

VALUES OF BIODIVERSITY



Dr. P. SANTHANAM

Assistant Professor

Marine Planktonology & Aquaculture Lab.,

Department of Marine Science, School of Marine Sciences

Bharathidasan University, Tiruchirappalli-620 024, Tamil Nadu.

E-mail: santhanam@bdu.ac.in

Website: www.mpalbdu.weebly.com

VALUES OF BIODIVERSITY

ECOLOGICAL ECONOMICS

Ecological economics is an emerging discipline that integrates economic valuations of biological diversity with ecology, environmental science, sociology and public policy

ECOLOGICAL ECONOMICS

- ◆ Decisions on protecting species, communities and genetic variation often come down to arguments over money. How much will it cost? And much is it worth?
- ◆ Economic value of something is generally accepted as the amount of money people are willing to pay for it
- ◆ But this is only one possible way of assigning value to things, including biological diversity
- ◆ Ethical, aesthetic, scientific and educational methods of valuation are available as well

ECOLOGICAL ECONOMICS

- ◆ Government and corporate officials currently base majority policy decisions on economic valuation. As a result, conservation biologists now use the methodology and vocabulary of economics in their arguments for the protection of diversity
- ◆ It is easier to convince governments and corporations to protect biological diversity when there is an economic incentive to do so.
- ◆ When the loss of biological diversity is perceived to cost money, perhaps governments and corporations will act to prevent it.

ECOLOGICAL ECONOMICS

Why economic valuation is needed?

- ◆ A major problem for conservation biology is that natural resources have often been undervalued, cost of environmental damage have been ignored, the depletion of natural resource stocks disregarded & the future value of resources discounted.

ECOLOGICAL ECONOMICS TYPES AND VALUES

1. **Socio – Economic values:**

- ◆ In deciding priority sites for conservation, it is important to assess and take into consideration the socio-economic value of the site.
- ◆ All biodiversity values are also Socio – economic values as directly or indirectly, individually or collectively, biodiversity resources are also Socio – economic resources

ECOLOGICAL ECONOMICS TYPES AND VALUES

Socio – economic values can be classified as follows:

A. Direct economic value:

- ◆ The Direct economic value of a site or species is the economic value of those goods and services it directly provides that are generally acknowledged to have a market price, and perhaps a replacement cost or an exchange value. Such goods could include timber, fuel wood and medicinal and edible plants. Such services could include tourism. The local communities, fisher folks, tribal communities use plants and animals for food, medicine and to meet other basic needs.

ECOLOGICAL ECONOMICS TYPES AND VALUES

B. Indirect economic value:

- ◆ The indirect economic value of a site or species is the economic value of those goods and services provided that are not ordinarily bought or sold (or even exchanged and do not have acknowledged economic value)
- ◆ Such goods and services are, however, critical for human well being and for the continued availability of other goods and services, which have direct economic value
- ◆ Examples would include carbon sink, climate and hydraulic regulation, seed bank, and soil and oxygen replenishment functions.

C. Option Value:

- ◆ Option value is the (notional) value, economic, cultural or scientific, that a site or a species might have in the future, but which is not yet recognized

ECOLOGICAL ECONOMICS TYPES AND VALUES

D. Socio-cultural value:

- ◆ Socio cultural value is the non-economic value that human beings attach to sites and species, as a part of sentiment, culture, aesthetics, history or religion. This is especially true of rural and forest based communities.

ECOLOGICAL ECONOMICS TYPES AND VALUES

E. Scientific value:

- ◆ The potential of a site or species to contribute to our knowledge of the world. This could include sites of long standing research value and others where new studies could prove fruitful. Eg:
Antarctica

CONSERVATION FEASIBILITY VALUES

- ◆ Given the need to priorities because of the constraints already mentioned it is important to assess the conservation feasibility of an area, in terms of how easy or difficult it is to conserve
- ◆ This involves on the one hand an assessment of the threats and pressures on the area
- ◆ On the other hand, the capabilities and institutional structures available to conserve the area
- ◆ If a choice has to be made between two areas which are otherwise of equal biodiversity and socio economic value, clearly that which is easier to conserve must be chosen
- ◆ An exception to this rule might, however need to be made in the case of an area, which, if something were not urgently done, would loose all its unique biodiversity value. In such cases, priority may be given to such an area even when it is difficult to conserve, over other areas which are easier to conserve but can well wait for a while.

CONSERVATION FEASIBILITY VALUES

Protection status

- ◆ Level of threats
- ◆ Management capability
- ◆ Size and ecological vulnerability
- ◆ The legal or social protection a site enjoys is an important factor for determining the conservation feasibility value

For Ex: National park would have greater feasibility value than a sanctuary. Sanctuary would have higher tree would have higher value than a site, which has no special conservation status. Conservation feasibility value can also be enhanced by the non-legal social of a site, like that of a sacred site.

CONSERVATION FEASIBILITY VALUES

Level of Threat:

- ◆ The level and type of human pressures that an area is subjected to is also an important criterion for determining the feasibility value

Management capability:

- ◆ The ability and willingness of the government and other Institutions, including local community institutions, to conserve the site is an important basis for determining feasibility value.

Size and ecological vulnerability:

- ◆ The damage that specific pressures can cause to a site often depends on size and ecological vulnerability of the area
- ◆ Smaller sites are often less able to absorb pressures and threats

ETHICAL VALUES

Many traditional cultures have successfully coexisted with rich flora and fauna for hundreds of years because their societal ethics encourage personal responsibility and thoughtful use of resources.

- ◆ Each species has right to exist
- ◆ All species are interdependent
- ◆ People have a responsibility to act as stewards of the earth
- ◆ People have a Duty to their neighbors
- ◆ People have a responsibility to future generations