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International Coordinating Council of the Man and the Biosphere (MAB) Programme

Thirty-second session

Online meeting
27th- 28th October 2020

ITEM OF THE PROVISIONAL AGENDA: Presentation of the Technical Guidelines for Biosphere Reserves

1. At its 27th session, the MAB International Coordinating Council (MAB-ICC) decided the development of Technical Guidelines for Biosphere Reserves (referred as TGBR thereafter) and entrusted the MAB Secretariat for this endeavour. The MAB Secretariat reported on the progress of the development of the TGBR since the 29th session of the MAB-ICC[1].

2. The TGBR will enable Member States and the MAB Council to respond more appropriately and timely to the various practical challenges and technical questions encountered in the implementation of the Seville Strategy and the articles of the Statutory Framework of World Network of Biosphere Reserve (WNBR). By providing critical information and clarification on the WNBR, the TGBR fosters the implementation of current - MAB strategy (2015-2025), the Lima Action Plan (2016-2025) - and future Strategies and Action Plans.

3. The TGBR will be an open access web-based living document compiling contributions and experiences from the MAB community on specific items. As the TGBR cannot answer all the possible questions and needs, it is flexible and will be periodically updated and used preferably with the TGBR support webpage, where references to discussed topics can be shared in more detail.

4. In support of the drafting process of the TGBR, the MAB Council decided to establish a TGBR-working group (TGBR-WG) to support the work of the MAB Secretariat. Member States were invited to nominate names of experts in four priority areas identified at its 29th session: 1) Zonation of biosphere reserve; 2) Governance of biosphere reserves; 3) Policy, management and business plans; 4) and Data management and monitoring.

[1] SC-17/CONF.229/13; SC-18/CONF.230/13; SC-19/CONF.231/13 rev

5. At its 30th session the MAB Council endorsed the modus operandi and road map of the working groups.

6. By November 2018, 70 experts from 33 countries had been identified, approximately representative by the number of biosphere reserves in each region with an average of 1/3 female members. Four Technical Subgroups (TSG's) in line with priority areas were established related to each priority area (zonation, governance, management and policy and monitoring). The MAB Bureau approved the final list of TSG members compiled by the MAB Secretariat as well as their respective Chair and Rapporteur. TSG's started their drafting work by theme as of January 2019.

7. Throughout the drafting process, the MAB Secretariat provided technical support as well as logistical support to facilitate communication, information sharing and virtual meetings of the TSGs. The drafting process included review of document by email and online meetings in English. France contributed to the TGBR process by seconding an intern to the MAB Secretariat from February 2019 to July 2019.

8. In conformity with the decision of the 31st MAB-ICC the MAB Secretariat worked with the TSGs to finalize the outline and prepare the content of the guidelines in order to present them to 32nd ICC. As informed during the 31st session, the MAB Secretariat recruited a consultant as of March 2020 to support the drafting of the content for TGBR.

9. The first drafts by theme were completed by the TSGs in May 2020 which were then consolidated into one single document. In order to ensure the consistency of this document the TGBR-WG, composed by the Chair and the 4 rapporteurs of the TSG's, reviewed it.

10. As per the MAB ICC's guidance, the International Advisory Committee for Biosphere Reserves (IABCR) provided comments and inputs to the draft document revised by TGBR-WG.

11. The MAB Bureau reviewed the document revised by the IABCR and approved the final draft in September 2020, after inclusion of its inputs and comments. This document will be migrated into its electronic format after the 32nd session of the MAB ICC.

12. The main issue in the current draft is the unbalanced distribution of cases studies by the regional network. However, since the TGBR is a living document, number of case studies will be increased as the MAB Secretariat identify more examples.

13. <u>The MAB-ICC is invited:</u>

<u>to examine and to take note of the final draft of the Technical Guidelines for Biosphere Reserve contained in Annex I of this document as approved by the MAB Bureau</u>

to provide guidance to the MAB Secretariat with regards to possible new items to be added to the TGBR

to encourage Member States to send relevant case studies for the 4 priority items Zonation of biosphere reserve; Governance of biosphere reserves; Policy, management and business plans; and Data management and monitoring

14. The MAB ICC request the MAB Secretariat to work with the International Advisory Committee for Biosphere Reserves to identify more case studies to be included in the TGBR support webpage.

ANNEX 1

Introduction

Background and purpose of the Technical Guidelines for Biosphere Reserves (TGBR)

1. Biosphere reserves worldwide operate according to the Statutory Framework of the World Network of Biosphere Reserves (WNBR). This key document embraces the philosophy of the Man and the Biosphere (MAB) Programme and the concept of Biosphere reserves. Its indisputable assets lie in its flexibility, as it has to deal with areas in a global context and for the near future; the foundations that it provides have proved its validity over time.

2. Since the adoption of the Statutory Framework of World Network of Biosphere Reserve (WNBR) in 1995, the WNBR has continued to grow. As the network expands, new challenges emerged and new technical and practical questions are encountered. At the same time, most global institutions are under increasing pressure to showcase quality management as regards their processes. Therefore, the "Process of excellence and enhancement of the WNBR as well as quality improvement of all members of the World Network" was introduced in 2017 by the International Coordinating Council of the MAB Programme (MAB-ICC).

3. Many newly proposed sites, as well as existing biosphere reserves during their periodic review process, faced questions that could not be clearly answered by Statutory Framework. These matters were usually related to the functions (Article 3), the criteria (Article 4), nomination of new biosphere reserves (Article 5), periodic review reports (Article 9), and management of biosphere reserves already part of the WNBR, and its regional and thematic subnetworks (Article 8). Also, the implementation of the current MAB Strategy (2015-2025) and the Lima Action Plan (2016-2025), require more detailed guidelines than those available in the Statutory Framework. This will also be the case for future Strategies and Action Plans.

4. In order to provide additional support to all stakeholders (or actors) in the MAB Programme, the MAB-ICC decided at its 27th session (2017) to develop “Technical Guidelines for Biosphere Reserves” (referred to as TGBR hereafter). The TGBR should enable Member States and other MAB stakeholders to address the various practical challenges and technical questions encountered in the implementation of the articles of the Statutory Framework, based on scientific cutting-edge knowledge, state-of-the-art practical expertise and political consensus.

5. The MAB-ICC approved the format of TGBR at its 29th session. The TGBR is an open access, web-based, living document compiling contributions and experiences from the MAB community on specific items, such as the **Nomination, revision and review of a biosphere reserve,** as well as in following priority areas: **Size and Zonation; Governance; Plans, Policies and Strategies for Biosphere Reserves; Monitoring and Evaluation in Biosphere Reserves and Networks and partnerships to support Biosphere Reserves**. It is foreseen that, over time, the TGBR will include additional themes for which guidance is required (e.g. local economic activities, templates with regard to reporting, collaboration with the private sector, participation etc.) The MAB-ICC agreed to establish thematic working groups. Their contributions are the base of this document. A significant amount of valuable

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information was also drawn from the Management Manual for UNESCO Biosphere Reserves in Africa; its preparation was supported by the German Commission for UNESCO.

6. The purpose of the TGBR is to provide elements to help implementation of articles of the Statutory Framework and subsequent Strategies and Action Plans. It is based on practical experience with the MAB Programme. As the TGBR cannot answer all the possible questions and needs, it is flexible and will be periodically updated and used preferably with the TGBR support webpage, where references to discussed topics can be shared in more detail.

7. The primary target groups of this document are the stakeholders[2] of existing BRs as well as prospective sites. The term ‘stakeholder’ is used in this document for reasons of simplicity, as the individuals and groups concerned with, and with a stake in, BRs are as diverse as the biosphere reserves (referred as BR(s) hereafter) themselves. They include all right holders at all levels of society and may have various levels of affiliation to the MAB Programme. It would be impossible to explicitly name all relevant groups here but they are in particular landowners, land users, Indigenous peoples and local communities, civil society organisations, National MAB Committees, biosphere reserve managers, governmental authorities at all levels, private companies, and intergovernmental and international organizations.

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[2] Stakeholders typically refers to both the rights holders (an array of rights and an array of holders of such rights), as well as certain interested parties who should be taken into consideration to different degrees when considering governance and decision-making.

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1. Nomination, revision and review of a biosphere reserve

8. It is important to consider several points before considering whether to prepare a proposal for a new biosphere reserve (BR) a member of the World Network of Biosphere Reserves (WNBR). These considerations follow the specificities of the MAB Programme and its biosphere reserves and indicate whether to go forward and start the process.

1.1. Considerations preceding the nomination

a) Local support and the vision

9. A biosphere reserve is a “tool” to advance the well-being of human beings and nature; it is not a “title”, it is also not an ordinary designation for nature conservation. A biosphere reserve should benefit people as well as the environment; therefore, local communities and other key actors should understand why they want a biosphere reserve, how they will utilize the biosphere reserve concept in their everyday lives, how they will benefit, and how they will eventually contribute to the goals of the MAB Programme and of UNESCO. Local communities should particularly have a say in the process, whether they want the designation for their area and in case of consent, what they want to achieve with the biosphere reserve. “Local communities” does not only refer to stakeholders such as farmers’ representatives, local politicians, chiefs etc. – “local communities” includes everybody living and working in the biosphere reserve territory. The creation of a biosphere reserve is sometimes done through a top-down process, but preferably should be bottom-up. In some cases, a combination of top-down and bottom-up approaches is needed in order to secure buy-in from a very wide range of institutions, as well as to create opportunities for sustainability innovation in terms of biosphere reserve governance. The overall goal is to address the crucial need for an approved biosphere reserve vision, collaboratively drafted and supported by all stakeholders.

b) Location

10. Biosphere reserves are areas of special recognition and (at least partially) subject to some forms of legal protection. However, the legally protected areas within a biosphere reserve should not dominate the territory and should definitely not be identical with the biosphere reserve, as the goals, activities and mission of biosphere reserves are different and go beyond those from regular protected areas (e.g. IUCN Categories I to IV). The area and location need to allow for the implementation of all three functions of biosphere reserves (see below, under Activities). Having a biosphere reserve area that is (considerably) larger than the protected areas – and includes places where people live, sometimes in urban centres – will also avoid confusion amongst various protection statuses and the biosphere reserve.

11. A biosphere reserve needs to be “representative of their biogeographic region and of significance for biodiversity”: representativity does not necessarily mean that the region is an “outstanding” natural or cultural landscape, as in the World Heritage Convention. The criterion of representativity aims to avoid biosphere reserves that are too similar in the WNBR, and in turn, to ensure that the WNBR represents all biogeographic regions of the world. Still, biosphere reserve needs to be important or “significant” sites, based on their biodiversity value – such value must be present at least in the core area(s). Therefore, both representativity and

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biodiversity significance are starting points for the work of a biosphere reserve that decide whether it can be designated by UNESCO. It is possible that, when the core area includes significant biodiversity, the landscapes of the other zones are “ordinary” – yet they will be a focus of the work of the biosphere reserve in order to make a positive difference, focusing on specific on-site challenges and their solutions in a sustainable and participative manner, and becoming a learning site for sustainable development of progress and a model for others with great impact potential.

c) Governance

12. The biosphere reserve governance structure should be effective, efficient, and wherever possible, flexible, democratic and inclusive of the various stakeholders (communities, entrepreneurs, governmental authorities, NGOs, universities, schools etc.). The structure should guarantee their share in biosphere reserve decision-making processes, equal position in management and even distribution of governance powers across the biosphere reserve. If the conditions allow, all biosphere reserve governance participants should be equal in their voice, regardless their position in the society.

d) Funding

13. Any biosphere reserve needs funding in order to be effective as a sustainable development organization. The financial sources should preferably be diverse and ensure a core budget that will be reliable in the long term, and identified already be during the nomination process. The long-term future of a biosphere reserve should be safeguarded through core funding, which should guarantee the salary of full-time professionals as well as funding for critical meetings, especially those to ensure involvement of stakeholders. Projects as well as core funding can be funded, at least in part, through a mix of support from participating stakeholders, tourism levies, marketing, international and local partners, governmental support as mentioned in Lima Action Plan (e.g. Goal A5, Action A5.3) and sometimes international sources (e.g., EU funding, bilateral aid etc.)

e) Activities

14. Biosphere reserves are focused on balancing nature conservation with sustainable development for and with communities. They must fulfil three basic, equal and mutually complementary functions (Conservation, Development and Logistical Support).

15. Biosphere reserve management should address stakeholder needs while fulfilling all three basic functions. Such management needs to be laid down in a management plan with relevant activities. It is not necessary to have a full-scale management plan as part of the nomination dossier when it is submitted to the MAB Secretariat. However, it is highly desirable to have already at least a simple draft of a management plan or policy available, to demonstrate clearly the site’s vision and mission.

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1.2. Biosphere reserves as learning sites for sustainable development: 3 integrated functions (Article 3, Statutory Framework)

16. All biosphere reserves must fulfil three basic, equal and mutually complementary functions:
(1) Conservation - conservation of natural and bio-cultural diversity
(2) Development - support of sustainable economic and social development and cultural diversity
(3) Logistic support - support and promotion of model projects, training and education for sustainable development, research and monitoring linked to nature conservation and sustainable development at the local level, while taking into account national and global scales as well.

17. All three biosphere reserve functions must be fulfilled equally. Favouring only some of the functions will risk a successful nomination or periodic review (decennial quality control measure) by UNESCO, and also usually leads to significantly reduced performance and subsequent unequal impact of biosphere reserve activities. For example, if a biosphere reserve focuses primarily on biodiversity conservation, it lacks the added value that the MAB Programme and biosphere reserve designation has to offer – to the detriment of local communities and the planet at large, for that reason, having clear and preferably quantitative goals, enables for analysis, of biosphere reserve performances through time.

18. It is vital to maintain a broad understanding of the functions and exercise flexibility in planned actions. In terms of conservation, it is also very important to focus not only on biodiversity conservation but also to include bio-cultural diversity. Support of sustainable development is the key significant distinction between biosphere reserves and other designations or forms of protected areas. Similarly, logistic support is not only the third function, but plays a specific role in the integration of the three functions. It acts as a base and backup for conservation and development functions. As far as possible, all biosphere reserve activities should be based on carefully adapted and best possible scientific evidence. If the science is complemented by local or traditional knowledge, or vice versa, the outcomes gain feasibility. The utilization of local knowledge is also mentioned in the Lima Action Plan (e.g. Goal B.7). For addressing the logistic functions, most biosphere reserves do not have their own scientific teams, but most biosphere reserves collaborate with various institutions with regard to research and other activities such as education, training, communication, etc. Monitoring also plays a vital role in fulfilling of the logistic function as the knowledge gained through the process is the ground for real state of the site assessment (important also for Periodic Reviewing) and sound management decision-making and sharing the data improves the impact of biosphere reserves on larger scale.

