural areas, and massive amounts of topsoil are lost yearly due to erosion from flooding brought by frequent natural disasters, exacerbated by deforestation and destruction of the nation's watersheds.

Alongside industrialization, the mining industry grew rapidly in the 1970s with active government efforts to promote the industry. After declining in the mid-1980s with the fall in world metal prices, the industry is again being promoted by the government as a major potential source of wealth for the economy in the years ahead. However, there is strong resistance to the policy from oppositors who see mining as a major source of environmental and social problems.

### 2.3.1 *Solid Waste Management and Water Pollution*

Solid waste has emerged to be one of the most pressing environmental challenges in the Philippines. Urban-dwelling Filipinos are estimated to generate an average of 0.5 kg of waste per capita/day, while their rural counterparts generate 0.3 kg.<sup>8</sup> Metro Manila alone generates one quarter of the total garbage generated annually nationwide. A recent study by the Asian Development Bank estimated that 6,700 MT of waste is generated daily in Metro Manila alone, and annual waste generation is expected to grow 40 percent by 2010. Metro Manila's garbage is currently disposed of in six controlled dumps. However, these sites are expected to reach their capacity within two years.

The 1998 National Demographic and Health Survey reported that only 30 percent of Philippine households had access to solid waste collection services at varying frequencies, ranging from twice a week to once every two weeks. More recently, the

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<sup>8</sup> Estimates by the National Solid Waste Commission.

National Solid Waste Management Commission estimated collection efficiency at 70 and 40 percent in urban and rural areas, respectively.

Where residents lack access to solid waste collection, garbage continues to be thrown indiscriminately or burned. The most common disposal system is open dumping, burning or throwing into rivers. It is estimated that 145 million liters of used oil are being dumped into rivers yearly. Last year, the Marilao River in Bulacan – which is among the sources of drinking and agricultural water supplies for around 250,000 people – was identified by the US-based Blacksmith Institute as among the world's 30 dirtiest rivers and worst polluted places. Pollution of the river has resulted from years of indiscriminate and continuous waste dumping by tanneries, gold and precious metals refineries, the largest lead smelter in the Philippines, and numerous municipal dumpsites. Similarly, Laguna de Bay, one of Southeast Asia's largest freshwater lakes situated just south of Manila, is projected to become biologically dead within a few years unless rampant pollution due to domestic and industrial waste is arrested. The lake produces about a third of Metro Manila's supply of milkfish and other edible fish, helps generate electricity and serves as a key transport route.

Another major reason for degradation of water quality in urban areas has been the indiscriminate disposal of domestic wastewater. Only one percent of the country's total population is connected to sewer systems (Table 1). Sewerage services outside Metro Manila are almost non-existent, leaving the non-Manila-based urban poor with no access to sewerage services. The common method of household sewage disposal has been through individual septic tanks, where seepage to groundwater sources is common and collected sludge often indiscriminately disposed of in waterways.

The World Bank estimates the total annual economic loss resulting from water pollution at PhP67 billion (US\$1.3 billion). This figure includes, PhP3 billion for health costs, PhP17 billion for lost fisheries production and PhP47 for lost tourism revenues.

**Table 1. Sewage Disposal in the Philippines**

	Population (millions)	Access to Sanitation Services (%)		
		Sewerage	On-Site	None
<b>Metro Manila (MWSS)</b>	<b>13.3</b>	<b>4.0</b>	<b>41.0</b>	<b>55.0</b>
<b>Other Urban and Rural</b>	<b>63.0</b>	<b>0.0</b>	<b>88.0</b>	<b>12.0</b>
<b>National</b>	<b>76.3</b>	<b>1.0</b>	<b>74.0</b>	<b>25.0</b>

Source: Robinson (2003)

Overall, waste generation is increasing rapidly as consumption rises. Meanwhile, collection efficiencies are dropping as service levels deteriorate due to insufficient and inappropriate equipment and inability to reach households or collection stations. Improvements in recycling, collection, and disposal have become critical challenges as garbage production continues to increase with population growth and economic development.

