

The 7 Environmental Principles

Society for the Conservation of Philippine Wetlands, Inc.



Environment

...“immediate surroundings of an individual”
...“is a complex system that deals with a network of living and non-living entities”

Includes:

- Physical Components (air, water, land, energy)
- Biological Components (plants, animals)
- Socio-Economic Components (people, communities, institutions, values)





The Seven Environmental Principles

(Barry Commoner)

I. Everything is connected to everything else.

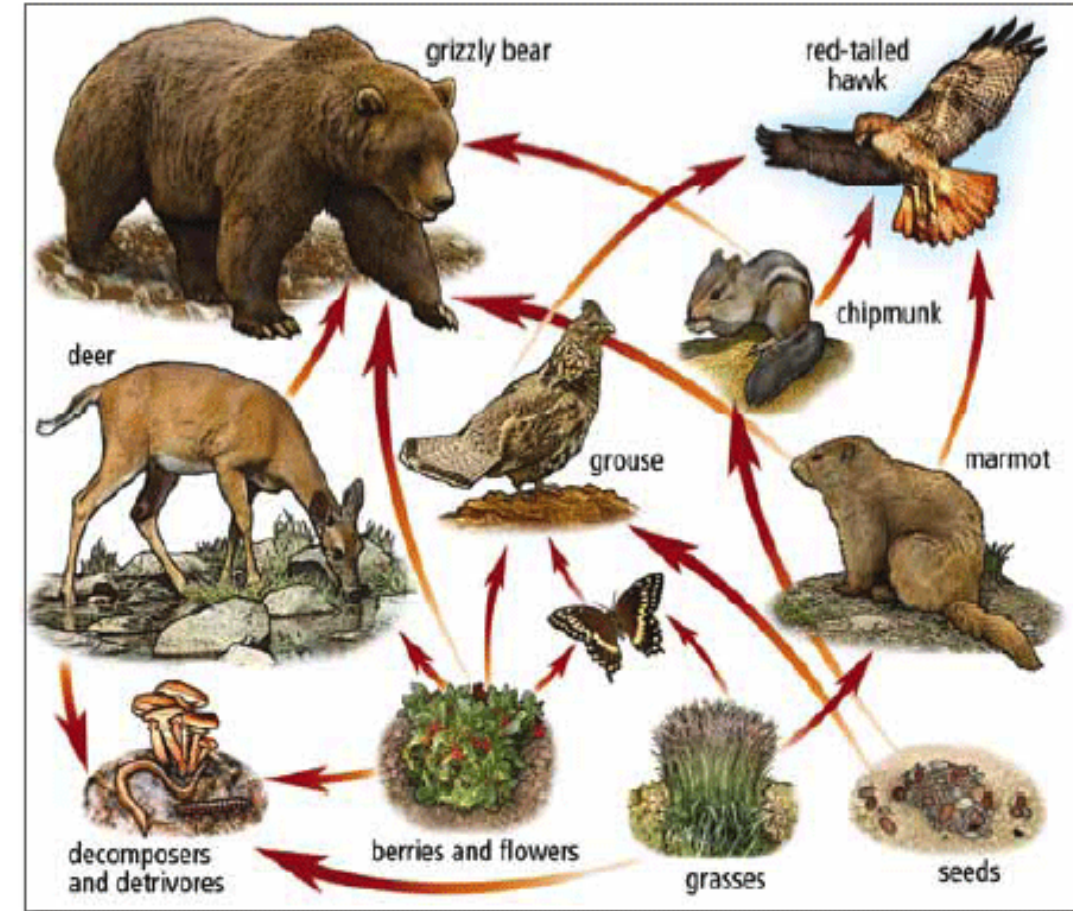
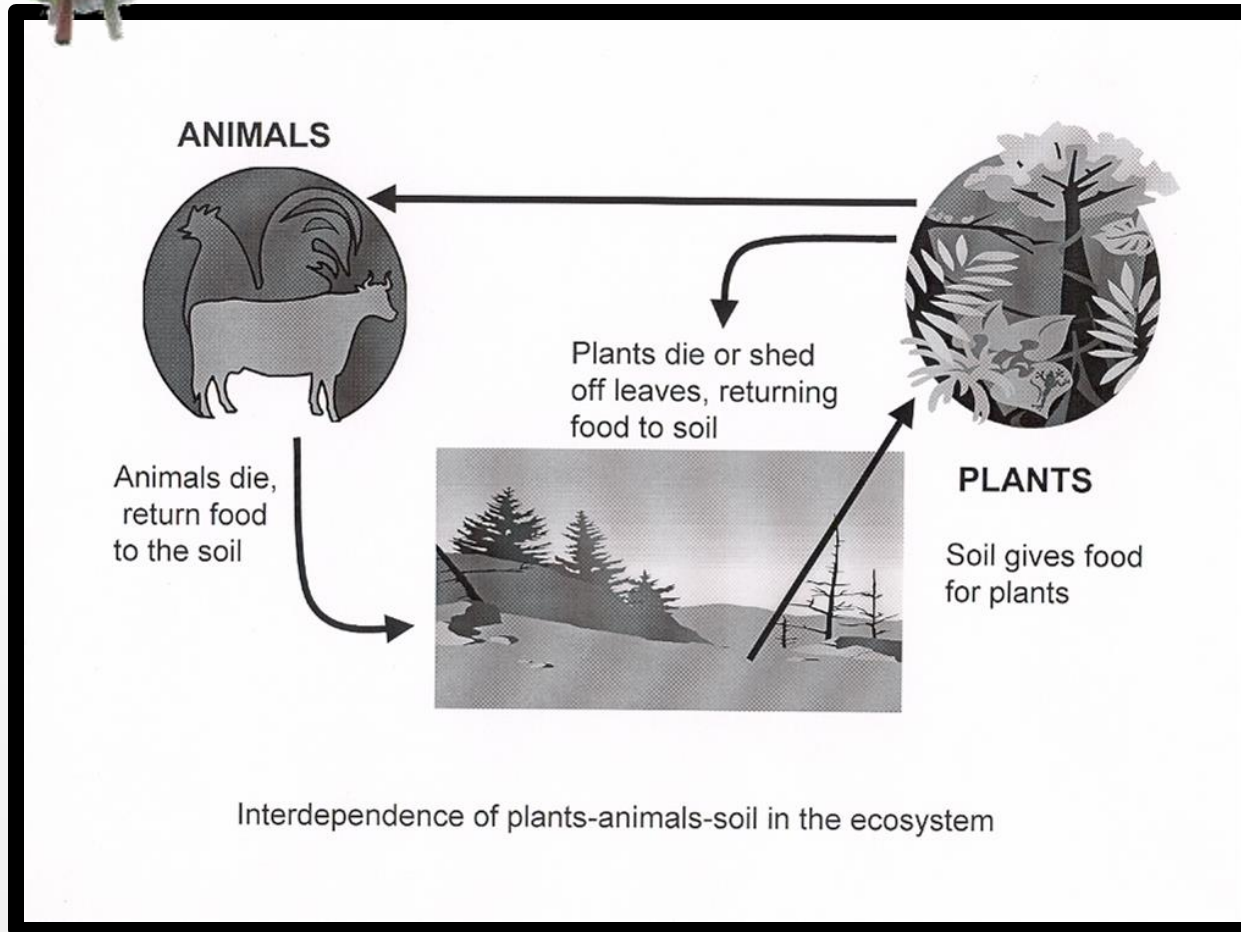
Ecosystem

