

PHILIPPINE BIODIVERSITY IN A GLANCE

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ABSTRACT: Philippines is known for its vast biodiversity as a mega diverse country. On a per-unit-area basis, it boasts the most diversified life forms. Its biodiversity, which includes a diverse range of flora and wildlife, provides supplies for human survival, fosters economic development, and provides environmental services. However, the country's biodiversity may be threatened by inappropriate usage and management. The country has been designated as a biodiversity hotspot and a high conservation priority worldwide. Policies to protect and conserve biodiversity in the country have been implemented, including legislation on access and benefit sharing.

I. INTRODUCTION

The Philippines is regarded one of the world's mega diverse countries, accounting for over 75 percent of global biodiversity. However, the country has encountered significant challenges in safeguarding, conserving, and developing its biodiversity in recent years. In fact, ongoing depletion of the country's resources has resulted in an increase in the number of endangered plant and animal species, which now number more than 700. Among these are the Philippine Eagle (*Pithecopaga jefferyi*), the Philippine freshwater crocodile (*Crocodylus mindorensis*), the tamaraw (*Bubalus mindorensis*), the yakal (*shorea astylosa*), and the waling-waling (*Vanda sanderiana*).

Biodiversity, on the other hand, is more than the country's distinct flora and fauna species. It refers to the diversity of life on Earth, which encompasses all organisms, species, and populations; genetic variation among them; and their complex assemblages of communities and ecosystems (UNEP, 2010). It is also described as the most important in practically every aspect of our existence.

This article examines the state, trend, and concerns in the Philippines biodiversity in order to better comprehend the country's biodiversity conservation and development programs. It also examines the government's initiatives to protect the Philippine biodiversity.

II. METHODOLOGY

In this study, secondary data sources were explored by the author to acquire information on a specific topic. Because of the evidence already gathered from other individuals such as recent studies found online, it can supply solid arguments and assist in developing a deeper analysis.

III. RESULTS AND DISCUSSION

The State of Philippine Biodiversity. Philippines has been recognized as one of the world's biologically richest countries. The country's terrestrial and marine environments have some of the finest biodiversity of flora and animals, particularly to the country's 7,100 islands. The Philippines is also at the heart of the Coral Triangle, which is home to the world's most diverse marine life. Despite its ecological wealth, the Philippines remains one of the top ten countries with the greatest number of threatened species (CI, 2013).

The country is home to an estimated 53,000 described species, including about 15,000 plant species and 38,000 animal species, with more than half of them being endemic, meaning they cannot be found anywhere else on the planet (BMB, 2016). The country is actually ranked fifth in terms of plant species, with at least 25%

of the world's plant genera being native to the country (CBD,n.d). It is also regarded as a hub of animal diversity, with an estimated total of 1,437 species of terrestrial wildlife, over half of which is indigenous (BMB,n.d., CBD,n.d). Based on the data of the Department of Environment and Natural Resources (DENR), the Philippines has an estimated 207 terrestrial mammals (133 are endemic),691 birds (239 endemic) 419 reptiles (241 endemic) and 120 amphibians (98 endemic) (BMB, 2016).

Also, the country is part of the Coral Triangle and has the third highest level of marine biodiversity (World Wildlife Fund, 2010). It is home to roughly one-fifth of all marine species on the earth, with about 10,000 species. It has at least 3,214 fish species (121 indigenous) and 1,700 reef species (BMB, 2016; CBD,n.d). These estimates may be low and subject to change due to the country's high pace of species discovery.

Currently, the Philippines has already lost almost 93% of its original forest cover since 1990s. Similarly, the marine biodiversity and inland water biodiversity are deteriorating which is evident in the decreasing quality of water and fish, the Philippine largest lake. Also, in the early 1900s,there was significant decrease in the country's total mangrove cover from 450,000 hectares to 140,000 hectares while coral reef covered was already in poor conditions (CBD,n.d.; Aquino-Gayao et.al.,2014). Several reasons for declining biodiversity have been found, which were also listed in the Philippine Biodiversity Strategy and Action Plan (PBSAP). These include habitat loss and destruction. Some of its direct causes are logging, conversion to other uses, kaingin or slash-and-burn cropping, forest fire, and other natural phenomena such as pests and diseases, as well as natural calamities which resulted in increased flood frequency and intensity, erosion, landslides, coral reef siltation, and reduced groundwater supplies (Heaney et al., 1998).

