Buffer zones

DEFINITION

Areas peripheral to a specific protected area, where restrictions on resource use and special development measures are undertaken in order to enhance the conservation value of the protected area.

DESCRIPTION

Buffer zones are areas created to enhance the protection of a specific conservation area, often peripheral to it. Within buffer zones, resource use may be legally or customarily restricted, often to a lesser degree than in the adjacent protected area so as to form a transition zone. A buffer zone can also be designated as a protected area and be assigned an IUCN Management Categories depending on the conservation objective.

The technique of surrounding a protected area with other protected and non-protected areas allows for the creation of a gradient of protection around the core site. Buffer zones are therefore an important part of conservation strategies for a wide variety of sites of biodiversity importance, in particular for World Heritage sites and Man and the Biosphere Reserves. Furthermore, buffer zones have been suggested as a particularly suitable practice for climate change mitigation, as they may facilitate the shifting of populations from reserves to adjacent lands according to the climatic needs of species. [3]

The term "buffer zone" gained international prominence through UNESCO's Man and the Biosphere Programme in 1971. [1] UNESCO's Man and the Biosphere Reserves were often designed in concentric zones, with a central core area surrounded by a buffer zone and then by a transition zone. Several buffer zone definitions have been proposed emphasising either conservation or both conservation and development objectives. One of the most commonly cited definitions of buffer zones is: *"an area peripheral to a national park or equivalent reserve, where restrictions are placed upon resource use or special development measures are undertaken to enhance the conservation values of the area"* [2].

SUPPORTED BY

International Union for Conservation of Nature (IUCN), World Heritage Convention, The United Nations

Educational, Scientific and Cultural Organization (UNESCO) Man and the Biosphere (MAB) Programme.

YEAR OF CREATION

Not applicable.

COVERAGE

Not applicable.

CRITERIA

A variety of spatial patterns and arrangements for buffer zones exist, all following the same principle, but applied under completely different conditions (ecological, political, economic, etc). Hence, a wide diversity can be observed in the criteria for their creation and management. There are five aspects that are commonly considered in their creation. These are: [4]

- *Size*: determined based on factors such as the objectives for creation of buffer zone, availability of land, traditional land use systems, threats and opportunities.
- *Ecology*: buffer zones vary depending on their focus on the landscape, habitat and/or species conservation, each of which demands a different approach for their creation.
- *Economy*: this involves appraisals such as cost-benefit analysis, time frame and discount rate, to assess economic viability of establishing a buffer zone.
- *Legislation*: several international treaties and conventions (e.g. Convention on Biological Diversity, World Heritage Convention) and national level guidelines for protected areas (e.g. Nepal) recommend creation of buffer zones.
- *Social and institutional*: creation of buffer zones also involves consideration of issues such as traditional rights of local communities, type of development activities to minimize negative impacts of conservation, local organisations to manage buffer zones and land tenure.

MANAGEMENT

There are various approaches in buffer zone management depending on the type and objectives of the conservation area for which they are created. For instance, activities in the buffer zones around some protected areas or World Heritage sites are recommended to be regulated so as to protect the core zone. In UNESCO Man and the Biosphere Reserves, socio-economic development of local communities play a crucial role. A buffer zone can also be managed as an area for research to develop approaches for sustainable use of resources, for ecosystem restoration, education and training, as well as carefully designed tourism and recreation activities. The degree of legal protection to buffer zone varies. In most cases where the buffer zones are outside the protected area, they fall under the institutional control and jurisdiction of authorities other than those responsible for management of the protected area.

BUSINESS RELEVANCE

Legal and compliance – Where buffer zones are designated as protected areas they will be legally protected in their own right. Where buffer zones are not also protected areas, they may not have any legal protection, although this varies with the objective for which they were established. A few countries (e.g. Nepal, Ghana) have developed policies and legal instruments facilitating development and

implementation of buffer zone approaches. [4] The World Heritage Convention requires that any modification in the buffer zone area, subsequent to inscription of a property on the World Heritage List, should be approved by the World Heritage Committee. [5]

Biodiversity importance – Buffer zones may not be sites of active biodiversity conservation, but their establishment provides an additional layer of protection to existing areas of biodiversity importance, and they are often fundamental to achieving conservation of those areas.

Socio-cultural values – Buffer zones can be important areas for traditional practices, cultural values, rights and involvement of local/indigenous communities in protection, use and management around protected areas. For instance, among different approaches of buffer zone creation, social buffer zones use the culture and sense of identity of indigenous or other population groups, and local organisations, to form a barrier, control and monitoring system between a conservation area and its surroundings. [5]

REFERENCES & WEBSITE

1. UNESCO. MAB Biosphere reserves: The Seville Strategy & The Statutory Framework of the World Network (1996).
2. Sayer, J. A. Rainforest Buffer Zones: Guidelines for Protected Area Management. (Island Press, 1991).
3. Hansen, L. J., Biringer, J. L. & Hoffmann, J. R. Buying Time: A User's Manual for Building Resistance and Resilience to Climate Change in Natural Systems (2003).
4. Ebregt, A. & Hodgkinson, A. Buffer zones and their management: Policy and best practices for terrestrial ecosystems in developing countries. Theme Studies Series 5. Forests, Forestry and Biological Diversity Support Group (2000).
5. UNESCO World Heritage Centre. Operational Guidelines for the Implementation of the World Heritage Convention (2013).

Category:

Protected areas

Related pages

Man and the Biosphere Reserves (MAB) (Areas)

World Heritage sites (WHS) (Areas)

Tools

Protected Planet a tool for visualizing information on protected areas at the site level, country level, regional level and global level. This includes information on the IUCN category where known. Protected Planet brings together spatial data, descriptive information and images from the World Database on Protected Areas, WikipediaTM and PanaramioTM.

Integrated Biodiversity Assessment Tool (IBAT) provides a visualisation and GIS download tool for protected areas, including the IUCN category where known.

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