1.3. How to nominate a Biosphere Reserve?

19. The biosphere reserve nomination can start as a bottom-up, top-down or a combination of both processes. The local stakeholders should get in contact with the national MAB representatives – usually the MAB National Committee, to discuss the potential for a biosphere reserve in a respective area. In countries still lacking a MAB National Committee, the relevant information can be conveyed by the MAB Focal Points, National Commission for UNESCO or national nature conservation authority (https://www.unesco.de/sites/default/files/2019-12/Policy_brief_1_MAB_2019.pdf). Existing biosphere reserves inside or outside the country

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can also be great source of information for sound decision-making in terms of biosphere reserve nomination. The decision to proceed towards nomination should be based on agreement between local stakeholders and appropriate governmental authorities.

20. Case study: **Participatory process for the nomination of Savegre Biosphere Reserve, Costa Rica**

20a. In 2011, the idea of a participatory management of the Savegre River basin was born, seeking a long-term mechanism that would allow the sustainable management of the basin's natural resources without limiting in any way the daily lives of the local inhabitants.

20b. From that moment on, work was done to obtain, in 2017, the biosphere reserve nomination. This included all the watersheds that influenced the Manuel Antonio National Park, always maintaining the focus on the Savegre watershed that reflected the connectivity between mountains, water resources and communities.

20c. This was possible thanks to a participatory process led by a small NGO and local actors which included a series of activities such as multi-sector workshops, focus groups, technical meetings and follow-up to the process; as well as hearings with key actors such as local communities, organised groups and municipalities in the different sectors of the biosphere reserve.

20d. At the central government level, the support of all the deputies of the Legislative Assembly of the Republic was achieved. The nomination was also endorsed and supported by the Executive Directorate of the National System of Conservation Areas of the Ministry of Environment and Energy, with the Regional Councils of Conservation Areas and the Agricultural Services Agency of the area.

20e. Presentations were made on the proposal in the ordinary sessions of the Municipal Councils of the cantons involved, issuing municipal agreements in support of the proposal. In addition, a process of citizen consultation and regional and sub-regional workshops were organised to clarify concerns relevant to the declaration in the communities.

20f. The National Ecotourism Network Cooprena R.L. of the Institute for Cooperative Development (INFOCOOP) held seminars on "Strengthening the cooperative sector through the impact of a Biosphere Reserve Declaration". Presentations and discussions on the proposal were held with the Local Councils of the Biological Corridors.

20g. At the community level, different groups, women's associations, agro-industrial associations, Integral Development associations, agro-ecotourism associations and people from the different communities provided support.

20h. All workshops and consultations in the process were open invitation and a great effort was made to include as many participants as possible.

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1.4. How to initiate a nomination?

21. After a research project, scientists sometimes propose a new biosphere reserve. In other cases, this is done by a national authority, a community association, or others. The nomination file has to be officially submitted to UNESCO by the relevant national government authority (see section 1.5).

22. In some countries (e.g., Norway, Sweden, UK), after initial discussions, an initial concept is presented to the MAB national committee. If this is accepted, the area can be referred to as a candidate biosphere reserve, which helps to build local support and visibility.

23. The nomination process should start with raising awareness about the MAB Programme and biosphere reserves at all levels. According to the local conditions, the MAB national authorities and/or knowledgeable stakeholder groups or individuals can take up these awareness-raising activities. Well-informed stakeholders will be able to decide whether the biosphere reserve will help them, or the groups they represent, in achieving sustainable lifestyles and becoming a model for others. In another case, if governmental authorities see possibilities for the establishment of a biosphere reserve and are able to obtain support of local stakeholder groups, the new nomination can be an outcome of such activities. In addition, establishment of a committee for reviewing the nomination in each country can be a feasible mechanism.

24. The key issue in this preliminary stage is also to ensure that the area where a biosphere reserve is being considered includes legally protected areas that could be considered as core area with provided buffering.

25. If the area in discussion fulfils the basic criteria of a biosphere reserve and unchallenged agreement on moving ahead towards a proposal is reached, between the stakeholder groups and governmental authorities, the preparation process for nomination commences. The nomination dossier should be prepared in a participative manner, including all stakeholders and to the extent possible the communities themselves in their entirety. The completed nomination forms, with all necessary supporting documents, are submitted to the MAB Secretariat. The Member States submit the nominations files through their respective Permanent Delegation to UNESCO and/or their UNESCO National Commision.

1.5. How to prepare a nomination file?

26. The nomination file should be prepared using a participatory approach. The preparation process should have a coordinating group or at least a coordinating person, familiar with the MAB Programme, its requirements and procedures. Such a coordination structure often presents a basis for the future management entity of the biosphere reserve. The involvement of representatives of the key stakeholder groups, or a single person appointed and accepted by such groups, speeds up the process and adds to the feasibility of the results. A feasibility study and/or a wide consultation process that can provide much useful information sometimes precedes the nomination process and data for the nomination file itself. Visits of key stakeholders to existing biosphere reserves are also very important and valuable. The coordinating group/person should collect the required data, discuss and agree on the drafts of documents, and complete the nomination file for the final approval of all stakeholders. Once the nomination file meets all the requirements and has consent from all key stakeholders,

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including signatures, it can be officially submitted to the MAB Secretariat. The deadline for new submissions is on 30th of September each year.

27. The nomination file needs to use the official form available on the MAB website. All questions should be answered and all annexes should be included. When describing technical issues e.g. zonation, the official MAB terminology needs to be used (http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/images/biosphere_reserve_nomination_form_2013_en.pdf)

28. The form should be completed in English, French or Spanish. Two copies should be sent to the MAB Secretariat, as follows:

    1. The original hard copy, with the original signatures, letters of endorsement, zonation map and supporting documents. This should be sent to the Secretariat through the Official UNESCO channels, i.e. via the National Commission for UNESCO and/or the Permanent Delegation to UNESCO;

    2. An electronic version (CD, via electronic transfer etc.) of the nomination forms and of maps (especially the zonation map). This can be sent directly to the MAB Secretariat with possible copy to Permanent Delegation to UNESCO and UNESCO National Commission.

29. Some countries have developed a national preparatory process and schedule for biosphere reserve nomination (e.g. Republic of Korea) while others follow less formal preparation procedures during which all the necessary requirements (nomination form, endorsements, supporting data etc.) must be met.

30. Case study: **Nomination process in Voxnadalen Biosphere Reserve, Sweden**

    30a. For over twenty years, Ovanåker Municipality, together with relevant property owners and Gävleborg County Administrative Board, has run a variety of projects in the fields of nature and heritage conservation and rural development. The projects came to the attention of the Swedish Biodiversity Centre (CBM) at the Swedish University of Agricultural Sciences. The discussions between Ovanåker Municipality, the CBM, the Swedish Environmental Protection Agency and Gävleborg Summer Farm Association led to the idea of establishing a biosphere reserve.

    30b. Two separate preliminary studies were conducted to investigate the potential for establishing a biosphere reserve in parts of the Municipality. Alongside the second preliminary study, the Municipality conducted a detailed landscape analysis of the Sässman area. The analysis was carried out in partnership with the relevant farmers and landowners and was also important for building support during the preliminary study itself. For example, meetings and field visits were arranged with the relevant players, and guided field visits for members of the public. The biosphere reserve plans and the landscape analysis were presented at two public meetings and to Gävleborg County Administrative Board. At this stage, the proposal was still for the biosphere reserve to incorporate parts of Ovanåker Municipality only. Following approval from the Biosphere Programme Sweden, the official candidacy process began in 2014.

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30c. The consultation process was subsequently used to prepare the application for biosphere reserve status (Biosphere Candidate Voxnadalen project 2014 - 2019). The project was run by Ovanåker Municipality. A Steering Group was set up at the start of the official candidacy process to support and lead the work of preparing an application for biosphere reserve status.

30d. Alongside the Steering Group, a Working Group was tasked with writing the application and raising awareness of the proposed biosphere reserve. The Working Group comprised a Coordinator and other officers from Ovanåker, Ljusdal and Bollnäs municipalities. The biosphere reserve *was designated by UNESCO in 2019.*

1.6. What is the Designation Procedure? (Article 5, Statutory Framework)

31. The States, through National MAB Committee (where available), forward nomination files with supporting documentation to the UNESCO Secretariat, through the Permanent Delegation to UNESCO of the respective Member State. If a MAB National Committee is not established yet, the nomination documents can be presented by the National Commission for UNESCO through the Permanent Delegation to UNESCO of the respective Member State.

32. The UNESCO Secretariat verifies the content and supporting documentation and requests any missing information from the nominating Member State in the case of incomplete nomination forms. The International Advisory Committee for Biosphere reserves then considers the nomination for recommendation to the MAB-ICC. The MAB-ICC takes a decision on nominations for designation. The Director-General of UNESCO notifies the State concerned of the decision.

Preparatory process	→	**Submission of the nomination** Usual deadline is the 30th of September of the year N.	→	**Examination by the IACBR-recommendations** Approx. 1 month year N+1. The meeting is held once a year (Jan, Feb).	→	**Review by the Bureau of MAB-ICC** The meeting for the nomination is held before MAB ICC meeting.	→	**Endorsement of the nominations by MAB-ICC** The meeting is held once a year (May, June, July) N+1
			Approx. 3 months period for additional inputs if requested		Approx. 2-3 months period for additional inputs if requested			

33. The time frame may be changed due to unexpected circumstances.

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1.7. How to nominate a Transboundary Biosphere Reserve?

34. Transboundary Biosphere Reserves (TBRs) and the processes of their nomination and periodic review are based on the recommendations of the Pamplona conference in 2000 (hereafter, Pamplona recommendations).

35. TBRs provide tools for the common management of a shared ecosystem. TBRs also represent the commitment of two or more countries to engage in ecosystem approach, for conservation of biodiversity and sustainable use of natural resources.

36. The process leading towards the official designation of a TBR can include many forms of cooperation and co-ordination between the existing protected areas and authorities on either side of a border.

37. The nomination process can be implemented in two ways. In both cases, the ultimate aim should be to have one integrated, functional biosphere reserve:

    a) A TBR can be established as two or more separate biosphere reserves in individual countries, before being designated as a TBR.

    b) A TBR can be established jointly by the countries concerned in one step. This might be helpful where there are already joint activities, or even operation as one site.

38. During the nomination process, the following concerns should be addressed:
    • the zonation should be defined in line with general criteria for the designation of biosphere reserves;
    • local and national partners should be identified, and a joint working/coordination group established, to define the basis and identify key issues for co-operation;
    • a joint management structure should be identified with clear mandates;
    • governmental authorities in both (or all) countries should sign an official agreement regarding the TBR;
    • a decision must be made as to whether the various parts, i.e. on either side of a border, will be nominated by the respective State authorities in each country; or the concerned State authorities in both/all countries will submit a joint nomination;
    • an indication of the main components of a plan for the future co-operation has to be provided.

39. It should be kept in mind that, although the biosphere reserve concept provides a general framework for action in a transboundary location, real-world situations vary very much across the world, and flexibility is needed even more than in a single national context.

40. Case study: **The „W“ Region Transboundary Biosphere Reserve, Benin, Burkina Faso and Niger**

    40a. *The 'W' Region Biosphere Reserve is the first transboundary biosphere reserve in Africa. The Niger component of the 'W' complex was designated a biosphere reserve in 1996. After a long process of study and consultation, and strong support from the concerned national authorities, the reserve was extended to Burkina Faso and Benin*

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in 2002. The 'W' Region Transboundary Biosphere Reserve takes its name from the double bend of the Niger River and today covers more than 3 million hectares.

40b. The biosphere reserve straddles the borders of the Sudano-Guinean, Sudanese and Sahel biogeographic regions and is home to a wide and varied biodiversity. The 'W' Region also constitutes a barrier against the advance of desertification from the north. The area hosts one of the largest populations of ungulates in West Africa and also comprises wetlands of international importance recognized under the Ramsar Convention. People have occupied the area since the Neolithic period, and have contributed to the development of the present landscape. Wild plant species continue to play an important role in traditional land use and agriculture. For all these reasons, parts of the biosphere reserve (the core areas) are inscribed on the World Heritage List.

41. The Pamplona Recommendations propose the establishment of a working group of local and national partners "to define the basis and identify key issues for cooperation". This working group should be the basis for a *joint coordination structure* which might be called a "bilateral commission" or "joint steering committee" if there are more than two countries involved. This necessary structure should include representatives of the different management teams, management boards and advisory boards, as well as authorities in charge of the protected areas, representatives of local communities and other stakeholders of the biosphere reserve. This joint coordination structure should meet regularly and might be complemented by ad-hoc thematic working groups. It is strongly suggested to establish a permanent joint secretariat for this structure and a separate budget for its operation.

42. A signed official government agreement is required as a basis for the TBR and for the nomination document. This should also provide the legitimacy for the joint coordination structure and describe its mandate and tasks. This government agreement should also make provisions encouraging the different authorities and management teams to exchange across the border all data and information necessary for successful management and governance. In order to be fully valid, it might be necessary to "ratify" this international agreement so that it is fully legally valid in national law. If no "ratification" is foreseen, great care is needed to ensure that the international agreement is fully in line with all national legal provisions.

43. In almost all cases of existing TBRs, each country maintains its own separate governance structure for its national part of the TBR. It is very important that each of these teams designates one person as a focal point for co-operation. In addition, joint staff teams can be set up for specific tasks. The regular means of communication (e.g. by electronic mail or telephone conferences, and face-to-face meetings) should also be defined and implemented.

44. Joint field activities are really important to promote joint conceptual approaches, share experience, and promote trust and cooperation. Especially suitable for such activities are joint education and capacity building programmes, since through awareness-raising the educators understand themselves better, including agreements and disagreements. Joint activities may include research, land-use planning, tourism destination marketing, and border control.

45. The transboundary biosphere reserves can connect not only countries, but also continents.

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46. Case study**: The Intercontinental Biosphere Reserve of the Mediterranean (IBRM), Morocco/ Spain**

46a. This first intercontinental biosphere reserve worldwide has been designated by UNESCO in 2006. On both sides of the Strait of Gibraltar, both in Andalusia, Spain, and in Morocco, there is a great richness in terms of ecosystems. The transboundary site has in particular high significance for migratory birds, of which there are 117 species. In both countries, conservation efforts had already been initiated long before the establishment of the biosphere reserve; this is why national parks in both countries are integrated as core areas.

