

**PRESENTATION GIVEN AT THE TRANSLINKS NATURE,
WEALTH AND POWER WORKSHOP**

QUEZON CITY, PHILIPPINES

JUNE 20 – 21, 2007

HOSTED BY ENTERPRISEWORKS/VITA

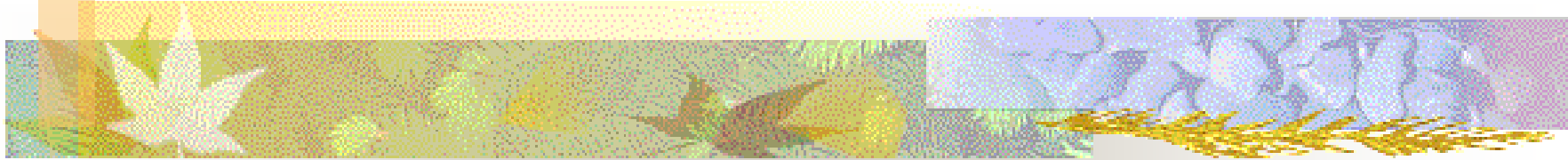


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The Institute of Biology

UP Diliman:

Its Role in the NWP framework



Perry S. Ong

Director and Professor

Institute of Biology, UP Diliman

Trustee and Treasurer

**Philippine Tropical Forest Conservation Foundation
Chair, Philippine Federation for Environmental Concern**

Nanotechnology

Air Pollution Crisis

Genetically Modified Organisms

Genetic engineering

Water Crisis

Food Crisis

Energy Crisis

Biofuels

Bioinformatics

Gene therapy

Garbage Crisis

Proteonomics

Genomics

Guimaras Oil Spill

Invasive Species

Megadiversity

Hotspot

Discovery of New drugs

Bird Flu

SARS

HIV

Discovery of New species

Habitat Destruction

Biological Warfare

Global warming

Overharvesting

Endangered Species

Center of the Center of Marine Biodiversity

All Taxa Barcoding Project

Frozen Ark Project

(SETI)
Search for ExtraTerrestrial Intelligence



THE world's largest concentration of marine life in a 10-km by 10-km area is found in the Verde Island Passage corridor located between Batangas and Mindoro. Experts dub it "the center of the center of the center of the world's marine shore fish biodiversity." *YVETTE LEE/CONTRIBUTOR*

11 RP sites said to hold key to species' survival

By Blanche S. Rivera

key to the survival of some of the world's endangered species.

THERE ARE AT LEAST 11 SITES in the Philippines which hold the

The sites, identified by the Washington-based Alliance for

Zero Extinction (AZE), are habitats of those species. If the habitats are destroyed, the species will be lost.

The 11 AZE sites are: Northern Sierra Madre Natural Park for the Northern Luzon shrew mouse; Mt. Isarog National Park for the Isarog shrew mouse and the striped shrew rat; Siburan for the black-headed coucal (kind of bird), and Ilijan for the Ilijan hairy tail cloud rat.

Madagascar, we wind up losing a major portion of global biodiversity, regardless of how successful we are anywhere else," he said.

'Hot Spots Revisited'

Conservation International launched "Hot Spots Revisited," a book discussing the environmental hot spots in the world which rose in number to 34 in 2004 from 25 in 1999. The book was launched in Manila on Friday.

Mittermeier said Madagascar which has about 50,000 square kilometers of forest left, was the single highest priority area for conservation because of increased habitat loss.

Similar situation

"The situation in Madagascar is very similar to what you have in the Philippines, where you've lost at least 90 percent of the natural forest. You have to save every last patch of natural forest you still have," he said.

Conservation International noted that the Philippines, one of 17 megadiversity nations in the world, had more endemic species than the United States and Canada put together.

It is also considered by many environmentalists as the "hottest hot spot" due to the endemism (species native to a particular geographical area) and rate of destruction and number of threats.

Other habitats

Mt. Mantalingajan was included because it's home to the Palawan soft-furred mountain rat; South Gigante Island for a rare amphibian from the frog family; Cuernos de Negros for the Negros shrew and striped babbler (kind of bird); Mt. Kamnbinlio and Mt. Redondo for the Dinagat hairy tail cloud rat; Mt. Malindang in the Greater Mindanao shrew; Tawi-Tawi island for the Sulu Hornbill and Sulu Bleeding Heart, and Mt. Canlaon National Park.

