

Ecosystem Services According to Environmentalists

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Editorial

Ecosystem services are the many and varied benefits to humans provided by the natural environment and from healthy ecosystems. Such ecosystems include, for example, agro ecosystems, forest ecosystems, grassland ecosystems and aquatic ecosystems. These ecosystems, functioning in healthy relationship, offer such things like natural pollination of crops, clean air, extreme weather mitigation, human mental and physical well-being. Collectively, these benefits are becoming known as 'ecosystem services', and are often integral to the provisioning of clean drinking water, the decomposition of wastes, and resilience and productivity of food ecosystems [1].

While scientists and environmentalists have discussed ecosystem services implicitly for decades, the Millennium Ecosystem Assessment (MA) in the early 2000s popularized this concept. There, ecosystem services are grouped into four broad categories: provisioning, such as the production of food and water; regulating, such as the control of climate and disease; supporting, such as nutrient cycles and oxygen production; and cultural, such as spiritual and recreational benefits. To help inform decision-makers, many ecosystem services are being evaluated in order to draw equivalent comparisons to human engineered infrastructure and services [2].

Definition

Per the 2006 Millennium Ecosystem Assessment (MA), ecosystem services are "the benefits people obtain from ecosystems". The MA also delineated the four categories of ecosystem services supporting, provisioning, regulating and cultural discussed below.

By 2010, there had evolved various working definitions and descriptions of ecosystem services in the literature. To prevent double counting in ecosystem services audits, for instance, The Economics of Ecosystems and Biodiversity (TEEB) replaced "Supporting Services" in the MA with "Habitat Services" and "ecosystem functions", defined as "a subset of the interactions between ecosystem structure and processes that underpin the capacity of an ecosystem to provide goods and services" [3].

Categorization

Detritivores like this dung beetle help to turn animal wastes into organic material that can be reused by primary producers. The Millennium Ecosystem Assessment report 2005 defined ecosystem services as benefits people obtain from ecosystems and distinguish four categories of ecosystem services, where the so-called supporting services are regarded as the basis for the services of the other three categories [4].

Supporting services

These include services such as nutrient cycling, primary production, soil formation, habitat provision and pollination. These services make it possible for the ecosystems to continue providing services such as food supply, flood regulation, and water purification. Slade et al outline the situation where a greater number of species would maximize more ecosystem services [5].

Provisioning services

The following services are also known as ecosystem goods:

- Food (including seafood and game), crops, wild foods, and spices
- Raw materials (including lumber, skins, fuel wood, organic matter, fodder, and fertilizer)
- Genetic resources (including crop improvement genes, and health care)
- Water purity
- Biogenic minerals
- Medicinal resources (including pharmaceuticals, chemical models, and test and assay organisms)
- Energy (hydropower, biomass fuels)
- Ornamental resources (including fashion, handicraft, jeweler, pets, worship, decoration and souvenirs like furs, feathers, ivory, orchids, butterflies, aquarium fish, shells, etc.)

Regulating services

- Carbon sequestration and climate regulation
- Predation regulates prey populations
- Waste decomposition and detoxification
- Purification of water and air
- Pest and disease control
- Flood protection

Cultural services

- Cultural (including use of nature as motif in books, film, painting, folklore, national symbols, advertising, etc.)
- Spiritual and historical (including use of nature for religious or heritage value or natural)
- Recreational experiences (including ecotourism, outdoor sports, and recreation)
- Science and education (including use of natural systems for school excursions, and scientific discovery)

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- Therapeutic (including Eco therapy, social forestry and animal assisted therapy)

As of 2012, there was a discussion as to how the concept of cultural ecosystem services could be operationalized, how landscape aesthetics, cultural heritage, outdoor recreation, and spiritual significance to define can fit into the ecosystem services approach. Who vote for models that explicitly link ecological structures and functions with cultural values and benefits? Likewise, there has been a fundamental critique of the concept of cultural ecosystem services that builds on three arguments [6]

1. Pivotal cultural values attaching to the natural/cultivated environment rely on an area's unique character that cannot be addressed by methods that use universal scientific parameters to determine ecological structures and functions.

2. If a natural/cultivated environment has symbolic meanings and cultural values the object of these values are not ecosystems but shaped phenomena like mountains, lakes, forests, and, mainly, symbolic landscapes.

3. Cultural values do result not from properties produced by ecosystems but are the product of a specific way of seeing within the given cultural framework of symbolic experience [7-10].

The Common International Classification of Ecosystem Services (CICES) is a classification scheme developed to accounting systems (like National counts etc.), in order to avoid double-counting of Supporting Services with others Provisioning and Regulating Services.

References

1. Enrique (2005) Using canopy and understory mist nets and point counts to study bird assemblages in Chaco forests.
2. Ndanganga P, Eshiamwata G, Ngari A, Kiresua E, Arinaitwe J, et al. (2009) Status Report for the Eastern Arc Mountains and Coastal forests of Kenya and Tanzania Region, 2008.
3. Werema C (2016) Seasonal variation in understory bird species diversity and abundance in the Uluguru Nature Reserve, Tanzania. *Afr J Ecol* 54: 299-307.
4. Burgess ND, Malugu I, Sumbi P, Kashindye A, Kijazi A, et al. (2017) Two decades of change in state, pressure, and conservation responses in the coastal forest biodiversity hotspot of Tanzania. *Oryx* 51: 77-86.
5. Emberton KC, Pearce TA, Kasigwa PF, Tattersfield P, Habibu Z (1997) High diversity and regional endemism in land snails of eastern Tanzania. *Biodiversity & Conservation* 6.
6. Buckland S, Elston D (1993) Empirical Models for the Spatial Distribution of Wildlife. *J Appl Ecol* 30: 478-495.
7. Burnham KP (1981) Summarizing remarks: environmental influences. *Stud Avian Biol* 6: 324-325.
8. Kangalawe (2015) Sci-Hub | Climate change and variability impacts on agricultural production and livelihood systems in Western Tanzania. *Climate and Development* 1-15.
9. Kessy JF, Nsokko E, Kaswamila A, Kimaro F (2016) Analysis of drivers and agents of deforestation and forest degradation in Masito forests, Kigoma, Tanzania. *Int J Asian Soc Sci* 6: 93-107.
10. Kumarathunge (2011) Evaluation of the plotless sampling method to estimate aboveground biomass and other stand parameters in tropical rainforests. *Appl Ecol Environ Res* 9: 425-431.