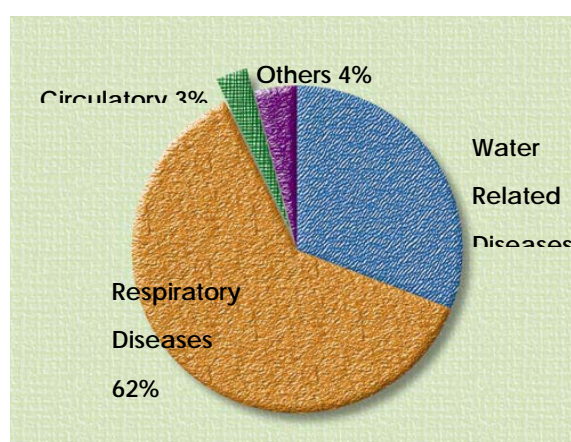
### 2.3.2 Air Pollution

Air pollution is one of the major environmental threats affecting public health in the Philippines. Metro Manila has been ranked by the World Health Organization (WHO) as one of the five most polluted cities in the world. The problem is also felt in most major cities in the country where urbanization has resulted in more factories, rising population density, and increasing vehicle registration. The largest contributors to air pollution are fossil fuel combustion from industries and vehicle exhaust. Exhaust emissions from buses, jeepneys, utility vehicles, and trucks are estimated to be the largest contributor to urban air pollution, and are also recognized carcinogens. Despite a significant drop in ambient lead levels in the last few years because of the phase out of leaded gasoline, other air pollutants such as particulate matter, sulphur dioxides and total oxidants still tend to exceed safety standards and remain a major concern.

The health costs of particulate matter pollution in the four cities of Metro Manila, Davao, Cebu, and Baguio (representing 28.4 percent of the total urban population) were estimated to reach

more than US\$400 million in 2001. These costs account for 2.5 to 6.1 percent of per capita income in these cities, equivalent to 0.6 percent of the country's GDP. If the rest of the country's population is assumed to be exposed to pollutant levels similar to those in these four cities, a high annual estimate for urban health cost for the country would amount to over US\$1.5 billion.<sup>9</sup> The World Bank estimates that 6,000 Filipinos die each year due to air pollution-related diseases. Air pollution also accounts for 20% of deaths among children under 5 years old. (see Figure 3)

**Figure 3. Incidence of Diseases By Type, 1992-2000**



Source of Data: Department of Health, National Epidemiology Center

### 2.3.3 Issues on Mining

The Philippines is naturally endowed with abundant deposits of copper, chromium, gold, and nickel, plus smaller deposits of cadmium, iron, lead, manganese, mercury, molybdenum, and silver. Industrial minerals also present in the country include asbestos, gypsum, limestone, marble, phosphate, salt, and sulphur. The Philippines ranks third worldwide in abundance of gold deposits (and second to South Africa in terms of gold production), fourth in copper deposits (and third in copper production), fifth in nickel deposits, sixth in chromite deposits, and so on. The richness of the country's mineral resources is well-known to the international mining industry, and many firms have been keenly interested in taking part in tapping the nation's mineral wealth. The Philippine Congress enacted a controversial Mining Act in 1995, which eased rules for foreign participation in the industry. Meanwhile, small-scale miners,

<sup>9</sup> Clean Air Initiative for Asian Cities (<http://www.cleanairnet.org/caiasia>).

especially those mining for gold, have traditionally operated in certain rich mining grounds, often practicing unsafe and unsustainable mining methods.

The environmental threats from mining include risks of major spillage of mine tailings in the case of medium to large-scale mining operations, and mercury pollution, soil erosion, sedimentation of water bodies, and non-reclamation of land after mine closure in the case of small artisanal mines. It is estimated that some 131 million metric tons of metallic mine waste and about 136 million metric tons of mine tailings were generated in the Philippines from 1990 to 1999. Table 2 lists the various adverse environmental effects that can arise from different mining processes.