- is the basic functional unit of nature
- is the interaction of the community (living components) and the non-living environment



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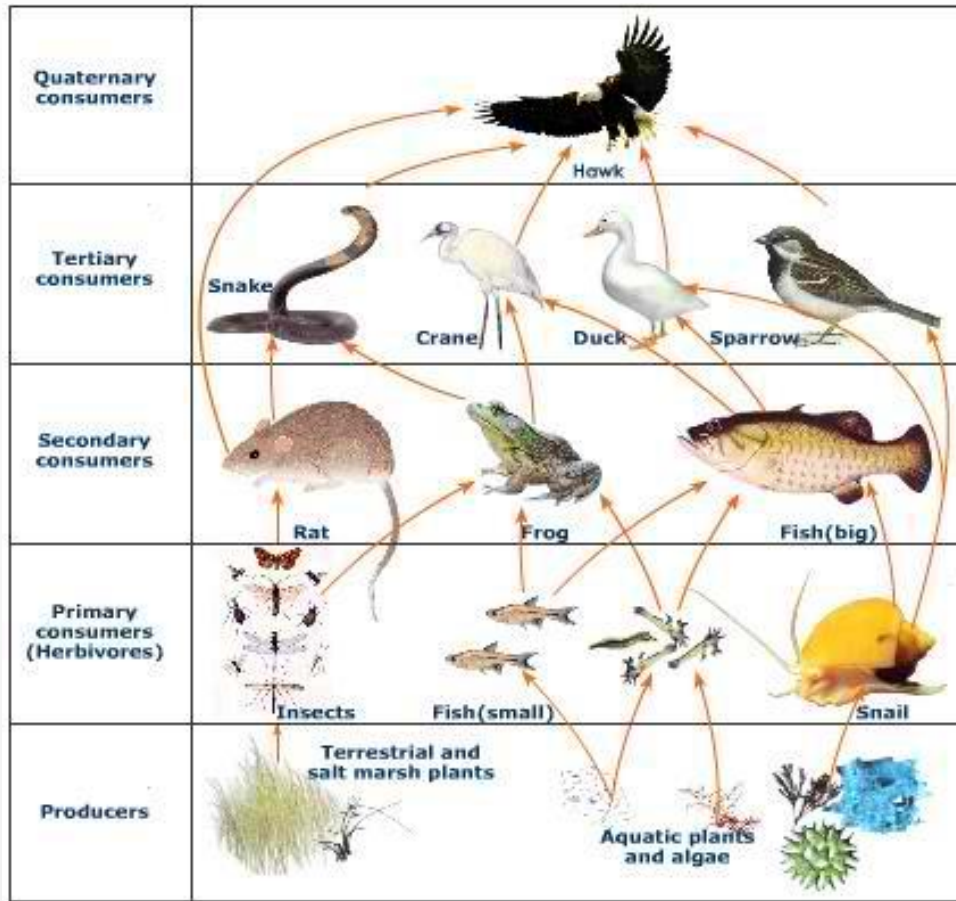
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The Seven Environmental Principles

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A Fresh Water Food Web



Philippine Ecosystem

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- Forest Ecosystems

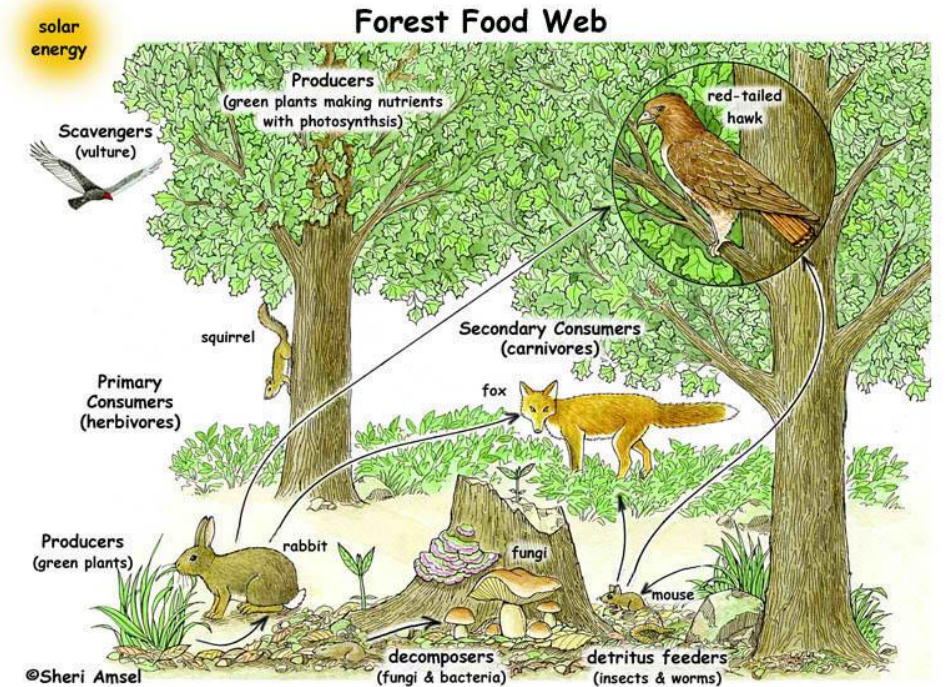
Is a community of trees, shrubs, herbs, microorganisms and animals, the trees being the most obvious living structure

- Marginal Lands/Uplands

Public lands that are hilly to mountainous and greater than 18% slope, including the table land and plateaus lying at elevations which are not normally suited to wet rice unless some form of terracing and ground water exists

- Protected Areas

Areas of remarkable and outstanding features considered as biologically important and are habitats or rare and endangered species.