Threats to Biodiversity. A number of mining projects, however, have been alleged to cause also forest degradation, physical displacement of IPs, and cultural dislocations. Furthermore, mining affects the strong cultural ties of indigenous communities and leads to the loss of their culture and identity (Baguilat, 2011). In addition, poor land use practices have been cited as a major cause of the degradation of coastal ecosystems in the Philippines. The recognition of the country as the hottest of the hotspots highlights the urgent need for marine biodiversity conservation.

Overexploitation is also a reasons for deteriorating biodiversity. These includes unregulated fishing and illegal wildlife trading. From 2009 to 2013, the government law enforcement agencies have successfully effected 136 confiscations of illegally traded wildlife, including live mammals, reptiles and birds, insects, and wildlife by-products and derivatives. In 2014, there were 20 confiscations made by the BMB which comprised 1,162 heads of reptiles (42%), birds (39%), mammals (4%), and arachnids (16%) and by-products and derivatives from wildlife. A total of 17 cases were filed in court.

Further, while the Philippines is one of the countries now working to address climate change issues, a lack of resources and preparedness may ultimately limit the country's ability to appropriately cope with the effects of climate change. All of the Philippines' areas, according to Yusuf and Francisco (2009), are the most vulnerable to climate change. The Philippines is not only vulnerable to tropical cyclones, particularly in the north and east, but also to a variety of other climate-related hazards, including floods (as seen in central Luzon and Southern Mindanao), landslides (owing to the country's terrain), and droughts.

One of the most serious threats to aquatic biodiversity is IAS. Predation, competition, parasitism, illnesses, hybridization, and species displacement induced by environmental and habitat change can speed the extinction of threatened species and limit the diversity of indigenous and endemic species. As defined, alien species are any species that has been introduced into new environments through human involvement; they are frequently invasive or hostile. A total of 70 IAS families under the age of 40 were profiled across 16 Philippine provinces (ERDB, 2013).

Initiatives of the Government to Protect the Biodiversity. In the hope to preserve and conserve the richness of Philippine biodiversity, the following initiatives had been considered: orientation on biodiversity basics and communication skills, incorporation of biodiversity information series in family development sessions of the 4Ps program, use of spokespersons/champions/personalities, popularization of biodiversity concepts as understood within the IP context, advocacy and constituents' mobilization through iec, multimedia campaigns, and citizen science initiative, incorporation of biodiversity into CLUP, creation of multi-sectoral committees for monitoring, formulation of model settlement plan for informal settlers, implementation of policy on reversion, income diversification, and marine conservation agreements, replication of population-health-environment programs, updating of information on species, formulation of a national research agenda, determination of carrying capacities, conduct of studies on hydrologic behavior of exotics, enactment of the national land use act, unification of rules and regulations on fishing, mandatory creation of environment and natural resources officers (ENRO) at the LGU level, promotion of rainforestation and use of indigenous species in the National Greening Program, amendment of the internal revenue allotment formula to reflect land use (ex. absorptive capacity of forest cover), effective and sustainable tapping of volunteerism, allocation of specific amounts for biodiversity conservation, strengthening of Peoples' Organizations, provision of scholarships particularly in the fields related to biodiversity conservation, establishment of eco-friendly social enterprises, establishment of production/communal forests, provision of incentives to forest maintenance, and identification of other sources of fuelwood.

IV. CONCLUSION

Clearly, there is a problem on the current state of country's biodiversity. Several gaps have been identified such as but not limited to Lack of awareness (example is the need for a consolidated inventory of biodiversity resources), good governance issues due to lack of enforcement and political will. Research and knowledge management gaps due to lack or expertise in the field of biodiversity, Lack of effective policies, Financing requirements due to low budget allotment to biodiversity programs, Lack of capacity and Socio-economic factors (e.g., the need for scaling up sustainable livelihood programs, growing population increases utilization of biodiversity resources leading to higher demand for livelihood).

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