Tiny yet unique

"In the Philippines you have a tiny, tiny area, yet you have packed a very unique number of species not found anywhere else in the world," Conservation International president Russel Mittermeier said.

"If we lose the hot spots, if we lose the Philippines, if we

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Earth can't meet human demand for resources

WASHINGTON — The consumption of forests, energy and land by humans is exceeding the rate at which Earth can replenish itself, according to research published on Monday in the Proceedings of the National Academy of Sciences.

The study, conducted by California-based Redefining Progress, a nonprofit group concerned with environmental conservation and its economics, warned that a failure to rein in humanity's overuse of natural resources could send the planet into "ecological bankruptcy."

Earth's resources "are like a pile of money anyone can grab while they all close their eyes, but then it's gone," said Mathis Wackernagel, lead author of the study and a program director at Redefining Progress.

Scientists said humanity's demand for resources had soared during the past 40 years to a level where it would take the planet 1.2 years to regenerate what people remove each year.

The impact by humans on the environment had inched higher since 1961 when public demand was 70 percent of the planet's regenerative capacity, the study showed.

"If we don't live within the budget of

nature, sustainability becomes futile," Wackernagel said.

The study, which details the population's impact on the Earth with a quantitative number, measured the "ecological footprint" of human activities such as marine fishing, harvesting timber, building infrastructure and burning fossil fuel that emits carbon dioxide (CO₂) into the atmosphere.

Researchers then used government data and various estimates to determine how much land would be required to meet human demand for those actions.

For example, Wackernagel and his team found that in 1999, each person consumed an average of 2.3 hectares. The global average was significantly lower than industrialized countries such as the United States and United Kingdom where 9.6 hectares and 5.3 hectares, respectively, were consumed per person.

'Ecological bankruptcy'

In order to develop a formula that measured humanity's consumption with the Earth's regenerative capacity, the researchers were forced to reach several assumptions and omit the use of some resources because of insufficient data.

The results, for example, excluded the impact of local freshwater use and the release of solid, liquid or gaseous pollutants other than CO₂ into the environment.

Even though the findings revealed that human use of resources was far outstripping Earth's supply, it stopped short of determining how long the process could continue without detrimental consequences.

"Like any responsible business that keeps track of spending and income to protect financial assets, we need ecological accounts to protect our natural assets," Wackernagel said. "And if we don't ... we will prepare for ecological bankruptcy."

Wackernagel said the study's results could be used to gauge the impact of new technologies and how they affect the environment.

The use of an alternative technology, such as one that produces renewable energy or replaces natural biological processes, could allow society to live better without increasing consumption, he said.

Governments could also determine the impact consumers and businesses were having on depleting area resources and evaluate potential ways to reduce consumption, Wackernagel said.

Reuters

Ecological Footprint:

Marine fishing, timber harvesting,

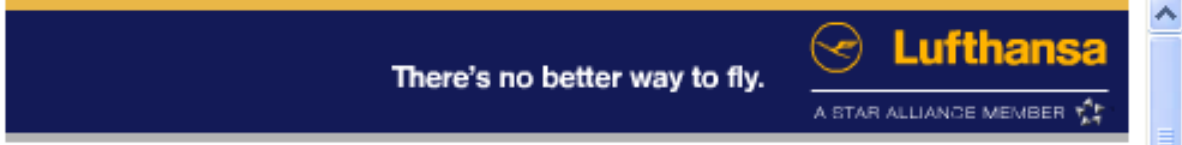
Building infrastructure, fossil fuel burning

In 1999, global average: each person consumed 2.3 hectares lower than US (9.6) or UK (5.3)

In 1961, only 70% of earth's regenerative capacity was used. In 2000, this rose to 120%

Title: Humanity's Resource Demand Exceeds the Earth's Capacity

Website: www.rprogress.org Article can be viewed on this website: www.pnas.org



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WORLD

Landslides toll tops 160

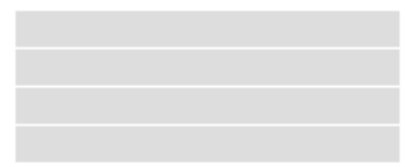
Monday, December 22, 2003 Posted: 1830 GMT (2:30 AM HKT)

MANILA, Philippines (CNN) -- Philippine President Gloria Macapagal Arroyo will travel Monday to the southern Leyte province, hit hard over the weekend by deadly landslides caused by days of flooding, officials in Manila said.