Philippine Ecosystem

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- Freshwater and Wetlands

Areas of marsh, fen, peatland, or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish, or salt, including areas of marine water, the depth does not exceed six meters.

- Lowland/Agricultural Ecosystems

- Coastal and Marine Ecosystems

Home to 59% of the country's total population (70% of total municipalities and most of the country's major cities are located here)

- Urban Ecosystems





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- II. All forms of life are important
(thus, the need for biodiversity)
- All organisms have a role in the ecosystem (niche)





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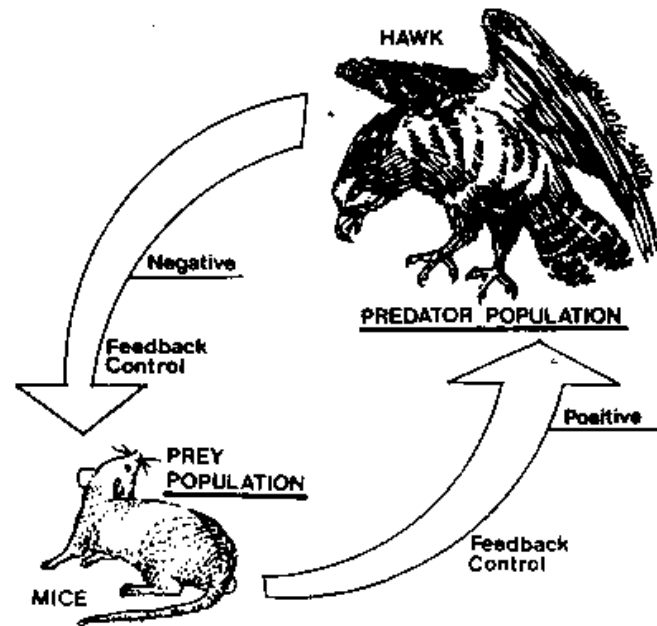
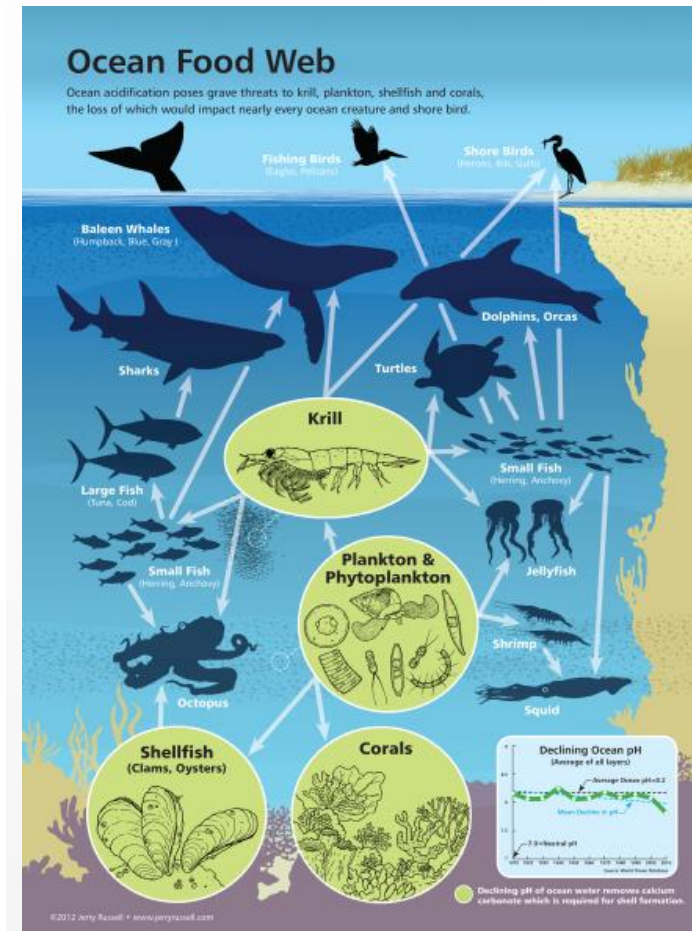


Figure 9 An example of population growth control between predator and prey.

