

ENDANGERED WILDLIFE RESOURCES IN THE PHILIPPINES

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If the government does not conduct an accelerated nationwide conservation program, there will be no wonder if, a few years from now, our country will cease to be a haven for wildlife. There is no doubt that once before we have enjoyed wildlife in its most primeval and unharmed stage and that our islands were virtually wildlife sanctuaries. Philippine folklore teems with fascinating tales and legends in which various forms of wildlife played more than just secondary roles. Being orientals, we then saw ourselves as intrinsic natural parts of this wildlife and instinctively recognize that the preservation and survival of the latter included our own survival as well.

With the coming of Western influences, we began to adopt an anthropocentric view of nature. We gradually began to view nature as something apart from man, something to be subjugated, because we began to feel that man is superior to wildlife and therefore has a "right" to exploit it. Incidentally, this notion of superiority was perhaps the same reason for the subjugation of the peoples of our islands.

Ordinarily, the term wildlife includes the game mammals of the forest, such as the deer, tamaraw, wild hog, etc.; the game birds such as the pigeon, dove, wild duck, hornbill, rail and other shorebirds, etc., or the protected insect-eating birds and song birds that are familiar to all people. However, nature, with all its flora and fauna, is not composed of separate entities but is rather a whole breathing system tightly knitted together and forming what

the ecologists call the "web of life." Wildlife, therefore, would actually include also the lower vertebrates such as the reptiles and amphibians, together with the invertebrate forms.

Importance of Wildlife Conservation

Obviously, the underlying reason behind the issue of conservation is the survival of nature, which necessarily includes man. Apparently, the importance of wildlife conservation boils down to two major considerations : first, the ecological role of wildlife in the functioning of the ecosystem and, second, the quality of man's life in the Philippines.

Vertebrates, and all other animals perform important functions in keeping the environment fit for life. They take part in the food webs, some of which lead to man, in the cycling of nutrients such as phosphates and nitrates from marine to terrestrial and vice-versa, in the pollination of flowers and the scattering of the seeds of plants, in preventing certain species (some of which compete with or are harmful to man) from multiplying in numbers and that could disrupt the balance among populations, and lastly, in serving as reservoirs of genetic variability which in the future could be utilized by man for the breeding of the species serving as sources of protein, drugs, etc.

Status and Current Problems

The government of Kenya has made a substantial move to protect its wildlife by banning altogether game hunting and safaris, including the importation of weapons for such purposes and the non-issuance of hunting licenses. Unlike Kenya, ours has not yet made considerable progress in wildlife conservation and the laws that we have are either weakly implemented or inadequately funded. Table 1 (Appendix) shows the number of animal species and subspecies that still survive in our country. If present conser-

vation plans are not fully and effectively applied the list would be depleted in a few decades.

Wildlife habitat, without which no animal would survive, is continually ravaged in the Philippines. Overlogging and logging out our clearcutting forests continue to inflict severe and largely irreparable damage to our forests. Not only are the ecological, chemical and physical characteristics of the land altered but its productivity is also considerably diminished. Moreover such practices result in floods, the drying up of rivers in summer and the resulting power loss to hydroelectric plants. Irrigation systems fail and water for domestic and industrial purposes becomes limited. In short, the quality of human life is reduced.

Compounding the effects of destructive logging is the practice of "kaingin." The demand for more land to produce more food is opening up forest lands to inefficient shifting to agricultural lands. Most if not all people in the upland areas are still engaged in this practice for the primary reason of survival. A case study in the Philippines revealed that at least 25% of the forest destruction is accounted for by shifting cultivation (or kaingin). In addition, accidental fires last 1977 destroyed a total of 655 hectares.

Statistics from the Bureau of Forest Development show that the rate of reforestation had been very slow, with only 50,000 hectares per year as compared to the rate of deforestation of 84,000 hectares per year. At present, there is already an estimated 5 million hectares of deforested lands and open lands that need reforestation and afforestation.

Naturally, impacts of deforestation can also be seen in the depletion and consequent extinction of wildlife. The destruction of the natural habitats of these wildlife destroys the ecological balance in the area, leading to a lack of food for the animals as well as to the destruction of their homes. To cite specific case, in the 1950's, nine out of ten endemic bird species and subspecies had totally become extinct on the whole island of Cebu, mainly due to the destruction of its original vegetation. Moreover, the depletion of wildlife elsewhere in the country has led also to the near extinc-

tion of some species like the Monkey-Eating Eagle (*Pithecophaga jefferyi*) and the Tamaraw (*Bubalus mindorensis*). Table 2 shows a long line of species of facing the same problems.