Defense Secretary Eduardo Ermita said the death toll had risen to 161 and 93 people remained missing and feared dead from the torrents of mud, rocks



Access to many hard hit areas has been difficult for rescue crews.



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WORLD

Philippines storm kills 350

Tuesday, November 30, 2004 Posted: 5:25 PM EST (2225 GMT)

MANILA, Philippines -- A powerful storm has triggered landslides and flash floods that have killed as many as 350 people in the eastern Philippines, according to officials.

Rescuers are now racing to the region to try to save people stranded in three coastal towns before a new typhoon strikes the same area.

At least 150 people are missing in the eastern Philippines, which is largely cut off by landslides and floodwaters which have washed away bridges and roads, officials say.


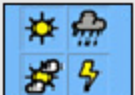
Helicopter crews are struggling to find ground solid enough to land on and dropped food packages to residents huddled on rooftops or high ground.

Officials are arranging for a coast guard



Uprooted trees litter a swollen river near Infanta town in Quezon province.

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(AFP PHOTO)



(PHILIPPINE AIR FORCE PHOTO)

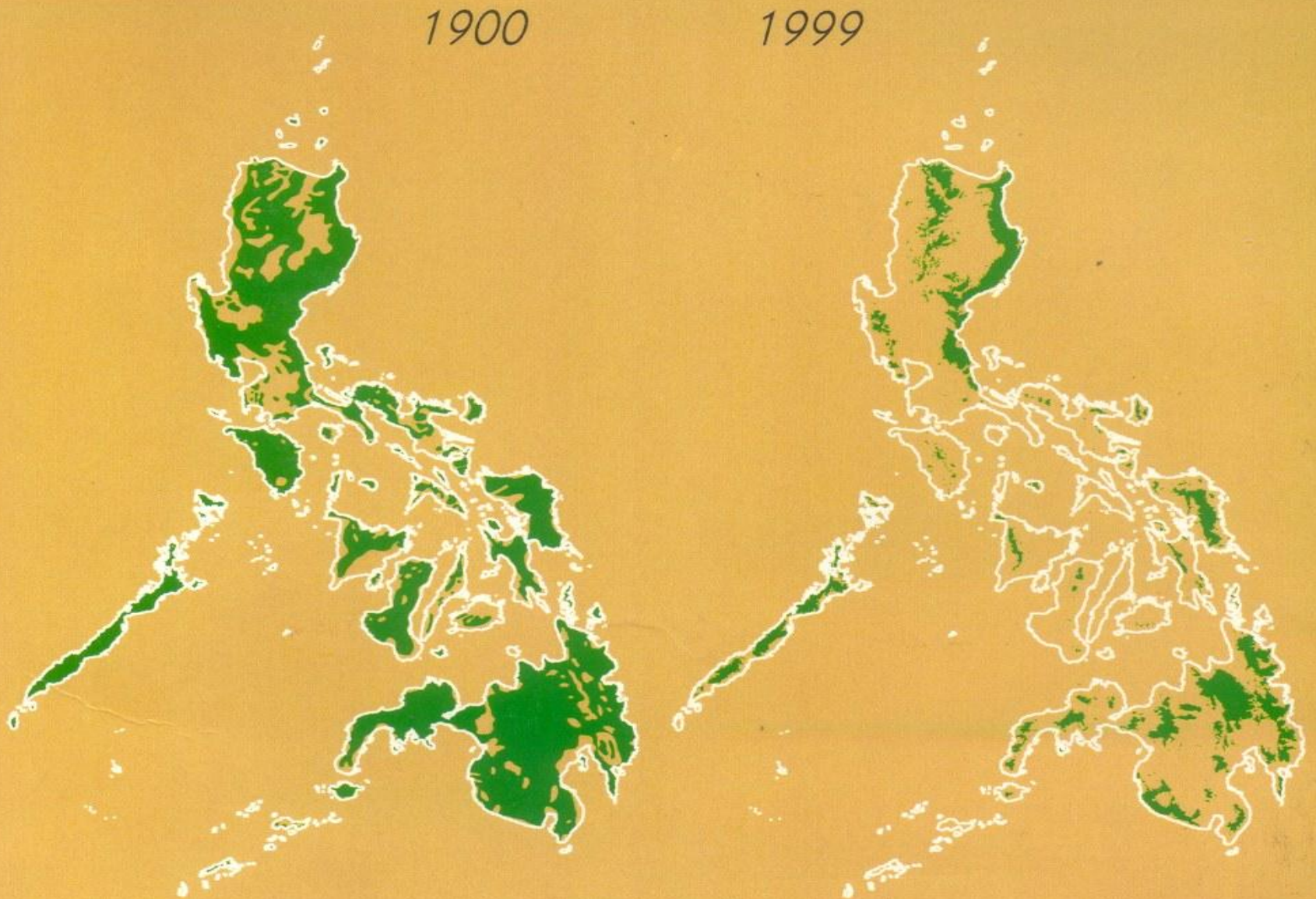


(PHILIPPINE AIR FORCE PHOTO)



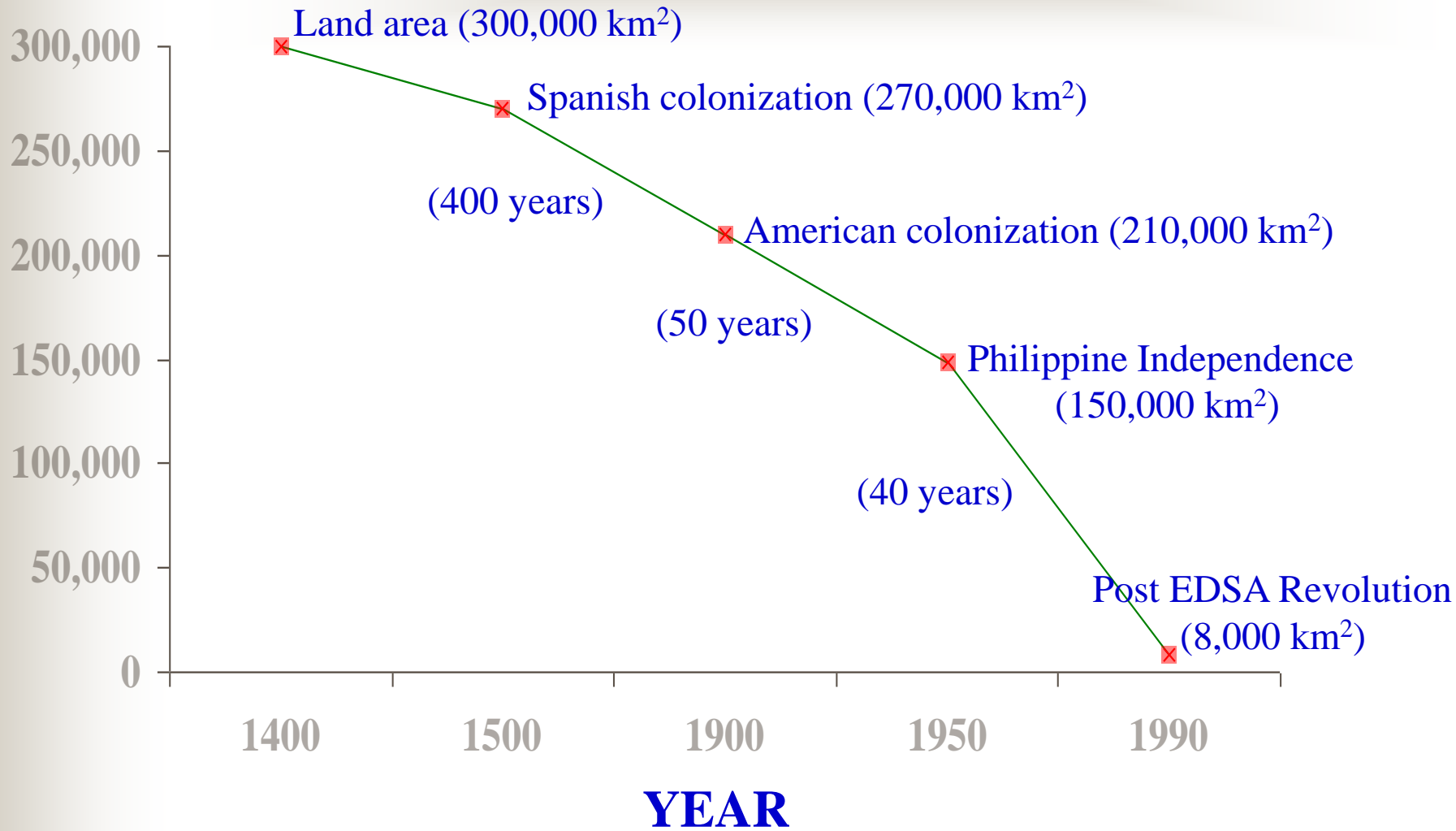
(PHILIPPINE AIR FORCE PHOTO)