Source: Odum, E., 1971.





Biological Diversity or Biodiversity

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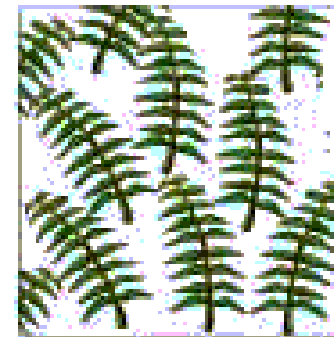
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..."is the variety of all life forms on Earth – plants, animals, microorganisms..."

- Ecosystems diversity - interdependence within species
- Species diversity – basic unit of biological classification
- Genetic Diversity – variation within species



Many different organisms mean there is more biodiversity. This adds to the aesthetic value and available genetic material in the environment.



Having fewer species and lesser biodiversity takes away from the aesthetics of the environment and reduces the amount of genetic material needed for future agricultural or medical discoveries.



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III. Everything must go somewhere (thus, too much can cause pollution)

- Waste Management
- Environmental Management Systems





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IV. Ours is a finite earth (thus, the need for conservation)

- Trends in Paradigm

Preservation
(no touch)



Conservation
(Wise Use)



Sustainable
Development

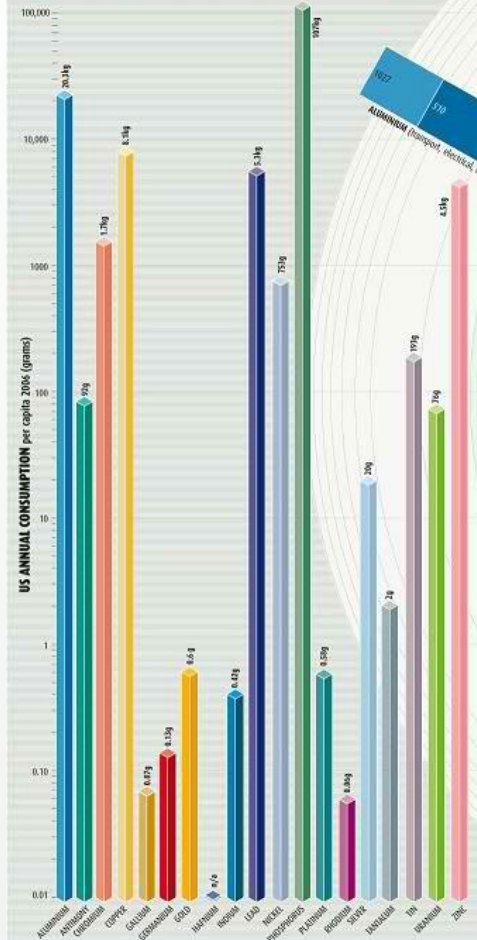




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HOW LONG WILL IT LAST?

