Man and the Biosphere Reserves (MAB)

ACRONYMS | AREAS | COUNTRIES | MARINE | TERMS

DEFINITION

A global network of sites established by countries and recognized under UNESCO's MAB Programme to promote sustainable development based on local community efforts and sound science.

DESCRIPTION

Man and the Biosphere reserves are areas of terrestrial and coastal marine ecosystems, internationally recognized under UNESCO's Man and the Biosphere Programme, which innovate and demonstrate approaches to conservation and sustainable development. Biosphere Reserves are intended to promote a balanced relationship between people and nature. They are nominated by national governments, and are recognised under UNESCO's Man and the Biosphere Programme, and remain under the sovereign jurisdiction of the States where they are situated. [1]

The Man and the Biosphere programme was formally launched in 1971 as an intergovernmental scientific initiative to improve the relationship between people and their environment, by proposing interdisciplinary research and training in natural resources management. The concept of MAB reserves originated in 1974 by a task force of UNESCO's Man and the Biosphere Programme, and the first MAB reserves were designated two years later. [2] Today, all MAB reserves form the World Network of Biosphere Reserves (WNBR) which serves three different functions:

1. Conservation - to contribute to the conservation of landscapes, ecosystems, species and genetic variation;
2. Development - to foster economic and human development which is socially, culturally and ecologically sustainable; and
3. Logistic - to provide support for research, monitoring, education and information exchange related to local, national and global issues of conservation and development.

Fundamentally, the network of MAB Reserves aims to be an international tool to develop and implement sustainable development and to contribute towards the Millennium Development Goals. Physically, each MAB reserve should contain three zones: one or more core zones which are legally protected; and clearly identified buffer and transition zones. The transition zone may be referred to as an area of co-operation. [1]

SUPPORTED BY

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

YEAR OF CREATION

1971 (launch of MAB programme). The first MAB reserves were designated in 1976.

COVERAGE

Global network of 631 marine and terrestrial sites covering 119 countries, including 14 transboundary sites (Year: 2014). [3]

CRITERIA

According to the 1995 Statutory Framework for the World Network of Biosphere Reserves, for an area to be qualified for designation as a MAB reserve it should: [4]

1. Encompass a mosaic of ecological systems representative of major biogeographic regions, including a gradation of human interventions;
2. Be of significance for biological diversity conservation;
3. Provide an opportunity to explore and demonstrate approaches to sustainable development on a regional scale;
4. Have an appropriate size to serve the three functions of biosphere reserves;
5. Include appropriate zonation of core area(s), buffer zone(s) and an outer transition area;
6. Provide organisational arrangements for the involvement and participation of a suitable range of inter alia public authorities, local communities and private interests in the design and carrying out the functions of a biosphere reserve; and
7. Make provisions for a) mechanisms to manage human use and activities in the buffer zone(s), b) a management policy or plan for the area as a biosphere reserve, c) a designated authority or mechanism to implement this policy or plan, and d) programmes for research, monitoring, education or training.

MANAGEMENT

MAB reserves are nominated for inclusion in the WNBR by national governments. [1] Some countries have enacted legislation specifically to establish MAB reserves. In many others, the core areas and buffer zones are designated (in whole or in part) as protected areas under national law. A number of biosphere reserves simultaneously encompass areas protected under other national systems (such as national parks or nature reserves) and other regional or international conventions and agreements (such as World Heritage sites or Ramsar sites). Ownership arrangements may vary. The core areas of MAB reserves are mostly public land but can be also privately owned or belong to non-governmental organizations. In many cases, the buffer zone is in private or community ownership, and this is generally the case for the transition area. These sites mainly seek to promote biodiversity conservation by combining both productive and conservation activities. For instance, testing and developing business models that can provide ecosystem services, such as improved access to clean water, carbon sequestration or minimizing carbon emissions through avoided deforestation or no-till agriculture that can preserve soil etc., are encouraged in MAB reserves. [1] Although there are a variety of different

national and local management situations, the Seville Strategy developed in 1995 provides recommendations for developing effective MAB reserves, which include guidelines at the international and national level. [4]

Regional and sub-regional collaboration in the management of MAB reserves exists in the form of transboundary reserves, twinning arrangements between two sites in different countries and thematic networks based on similar ecosystems. In accordance with the 1995 Statutory Framework for the World Network of Biosphere Reserves, all MAB reserves must be reviewed every ten years in order to assess their health, status and progress. [4] However, in practice, it has been difficult to manage this review process because of the potentially high cost of preparing review reports or lack of adequate national infrastructure. As a result reviews may be undertaken less often. [5] In theory, MAB reserves not able to meet the criteria are withdrawn from the Network.

