

## Threats to Philippine Biodiversity



Photo Credits (L-R): Mining site in Dinagat Island (Haribon Foundation); Kaingin in logged-over area in Sierra Madre (Leonardo Co); Logging (Errol Gatumbato)

The continuing habitat degradation and forestland conversion are major threats to Philippine biodiversity. These are attributed primarily to large-scale and indiscriminate logging and mining, burgeoning human population, overharvesting of resources, and infrastructure development.

- Indiscriminate logging literally changes the forest landscape. Although there has been a decline in logging activities— due to the combined effects of a ban on logging old growth forests— illegal logging activities persist. The damage to the country’s forest areas and the biodiversity therein is exemplified by a 2.1% (100,000 ha) annual loss in forest cover during the period 2000-2005, which is considered the second fastest in Southeast Asia (next to Myanmar) and the 7<sup>th</sup> fastest in the world. Currently, the country has 15 million hectares of land classified as forest. However, only about 7.2 million hectares (approximately 24% of its total land area) can actually be considered as forests, based on the FAO definition.
- Indiscriminate mining operations threaten ecological sustainability. The Philippines is considered the fifth most highly mineralized country in the world. It is a significant producer of gold, copper, nickel and chromite and has in the recent past ranked among the world’s top 10 producers. It is also abundant in non-metallic and industrial minerals such as marble, limestone, clay, feldspar and aggregates. Since key provisions of the Mining Code were upheld by the Supreme Court in 2004, there has been a heavy influx of mining activity and

investment; as of 2007, some 124 Mineral Production Sharing Agreements (MPSA) and around 4 Financial and Technical Assistance Agreements (FTAAs) had been issued (DENR-MGB 2011). The threat is compounded by the fact that most of the country's priority conservation areas sit on top of huge mineral reserves. Thus there are many areas of significant biodiversity with overlapping tenurial instruments, and with conflicting land uses and management objectives.

- The burgeoning human population against a limited land base causes forestland conversion. With the country's annual population growth rate of 2.04%, poverty, landlessness and absence of secure tenure rights over secondary forest areas or logged-over areas have become attractive for conversion into agricultural land and settlements. Satellite maps show the remaining forest habitats in key biodiversity areas slowly being threatened by the creeping incursion of perennial crops such as coconut, abaca, as well as annual crops such as corn. Different areas in the Philippines have been exposed to this threat in varying degrees. In Cebu, for example, very few lowland forest tracts, which harbor important endemic species, remain due to land conversion, rapid urbanization and high population growth.
- Over-harvesting of resources such as medicinal and ornamental plants and wild animals for trade and domestic use has contributed to habitat degradation and dramatic reductions in species populations. Among the most highly prized ornamental plants are the jade vine (*Strongylodon macrobotrys*), giant staghorn fern (*Platynerium grande*), waling waling (*Euanthe sandariana*) and many tree fern species. A significant number of animals, such as the Palawan peacock pheasant (*Polyplectron emphanum*), Philippine cockatoo (*Cacatua haematuropygia*), talking mynah (*Gracula religiosa*), blue naped parrot (*Tanygnathus lucionensis*), and Asian small-clawed otter (*Amblonyx cinereus*), are also overharvested. Exploitation of some by-products of wildlife species also endanger their survival, such as the nests produced by the edible-nest swiftlets (*Collocalia fuciphaga*).
- Infrastructure development, such as major industries, road networks, irrigation, water resources, power and energy projects affect biodiversity directly and indirectly. Directly, their operations and possible expansion may disturb, pollute, or encroach upon biodiversity-rich ecosystems. Indirectly, they may attract satellite developments or settlements that can cause fragmentation of species-rich habitats, provide access thereto, and/or threaten the quality of surrounding water bodies. The threat posed by infrastructure development on biodiversity-rich areas was assessed in 1997 by delineating the influence areas or impact zones by the use of: (i) drainage patterns of downstream impact areas to plot water pollution impact areas; (ii) airshed and meteorological behavior to plot air pollutant impact areas; and (iii) nearest settlements and access roads location to plot settlement impact areas. The results

revealed that about 1.6 million hectares of biodiversity-rich ecosystems were highly threatened by existing infrastructure. Several biogeographic zones are registering large areas under threat; these include North/South Luzon, Mindanao, Palawan, Sierra Madre, Eastern Visayas and Cordillera.

Other factors underlying these threats include: weak enforcement, unclear ownership or resource use rights, low risk of punishment in relation to potential benefits of illegal activities and under-valuation of non-monetary values of natural resources.

- Weak enforcement is related to the historical state-led regulatory regimes over public lands. During the 1960s and 70s when there was a very active logging industry, responsibility for enforcement and monitoring rested only with the DENR. With vast areas and very limited staff, the system proved ineffective, resulting in utter disregard for rules by timber license holders. Together with very weak punishment, these factors have enabled unsustainable commercial logging practices, thereby resulting in severe degradation of important habitats. The absence of an active protected area management program also exposed important biodiversity-rich areas to timber harvesting and other resource use rights. Currently, logging operations are limited to a very few areas, and policies prohibiting logging in old growth forests and protected areas are in effect. However, there is a need to be vigilant to ensure that these policies are enforced.
- The coverage of tenure rights is still limited, local resource managers still have weak capacities to manage resources, and enforce local rules and regulations. A preference for short term financial gains over long-term economic and environmental benefits is still driving many local communities, in particular, to engage in illegal and unsustainable harvesting of resources. There is still a need to improve awareness and demonstrate the long term benefits of conservation actions and sustainable management of natural resources. In protected areas, tenure rights called protected area community based resource management agreements (PACBARMA) have been negotiated with organized occupants in multiple use zones within PAs. However, there needs to be broader coverage and support to enable forest edge communities to engage in sustainable livelihoods.
- The integration of biodiversity concerns in landscape planning and development remains weak, thereby resulting in land use plans which are not environmentally sensitive, uncontrolled land development and conversion of fragile uplands and important biodiversity-rich areas into agricultural zones. Local government units are gradually recognizing this weakness, and a number of efforts, including a GTZ-funded project in Leyte, are underway to address this. However, there is a need to promote more widely, the available tools and methods amongst other LGUs to broaden the impact of such programs.

- The incentives behind the active promotion of mining and infrastructure development stem from the perceived inferior economic values of non-monetary benefits of biodiversity conservation. Decision making has largely taken into account the direct and immediate financial and economic benefits of extractive activities and unsustainable land use planning, while ignoring the longer term benefits of conservation programs.

If habitat degradation and land conversion are tolerated today, Filipinos will endure and suffer the loss of lives and biodiversity, displacement of indigenous peoples, and decline in agricultural productivity.

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