46b. The biosphere reserve integrates conservation traditions and approaches from both sides, but also addresses the diversity of traditional lifestyles and artistic expressions through exchange and cooperation projects. In this way, historic relations are re-established and institutionalized and cultural similarities re-discovered. A focal element of concern and of cooperation is also freshwater – both its integrated management for irrigation and its significance for ecosystems, to prevent desertification. Freshwater in its different manifestation is considered as an element of shared local identity in the biosphere reserve – the biosphere reserve being considered itself as a water reservoir in between the Sahara and the Iberian Peninsula which itself struggles with desertification. Water is the perfect-shared denominator for the biosphere reserve, since it links nature with culture and socio-economic factors.

46.c However, the most outstanding feature of this biosphere reserve is its willingness to promote a sustainable development model in a framework of institutional collaboration. This will have been materialized in the IBRM Action Plan that began to be implemented after its designation and that works in four directions: the three functions of biosphere reserves and its specificities as an intercontinental reserve: the strengthening of the reserve, the promotion of sustainable development, the improvement of environmental conditions and governance.

46d. This visionary context has proven to be very helpful to inspire dialogue and exchange of experiences among the neighbours. Communities are also involved in training, management and the monitoring of the reserve. The biosphere reserve has a multi-tiered governance level on both sides as well as a hierarchy of committees that organize the collaboration across the Strait of Gibraltar.

1.8. What about multi-designated sites?

47. Multiple designations of a site both as a biosphere reserve and as one or more other international designations (Ramsar site, World Heritage Site, UNESCO Global Geopark etc.) generally do not present any real obstacle in terms of biosphere reserve functions. Some difficulties could occur due to different management regimes and the different goals and objectives of the relevant international designations. However, these situations can be resolved by negotiations or even eliminated before they appear, if appropriately addressed during the nomination process. Collaborative adaptive management can be a good way of dealing with various management aspects within the biosphere reserve entity – i.e. different administrations responsible for the different designations.

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Designation	Objectives	
Biosphere Reserve	Fostering of harmonious integration of people and nature for sustainable development through participatory dialogue, knowledge sharing, poverty reduction, human well-being improvements, respect for cultural values and by improving society's ability to cope with climate change. It represents a unique tool for international cooperation through the exchange of experiences and know-how, capacity-building and the promotion of best practices	https://en.unesco.org/mab/about
World Heritage Site	International recognition of sites that have cultural, historical, scientific or other form of international significance and outstanding universal value.	http://whc.unesco.org/
UNESCO Global Geopark	Promotion and conservation of the planet's geological heritage, as well as encouragement for sustainable research and development by the concerned communities	http://www.unesco.org/new/en/natural-sciences/environment/earth-sciences/unesco-global-geoparks/
Ramsar Site	Provision for national action and international cooperation regarding the conservation of wetlands of international importance (especially those providing waterfowl habitat), and wise sustainable use of their resources.	https://rsis.ramsar.org/about

48. Usually the presence of other designations can help to emphasize the synergetic effect of the biosphere reserve and raise awareness among various groups on the importance of diversity. Many official MAB documents, including strategies, encourage and advice on site cooperation with similar UNESCO programmes or comparable networks and initiatives outside the UN structures. Multi-designation provides opportunities to follow these recommendations.

1.9. How to extend an existing Biosphere Reserve?

49. An existing biosphere reserve can be extended at any time, if the procedural conditions are met. Proposals for extension follow the same procedure as for new designations, or can be included within the Periodic Review of a biosphere reserve.

50. The Advisory Committee discussed in the past, simplified procedures for extension in cases where current core areas remain the same. However, no change in procedure has been approved yet.

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51. Case study**: Extension of Cibodas Biosphere Reserve, Indonesia**

51a. Cibodas Biosphere Reserve, located in the Indonesian province of West Java, was first designated in 1977 and extended in 2012. This reserve is an example of an ecosystem situated in the humid tropics facing intense pressure from human habitation. The Gunung Gede Pangrango National Park constitutes the reserve's core area, which encompasses two volcanoes (Mount Gede and Mount Pangrango) and mountain rainforests that are home to many species endemic to the island of Java. Mt. Gede and Mt. Pangrango have both become significant sites for the region's conservation and biological and ecological research, especially with regards to botanical studies.

51b. Cibodas was extended in 2012, bringing the total area of the site to 167,000 hectares and featuring a new zonation. The transition zone was reduced from 80,104 ha to 54,800 ha, with part of this area becoming integrated into the buffer zone and core area of the reserve. The core area was expanded to 22,851 ha through inclusion of a nature reserve (373,25 ha) and the Telaga Warna Nature Recreational Park (5 ha) as well as the Jember Nature Park (50 ha). The buffer zone was expanded to include land dominated by estate crop plantations and local community plantations.

51c. Prior to its extension in 2012, the national park authorities solely managed Cibodas Biosphere Reserve. With the expansion in 2012, however, management authority was transferred to the newly established Cibodas Biosphere Reserve Forum, which was formed in accordance with a 2010 decree issued by the West Java Governor. Forum members include officials from the national government as well as provincial and local governments, together with representatives from universities, NGOs and local community groups. Implementation Cibodas Biosphere Reserve Forum is undertaken with guidance provided by the Indonesian National MAB Committee.

1.10. How to rename a Biosphere Reserve?

52. A biosphere reserve can be renamed upon request from the organization responsible for a biosphere reserve. The request should be completed in English, French or Spanish and sent to the MAB Secretariat through the Official UNESCO channels, i.e. via the National Commission for UNESCO and/or the Permanent Delegation to UNESCO.

53. The documents should include the main reasons why the new name is requested, as well as consent of biosphere reserve stakeholders and the Member State authorities to the name change. The MAB Secretariat verifies the content and supporting documentation and requests any missing information from the proposing Member State if necessary. The proposal is then considered by the Advisory Committee for Biosphere Reserves for recommendation to the MAB-ICC, which makes the decision on the change of name.

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1.11. Review of Biosphere Reserve

54. The status of each biosphere reserve is subject to a periodic review every ten years on the basis of the criteria of Article 4 of Statutory Framework of the WNBR. A report is prepared by the concerned authority, and forwarded to the MAB Secretariat by the State concerned. The Periodic Review process is dedicated part of the section 5 of the TGBR.

55. Besides this compulsory review, other, more frequent reviews should be used as a site-management tool as part of an ongoing process. These reviews are usually performed by the biosphere reserve management unit and provide an inter alia, performance assessment and an understanding of the condition of the site and the awareness of stakeholders as a basis for adopting relevant management measures and sound decision-making. Some countries introduced “mid-term reviews” that monitor the biosphere reserve performance at the national level every five years.

1.12. How to voluntarily withdraw a Biosphere Reserve (Article 9, Statutory Framework)?

56. Over time, the concept of biosphere reserves has evolved, and some biosphere reserves, designated long time before adoption of the Seville Strategy, do not fit the criteria in the Statutory Framework of the World Network of Biosphere reserve (Statutory Framework thereafter), particularly with regard to zonation and/or the involvement of local communities. In some cases, local communities or other stakeholders, or the authorities responsible for managing the biosphere reserve, may decide that they no longer want their area to remain a biosphere reserve. These situations typically occur during a periodic review process.

57. In other cases, a periodic review report is submitted, and the International Advisory Committee, after examining the Periodic Review Report, recognizes that the biosphere reserve does not fulfil the criteria in the Statutory Framework. In such cases, the Committee points out the weaknesses and proposes and requests necessary actions to remedy the situation. If these requests are not or cannot be met, the Committee can recommend voluntary withdrawal.

58. The reasons for voluntary withdrawal can include inability to ensure balanced fulfilment of the three functions of the biosphere reserve (e.g. favouring nature conservation), failure to establish adequate zonation, incapability to guarantee proper stakeholder participation in the biosphere reserve coordination and management or change of priorities in particular site etc.

59. The procedure of voluntary withdrawal is done in the form of simple announcement submitted by the officials of the respective Member State to the MAB Secretariat. Which inform the MAB--ICC, which take note. The document should include reasons for the action, and evidence of consent from the biosphere reserve stakeholders.

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60. Case study**: Voluntary withdrawal of the Untere Lobau Biosphere Reserve, Austria**

60a. The commitment of Austrian MAB National Committee to strengthening the quality of biosphere reserves in Austria led to the evaluation process of Austrian biosphere reserves and their standing within the World Network of Biosphere Reserves.

60b. The Untere Lobau BR was established in 1977 as a result of the initiative of researchers, who tried to maintain an internationally relevant research site for nature protection at this particular section of the Danube River. In 1996, the area became part of the "Donau-Auen National Park". Furthermore, the area is protected according to Ramsar Convention and Natura 2000 EU protection status. For many years the special ecological importance of the area triggered numerous research projects on water fauna, bird life, forest vegetation and visitor management. Despite its importance, the criteria of the Statutory Framework of WNBR have not been implemented in this "first generation" (pre-Seville) BR.

60c. The Austrian MAB National Committee published "National Criteria for BRs in Austria" in 2006 and granted a five-year transition period for such non-compatible sites to be transformed into modern style biosphere reserves. As a result, the National Committee started to discuss re-zonation strategies with the Authorities of the City of Vienna, who were in charge of the BR.

60d. However, after comprehensive discussions it turned out that the stakeholders clearly prioritize the nature protection provided through the existing IUCN Category II National park. In consequence, the process of transition in order to meet the criteria of the Statutory Framework stopped as requested by the Authorities of the City of Vienna.

60e. Following reviews and the consultation with stakeholders and local authorities, it was clear that this BR will not meet the criteria for BR accreditation as the stakeholders preferred the National park status. The Austrian MAB National Committee obeyed their decision and in 2016 recommended the voluntary withdrawal of the Untere Lobau BR from the World Network of Biosphere Reserves.

61. If there is a stakeholder will and strong reason for continuation of the work as a biosphere reserve, after the site has been withdrawn from the WNBR, it is possible to propose a new nomination after necessary improvements were made and the criteria are met.

References:

Schaaf, T. and Clamote Rodrigues, D. (2016). Managing MIDAs: Harmonising the management of Multi-Internationally Designated Areas: Ramsar Sites, World Heritage sites, Biosphere Reserves and UNESCO Global Geoparks. Gland, Switzerland: IUCN. xvi + 140 pp.) https://www.iucn.org/content/managing-midas-harmonising-management-multi-internationally-designated-areas.

Seville +5; International Meeting of Experts on the Implementation of the Seville Strategy for Biosphere Reserves, Pamplona, Spain, 23-27 October 2000; proceedings https://unesdoc.unesco.org/ark:/48223/pf0000123605?posInSet=4&queryId=f54d1923-0188-461d-b765-be6a9dd3978e

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2. Size and Zonation

62. According to the Statutory Framework, a potential biosphere reserve should encompass ***"a mosaic of ecological systems representative of major biogeographic regions, including a gradation of human interventions. It should be of significance for biological diversity conservation. It should also provide an opportunity to explore and demonstrate approaches for sustainable development on a regional scale"*** (Article 4. paragraphs 1, 2, 3).

63. Each biosphere reserve contains various types of ecosystems such as natural ecosystems found in conservation areas and bio-cultural ecosystems found in production areas, residential areas, and industrial estates, and may be located on land, or in the sea. Each landscape or seascape ecosystem has distinctive biophysical characteristics that differentiate it from other, thus management needs different approaches in accordance with the characteristics, functions and uses. The zoning system for the area of a biosphere reserve is a classification system which defines areas based on their designation, spatial system, regional status and functions; ecological, biophysical, and administrative characteristics; and sometimes also societal aspects of the area, associated with area development facilities. In biosphere reserves as "learning sites", the zonation also helps stakeholders to learn about and practice nature conservation, sustainable development, and provides an opportunity to contribute to fulfillment of the sustainable development objectives.

2.1. Size

64. There is no global recommendation for the minimum or maximum size of a biosphere reserve. In terms of size, the Statutory Framework (Article 4) only states that "**the site should have an appropriate size to serve the three functions of biosphere reserves**". This statement sets the extent very liberally, presenting an opportunity to apply the recommendation worldwide while considering diverse environmental and geo-political conditions. However, the nomination should be very clear in its justification that the proposed area is capable of fulfilling all three biosphere reserve functions and meeting the criteria.

65. The diversity in size of sites is as great as the biosphere reserves themselves. The smallest is Samba Dia Biosphere Reserve, Senegal with 764 ha, while the largest is Mata Atlântica Biosphere Reserve, Brazil with 89.686.749 ha (as of 2020).

2.1.1. How to determine if a biosphere reserve has the appropriate size to serve the three functions? (Statutory Framework, Article 4, paragraph 4)

66. Determining whether the biosphere reserve has an appropriate size is not a simple task. There are a few very basic guidelines that might help to propose the adequate size of the site:

a) the area usually includes protected or similar specially/legally designated areas, contractual protection area and non-protected territory in order to meet the zonation criteria,
b) cultural or historical background should be considered, in particular, in terms of "regional identity", which encourage acceptance by inhabitants and their willingness to contribute to sustainable development (SD);

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c) when determining the size, it is useful to consider the landscape approach (watershed protection, the main flows that provide essential services, migration routes, larvae dispersion pathways etc.),
d) the area should be large enough to generate some value (monetary, cultural, ecosystem services, scientific data etc.) and also to examine the effect of ongoing climate change; which help for a sustainable management plan,
e) the area must host a human population, large enough to study human-nature interaction;
f) the area must be large enough to make a difference through its potential to contribute to problem-solving processes;
g) the extent of the area should also consider the given or proposed governance system for the biosphere reserve;
h) wherever there is an opportunity for creation of TBR in the future, this fact should be considered'

67. Case study**: Utwe Biosphere Reserve, Federated States of Micronesia**

67a. Along with Ngaremeduu in Palau and And Atoll in the neighbouring state of Pohnpei, the recognition of Utwe as a Biosphere Reserve in 2005 broke new ground in terms of its small size (1,773 hectares) and associated spatial organization, as well as its origin in a local community movement. Utwe is located on the island of Kosrae in the central Pacific Ocean, one of the four states of the Federated States of Micronesia. The site comprises marine areas, mangroves, upland tropical forest as well as the Utwe community itself. Management arrangements and spatial organization are devised, implemented and monitored by community authorities supported by a local non-government entity, the Kosrae Conservation and Safety Organization.

