

# Saving Biodiversity

By Bona Abigail Hilario\*

**A**CCORDING to a report in a national newspaper, the Philippines is 10 times richer in biodiversity than the Galapagos Island in Ecuador where Sir Charles Darwin studied his Theory of Evolution.

The Philippines is probably the most biologically diverse country in the world because each of the 7,107 islands is home to a unique community of species of terrestrial (land) and marine plants and animals. Even the small islands support greater biodiversity than the biologically richest countries of the world. Biodiversity simply means the diversity of life or the variety or assortment of living plants and animals in a certain region.

That's the good news.

The bad news, however, is that Philippine biodiversity is under constant threat. There is nothing new about it since all its resources are threatened constantly. Still, this is cause for clearer and prompt action. The accelerating loss of biological diversity is probably the most serious environmental threat facing the planet right now, and the Philippines is one of the "hot spots".

## The Caraga Region

By itself, CARAGA or Region 13 (Surigao del Norte, Surigao del Sur, Agusan del Norte and Agusan del Sur) has a rich ecosystem and hosts a unique community of plant and animal species. Agusan Marsh has been declared a Wildlife Sanctuary and one of the 10 priority protected areas in the Integrated Protected Areas System. Siargao Island, Bocas Grande and other smaller adjacent islands and islets were declared as a unit having a Protected Landscape and Seascape status. Siargao Island is home to the second-largest mangrove forest in Mindanao (86 square kilometers) and the largest contiguous stand of mangroves in the country (40 square kilometers).

CARAGA's plant diversity accounts for some 31 percent of the Philippines' total plant species. Of

these, 60 percent are endemic or common to the region and account for 29 percent of the Philippines' endemics. Bird diversity is equally impressive: 178 species, accounting for 67 percent of resident breeding birds in the Mindanao Biogeographic Region. The 37 mammal species represents 42 percent of the native mammals in the biogeographic region. Species diversity is also high for amphibians (26) and reptiles (62). The region has 16 amphibian species endemic to the Philippines (42 percent),



several of which are confined to Mindanao and 36 endemic reptiles (53 percent). It is home to 85 bird species, 81 percent of all Philippine endemics recorded in the Mindanao Biogeographic Region. It has 25 endemic mammal species (57 percent), including two species found only on Dinagat Island.

Still, the region is also not spared from ecological or biodiversity threats. Sooner or later, all these species will diminish, be endangered and worst, become extinct.

In terms of conservation status in the region, at least 22 mammal species are threatened, including the Philippine Eagle, Philippine Cockatoo, the Golden-crowned flying fox, and the Philippine crocodile. At least 31 floral species are threatened.

The Critical Ecosystem Partnership Fund (CEPF) website put out the list of threats to biological diversity. Deeper analyses shown that these causes are rooted in conflicting government policies

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and weak institutional mechanisms, thus, the very low budgetary priority for nature and natural resource conservation. The other causes include unfair access to resources, poor governance, lack of public awareness and participation, lack of economic incentives and poor use and allocation of resources.

### **Mining and quarrying**

The most significant ecological threat in Caraga Region is the increase of legal and illegal mining operations. Gold, silver, nickel, copper, chromite, limestone and silica are mined throughout the region. At present, there are 10 large mines and quarries operation in Surigao and Agusan del Norte, Agusan del Sur and Compostela ( a part of the Eastern Mindanao Corridor where Caraga belongs). This does not include the 74 other nonmetallic mines and quarry operations and the number of applications for financial and technical assistance and exploration permit applications. Some of the exploration permits cover declared protected areas and watershed forest reserves within the corridor, where most ongoing conservation efforts are concentrated.

In Surigao del Norte, industrial waste and mine tailings are being dumped indiscriminately from open pits and tailing ponds of gold mining operations in Hinituan Passage. An open-pit chromite mine in Claver also caused heavy siltation of rivers. Because of indiscriminate dumping of mine waste, more than a thousand damage claims were filed and processed by the DENR from 1990-1994. However, the DENR has issued only a few minor citations against these operations. Local grassroots action suspended some mining in 2000.

In Agusan del Norte, gold mining on commercial and small scales is prevalent in Cabadbaran, Santiago, Tubay, and Jabonga. Mine tailings are dumped in rivers such as the Kalinawan, draining into the Mindanao Sea and causing siltation of coastal areas. Mining operations in San Roque, Kitcharao, are also polluting the headwaters of the Lambug River. Ongoing mineral extraction involves mostly small-scale operations, including 15 mining permits as well as illegal miners in the gold rush area in East Morgado, Santiago.

### **Logging and timber plantations**

CARAGA boasts of one of the largest remaining blocks of dipterocarp forest in the country. However, much of the remaining lowland dipterocarp forest is within logging concessions.