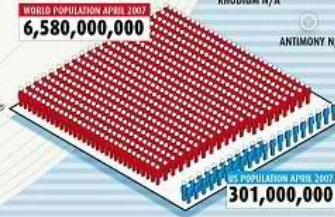
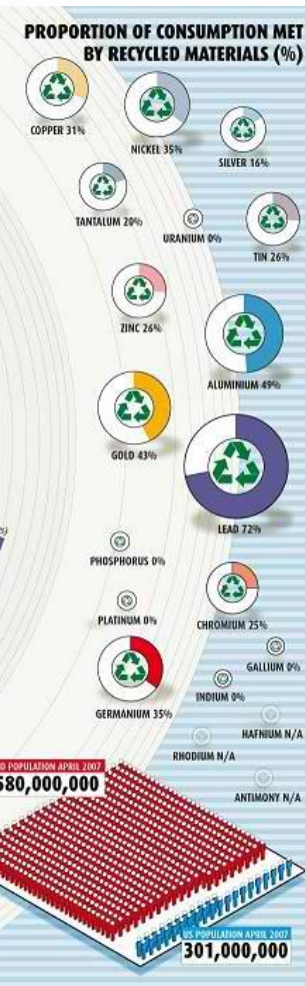
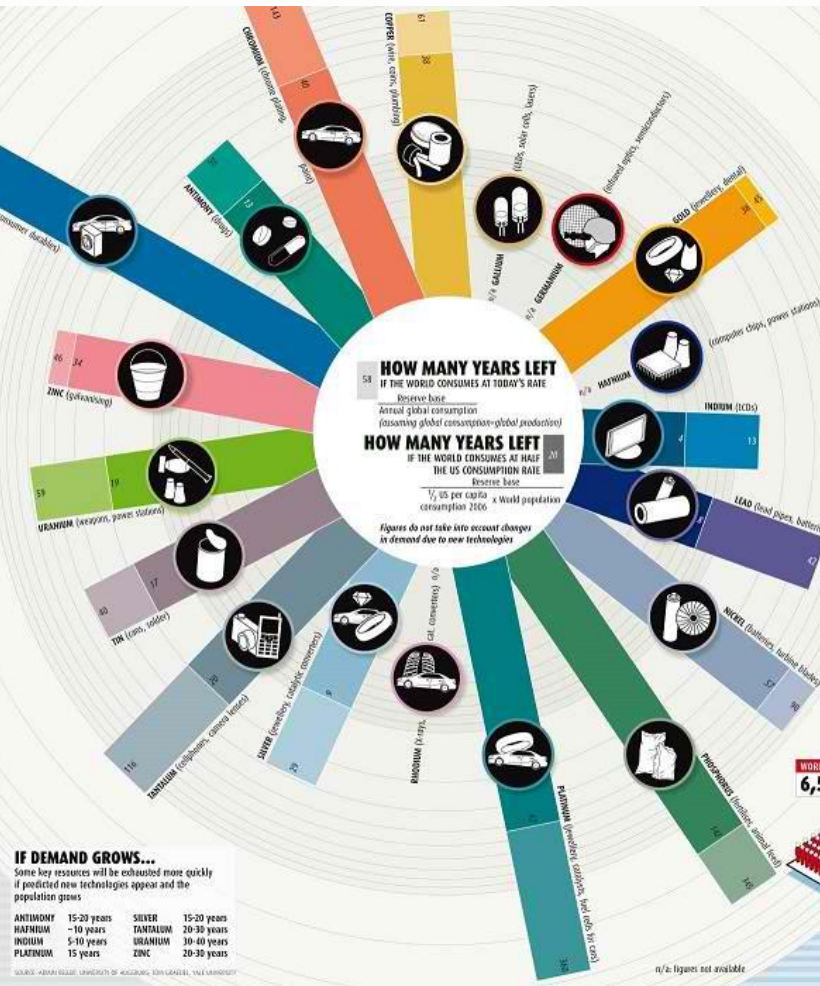


IF DEMAND GROWS...

Some key resources will be exhausted more quickly if predicted new technologies appear and the population grows

| | | | |
|----------|-------------|----------|-------------|
| ANTIMONY | 15-20 years | SILVER | 15-20 years |
| HAUFIUM | ~10 years | TANTALUM | 20-30 years |
| INDIUM | 5-10 years | URANIUM | 30-40 years |
| PLATINUM | 15 years | ZINC | 20-30 years |

SOURCE: ARMAN KELLER, UNIVERSITY OF MASSACHUSETTS; JOHN LEONARDI, YALE UNIVERSITY





Sustainable Development

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..."development that meets the needs of the present without compromising the ability of the future generations to meet their own needs."

Taken from the Brundtland Report "Our Common Future", 1987.





Natural Resource Management

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Natural Resources can be classified into:

- renewable (forest)
- non-renewable (minerals)



Figure 13. Natural barriers such as beaches, dune vegetation, wetlands, coastal forests, and vegetated stream buffers protect residential areas and agricultural areas from flooding, erosion, and inundation. Natural barriers also protect crops and agricultural areas.