67b. While Utwe ranks among the world's smaller Biosphere Reserves, its size and close association with the local community has allowed for the integration of Biosphere Reserve planning and development with that of the community as a whole.

67c. While Utwe's zonation follows a classical concentric pattern with the core area at the centre of the Biosphere Reserve, it is set apart by its small size and by the close proximity of the population centre of Utwe to its core area. It was defined with the specific objective of establishing and maintaining a locally protected area that in turn would help minimize and eventually completely halt illegal fishing and associated practices in Utwe's marine areas.

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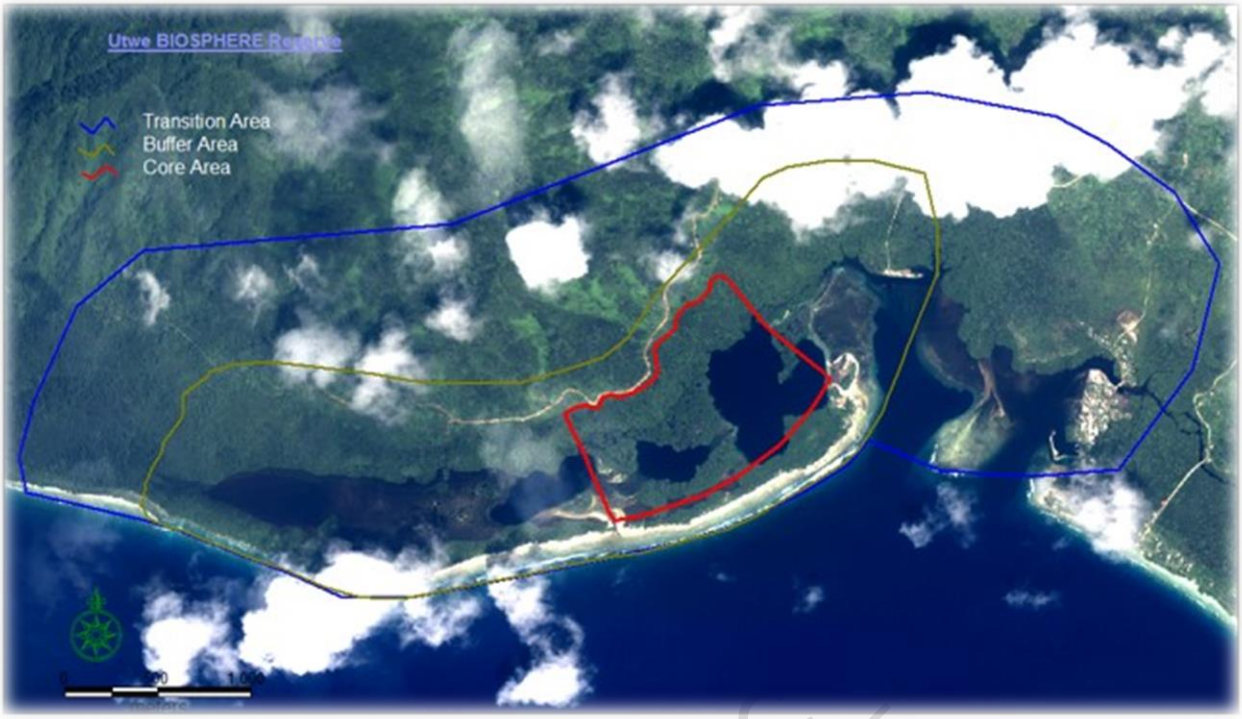

2.2. Zonation (Statutory Framework, Article 4, paragraph 5)

68. The Statutory Framework has a very brief description of zonation, giving sufficient flexibility for biosphere reserves worldwide. A biosphere reserve must have three zones:

a) **a legally constituted core area or areas devoted to long-term protection of biodiversity, according to the conservation objectives of the biosphere reserve, and of sufficient size to meet these objectives**; they provide information about ecosystem functions and processes

b) **a buffer zone or zones clearly identified as fulfilling buffering functions, and surrounding or contiguous to the core area or areas, where only activities compatible with the conservation objectives can take place;** they allow to develop, explore and learn about management techniques in order to maintain semi-natural ecosystems including their biodiversity.

c) **an outer transition area where sustainable resource management practices are promoted and developed.** It is the part of the biosphere reserve where the main focus is on supporting and encouraging local communities, enterprises, and/ communities in maintaining sustainable social-economic and land use systems.

69. It is very important to understand that the zones first of all present a tool to help to fulfil all the basic biosphere reserve functions. Thus, gradational levels of nature conservation, as seen in other designations, have to be defined as necessary and helpful instruments rather than as predominant zoning criteria. While some flexibility is granted within the MAB Programme, none of the zones can be omitted, as this site would then not meet the criteria of the Statutory Framework.

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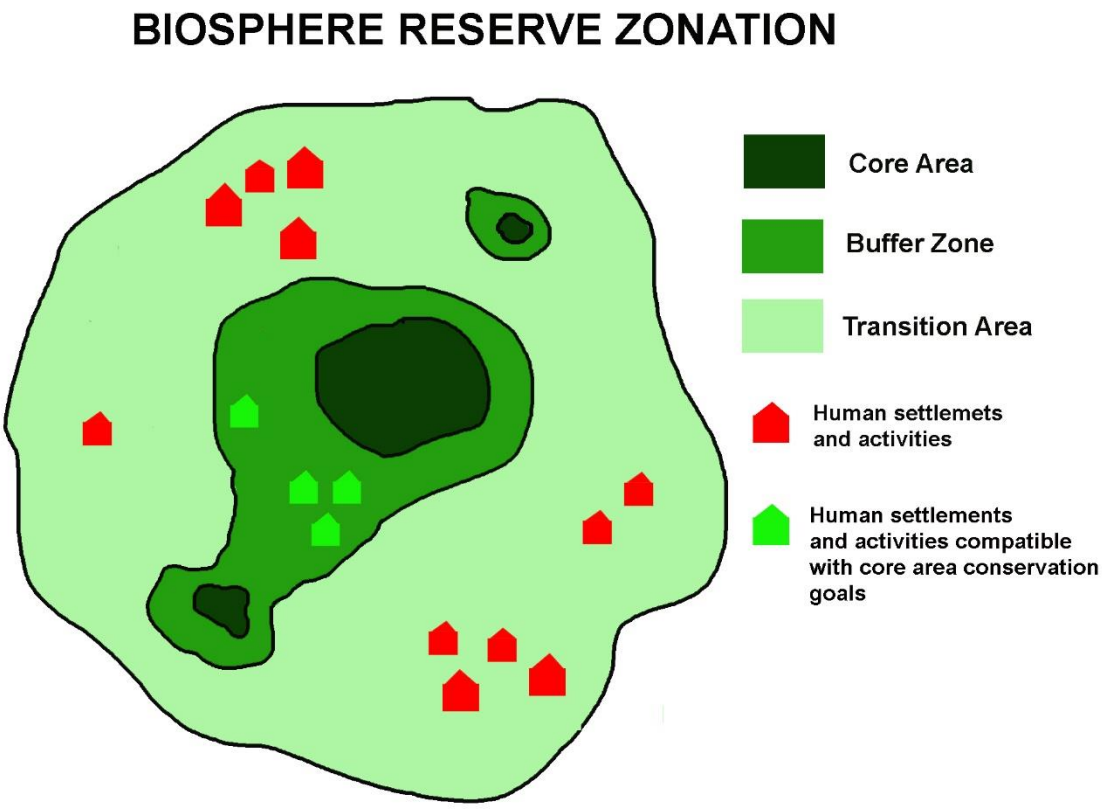
70. Zonation plans need to be agreed upon by all stakeholders. Designation of the biosphere reserve zonation may follow existing national protection systems. However, it is imperative that a biosphere reserve contains both areas with strict protection (core areas) and those dedicated to livelihood activities and development (buffer zones and transition area).



DRAFT 3 TS

2.2.1. What components are required in the zonation of a Biosphere Reserve?

71. Establishing the zonation of a biosphere reserve requires considerable knowledge. That is why it is important to make a preliminary prioritization of the factors influencing the zonation. A zonation plan should take into account:

a) Territories with very high biodiversity value
b) Territories with minimum anthropogenic disturbances, “primary forests”, “wilderness areas”
c) Ecosystem health and minimum size for ecosystems to actually deliver their services
d) Connectivity of ecosystems and corridors
e) Settings of the physical environment (e.g. coastal and marine ecosystems, watersheds, mountain ranges, valleys, etc.)
f) Property rights, including common lands
g) Historical and recent land use and trends
h) Agricultural lands, grazing areas, mining sites and other “anthropogenic pressures and their direction”

i) Locations where ecological restoration activities, agro-ecological practices are being implemented
j) “Ecological pressures and their direction” and other threats such as desertification-prone lands, overfishing or alien invasive species etc. based on a threat analysis
k) Towns, villages, linear infrastructure (roads, power lines, canals, etc.), other places and corridors of disturbance
l) Socio-cultural traditions, including heritage sites, sacred sites and given and planned administrative structures
m) Designated protected areas
n) Administrative regions.

72. Case study**: Ecosystem approach to zonation: Arganeraie Biosphere Reserve, Morocco**

72a. Located in the southwest of Morocco, this biosphere reserve covers a vast intramountain plain of more than 2,560,000 hectares, bordered by the High Atlas and Anti-Atlas Mountains and open to the Atlantic in the west. The area is known for its endemic species, the Argan tree (Argania spinose), which is not only important in terms of conservation, but also for research and socio-economic development. The Argan oil has multiple uses in cooking, medicines and cosmetics. The Arganeraie (the Argan tree and its ecological system) is unique in the world, as it has adapted to a particularly arid climate, creating an ecosystem for various species. The region is also home to various endemic flora species. Arganeraie has a population of 3.5 million inhabitants, 60% of which live in the countryside. Most of them make a living of sheep herding and agriculture, including fruit production and the cultivation of the Argan tree and the production of its oil. The cities of Agadir and Essaouira, which have a substantial hospitality infrastructure, and small historical villages within Arganeraie, attract thousands of tourists every year.

72b. The 18 core areas make it possible to conserve biological diversity, monitor the least disturbed ecosystems and conduct scientific research. Together they cover 16,620 ha. The 13 buffer zones with a cumulative area of around 560,000 ha juxtaposing the core areas are managed for production compatible with ecologically sustainable practices. The transition zones are assigned to contribute to the realization of a harmonious and coherent development. Overall, the biosphere reserve covers the entirety of the Arganeraie.

72c. By taking a holistic ecosystem approach to zonation that effectively considers the ecological, socio-economic, cultural and urban features of the Arganeraie as an integrated system, the biosphere reserve zonation has since its designation in 1988, contributed to the overall success of the biosphere reserve. This fact was reconfirmed by the International Advisory Committee for Biosphere Reserves in February 2020 as part of periodic review of the Arganeraie Biosphere Reserve.

72d. Morocco has successfully implemented the same holistic ecosystem approach in the establishment of its other biosphere reserve, each of which covers vital ecosystem regions of the country: Oasis du sud marocain (2000), Intercontinental Biosphere Reserve of the Mediterranean (Spain/Morocco, 2006), Atlas Cedar (2016).
https://rbarganeraie.ma/

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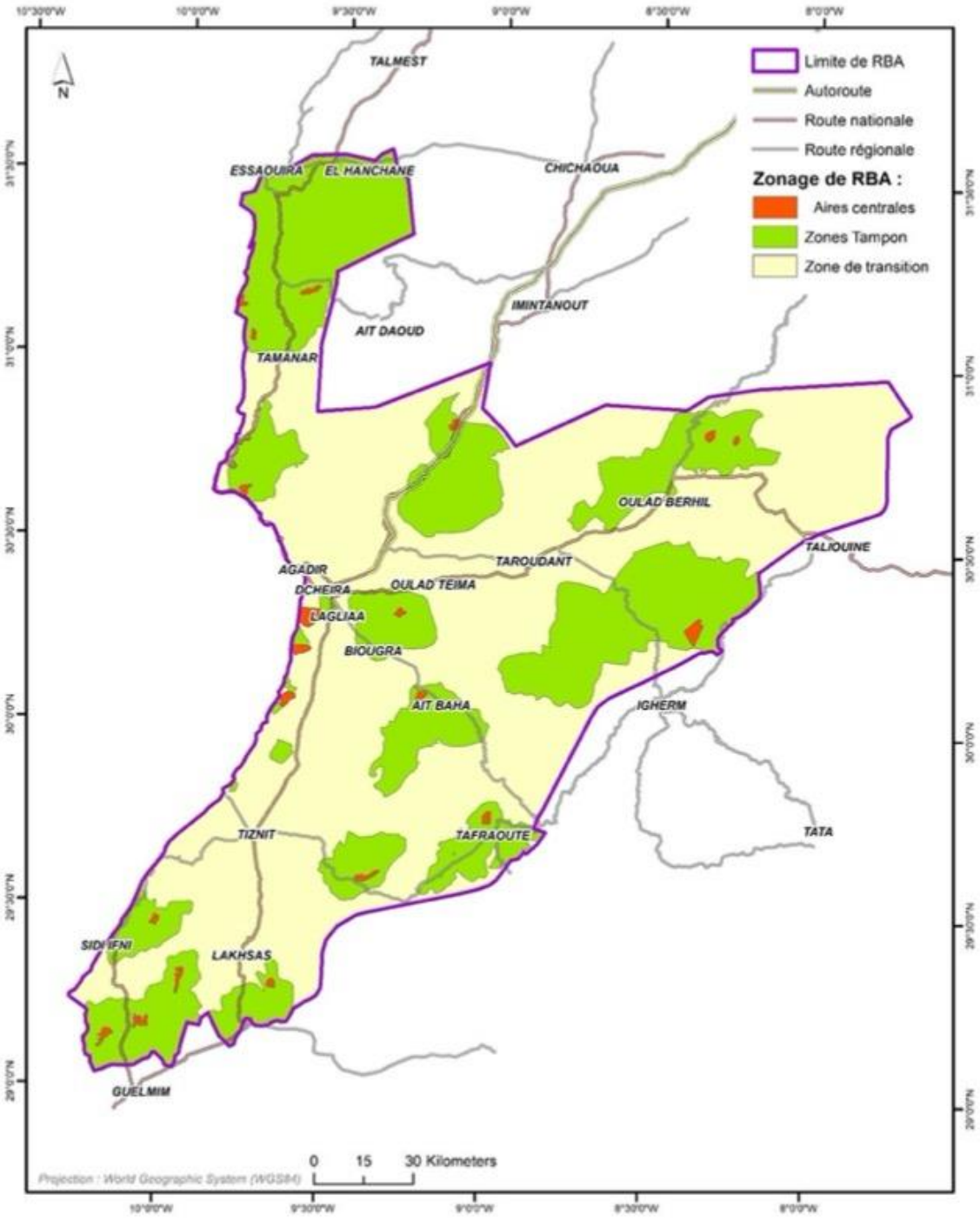
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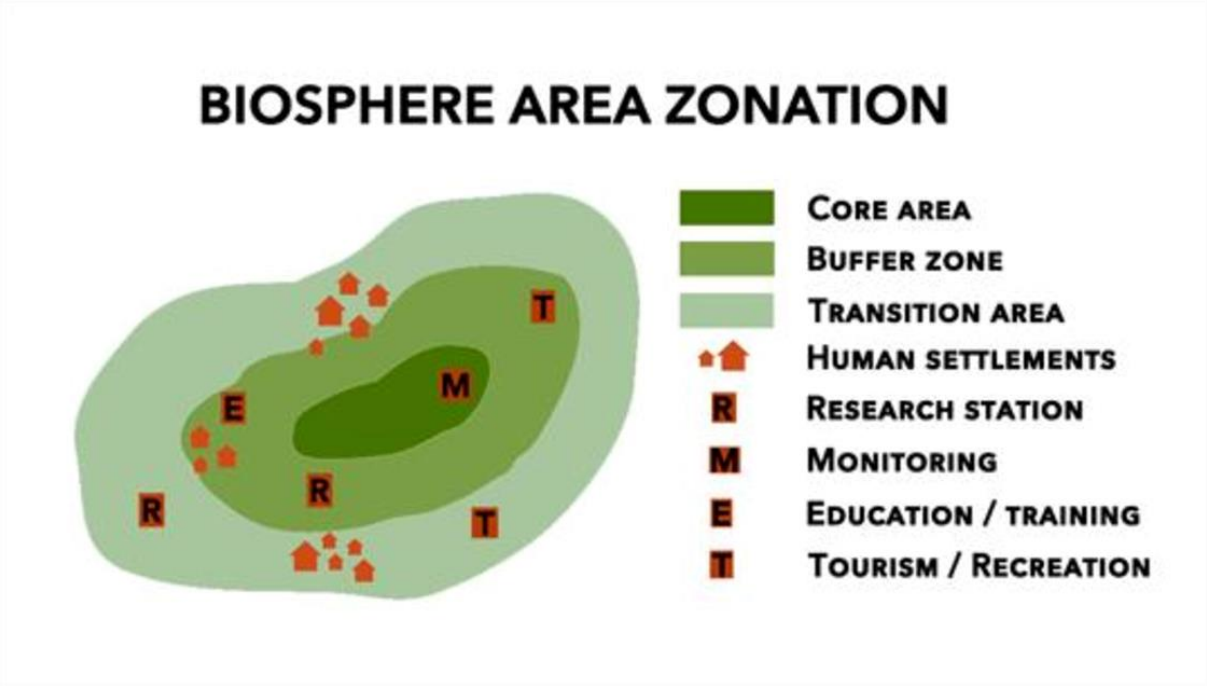
73. The biosphere reserve management policy or plan should reflect the zonation through addressing all zones of a biosphere reserve equally and appropriately.