In fact, 75 percent of the country's timber comes from this area. The country's two biggest

logging concessions are in Surigao provinces, within the Eastern Mindanao Corridor (EMC). One of these has a concession area of 360,670 hectares with a registered annual production capacity of 3 million cubic meters. There are only two other TLAs outside of Surigao provinces: one in Agusan del Sur (72,680 hectares) and one in Agusan del Norte (98,312 hectares).

Commercial logging is accompanied by the development of industrial tree and forest plantations, such as oil palm and bamboo plantations. As of 1998, there were 38 such plantations in the corridor, occupying more than 300,000 hectares.

These plantations grow only one plant species each; e.g., *falcata* in Agusan del Norte and bamboo or palm trees in Agusan del Sur. The DENR proposes to establish a timber corridor in this section of Mindanao, to cover at least 100,000 hectares. These operations threaten biodiversity, as they replace and alter natural ecological processes and create monocultures susceptible to pests and disease. Endemic plant species in the corridor are especially at risk.

Illegal logging and kaingin in the uplands have also led to loss of forest cover and consequent soil erosion and rivers sedimentation.

### **Industrial development**

Development plans in the CARAGA Area Development Zone (ADZ) include economic centers that will catalyze domestic and foreign investment in the region. The 10 economic centers planned in CARAGA, if set up, would constitute the highest concentration of such facilities in the country. Two agro-industrial estates are already slated for development in the corridor: the Nasipit Industrial Estate and the Tubay Agro-Industrial Estate in Agusan del Norte.

Four large industrial establishments and two medium-scale manufacturing establishments are being considered as a foundation for the development of heavy industry and manufacturing. However, agriculture and forestry remain the biggest drivers of the economy and job growth. The region has oil palm plantations and processing facilities, accounting for most of the country's production, with the largest plantations in Agusan del Sur (up to 8,000 hectares). Agriculture, especially in the Agusan River Basin, and marine fishing grounds in the west-central Pacific will be developed with the municipalities along the north coast of Mindanao. Moreover, the Nasipit and Surigao ports are expected to absorb the expansion of agricultural processing and light manufacturing from Cebu, Cagayan-Iligan and Davao.



### Land conversion

In Siargao Islands, two factors are causing the extensive conversion of mangroves: foreigners buying land for beach resorts, the demand for firewood— one of the main sources of livelihood on the island. Fuelwood is taken to as far as Manila to supply bakeries. Artificial fishponds are installed near mangrove areas; reportedly, 576 hectares have been converted in Siargao and Bucas Grande (Management Plan of the Siargao Wildlife Sanctuary).

Indiscriminate cutting of mangroves for firewood and clearing for fishponds and prawn farms is also prevalent in Cabadbaran, Tubay and Magallanes in Agusan del Norte. Land conversion from forest to farmland and residential and industrial settlements, or from agricultural to residential use, is also widespread throughout the corridor.

### Population pressure

Surigao del Sur accounts for the fastest growth rate in the region because of groups of people from Luzon (Ilocanos) and Cebu (Cebuanos) migrating into the area. The indigenous population, including the Manobos, Higaonons, Mamanwas, Mandayas and Talaandigs of the corridor forests, are being integrated into the mainstream of lowland culture, losing much of their indigenous knowledge and ecologically sound practices. Some of these indigenous peoples are adopting destructive lowland farming techniques in the uplands and some of them are involved in illegal logging.

Controversial issues on mining and logging are coming out from everywhere, currently dominating national media. But then again, the issue is not

whom to blame for the increasing destruction of our biodiversity, but what can be done to lessen the destruction. Development is most of the time equated with destruction, but all the time, development must also be accompanied with this little thing called conscience—conscience coupled with responsibility.

No matter which factor is involved, humankind no less is really the biggest threat to biodiversity. Even humankind knows that its very survival as a species depends upon the preservation of the diversity of life. The health of the entire planet depends on keeping the balance among all the living species on earth, no matter how horrible, small, or dangerous to humans they may be. Every species has its place in the web of life, and the earth needs each and every species to keep the balance going.

Save the earth. Save the trees. Save the seas. Save “something” initiatives are everywhere. Is it time to pause and reflect, listen to the conscience and recall responsibilities— not just to the government and to fellow human beings but also to Mother Earth? Whether one believes in the Theory of Evolution or in the Divine Theory of Creation, or whether one believes that peace talks would still succeed, maybe it is time to think of small things that can be done to save biodiversity. After all, saving biodiversity— the plants’ and animals’ lives – means saving mankind.

Source: Critical Ecosystem Partnership Fund (CEPF). A joint initiative of Conservation International, the Global Environment Facility, the Government of Japan, the John D. and Catherine T. MacArthur Foundation and the World Bank. CEPF provides strategic assistance to nongovernmental organizations, community groups and other civil society partners to help safeguard Earth’s biodiversity hotspots. A fundamental goal is to ensure civil society is engaged in biodiversity conservation. [http://www.cepf.net/xp/cepf/about\\_cepf/index.xml](http://www.cepf.net/xp/cepf/about_cepf/index.xml)