Natural Resource Management Approach

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- Reforestation, community-based management
- Soil and water conservation techniques, e.g. agroforestry
- Biodiversity Conservation through PA establishment
- Regulation of Wildlife Trade
- Ex-situ conservation techniques
- Integrated coastal resources management
- Environment-friendly aquaculture
- Solid Waste Management
- Community Organizing/involvement





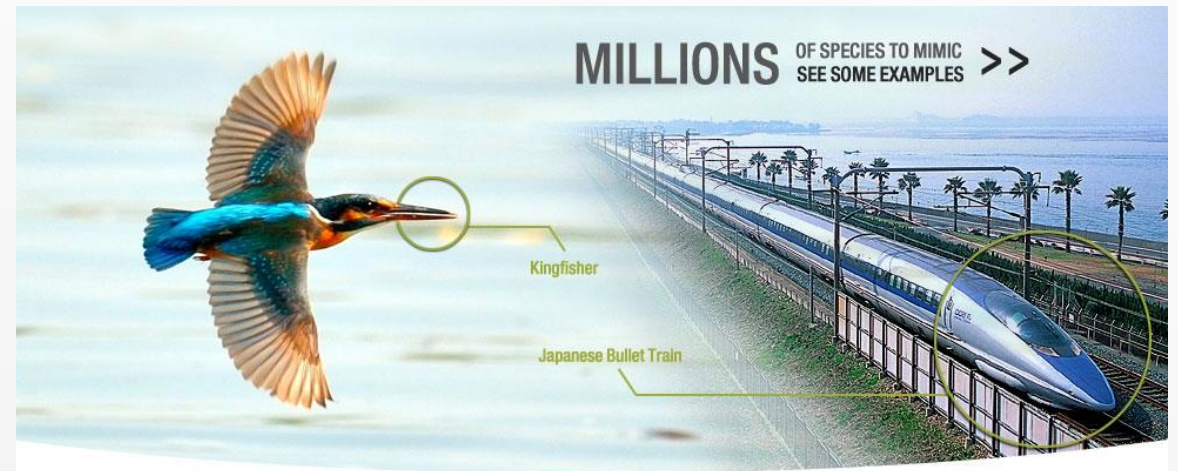
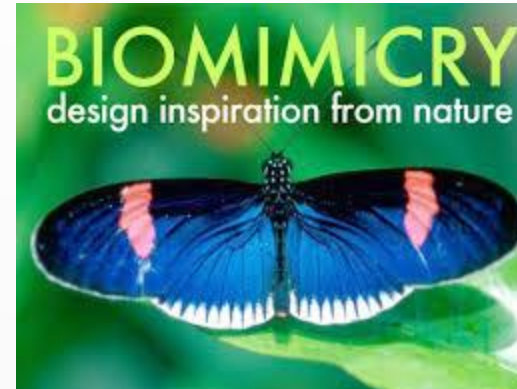
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V. Nature knows best
(thus, the need for
ecological technology)

“Nature must be obeyed first
before it can be
commanded”

- Humans should first understand nature and follow its laws
- Humans should not go against natural processes if we want a sustained yield of natural resources