**Table 2. Environmental Damage from Mining Processes**

Activity	Potential Effects
<b>Excavation and ore removal</b>	<ul style="list-style-type: none"> <li>▪ Destruction of plant and animal habitat, human settlement, and other surface features (surface mining)</li> <li>▪ Land subsidence (underground mining)</li> <li>▪ Increased erosion; silting of lakes and streams</li> <li>▪ Waste generation (overburden)</li> <li>▪ Acid drainage (if ore or overburden contains sulphur compounds) and metal contamination of lakes, rivers, streams, and groundwater</li> </ul>
<b>Ore concentration</b>	<ul style="list-style-type: none"> <li>▪ Waste generation (tailings)</li> <li>▪ Organic chemical contamination (tailings often contain residues of chemicals used in concentrators)</li> <li>▪ Acid drainage (if ore contains sulphur compounds) and metal contamination of lakes, rivers, streams, and groundwater</li> </ul>
<b>Smelting and refining</b>	<ul style="list-style-type: none"> <li>▪ Air pollution (sulphur dioxide, arsenic, lead, cadmium, and other toxic substances)</li> <li>▪ Waste generation (slag)</li> </ul>

Source: Ibon Foundation (2006)

Apart from environmental effects, mining is also commonly associated in the Philippines with

the social problem of displacement of indigenous peoples and upland settlers by commercial mining interests.

### **3. Reconciling Economic and Environmental Goals**

#### **3.1 Philippine Agenda 21: Broad Thrusts**

The challenge facing the country lies in mitigating the above-described problems in the green, blue and brown environment contexts even while attaining ample broad-based and sustained economic growth in order to reduce widespread poverty. This entails an economic strategy that integrates sound environmental management with sound economic management. Philippine Agenda 21 (PA21) espouses a poverty reduction agenda that seeks to create an enabling economic environment for sustained, broad-based and ecologically-sound growth that improves employment, productivity and incomes and ensures food security. In its recently-enhanced form,<sup>10</sup> PA21 identifies five broad goals, namely: (1) Poverty reduction, (2) Social equity, (3) Empowerment and good governance, (4) Peace and solidarity, and (5) Ecological integrity.

To these ends, PA21 defines a broad strategy that will:

- ensure the **enforcement of or compliance to domestic and international environmental laws** through collaborative efforts of government, business and civil society
- promote the wider adoption of **ecosystems and communities as the basic units for natural resource management**
- promote proper pricing and valuation of resources through the **wider application of market based regulatory instruments**
- expand availability of **alternative livelihood opportunities** for sectors that have traditionally relied on natural resources for their economic survival
- institute proactive measures to **redress the degraded state of many natural resources and thwart imminent threats to protected areas** and other critical environmental systems

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<sup>10</sup>Philippine Agenda 21 was officially promulgated by the Philippine Council for Sustainable Development (then chaired by the author), on September 26, 1996, after two years of wide consultation. It has recently been updated, modified and enhanced into what is now known as the Enhanced Philippine Agenda 21.



- harness the full potentials of **science and technology and indigenous knowledge systems** in achieving greater efficiency in resource use while **adopting the precautionary principle** in managing environmental problems, and
- propagate the view of **environment as a common heritage**, intricately woven into the fabric of the Filipino way of life, culture and traditions.

PA21 lists various initiatives and reforms to pursue the five broad goals listed above. It now integrates the action agenda of government, civil society and the private business sector, after explicit efforts were made to incorporate the Business Agenda 21 prepared by the business community. Given the hierarchy of sustainable development challenges facing the nation, especially at this time of global financial crisis and economic downturn, there is need to define a focused set of priority concerns and corresponding actions to address both short-term and medium to long term objectives.

### 3.2 Priority Initiatives

Along with addressing the priority green, blue and brown environmental challenges described above, initiatives to mitigate and adapt to climate change have also become urgent and critical, and must now form part of the national and local agendas for sustainable development.

The following form part of the priority agenda over the next five years and beyond:

#### *3.2.1. Green environment initiatives*

Apart from tighter enforcement of existing forestry laws and proper pricing of forest resources, the following are the imperatives:

- **Continued replication of community based forest management (CBFM) schemes**, which has been adopted as the national strategy for reversing the destruction of Philippine's remaining natural forests.
- **Further expansion of reforestation activities** both by the public and private business sectors, i.e., via government and industrial plantations and private tree farming.

Both have already shown positive results in past years, and are credited with the recorded

increase in forest cover from its lowest point in 1988, when forest cover had been estimated at only 5.4 million hectares or 18.3 percent of total land area, to the current estimate 7.2 million hectares (24 percent).