74. The management policy or plan, the zonation, and (if available) the legal documents related to individual zones together identify what is permitted and what is not permitted in the core area and the buffer zone. For example, they may regulate the number of tourists allowed into the core area per day; also, they may regulate which traditional farming techniques are allowed in the buffer zones during which seasons etc.

75. For every biosphere reserve, the zonation should be mapped using satellite/GPS coordinates in form of shapefiles. These data should also be maintained in a publicly accessible electronic map.

2.2.1.1. Core area: legally constituted core area(s) devoted to long-term protection

76. A biosphere reserve must have one or more core areas, which are legally protected sites for conserving biological diversity, monitoring minimally disturbed ecosystems, and undertaking non- destructive research and other low-impact uses (such as education) etc. Core areas are generally natural, near natural or highest biodiversity parts of the biosphere reserve. They present a standard or sample how the ecosystems would look like if the there was no or very little human impact, or they may result from a long-term specific human-nature relationship. These areas are usually biodiversity hotspots with very high conservation values. As these places might be scarce, especially in very densely populated regions, other types of ecosystems, even those created by people, might be considered for core areas, as long as they have the necessary legal protection and have importance for biodiversity conservation. One example is the hedges in cultural landscapes of the Maasheggen Biosphere Reserve (Netherlands) that provide important habitats for plants and animals and serve as vital bio-corridors.

DRAFT 3 TSG_WG_1

a. Degree and type of protection

77. The degree of protection follows the national, provincial, local and customary law and regulations on nature conservation, land-use, and other factors. The core areas should have appropriate legal protection safeguarding that the nature protection is a priority.

b. Size

78. The size depends on local and/or national conditions. The core area should be large enough to include appropriate habitats and ecosystems. Continuity of the core area into the buffer zone is crucial as well, including accessibility for animals (migration, nesting, etc.) and plants (seeds, spores, fruits, pollen, etc.).

79. There is no globally valid minimum size of a core area. However, countries (e.g. Austria or Germany) can adopt national criteria for core areas, which specify a minimum percentage of the entire area of the biosphere reserve.

c. Role for conservation, sustainable development, research, monitoring, education, training

80. In principle, the focus of management in the core area is nature conservation including the control of human activities. In the core areas of some biosphere reserves, no human activity at all is allowed (except non-destructive scientific research, monitoring, and low-impact education); others allow tourists to walk on prepared paths; some others allow specific human activities, which are always controlled such as to minimize disturbances of the biological resources and often target conservation objectives for the core area (e.g. in case of man-made habitats with high conservation value). Core areas can also be crucial in providing ecosystem services.

81. Monitoring also plays important roles in core areas, enabling their managers to observe their state and consequently adopt (where allowed) appropriate management measures to maintain the biodiversity values (e.g. if grazing, or managing hedges is necessary etc.).

82. It depends on the country's conditions whether it is sensible to delineate the core area's borders with clear signs or even specific access areas.

d. Performance standards

83. Generally, the number or size of the core areas alone is not considered a biosphere reserve performance criterion. More important is the quality of how the core areas are managed, how they contribute to safeguarding the biological and/or bio-cultural diversity conservation and how they contribute to the overall fulfilment of the main biosphere reserve functions. An additional standard should be the quality of explanation, why and to what purpose a special area has been designated as a core area.

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2.2.1.2. Buffer zone: clearly identified zone(s) surrounding or contiguous to the core area(s), geographical definition

84. The buffer zone should surround or adjoin the core area(s) as its protective belt; at the same time, it promotes some degree of sustainable use of the natural resources. There is no globally valid minimum size for the buffer zone. However, countries (e.g. Austria or Germany) can adopt national criteria for buffer zones, which specify a minimum percentage of the entire area of the biosphere reserve. The buffer zones should have clear boundaries and be large enough to mitigate human impact on the core areas. They should have some legal status or specific regulations or arrangements (e.g. agreement with landowners etc.).

85. Sometimes the buffering functions can be provided by other means, other than formally delineating buffer zones. These circumstances e.g. natural conditions in form of steep mountain cliffs, canyon or river course can be acceptable. Sometimes an international (in case of TBR) or state border can fulfil the buffering functions. The same applies to agreements made with land owners who retain ownership but agree to use their land in such a way as to fulfil buffering functions. The lack of formal buffer must be explained in the nomination form and how in this case the buffering function is fulfilled.

86. In special cases an artificial structure, that has appropriate qualities, can play the role of buffer zone. For example, in Wadden Sea of Hamburg Biosphere Reserve (Germany) buffer zone functions are operationalized by the dike, built against sea flooding. The dike has appropriate permanent legal protection status (Natura 2000 and others), fits in the ecosystem conditions and serves its zonation purpose as it protects the marine core area.

87. Sometimes, buffer zones can stand alone, without any common limit with a core area. In such cases, this status indicates some rarity. These buffer zones are designated in areas that have high biodiversity value, but for various reasons do not have strict protection status, and therefore cannot be included as core areas. Such situations must be explained in the nomination form.

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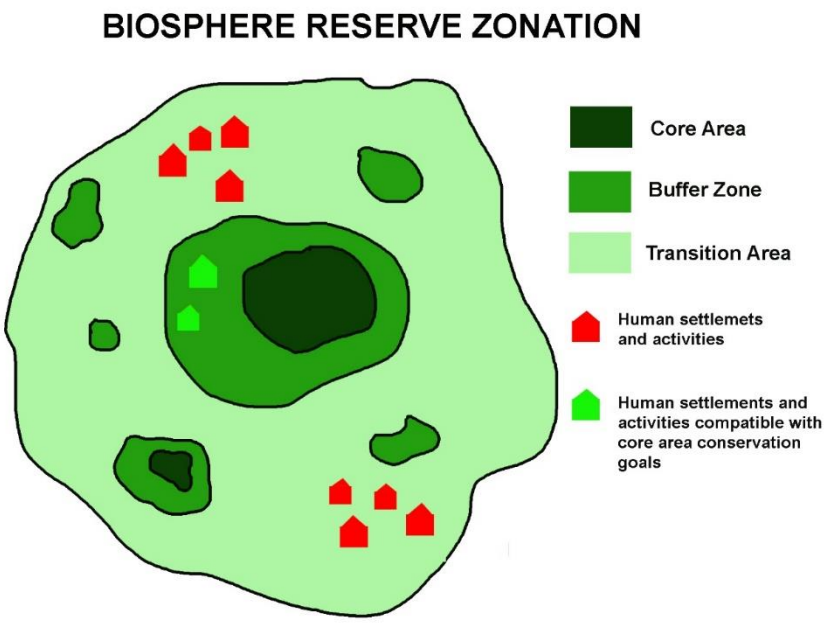

88. Case study: **Buffer zones in Wienerwald Biosphere Reserve, Austria**

88a. The Wienerwald, located on the border of the Lower Austria and City of Vienna is an important biodiversity hot spot throughout Europe. Diverse types of habitats have developed here due to numerous factors such as the meeting of different bio-geographical and climatic regions, different geological conditions, considerable altitude difference and, -last but not least- the human influence. The Biosphere Reserve Wienerwald is close to the agglomeration of Vienna, Austria's most important economic area. In Lower Austria, 51 communities with about 282,000 inhabitants are either completely or partly within the Biosphere Reserve. Parts of seven municipal districts of Vienna with a population of about 477,000 are part of the Biosphere Reserve.

88b. The habitats in the open-land cultivated area in the Wienerwald are of outstanding international importance. Vast meadows and pastures which are the result of centuries of cultivation dominate large parts of the region. Dry grasslands are particularly characteristic in this region.

88c. There are also a few unimproved grasslands on moist and wet sites, with moor grass meadows and calcareous fens. Ancient vineyards and fruit orchards, areas dominated by agriculture, rich sources of water and numerous structural elements enrich the landscape diversity of the Wienerwald. Large areas of the Wienerwald are contiguously wood covered (more than 60%).

88d. The core areas in Lower Austria are designated as nature reserves and in Vienna as protected landscapes. Approximately 80 % of the buffer zones are located in Natura 2000 designated areas, and they are maintained and looked after by their managers and landowners. All relevant legal issues are covered by the core area legislation and/or buffer zone legislation as decreed by the Federal States concerned. Some of the buffer zones have been established without direct connection to a core area. For instance, watercourses are important spaces for nature, recreation and commercial activities. They form an ecological network, which spans the entire area, and because of their great importance, they are designated as buffer zones in many parts of the BR.

88e. The biosphere reserve management monitors and reviews the zoning, using mapping to provide an essential basis for optimising the buffer zoning, enabling to nominate valuable open space areas which have not so far been designated as buffer zones.