Other Problem Areas

Lack of vital knowledge about wildlife accounts for much of the harm done in the degradation of wildlife and their habitats than is readily apparent. This lacunae is evident from the sketchy data on the biology of different wildlife flora and fauna, the lack of significant knowledge of the relationship of species and their natural habitats, the absence of wildlife census estimates and the lack of wildlife standards and indices.

Moreover, our country, presently plagued with political and economic problems, has not enough time to focus its attention on the subject of scientific research pertaining to wildlife conservation. Subsequently, wildlife research suffers from a considerable lack of research funds and manpower. At present, there is but a handful of reliable wildlife biologists and researchers we can depend on to study the dynamics of wildlife and tropical ecosystems. Moreover, the profession or vocation in biological sciences (with the possible exception of one in marine biology or fishery), does not hold as much glitter and glamor these days as its engineering or technological counterpart, in view of the country's present stage of development. The immediate economic aspect of any government undertaking is taken into consideration first, thus giving export production higher priority over the study of wildlife. Table 3 shows the number of wildlife collected from various parts of the Philippines from the year 1973-1976, and Table 4 provides the list of wildlife items which are in demand in foreign markets.

Wildlife Resources in the Minsupala Area

Gordon Conway and Jeff Romm, in a handout submitted to

the U.P. Institute of Environmental Planning (Diliman), revealed that land degradation, particularly in Mindanao, is in a "difficult" status due to the large number of shifting cultivators, an aggressive timber industry, and rapid incursions on hillside lands by subsistence farmers. Moreover, in the Second Annual Report of the NPEC, dated June 1979, Mindanao is listed as a critical area because of its inadequate forest cover.

The Minsupala area is fast catching the development fever and little or no regard to environmental degradation is shown. A concerned awareness of this situation, supported with a serious implementation of conservation laws is what the area needs, considering that it harbors a good number of National Parks (refer to Table 5) and a long list of animal species that are found only in the area and nowhere else in the world.

Wildlife Legislations and Measures

Our first wildlife legislation was drafted and passed during the American Occupation as Act. No. 2590, "An act for the protection of game and fish" (1916), a few decades before any major harm has yet been done in the country. Strange as it may seem, however, seven decades have passed since that legislation, but no material progress is evident that amply provides "protection of game and fish" in the Philippines. In fact, new problems have come up to further complicate the situation, like the growing population and political and economic crises.

At any rate, it is worthwhile to mention that subsequent legislations with the same expressed purpose have been made in our country since. In 1947, Act No. 3915 provided for the establishment of National Parks, declaring such parks as game refuges. By 1976, we had a total of 57 such parks covering the area of approximately 1.4 million hectares or roughly 4.6% of the total land area of the Philippines. Moreover, the tamaraw was legally protected in 1936 under the Commonwealth Government by Comm. Act No. 73. Republic Act No. 826 created the Commission on

Parks and Wildlife and Republic Act No. 6147 declared the Monkey-Eating Eagle as a protected bird and provided for the preservation and funding for the purpose.

Moreover, in 1969, the government launched a conservation program for the tamaraw and the Monkey-Eating Eagle. Fielded for the purpose were game wardens and a team of researchers, one of whom was Dr. Dioscoro Rabor, the first Director of the Natural Science Museum of Mindanao State University. These wardens were responsible for the protection of the existing number of these wildlife in their areas of concern.

For the purpose of implementing the provisions of the Revised Forestry Code, the Bureau of Forestry, the Reforestation Administration, the Southern Cebu Reforestation Development Projects and the Parks and Wildlife Office were merged into a single agency known as the Bureau of Forest Development. Aside from its jurisdiction over all forests and grazing lands including the forests and watershed reservations, the BFD is, among other things, also responsible for the protection, development and preservation of National Parks, game refuges and wildlife.

For its short-term objective, with a target date in 1980, the BFD is expected to protect forests effectively by employing more forest guards, identifying, delimiting and reserving new areas as strict nature reserves, and undertaking a census of Philippine wildlife. Its long-term objective, expected to last until year 2000, includes the development and maintenance of our country's forest resources in maximum productivity for timber, water, wildlife, forage and other minor forest products, the promotion of ecological balance by minimizing disturbance of wildlife habitat by requiring forest licensees, lessees, and permittees to adopt environmentally acceptable methods of harvesting and processing forest products.