### 3.2.2. *Blue environment initiatives*

**The Coastal Environment Program (CEP) of the Department of environment and Natural Resources (DENR)**, which integrates programs, projects and initiatives related to or concerning coastal environments, must be faithfully and aggressively implemented. Its primary thrust is promoting **community-based management and sustainable use of resources in the country's coastal areas** by encouraging the use of environment friendly technologies, providing livelihood opportunities to coastal communities, promoting equitable access to resources, and building DENR capabilities in the management of coastal areas.

In numerous occasions, citizens have expressed the view that the most successful “blue” initiatives are those that empower communities and their respective local governments to enforce laws and manage resources within their jurisdiction. There is growing use of community-based management in the **establishment of marine sanctuaries**. A key element for success in such sanctuaries is effective partnership among the local governments, the local business sector (including owners and operators of beach resorts), and the coastal communities.

### 3.2.3. *Brown environment initiatives*

There is need to **strengthen the capabilities and accountabilities of the local multi-sectoral Solid Waste Management Boards** established in provinces and municipalities according to law.<sup>11</sup> The Ecological Solid Waste Management Act (Republic Act No. 9003), passed by the Philippine Congress in 2000, defines the roles of the different levels of local government in the various aspects of solid waste management. The law mandated the shift to sanitary landfills by February 2004, but at the end of 2004, there were only two operating in the country. As of December 2004 there were only 125 controlled dumpsites and 866 open and non-controlled dumpsites nationwide, representing only about 65% of all municipalities.

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<sup>11</sup> The Ecological Solid Waste Management Act (Republic Act No. 9003), passed by the Philippine Congress in 2000, defines the roles of the different levels of local government in the various aspects of solid waste management.

**A stronger and more active role for private sector participation** in the management of solid wastes nationwide also needs to be promoted.

#### 3.2.4. *Climate change initiatives*

With its extensive coastline, climate change and global warming are critical issues for the Philippines, which ratified the Kyoto Protocol in 2003. There has emerged widespread awareness of the climate change threat in the country, whose agriculture sector and food security are particularly vulnerable to changing climate patterns.

**The Inter-agency Committee on Climate Change (IACCC)** chaired by the Secretary of Environment and Natural Resources had been established in 1991, and is tasked with coordinative, development and monitoring functions with respect to climate change-related activities in the country. The country has also been an active and early participant in the Clean Development Mechanism (CDM), and established the Prototype Carbon Fund (PCF) to pioneer emission reduction purchase transactions, and to support projects that generate high quality certified emission reductions (CERs) suitable for registration with the United Nations Framework Convention on Climate Change (UNFCCC). CDM projects for which certified emission reductions (CERs) have been traded include a wind power generation project, sugarcane bagasse co-generation projects, and commercial piggery biogas power generation projects.

An action plan for climate change adaptation is also under formulation through the IACCC.

### 3.3 The Global Downturn: Challenge and Opportunity

The current global economic downturn poses the special challenge of ensuring that short-term responses adopted to stabilize economies in the short term will not undermine longer-term sustainability. This challenge came to the fore during the East Asian financial crisis of 1997-98, when immediate “fire-fighting” responses by governments (including those prescribed by multilateral financial institutions, especially the International Monetary Fund) and by individual firms tended to set aside environmental concerns. On the part of governments, such short-sighted responses included postponement or actual cancellation of budgetary allocations for environmental concerns, and easing of environmental standards in the effort to stimulate immediate economic activity. On the part of individual firms, there was an observed tendency

to defer investments in environmental control equipment, and in the effort to cut costs, not operate those already in place. Such tradeoffs that become more acute in times of crisis make the task of planning and defining an action agenda for sustainable development more sensitive and difficult at this time.

There is, on the other hand, an opportunity that the current economic downturn presents. A major difference between the Asian financial crisis episode and the current global downturn is the opposing nature of fiscal policy prescriptions for responding to the respective crises. Whereas Asian governments were called upon to exercise fiscal prudence and undertake spending cutbacks in 1997-98,<sup>12</sup> the unanimous call at this time is for fiscal stimulus. This implies a substantial ramp-up in government spending to provide the demand for goods and services that is not forthcoming from private consumers, export markets, and business investors. In this policy context, the “Global Green New Deal” proposal of the United Nations offers an opportunity for a win-win outcome for both the economy and the environment. The task at hand is to identify the most appropriate public investments (“green public investments”) that would meet both objectives of maximizing the multiplier effect of government spending, and attaining long-term sustainability objectives.