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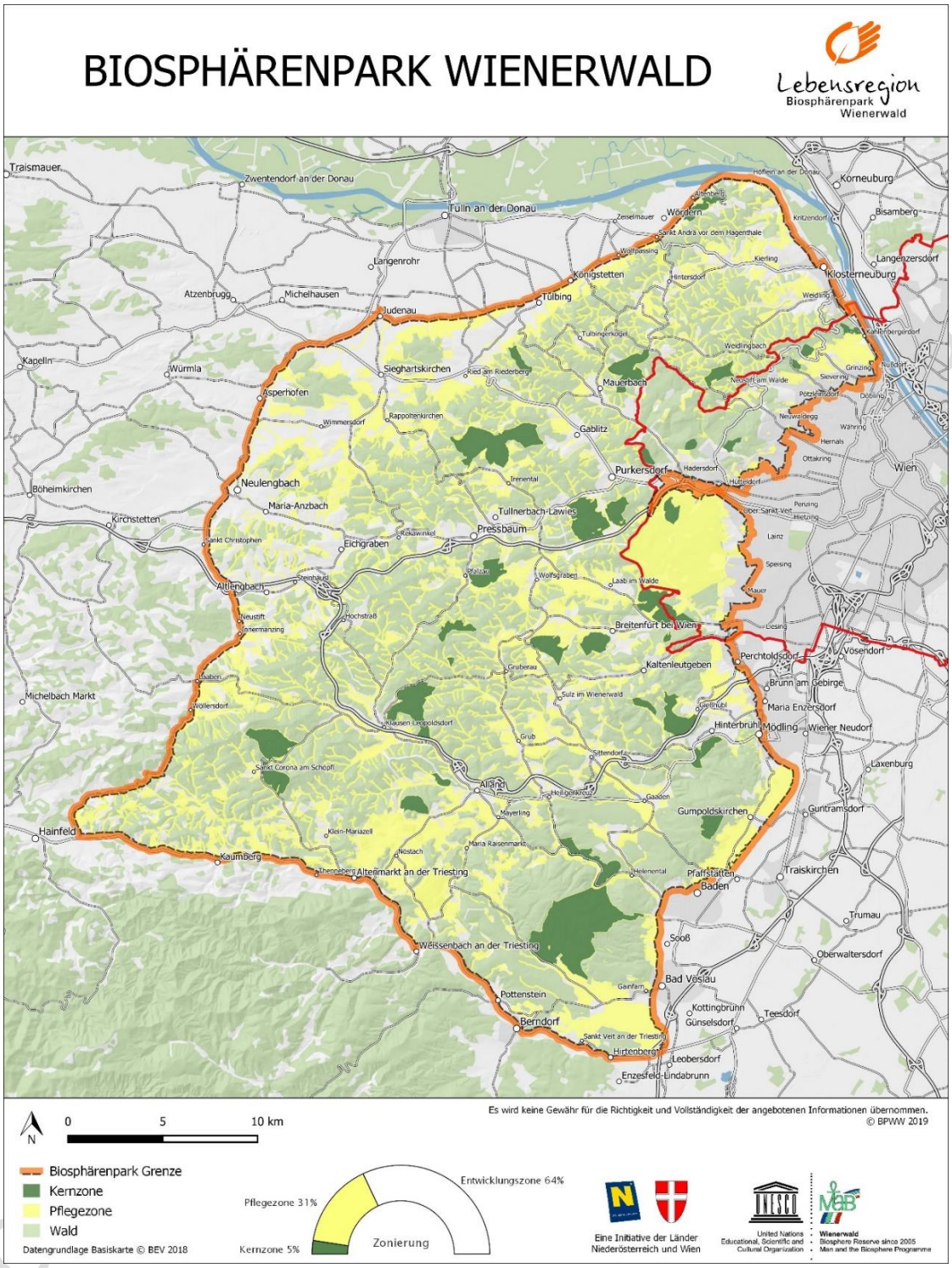
BIOSPHÄRENPARK WIENERWALD
Lebensregion
Biosphärenpark
Wienerwald
Traismauer
Zwentendorf an der Donau
Tulln an der Donau
Langenrohr
Atzenbrugg
Michelhausen
Judenau
Tulbing
Königstetten
Kapelln
Würmla
Sieghartskirchen
Asperhofen
Wimmersdorf
Rappoltenkirchen
Gablitz
Mauerbach
Purkersdorf
Hadersdorf
Hütteldorf
Wien
Böheimkirchen
Neulengbach
Maria-Anzbach
Kirchstetten
Tullnerbach-Lawies
Pressbaum
Eichgraben
Sankt Christophen
Altlengbach
Neustift
Innermanning
Hochstraß
Laab im Walde
Breitenfurt bei Wien
Perchtoldsdorf
Vösendorf
Brunn am Gebirge
Maria Enzersdorf
Kaltenleutgeben
Gruberau
Sulz im Wienerwald
Michelbach Markt
Wolfsdorf
Klausen-Leopoldsdorf
Hinterbrühl
Mödling
Wiener Neudorf
Grub
Sittendorf
Sankt Corona am Schöpfl
Laxenburg
Alland
Heiligenkreuz
Gaaden
Gumpoldskirchen
Guntramsdorf
Mayerling
Hainfeld
Klein-Mariazell
Maria Raisenmarkt
Nostach
Kaumberg
Altenmarkt an der Triesting
Helenental
Pfaffstätten
Baden
Traiskirchen
Trumau
Sooß
Weissenbach an der Triesting
Oberwaltersdorf
Bad Vöslau
Gainfarn
Pottenstein
Kottingbrunn
Günselsdorf
Teesdorf
Berndorf
Sankt Veit an der Triesting
Hirtenberg
Leobersdorf
Enzesfeld-Lindabrunn
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10 km
Es wird keine Gewähr für die Richtigkeit und Vollständigkeit der angebotenen Informationen übernommen.
© BPWW 2019
Biosphärenpark Grenze
Kernzone
Pflegezone
Wald
Datengrundlage Basiskarte © BEV 2018
Pflegezone 31%
Entwicklungszone 64%
Kernzone 5%
Zonierung
Eine Initiative der Länder
Niederösterreich und Wien
United Nations
Educational, Scientific and
Cultural Organization
Wienerwald
Biosphere Reserve since 2005
Man and the Biosphere Programme

a. Regulation of activities and resource use

89. Management must ensure that all human activities in the buffer zone are compatible with biodiversity conservation. In addition to the activities allowed in the core area, low-impact activities such as eco-tourism and low-impact grazing are typically allowed, as well as (ecologically acceptable) renewable energy and water infrastructure. Some States may require the imposition of restrictions and quotas if needed, in some countries, renewable energy installations that can have negative impacts - e.g. wind turbines on birds and bats, or water turbines on fish - are only allowed in the transition area.

b. Role for conservation, sustainable development, research, monitoring, education, training

90. An important aim of the buffer zone is to ensure that human activities do not negatively affect the core area. In many ecosystems, however, the buffer zone has a different purpose. It is often used to restore degraded environments (e.g. through afforestation). It is also ideally suited to preserve traditional forms of land-use, which have created a particular, human-induced ecosystem. For this to happen, it is necessary to evaluate the ecosystem impact of the traditions and their economic output, and assess both in terms of long-term viability, under assumptions that these systems were maintained or that they are changed.

91. The buffer zones frequently allow stakeholders to develop and implement suitable modern techniques in order to maintain values from traditional land uses. For this purpose, they are also very important locations for learning within a biosphere reserve.

c. Performance standards

92. The performance of the buffer zone is assessed by its capability to “protect” the core area. Other performance standards include the buffer zone’s ability to contribute to other functions of the biosphere reserve such as research, education, and sustainable use of natural resources as well as monitor the succession of ecosystem state.

93. The parts of the buffer zone comprising traditional cultural landscapes with high biodiversity can function as a model for targets of sustainable land use that should be reached also in transition area during the transformation process intended by the implementation of a biosphere reserve.

2.2.1.3. Transition area: an outer transition area where sustainable resource management practices are promoted and developed, geographical definition

94. The parts of biosphere reserve that are not core areas or buffer zones fall into the category of transition areas, as they present the “transition” to the surrounding area. The transition area is what distinguishes biosphere reserves from protected areas, as it is here that there are explicit interactions between people and the environment, with a focus on sustainable development. Here, many different types of human activities may take place, including settlements, agriculture, livestock breeding, tourism or industry. Typically, there are no legal restrictions related to the transition area, but all activities should eventually become “sustainable” with the help of a biosphere reserve designation.

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a. Level of development, activities (industry, mining, power stations, cities)

95. As the other parts of the biosphere reserve, the transition areas include sites presenting a gradation of human interventions and interactions. Even though biosphere reserves (in their entirety) are not protected areas, experience within the WNBR shows that destructive mining or polluting industries may not be admissible in a transition area, because they are not sustainable. On the other hand, the mining industry, that fulfils high environmental safety standards, is common in many biosphere reserves, and its representatives should be included, if possible, in the biosphere reserve governance structure just as any other relevant stakeholder. In any case, it is important for the authorities to undertake environmental and social impact assessment for each particular case.

96. There has been a precedent in the past, that, the presence of nuclear facilities within the biosphere reserve is considered unacceptable. However, some nuclear research facilities (e.g. at universities or hospitals) might be assessed case by case.

97. In addition, the presence of towns or even large cities in the biosphere reserve transition area is not exceptional any more. For example, Dublin Bay Biosphere Reserve (Ireland) and Wienerwald Biosphere Reserve (Austria) have parts of capital cities situated within the biosphere reserve limits.

b. External limits of the transition zone

98. The external limits of the transition area can be formed by natural phenomena e.g. river, lake, steep slope, forest edge etc. or created artificially in the form of road, railroad, state border, administrative boundaries, cadastre of the municipality, territorial entity, a watershed, etc. Whenever feasible, the outer border should be clearly marked by biosphere reserve signs.

c. Role for conservation, sustainable development, research, monitoring, education, training

99. At the time of nomination, not all activities need to be sustainable – it is the task of the biosphere reserve managers to work with stakeholders to increase the sustainability of the entire region, for example through pilot projects on employment, product marketing, ecological restoration, renewable energy, water and waste disposal and cleaning. The communities need to be able to recognize that they gain real benefits from the biosphere reserve and its efforts to promote sustainable development; these benefits must be distributed equitably. Thus, communities should actually be the centre of attention of a biosphere reserve and this attention should be focused in great extent in transition area as well as other zones.

d. Performance standards

100. The transition area is the “display window of the biosphere reserve” that is viewed by the public within and beyond the biosphere reserve. All activities and positive changes achieved in the transition area help to promote sustainable development. There is no fixed set of management and stakeholder performance standards for the transition area. The accomplishments of the transition area can be assessed not only by its compatibility with other parts of zonation but

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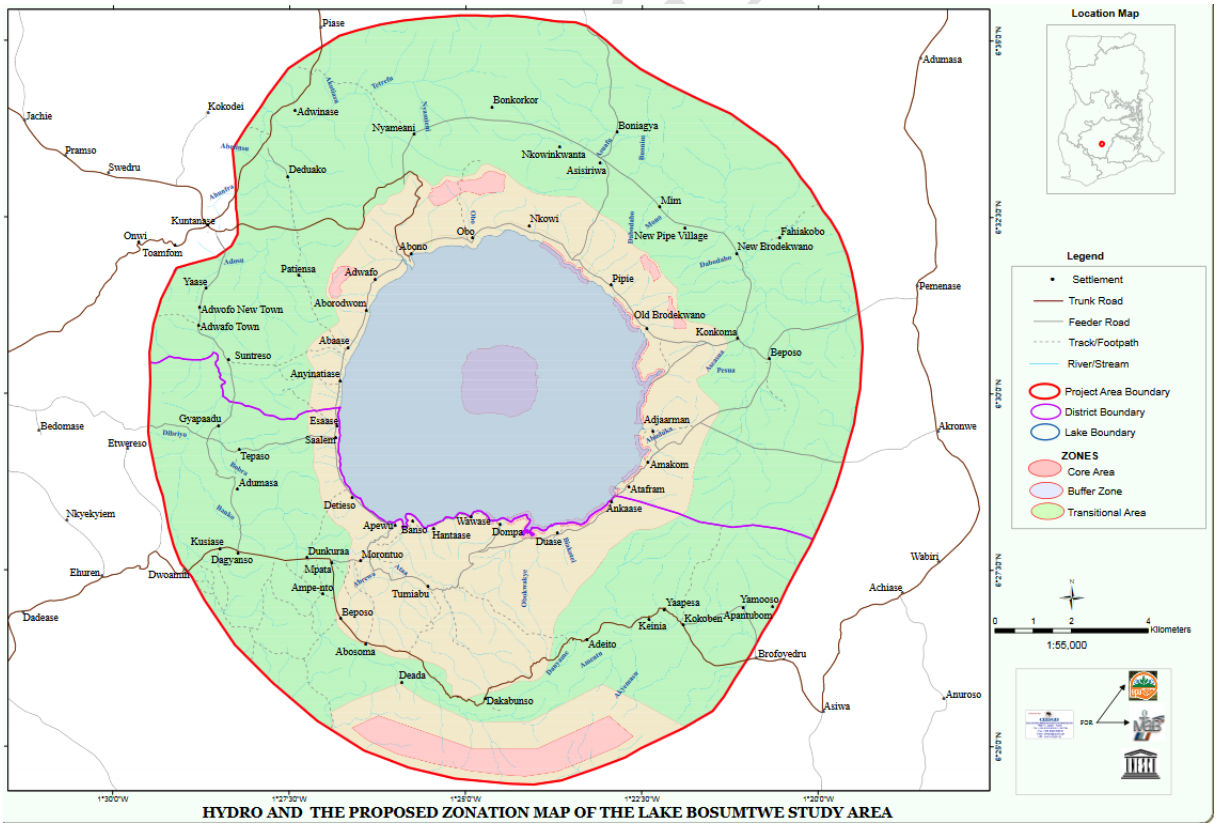
also by the ability to come up with model solutions, new approaches to the sustainable use of natural resources, improving livelihoods, and caring for the environment through wise everyday human activities. An important signal of good performance in transition area (as well as the buffer zones) is the potential for conflict resolution.

101. Case study: **Specific zonation application and model under different ecological and socio- economic development in Lake Bosomtwe Biosphere Reserve, Ghana**

101a. Lake Bosomtwe was designated as a biosphere reserve in 2018. The circular lake, the crater of a meteorite impact, is about 8 km in diameter and the only natural lake in Ghana. Some 70,000 people live in 30 villages around the crater, which is situated close to the city of Kumasi and is thus a popular recreational area. Environmental challenges due to the growing population include overfishing and inappropriate farming methods. Excessive fishing led to steadily decreasing catches, forcing increased reliance on agriculture, with soil erosion as a subsequent challenge.

101b. Several core areas for the biosphere reserve have been identified on the lake, but what makes the zonation special is that the centre of the lake has been designated as a cultural core area. This is due to the fact that the Ashanti people consider the lake as sacred and in particular fishermen never fish at its centre. This "taboo" is thus translated into a zonation scheme. The resulting zonation is thus almost a set of nested circles.



HYDRO AND THE PROPOSED ZONATION MAP OF THE LAKE BOSUMTWE STUDY AREA

2.3. Transboundary Biosphere Reserves

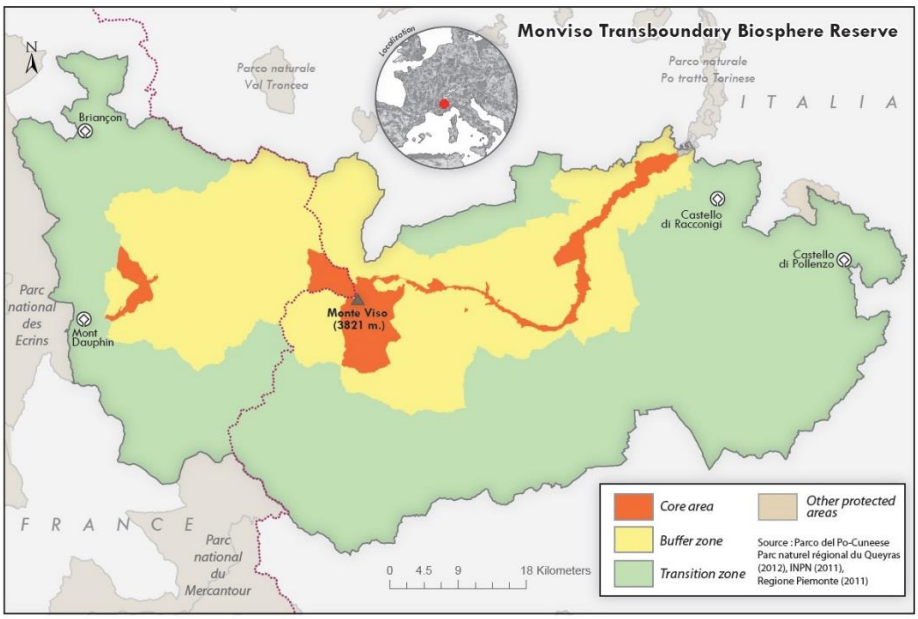
102. Wherever possible it is desirable that a joint zonation covers the shared ecosystem(s) as much as possible. Linking the management approaches for one or more shared ecosystems across state boundaries in many cases is the only effective way to conserve biodiversity – especially if the ecosystem to be conserved depends on having a certain minimum size. A minimum size may relate to animals that require a large territory to roam for prey or seek forage, migratory animals, or pollination species.