Strategies

The forest service is expected to strengthen in terms of man-

power, equipment and facilities. One forest guard will be employed for every 1,000 hectares of forest. Presently there are 780 forest guards and there is the hope to increase that number to 1,970, with the ultimate goal being 4,000, who could be provided with communication equipment. To minimize the danger posed by the increasing number of kaingineros, the government intends to set up the Kaingin Management Program. In this program, kaingineros occupying forest lands not suitable for cultivation would be resettled while those occupying fertile lands would be assisted so that they will not damage additional forest lands.

In order to preserve wildlife in the forest, the National Philippine Wildlife Management Project has been established. In line with this would be the demarcation of Park boundaries as well as the establishment of certain amenities to the National Parks frequented by tourists. A census of the wildlife found in the national parks is also being made by Peace Corps Volunteers.

Remedial Measures

Not only because our wildlife resources are bountiful and are a sight to behold that we all must take strenuous efforts to preserve and maintain them. The issue of survival must first and foremost be the underlying motive, if not for ourselves, then for our children and our children's children. The following remedies and recommendations can be used as starting points for any conservation program.

Scientific Remedies :

1. Bolster research on the biology of wildlife and their relationship with their natural habitats.
2. Make wildlife census estimates and determine wildlife standards and indices.
3. Captive breeding and domestication of wild animals.
4. Prevent the introduction of exotic wildlife species until the environmental effects of their introduction shall have

been ascertained. (Random introduction may compete with the local species or may introduce a weak strain in the genetic pool thereby decreasing their natural adaptive strength).

Legal and Implementational Remedies :

1. Consultation with the local expertise on wildlife policies and projects, thereby encouraging local manpower for a more self-reliant development of our natural resources.
2. Upgrade the status of wildlife biologists and researchers both financially and socially in order that more attention will be given towards science and research.
3. Increase research allotments especially on conservation and environmental protection programs.
4. Ban the use of hunting equipments nationwide except for research purposes; the forfeiture to the government of any wildlife illegally hunted together with the weapons and vehicle used; and the imposition of heavier penalties.
5. As regards hunting, legislation must cover all aspects of hunting including snaring, netting, and collecting eggs of birds, turtles, and crocodiles, etc.
6. It would also be salutary to provide for the payment of rewards for services rendered in connection with the detection and prosecution of offenses under the laws on wildlife.
7. Increase greatly the number of responsible forest guards and wardens fully equipped for the purpose of a more realistic implementation of forest and wildlife rules and regulations.
8. Legislation of wildlife should place greater emphasis on the habitat instead of being too species-oriented. While an area can be protected without the animals, the animals themselves could not survive without their material habitat.
9. Adequate provision on specific control over trade and

taxidermy in wildlife and the products derived therefrom should not be omitted in future legislation.

10. Provide mandatory declaration of animals and animal articles and trophies belonging to certain protected species at the time of an Act's coming into force. Further transfer of such possessions should require the approval of the proper authorities.
11. Proper wildlife education of the people should also be undertaken by the government through the schools and universities, the mass media, and even through the various forms of arts.

Indeed, there are too many things that need to be done and unless every concerned citizen and government official would take the first decisive step, time would eventually swing over to the side of danger.

Table 1. Present Number of Animal Species Found in the Philippines*

Animal Group	Orders	Families	Genera	Species/Subspecies
Mammals	10	29	71	230-240
Birds	19	15	258	950-975
Reptiles	3	15	68	240-250
Amphibians	2	8	19	75-80
Fishes	33	205	716	2400

*from a lecture delivered by Dr. Dioscoro Rabor on the "Status of Wildlife Conservation in the Philippines," First Annual Biology Week, MSU-IIT, March 5-6, 1981.