Extent of Forest Cover Loss in the last 100 years



Source: Environmental Science for Social Change, 1999

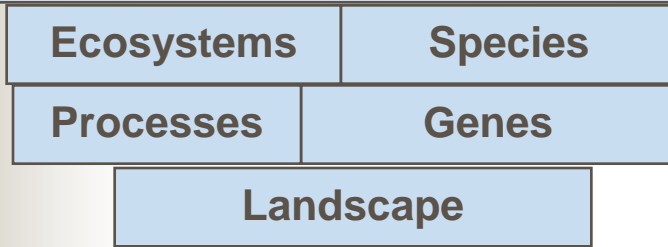
(km²)



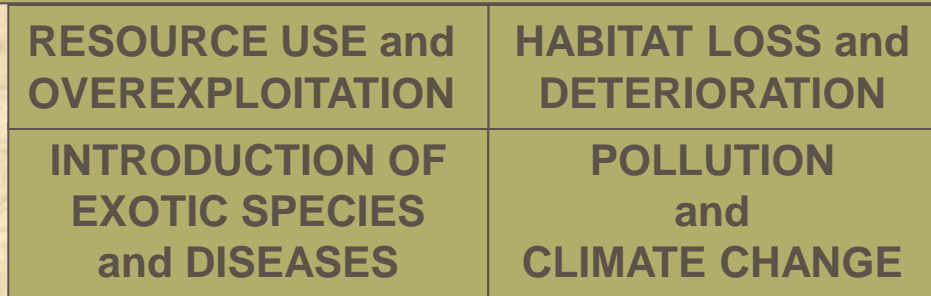
Extent of Original Forest Cover in the Philippines

Conceptual Framework

Biodiversity Crisis (state)



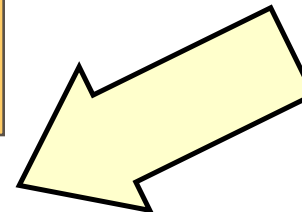
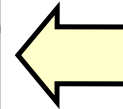
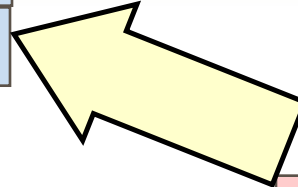
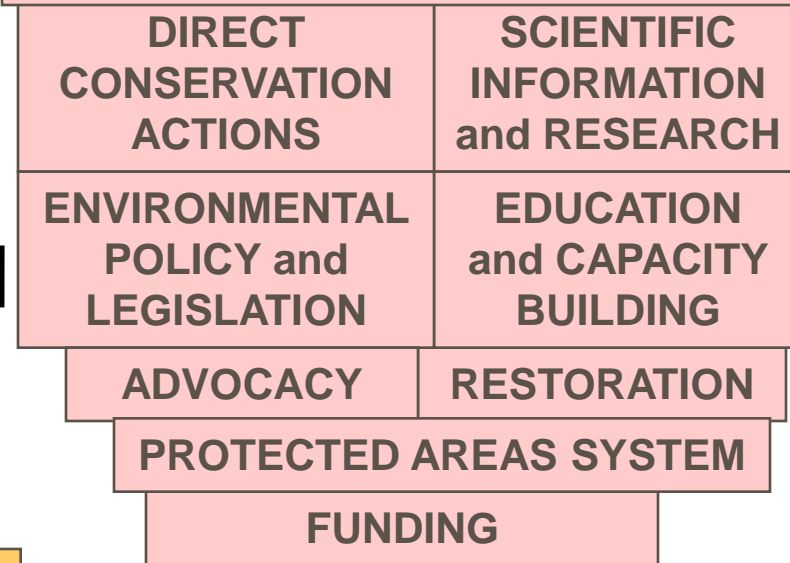
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SOCIOECONOMIC and POLITICAL DRIVERS (pressures)