103. This means that the decision-makers, managers and stakeholders from the involved countries have to find a joint understanding and agreement on what exactly are the “core area(s)”, “buffer zone(s)” and “transition area”, with all the limitations and purposes assigned to each zone.

104. It is recommended that any TBR has one overall zonation. However, each country may decide on its own zonation, and these are then combined. In such cases, it is important that, if the core areas are adjacent on the two sides of the border, they should be connected in a way that supports common conservation goals. The same applies for the buffer zones. Arriving at such a mutual understanding of each zone’s characteristics among the involved governments is not always easy. Nevertheless, the main goal is to have the overall TBR zonation harmonized.

105. Case study: **Mont-Viso Transboundary Biosphere Reserve, France/Italy**

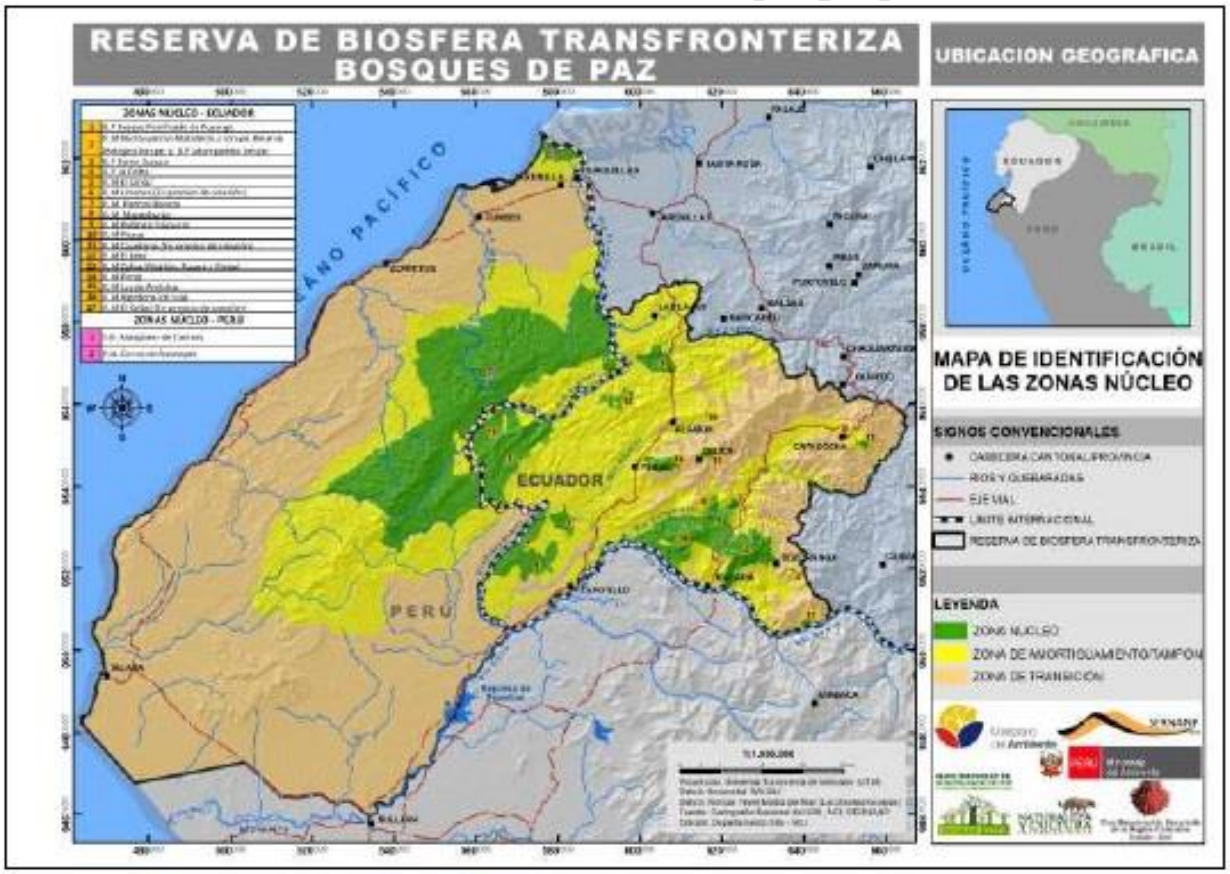
105a. The Mont-Viso transboundary Biosphere Reserve is a glacial cirque situated between the Alpine mountains and the Mediterranean. It is surrounded by river valleys and high-altitude lakes and enjoys a dry and sunny climate. This TBR is shared between France and Italy. The total area of the TBR exceeds 427,000 ha (France: 133,164 ha; Italy: 293,916.7 ha). The core areas cover 17,913.5 ha (France: 4,558 ha; Italy: 13,355.5 ha), buffer zones 135,404.8 ha (France: 54,425 ha; Italy: 80,979.8 ha) and transition areas 273,762.4 ha (France: 74,181 ha; Italy: 199,581.4 ha. Each zone, that is adjacent to the border, connects with the corresponding zone in the neighbouring country.



106. Case study**: Zonation in Bosques de Paz Transboundary Biosphere Reserve, Ecuador/Peru**

106a. Located in the southwest of Ecuador and the Northwest of Peru, this transboundary biosphere reserve is comprised of the Noroeste Amotapes-Manglares Biosphere Reserve of Peru (originally designated in 1977 and extended in 2016) and the Bosque Seco Biosphere Reserve of Ecuador (originally designated in 2014). Its establishment is the result of both country's efforts to strengthen their fraternal ties, trust and cooperation in diverse areas over two decades since they signed a peace agreement in 1998. It was the first transboundary biosphere reserve established in South America, and the 17th in the world.

106b. The Bosques de Paz Transboundary Biosphere Reserve covers parts of the Tumbes and Piura regions of Peru, and part of the provinces of Loja and El Oro in Ecuador. It includes territories of the western foothills of the Andes, with altitudes reaching up to 3,000 metres, which have generated a biodiversity with a high degree of endemism, and the seasonally dry forests of Ecuador and Peru, which form the heart of the Endemic Region of Tumbes, one of the most important biodiversity hotspots of the world, as well as the mangroves of Tumbes.



106c. The whole transboundary biosphere reserve covers total area of 1.616.998 ha (Ecuador: 501,040.63 ha, Peru:1,115,947.79 ha). The core areas encompass 237,638.76 ha, the buffer zones 478,165.28 ha and the transition areas 901,184.38 ha

2.4. Multi-designated sites

107. While “zonation” has been popularized by UNESCO’s MAB Programme, the approach has been taken over by other national and international designations. Modern national parks and Ramsar sites have a certain zonation, and World Heritage Sites also have buffer zones. Sometimes multi-designation of the biosphere reserve leads to misinterpreting the zones and possible conflict of interest. The biosphere reserve coordinators must deal with “conflicting” zonations. They have to differentiate two aspects: How to ascribe a specific purpose to which zone - and how to publicly communicate these zones with their specific purpose.

108. First of all, zonations due to different designations must be conceptually and legally coherent. If a certain “zone” supports exclusively conservation, it should be the core area of the biosphere reserve. If two different “zones of a national park” support only conservation, these two can be combined into the single core area of the biosphere reserve. If the function of a World Heritage Site buffer zone fits the function of a biosphere reserve buffer zone, they should coincide, but if the biosphere reserve buffer zone needs to be larger, it is necessary for it to extend beyond the World Heritage buffer zone.

109. In principle, at the conceptual and legal level, there is much flexibility. Biosphere reserves need exactly three categories of zones. These can be established by utilizing existing designations and their zoning. This also applies to informal designations e.g. sacred places.

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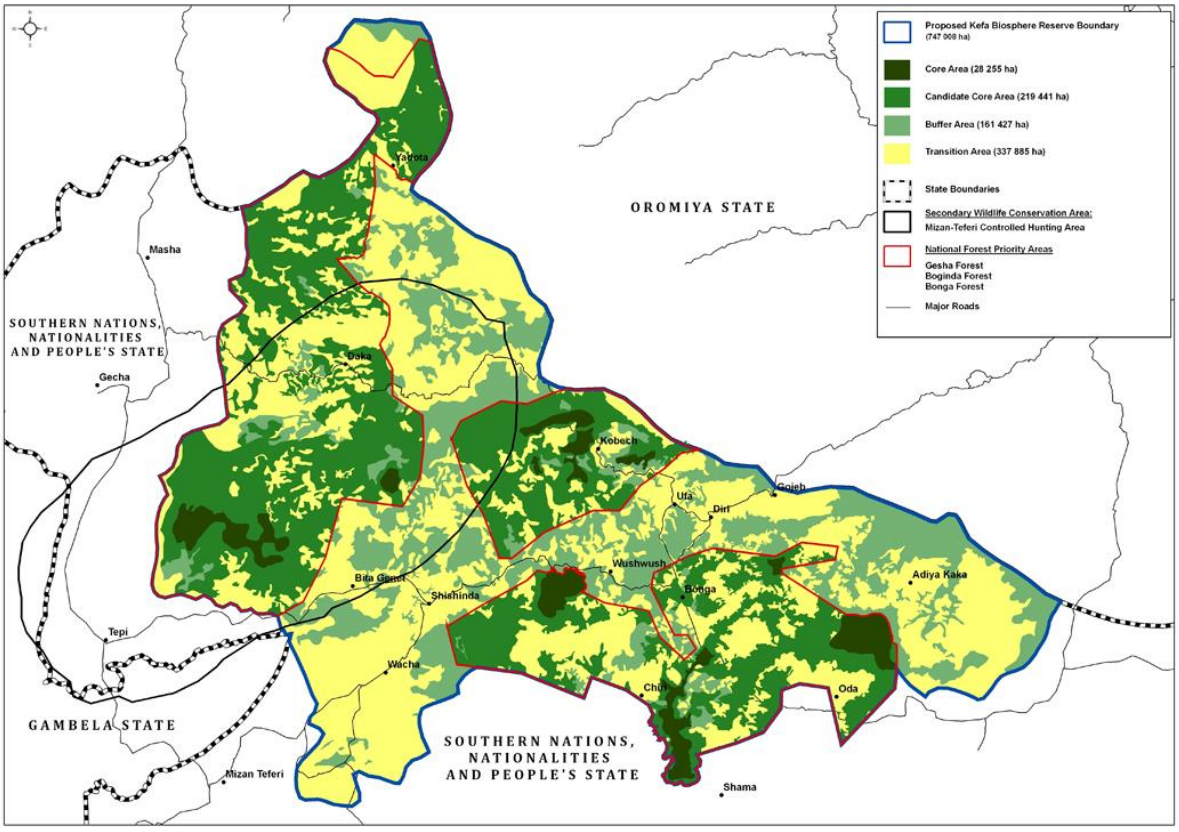
110. Case study: **Zonation in Kafa Biosphere Reserve, Ethiopia**

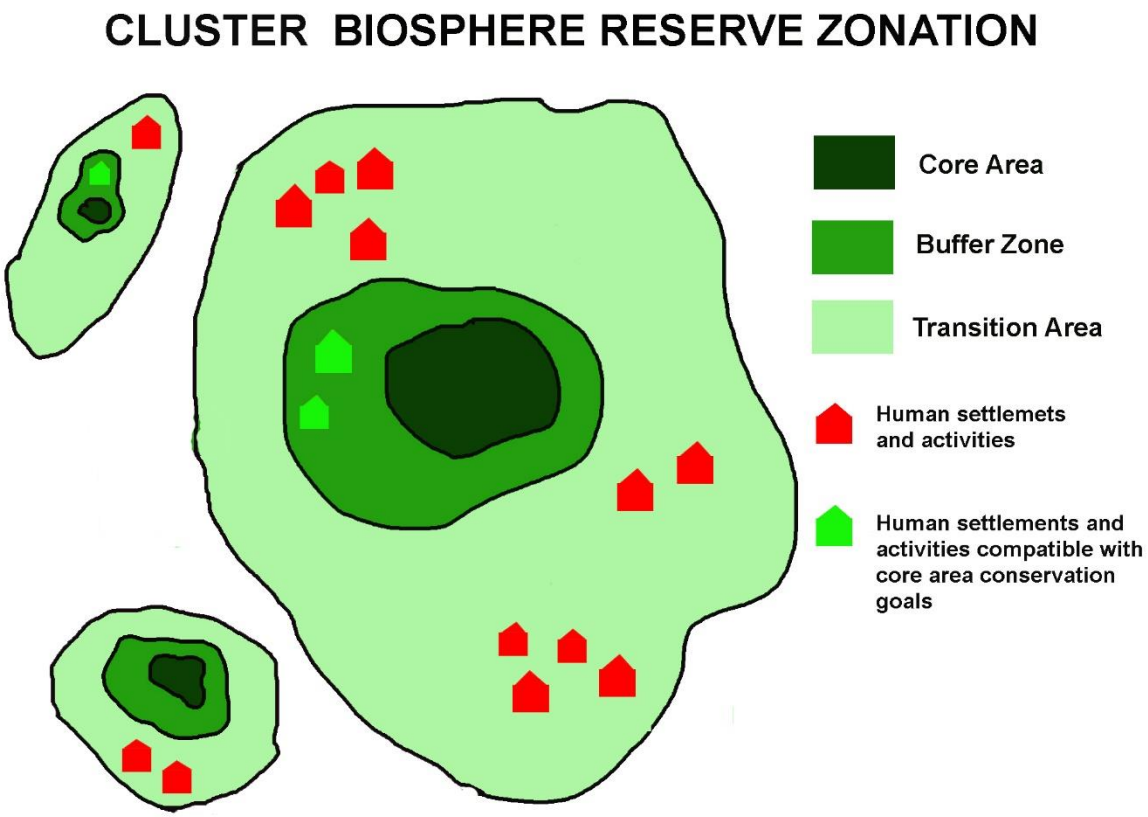
110a. The starting point for the zonation of the Kafa Biosphere Reserve in Ethiopia has been traditional cultural practices of local communities: sacred places and thanksgiving practices. This approach has been quite easy and very successful, minimizing controversies and conflicts of interests from the outset. To the extent possible, no "artificial zonation" has been created which does not have a basis in traditional cultural practices. "Zonation workshops" have been held at the village level and a "participatory demarcation and endorsement procedure" has been organized at community, district and regional levels. In the Kafa region, there are very precious remnants of the Afromontane Evergreen Forest Ecosystems. These parts of the forests, which local communities have always regarded as "no touch" sacred places, have been designated as core areas. Eleven such core areas exist, immediately surrounded by buffer zones. The majority of buffer zones also consist of forests which are extensively used, e.g. for harvesting wild coffee. Along the outer interface between buffer and transition zone, 878 hectares of degraded forests have been rehabilitated with indigenous tree species. This has been done after extensive consultation with local communities. In these cases, the result is a very well visualized zonation. The resulting functional zonation has been fully GIS-referenced.