Table 2. Rare and Threatened Wildlife in the Philippines*

Common Names	Scientific Name	Category
<u>MAMMALS</u>		
Tamaraw	<i>Bubalus mindorensis</i>	Deserves complete protection
Deer (The <i>calamianes</i> form is feared to be almost extinct)	<i>Rusa sp.</i>	Diminishing and extinct in Bohol and Cebu

Tarsier	: Tarsius philippinensis	: Restricted
Chevrotrain or mouse deer	: Tragus nigricans	: Restricted
Leopard Cat	: Felis minuta	: Restricted
Palawan Large Civet	: Arctictis binturong	: Restricted
Dugong	: Dugong dugong	: Not Common
BIRDS		
Crested Lizard Hawk	: Aviceda jerdoni magnirostris	: Rare
Whitebreasted Sea Eagle	: Haliaeetus leucogaster	: Becoming rare
Monkey-Eating Eagle	: Pitheophaga jefferyi	: Deserves complete protection
Changeable Hawk	: Spizaetus cirrhatus limnaeetus	: Not Common
Philippine Hawk Eagle	: Spizaetus philippensis	: Rare
Spotted Whistling-Duck	: Dendrocygna guttata	: Rare
Lesser Egret	: Egretta intermedia	: Rare
Reef Thick-Knee	: Esacus magnirostris	: Rare
Sharp-Tailed Graybird	: Coracina mcgregori	: Rare and little studied species
Moluccan Graybird	: Coracina morio	: Rare
Flame Minivet	: Pericrocotus flammeus	: Rare in the Philippines
Mindoro Imperial Pigeon	: Ducula mindorensis	: Deserves protection
Amethyst Brown Fruit Dove	: Phapitreron amethystina subsp.	: Rare
Marche's Fruit Dove	: Ptilonopus marchei	: Rare
Merrill's Fruit Dove	: Ptilonopus s merrilli subsp.	: Rare
Superb Fruit Dove	: Ptilonopus superbus temminckii	: One record

Rufous Coucal	: Centropus unifurus	: Rare
Violet Cuckoo	: Chrysococcyx xanthorhynchus amethystinus	: Rare
Horsfield's Hawk-Cuckoo	: Cuculus fugax pectoralis	: Rare
Olive-Backed Flowerpecker	: Prionochilus olivaceus olivaceus	: Restricted
Striped Flowerpecker	: Dicaeum aeruginosum	: Rare
Yellow-Crowned Flowerpecker	: Dicaeum anthonyi masawan	: Restricted
Four-Colored Flowerpecker	: Dicaeum quadricolor	: Restricted
Mindoro Flowerpecker	: Dicaeum retrocinctum	: Restricted
Eastern Sarus Crane	: Grus antigone sharpii	: Only crane recorded in the Philippines found in Luzon
Celestial Blue Monarch	: Hypothymis coelestis	: Rare
Little Slaty Flycatcher	: Ficedula basilanica subsp.	: Rare
Black-Headed Tailor-Bird	: Orthotomus nigriceps subsp.	: Rare
Ashy-Headed Ground Babbler	: Trichastoma cinereiceps	: Restricted
Bagobo Babbler	: Leonardina woodi	: Extremely rare
Black-Crowned Tree Babbler	: Stachyris capitalis nigrocapitata	: Rare
Pygmy Tree Babbler	: Stachyris plateni pygmaea	: Rare
Black Shama	: Copsychus cebuensis	: Deserves protection
Ashy Ground Thrush	: Zoothera cinerea	: Rare
Little Spider Hunter	: Arachnothera longirostra	: Fairly rare
Apo Sunbird	: Aethopyga boltoni	: Rare
White-Fronted Titmouse	: Parus semilarvatus subsp.	: Rare
Koch's Pitta	: Pitta kochi	: Deserves protection
Steere's Pitta	: Pitta steerii	: Restricted
Mindanao Parrot-Finch	: Erythrura coloria	: Restricted
Green-Tailed Parrot-Finch	: Erythrura hyperythra brunneiventris	: Rare

Ruddy Crane	: Porzana fusca fusca	: Rare
Giant Scops Owl	: Mimizuku gurneyi	: Deserves protection
Rufous Scops Owl	: Otus rufescens burbridgei	: Rare
Mottled-Breasted Bulbul	: Hypsipetes siquijorensis	: Rare and restricted
Large-Billed Parrot	: Tanygnathus megalorhynchus megalorhynchus	: Restricted
Goodfellow's White-Eye	: Lophozosterops goodfellowi	: Restricted
Cinnamon White-Eye	: Hypocryptadius cinnamomeus	: Restricted
Peregrine Falcon	: Falco peregrinus ernesti	: Restricted
Giant Heron	: Ardea sumatrana sumatrana	: Not Common
Strong-Billed Shrike	: Lanius validirostris	: Not Common
Palawan Peacock Pheasant	: Polyplectron emphanum	: Deserves protection

REPTILES

Mindoro Crocodile	: Crocodylus novae guinae mindorensis	: Threatened
Swamp Crocodile	: Crocodylus palustris palustris	: Threatened
Hawksbill Turtle	: Erethmochelys imbricata	: Threatened

* PCAR, First Forestry Research Congress, Baguio City, January 31—February 4, 1975. pp. 104-107.