#### **4. Institutional and Implementation Hurdles**

For many years, it has been a widely-cited observation in the Philippines that there is no lack of sound plans, programs, policies and laws, but it is in enforcement and implementation where the failure lies. In the Philippines, failures in enforcement and implementation can be attributed to at least three weaknesses: (1) law enforcement failures, (2) legal failures, and (3) coordination failures.

##### **4.1. Law Enforcement Failures**

The most conspicuous case in point manifesting the breakdown of environmental law enforcement has been in the enforcement of the logging ban. The government banned the export of unprocessed hardwood logs in 1986, both to arrest the rapid depletion of the nation’s

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<sup>12</sup> In the active policy debates during the time, it was argued by some even then that this prescription was misplaced and outright erroneous.

forests, and to stimulate domestic processing of raw lumber into finished products. In 1991 the Government imposed a selective logging ban. In spite of these, illegal logging has persisted – often attributed to powerful national and local politicians – and massive cutting of trees in the Sierra Madre and Cordillera forests in Luzon, and in forested areas in Mindanao continues to this day.<sup>13</sup> An estimated 40% of the country’s industrial round wood comes from undocumented sources, thwarting earnest management and conservation efforts.

A similar failure in law enforcement is seen in the continued incursion of commercial fishing vessels within the 15-kilometer zone reserved by the Fisheries Code to small artisanal municipal fishers. Still in fisheries, a perennial problem has also been the persistence of illegal fishpens in both inland and coastal fisheries. Again, the problem in many cases is in powerful political or military interests being either behind or directly responsible for the incursions. Thus, the problem in enforcement of laws protective of the environment commonly boils down to rampant corruption in government.

Apart from corruption, lack of capacity or political will has been another reason for violations of the law on the part of local governments. The Ecological Solid Waste Management Act mentioned above had mandated that all municipalities have a sanitary landfill by February 2004. This provision of the law has been widely and flagrantly been ignored, as only a minority of local governments have so far complied with this requirement.

Still another example of unimplemented legislation is the provision in the Local Government Code of 1991 (R.A. 7160) that provides for the establishment and functioning of multi-stakeholder local development councils at the provincial, municipal and barangay (village) levels of local government. Most local government units (LGUs) have not been faithful in organizing these valuable forums for participatory governance, with most LGUs not even having established such councils, or where they have been established, they are not convened in any regular or meaningful way.

#### 4.2. Legal Failures

Some of the difficulties of past years stemmed from inconsistencies and ambiguities in the laws

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<sup>13</sup> Annual confiscations have amounted to 12 to 15 thousand cubic meters yearly. However, the level of confiscations is not a reliable indicator of the real extent of illegal logging.

themselves. Among the most controversial legislations pertaining to the environment has been the Philippine Mining Act of 1995 (R.A. 7942), whose constitutionality had been questioned at, and later affirmed by the Supreme Court. The other major problem has been the inconsistency of certain provisions of the Mining Act with the Indigenous Peoples Rights Act (IPRA) of 1997 (R.A. 8371), which recognizes and promotes the rights of indigenous peoples to ancestral domains and lands; their right to self-governance, economic and social rights; and their cultural integrity, including indigenous culture, traditions and institutions. However, the Mining Act is being invoked by investors and certain government offices (including the Office of the President) in allowing mining exploration and development activities in areas that would otherwise be barred from such by the IPRA.

Still another problem with legislation concerns the Clean Air Act of 1999 (R.A. 8749), which among other things provided a total ban on incineration, thereby creating difficulties for the disposal of certain types of hazardous wastes.

These instances have led to situations where non-enforcement and non-implementation of environment-related laws have been facilitated by flaws or impractical provisions in the laws themselves.

#### 4.3. Coordination Failures

Most of the environmental challenges confronting the country require inter-agency, multi-sectoral and multi-disciplinary approaches and solutions. While the Philippines has been at the forefront of establishing multi-stakeholder coordinative and consultative mechanisms to deal with sustainable development and other governance concerns, difficulties of coordination remain, especially because government has always been organized along distinct sectoral lines. Notwithstanding this, overlapping and duplicating functions across government departments and offices is common.