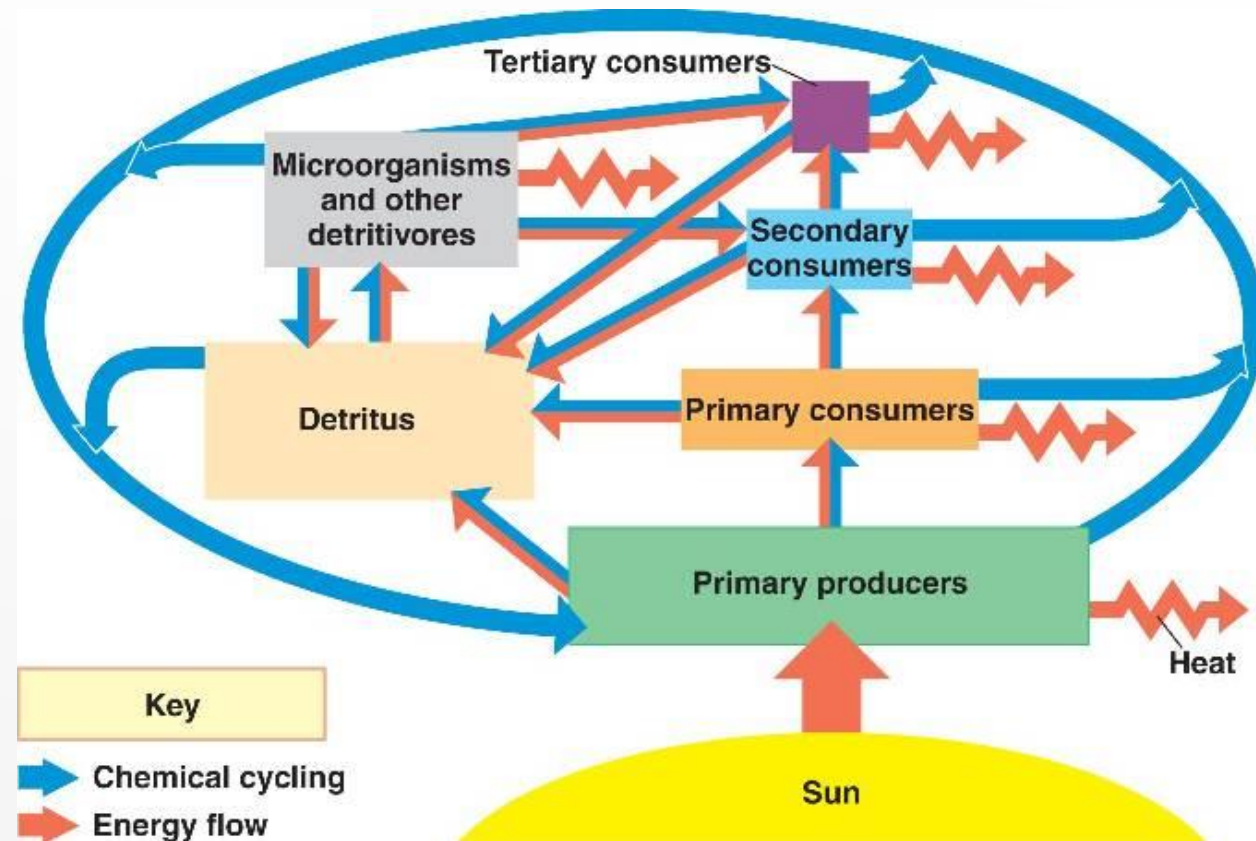


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Natural Processes

- Food Chain
- Energy Flow
- Diversity
- Evolution
- Ecological succession
- Ecological control or cybernetics
- Biogeochemical cycles (e.g. carbon-oxygen cycle, nitrogen cycle, water cycle)





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Disruptions are in the form of:

- Illegal logging
- Indiscriminate kaingin-making and forest fires
- Dynamite and cyanide fishing
- Habitat destruction resulting in biodiversity loss

Can you think of other disruptions?





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VI. Nature is beautiful and we are stewards of God's creation

- Divinity in all forms of life.
- Religion is one of the most influential aspects that affect values and environment.



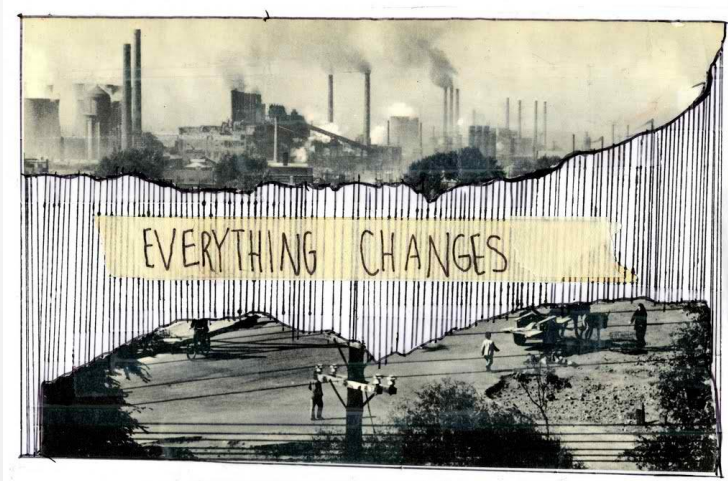


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VII. Everything changes.

- Linear change – evolution of species
- Cyclical Change – influenced by time such as seasons
- Random Change – eruption of Mt Pinatubo





SUMMARY

The Seven Environmental Principles

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1. Everything is Connected to Everything Else
 - Ecosystem
2. All forms of life are important
 - Roles and niches, biodiversity
3. Everything Must Go Somewhere
 - There is no 'away'
4. Ours is a finite Earth
 - No touch, wise use, sustainable development
5. Nature knows best
 - Nature must be obeyed first before it can be commanded
6. Nature is Beautiful and We are Stewards of God's Creation
 - Religion is one of the most influential aspects that affect values and environment
7. Everything Changes
 - Linear, cyclical, random



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Workshop

- Connect ideas from the game with any of the abovementioned principles
- Discuss relevance in everyday life.