**Table 3. Wildlife Collected from Various Parts of the Philippines:
FY 1973-1976***

Animal Group	1973-1974	1974-1975	1975-1976
Mammals	1,559	2,446	3,846
Birds	4,216	10,060	15,424
Reptiles	3,887	2,102	1,105
Insects	154	0	0
Total	9,813	14,608	20,294

*NEPC, Philippine Environmental Quality, First Annual Report, 1977. p. 91.

Table 4. Live Wildlife Items Ordered or in Demand in Foreign Markets*

Animal Group	Common Name
Mammals	monkeys or macaques
	shrews
	lemurs
	squirrels
Birds	lorises
	tarsiers
	mousedeers
	finches
Reptiles	flowerpeckers
	pigeons
	sunbirds
	doves
	sparrows
Non-vertebrates	hawks
	falcons
	cobras
Non-vertebrates	tortoises
	pythons
	sea turtles
Non-vertebrates	box turtles
	horse-shoe crab
	butterflies
Non-vertebrates	beetles and bugs

Fishes	:	Trigger family	Lion Fish
	:	Perculas	Butterfly Fish
	:	Bat fish	eels and catfishes

*PCAR, First Forestry Research Congress, Baguio City, January 31-February 4, 1975. p. 123. *

Table 5. List of National Parks in the Minsupala Area*

National Park	:	Location	:	Area in hectares	:	Special Features
Mt. Apo	:	Kidapawan, Magpet, Makilala, Cotabato	:	76,900.00	:	Medicinal hot springs, waterfalls,
National Park	:	Sta. Cruz, Digos, Davao del Sur and	:		:	highest mountain in the Philippines
	:	Davao City	:		:	home of the Rare-Monkey eating Eagle
Mt. Dajo	:	Patikul, Talipan, Jolo, Sulu	:	213.351	:	Only mountain in Jolo, historical
National Park	:		:		:	
Basilan	:	Basilan Island, Basilan Province	:	6,451.00	:	Waterfalls, natural swimming pools,
National Park	:		:		:	forests
Mado Hot-Springs	:	Awang, Cotabato	:	48.00	:	Medicinal hot springs and health
National Park	:		:		:	resort
Mainit Hot Springs	:	Nabunturan, Davao del Norte	:	1,381.00	:	Medicinal hot springs, natural
National Park	:		:		:	scenery

Initao National Park	: Initao, Misamis Oriental	: 57.00	: Virgin forests, beautiful sand beaches, recreational areas
Rungkunan National Park	: Ramin, Lanao del Sur	: Undetermined	: Beautiful sparkling springs, virgin forest and invigorating climate
Lake Dapao National Park	: Pualas, Lanao del Sur	: Undetermined	: One of the scenic spots in Mindanao, recreational
Lake Butig National Park	: Butig, Lanao del Sur	: Undetermined	: Ideal swimming resort, soothing and invigorating climate
Sacred Mountain National Park	: Marawi City, Lanao del Sur	: Undetermined	: Panoramic mountain with deep forest rich in interesting wildlife
Salikata National Park	: Lumba and Bayabao, Lanao del Sur	: Undetermined	: Basin of Gata, peculiar rock formation and natural forest scenery
Pantuwaraya Lake National Park	: Saguwaran, Lanao del Sur	: Undetermined	: Ideal recreational resort
St. Paul Subterranean National Park	: Puerto Princesa City	: 3,901.00	: Health resort, subterranean river, panoramic and recreational
Mt. Malindang	: Misamis Occidental	: Undetermined	: Undetermined
Sta. Cruz Island	: Zamboanga City	: Undetermined	: Tourist spot, Marina Area

*NEPC, Philippine Environmental Quality, First Annual Report, 1977. pp. 84-90.