A fundamental obstacle to sustainable land and natural resource use in the Philippines is its inefficient and ineffective land-use administration system. As observed by the European Commission Delegation in the Philippines, “there is a complex situation of overlapping of agencies and laws. There are also multiple standards for land valuation, which offer ample opportunities for corruption.”<sup>14</sup> The country's land administration and management system is in

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<sup>14</sup> ECP (2005).

dire need of an overhaul, which would involve consolidation of functions currently lying within several land registration and administration agencies.

The Philippine Council for Sustainable Development (PCSD), the first national council for sustainable development established in the world after the Rio Earth Summit in 1992, was established to provide the venue for inter-agency, inter-sectoral and multi-stakeholder coordination, consultation and consensus-building. Chaired by the Secretary of Socio-economic Planning, who exercises an oversight role in government in the implementation of the country's development plans, the PCSD's effectiveness has varied through its 16 years of existence, primarily conditioned by the degree of commitment to sustainable development and PCSD by the top leadership, including the President and the Secretary of Socio-economic Planning. While such commitment was strong under the presidency of Fidel V. Ramos in the 1990s, the same degree of support was not provided by his successors and their respective planning secretaries, thereby rendering PCSD to lose its former prominence. This has led many to question the usefulness and efficacy of PCSD as a forum for pursuing sustainable development goals of the country at this time.

From the above discussions, the picture that emerges is one where the appropriate elements of a strategy and action agenda for reconciling economic and environmental objectives of Philippine development are already in place. The main barrier, however, to achieving desired outcomes and impacts is inadequacies in institutions and mechanisms – and in the people comprising them – for translating strategies, policies and programs into concrete action.

## **5. Summary and Conclusions**

Being a country that is among the most naturally-endowed in the world, the Philippines has fallen victim to the commonly-observed “natural resource curse,” with its abundant natural wealth seemingly having become a liability rather than an instrument for achieving prosperity. Its mixed record of economic growth through past decades has been marked by rapid degradation of the environment and depletion of its natural resource base. From an economy dominated by primary resource-based production activities up until the 1980s, it has transformed into one primarily propelled by services, although the primary industries in the rural sector continue to provide a disproportionate share of employment for the working population.

The abundant wealth in the country's forests was rapidly exploited and depleted in the past century, most especially in recent decades until the 1990s, when policies finally began to take cognizance of the need to arrest the decline. Population pressures and short-sighted human economic activities have severely stressed the country's marine and freshwater resources, posing serious threat on the country's food security and public health. Industrialization, urbanization, and intensive agriculture over the past decades have dramatically impaired the quality of the country's air, water, and soil, in most cases resulting in clear and present danger to public health. Economic activities have also contributed to the global phenomenon of climate change which is of particular importance to the country, whose vulnerability to this global threat draws from its archipelagic geography and more than 36,000 kilometers of coastlines.

The strategy and corresponding action agenda for reconciling the country's economic, social and environmental development goals is already well laid out in Philippine Agenda 21, which has been described as the most widely-consulted planning document the country has had so far. Concrete programs, initiatives and mechanisms are in place for addressing the various green, blue and brown environment issues confronting the country. For maximum efficiency and effectiveness, there is need to focus on approaches that promise greatest success. Community-based approaches have already demonstrated positive track records, particularly in the sustainable management of forest and coastal resources. Mechanisms based on multi-stakeholder partnerships have likewise proven effective when allowed to function fully and freely. The way forward, then, is to scale up and scale out such tested mechanisms that work well, and to strengthen them with the necessary policy and resource support.

Within government, the imperative is for close teamwork and coordination, given the multi-dimensional, inter-disciplinary and multi-sectoral nature of sustainable development challenges. Thus, bodies like the Inter-Agency Committee on Climate Change, Local Solid Waste Management Boards, and Local Development Councils need to be made to function actively and spearhead concrete initiatives to operationalize sustainable development at the national, local and community levels.

Good governance is the critical underlay that provides the vital foundation for all efforts to achieve sustainable development for the country. Until the current persistent governance weaknesses in the Philippines are overcome, and law enforcement failures, legal failures and coordination failures are transformed from current realities into things of the past, achievement of win-win outcomes for the economy and the environment will remain a distant dream.



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