SOCIETY'S RESPONSE





Institute of Biology, UP Diliman

**Center of Excellence in
Biology**

(Biodiversity Conservation)



Institute of Biology, UP Diliman

- **Human Welfare Program**
 - Natural products research
 - Biomedical research
- **Conservation Studies Program**
 - Network of Field Stations
 - Network of Laboratory Based Studies
 - Barcoding Project (US led)
 - Frozen Ark Project (UK Led)



Institute of Biology, UP Diliman

- Human Welfare Program
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Institute of Biology, UP Diliman

- **Conservation Studies Program**
 - **Network of Field Stations**
 - Palaui Island, Cagayan
 - Morong, Bataan
 - Subic Forest
 - **Network of Laboratory Based Studies**
 - Barcoding Project (US led)
 - Frozen Ark Project (UK Led)



Bridging GAPS

Goals

Aspirations

a Promise




Changing MAPs


Mindsets

Attitudes

Practices

A decorative header strip at the top of the slide features a collage of nature-related images. On the left, there are green leaves and a yellow flower. In the center, a brown bird is perched on a branch. On the right, there are blue, rocky or crystalline structures.

Biologists alone cannot
save biodiversity,
neither will biodiversity
be saved without
biologists!



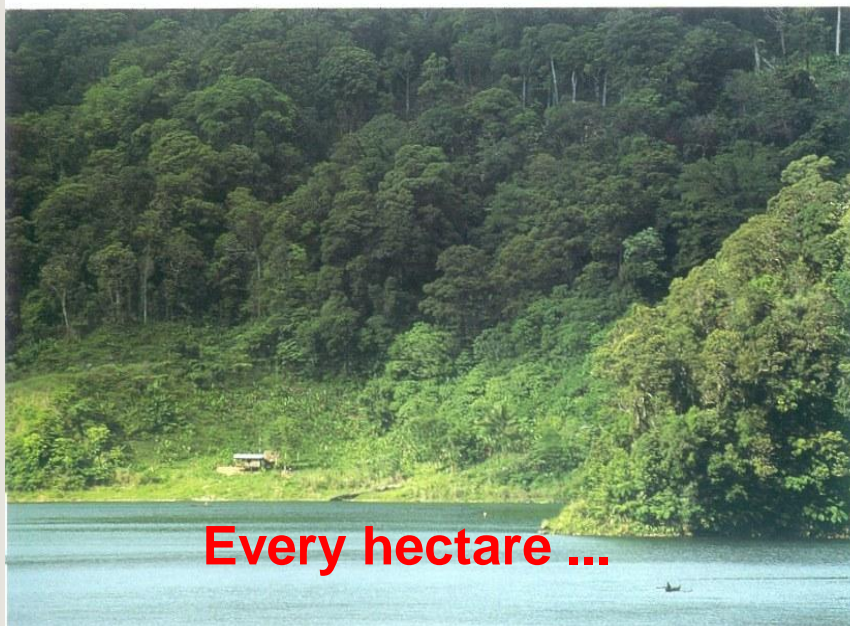
Biologists alone cannot
implement the NWP
framework, neither will
the NWP framework be
successfully implemented
without biologists!



Every Species...



Every second...



Every hectare ...

**In our fight to
conserve
Biodiversity
through the NWP,
everything counts!**