BUSINESS RELEVANCE

Legal and compliance - For an area to be designated as a MAB reserve, its core area must be legally protected. However the Man and Biosphere Programme does not require any changes in the national laws of countries, therefore the legal protection of core zones must stem from existing national legislation. The Task Force on criteria and guidelines for the choice of establishment of MAB reserves in 1974 recommended that 'both core and buffer zones are expected to have adequate long-term legal protection'. [6] The Madrid Action Plan for Biosphere Reserves (2008-2013) [7] also has a target of 'enhanced legal recognition of biosphere reserves where appropriate'. As internationally designated places with a UNESCO label they may be attractive for green economic development and other such pro-environmental sustainable development pathways for the profit making sectors.

They have been included in a range of international safeguard standards of institutions such as the International Finance Corporation Performance Standard 6 [8] and the Inter-American Development Bank [9] where the core areas are regarded as the same as legally protected areas, as well as the Climate and Community and Biodiversity Alliance [10], as areas where biodiversity benefits can be delivered.

Biodiversity importance - While these areas are of significance for biodiversity conservation, the criteria for identification are not based on specific biodiversity values. Nonetheless, vulnerable or irreplaceable species and habitats may be present at individual sites. As site-scale areas of biodiversity importance, MAB reserves are of high relevance for business in terms of mitigating and avoiding risk from biodiversity loss and identifying opportunity associated with promoting conservation.

Socio-cultural values - One of the principal objectives of MAB reserves is to foster sustainable human and economic activities, and therefore a range of social and economic values are likely to be present within these areas. The Mission of the World Network of Biosphere Reserves aspires to sustainability not only in environmental terms but also in economic and social aspects. MAB reserves are open to experiments in developing enterprises and new business models in productive (agriculture, forestry, mining, fisheries) as well as service-oriented sectors (tourism, education, health etc.) which can minimize threats to conservation and enhance their respective socio-cultural values, with a strong focus on traditional knowledge. They aim to be learning sites for the UN Decade on Education for Sustainable Development, therefore contributing to the Millennium Development Goals.

REFERENCES & WEBSITE

1. UNESCO. Biosphere Reserves - Learning Sites for Sustainable Development. (2013).

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3. UNESCO. Directory of the World Network of Biosphere Reserves (WNBR).
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5. Price, M. F., Park, J. J. & Bouamrane, M. Reporting progress on internationally designated sites: The periodic review of biosphere reserves. Environ. Sci. Policy 13, 549–557 (2010).
6. UNESCO. Report of the Task Force on Criteria and Guidelines for the Choice and Establishment of Biosphere Reserves. UNESCO-MAB Report Series No 22. (1974).
7. UNESCO. Madrid Action Plan for Biosphere Reserves (2008-2013). 1–33 (2008).
8. International Finance Corporation (IFC). Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. (2012).
9. Inter-American Development Bank. Environment and Safeguards Compliance Policy. 22 (2006).
10. The Climate, Community and Biodiversity Alliance (CCBA). Climate, Community & Biodiversity Standards. Third Edition. (2013).



Fisherman in the Sunderbans Biosphere Reserve of the Ganges Delta, India. Rafal Cichawa/Shutterstock.com

Category:

Protected areas

Related pages

Buffer zones (Areas)

Tools

Biosphere Smart Initiative is an interactive mapping tool for biosphere reserves, where users can share a wide range of information on Biosphere reserves through a common platform.

The Integrated Biodiversity Assessment Tool (IBAT) provides a visualisation and GIS download tool for protected areas, including MAB Reserves.

Protected Planet is 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, Wikipedia TM and Panaramio TM.

Links

UNESCO's Man and the Biosphere Programme

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