2.5. Cluster type biosphere reserve

111. In specific conditions sometime, the circumstances do not allow to propose a biosphere reserve in unbroken unit. The option for such cases is the cluster type biosphere reserve. The structure resembles a cluster of small-scale biosphere reserves, where all the units must meet the basic criteria listed in the Statutory Framework. Such site should have common management with all units cooperating within the designation. However, in some cases, it may be necessary to define specific management for sub-units corresponding to different ecosystems or to different units of a cluster biosphere reserve.

112. When such type of biosphere reserve is proposed, it must be clearly explained why the cluster is preferred option.



113. Case study: **Archipel de Guadeloupe - cluster type Biosphere Reserve, France**

113a. Situated on Guadeloupe Island in the Caribbean Sea, this biosphere reserve comprises two geographically separate sites. Basse-Terre comprises a tropical forest, located in the west of the island and watched over by the still active volcano of La Soufrière (1,467 meters above sea level).

113b. The tropical forest, which is completely uninhabited, is home to over 300 species of trees and bushes, in spite of the presence of man who, for centuries, has decimated numerous species. Grand-Cul-de-Sac Marin, a vast bay of 15,000 hectares between Basse-Terre and Grande-Terre includes coral reefs, mud flats, sea-grass bed and mangrove forests, freshwater swamps forests and marshes.

113c. In the lagoon, sea-floor 'meadows' provide habitat to turtles and teem with fish. Giant sponges and soft corals, urchins and fish are abundant. The mangrove hosts many sedentary and migratory birds (pelicans, terns, moorhens, ducks, herons and kingfishers). Parts of the biosphere reserve are also a Ramsar site, designated in 1993. The transition areas of the biosphere reserve include numerous small towns and villages with many tourist facilities.

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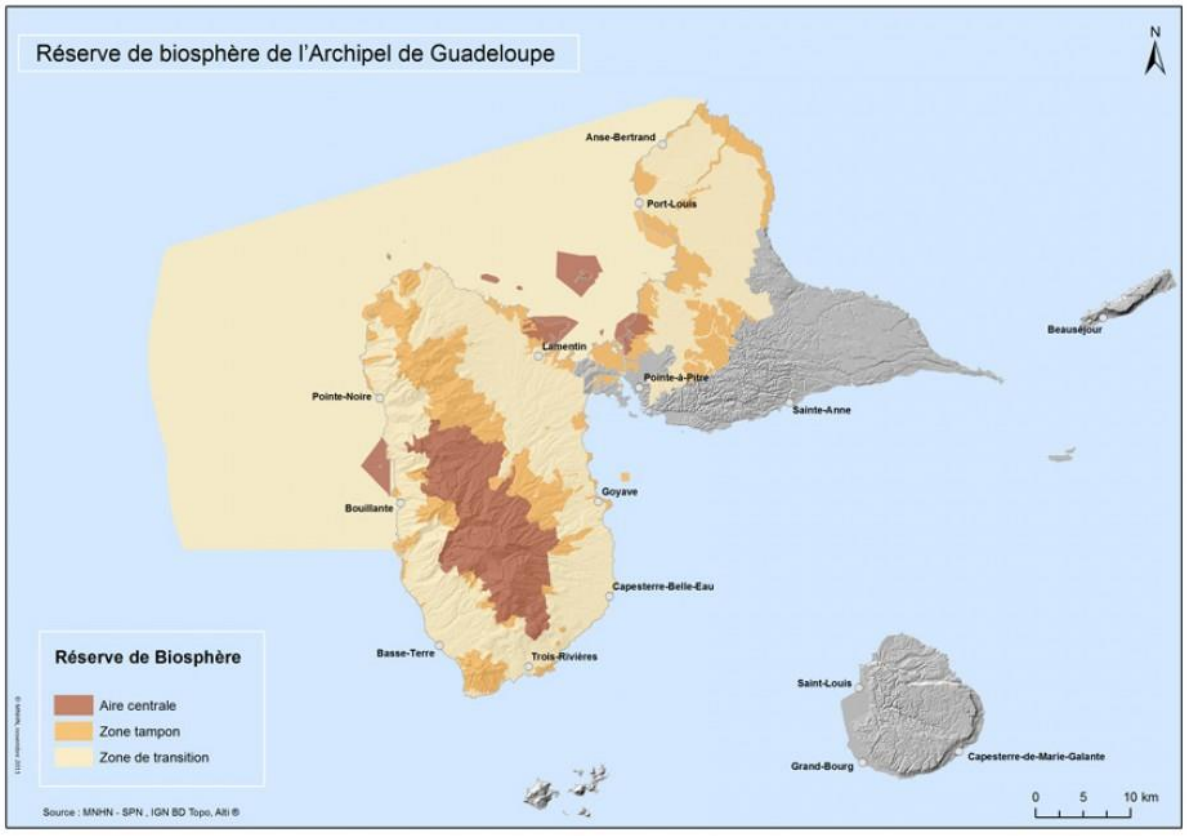

2.6. Special case: Overlapping Biosphere Reserves

114. There is one example of overlapping biosphere reserves within the WNBR. This very special case is related to Brazil and while this setting is possible, it can create various challenges.

115. The expert-based (ad hoc) nature of the processes of designing biosphere reserves, allied to the diverse country size scales and the temporal differences between designations cycles of biosphere reserves have led to overlaps between biosphere reserves. It is rather frequent, that the processes leading to spatial design and zone definition of neighbouring biosphere reserves are conducted by different sets of experts and regional stakeholders often spaced in time. Therefore, the “end maps” produced for reserve nominations show some degree of zone classification incongruences, and it is particularly common in transboundary reserves and multi-designation sites. However, large scale biosphere reserves, such as the ones in Brazil which aimed to harmonize development at ecosystem scales, show some degree of overlap, often due to ecotone importance for both biosphere reserves and their ecosystem services and biological processes. Harmonizing the zoning categories in such cases is a practice that needs attention in biosphere reserve review processes.

116. Case study: **Overlapping Biosphere Reserves in Brazil**

116a. Seven Brazilian biosphere reserves are among the largest in the WNBR. Most of them were conceived to be integrated in the management frameworks for the national biomes, thus encompassing huge territories. For instance, Mata Atlântica Biosphere Reserve, designated in 1991 by UNESCO, reaching nearly ninety million hectares in 2018, spans seventeen Brazilian states.

116b. In four cases, considering the Mata Atlântica Biosphere Reserve, the largest and eldest one, is partially overlaps with other biosphere reserve (see the map with Overlapping Zones – Brazilian Biosphere Reserves - “Zonas de Sobreposição das Reservas da Biosfera, Brasil”). These cases can be differentiated as follows:

1. Transition between ecosystems: The Atlantic Forest biome extends from Southern to North-eastern Brazil along most of its coast, but also extends further toward the West in many regions of the country, especially in the South-Southeast. For this reason, the Atlantic Forest connects with Cerrado, Caatinga, Pantanal and Pampa biomes. Areas that represent important transitions from the Atlantic Forest to other ecosystem types were double designated as Mata Atlântica and Espinhaço Range, Caatinga or Pantanal biosphere reserves. With further planned expansion of Cerrado and Espinhaço Range, other reserves will share territories. However, the areas of overlap are very small compared to the overall biosphere reserve territories, and represent opportunities of mutual cooperation.

2. Contemporary initiatives: In the late 1980s, two initiatives at two different scales (but partially involving the same territory) championed the designation of biosphere reserves. One of the initiatives was from "Consórcio Mata Atlântica", an interstate effort to protect and manage the Atlantic Forest in an overall perspective (cp. above). At the same time, in São Paulo Metro Area, a huge ring road project was proposed to cross the metropolitan green belt, potentially affecting the city’s water supply and a range of other important urban and peri-urban ecosystem services. This project raised a major grassroots movement claiming for the

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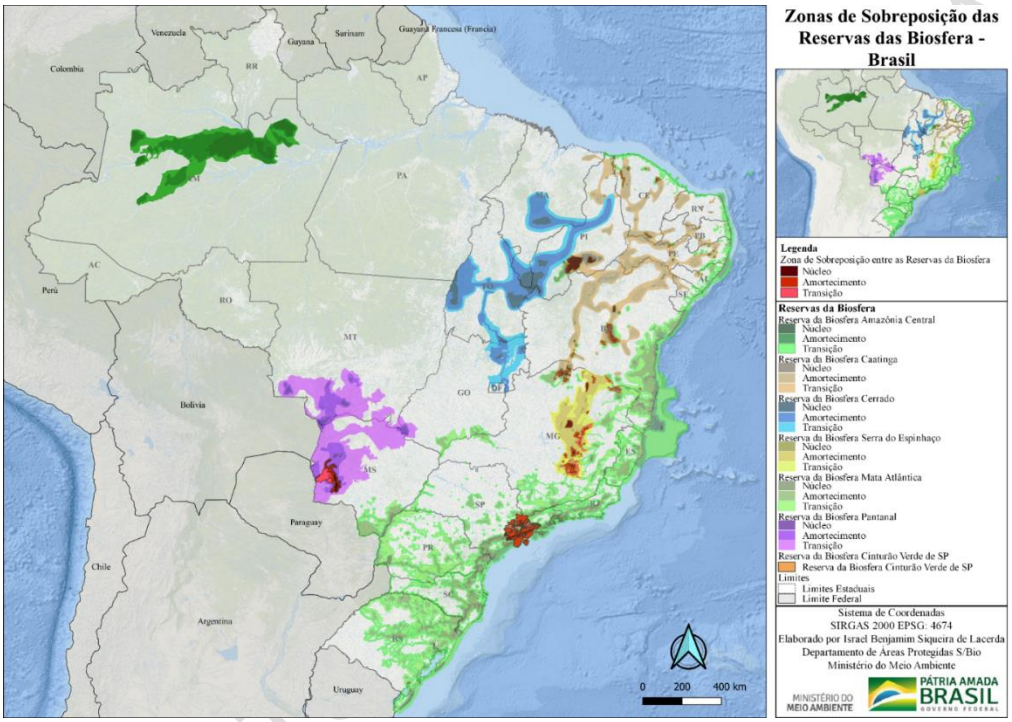
designation of a biosphere reserve on the green belt. This movement collected nearly 150,000 signatures in the pre-internet era. Stakeholders from both legitimate initiatives developed a pioneering arrangement of a smaller biosphere reserve, at a metropolitan scale, inside another one at a national scale, the world largest one. After further discussions within the National MAB Committee and UNESCO, São Paulo City Green Belt Biosphere Reserve was designated in 1994 as an integral part of the Mata Atlântica BR, in its third phase. This quite uncommon arrangement proved to be very productive and cooperative over the years, allowing both biosphere reserves to act at their own scales while joining efforts for a number of common projects. They had common zonation but built their own action plans. For technical reasons, São Paulo City Green Belt had its separate designation by UNESCO in 2017.



BIBLIOGRAPHY

Purwanto, Y. & P. Lupiyaningdyah. 2018: *Technical instructions for establishing BR zoning systems in Indonesia*. The Indonesian MAB Program National Committee, LIPI. Bogor.

Batisse, M., 1990. Development and implementation of the biosphere reserve concept and its applicability to coastal regions. Environ. Conserv., 17, 111–16.

Batisse M. (1997) Biosphere Reserves: A Challenge for Biodiversity Conservation & Regional Development, Environment: Science and Policy for Sustainable Development, 39:5, 6-33,

Bojorquez-Tapia L.A., Brower L.P., Castilleja G., Sanchez-Colon S., Hernandez M., Calvert W., Diaz S., Gomez-Priego P., Alcantar G., Melgarejo E.D., Solares M.J., Gutierrez L. &

Juarez M.D. (2003) Mapping expert knowledge: Redesigning the Monarch Butterfly Biosphere Reserve. Conservation Biology 17, 367-379

Bojorquez-Tapia L.A., de la Cueva H., Diaz S., Melgarejo D., Alcantar G., Solares M.J., Grobet G. & Cruz-Bello G. (2004) Environmental conflicts and nature reserves: redesigning Sierra San Pedro Martir National Park, Mexico. Biological Conservation, 117, 111-126
Dyer M.I. & Holland M.M. (1991) The Biosphere-Reserve Concept - Needs for a Network Design. Bioscience, 41, 319-325

Cabeza M. & Moilanen A. (2006) Replacement cost: A practical measure of site value for cost-effective reserve planning. Biological Conservation, 132, 336-864 342

Dasmann R.F. (1988) Biosphere Reserves, Buffers, and Boundaries. Bioscience, 38, 487-489

Kellert S.R. (1986) Public Understanding and Appreciation of the Biosphere Reserve Concept. Environmental Conservation, 13, 101-105

MAB Program (2008) The Madrid action plan 2008 - 2013. In: 3rd World Congress of Biosphere Reserves and 20th session of the International Coordinating Council of the MAB Programme (ed. UNESCO). UNESCO, Madrid

Poore D. (1995) Unesco-International-Conference on Biosphere Reserves, Held in Seville, Spain, During 20-25 March 1995. Environmental Conservation, 22, 186-187

Marcus N. & Groves M.W. (1970) The new zoning: legal, administrative, and economic concepts and techniques. Dept. of City Planning, New York (N.Y.).

Negi C.S. & Nautiyal S. (2003) Indigenous peoples, biological diversity and protected area management - policy framework towards resolving conflicts. International Journal of Sustainable Development and World Ecology, 10, 169-179

Price M.F. (1996) People in biosphere reserves: An evolving concept. Society & Natural Resources, 9, 645-654

Rosova V. (2001) Biosphere reserves: Model territories for sustainable development. Ekologia-Bratislava, 20, 62-67

Other useful literature

Solecki W.D. (1994) Putting the Biosphere Reserve Concept into Practice - Some Evidence of Impacts in Rural Communities in the United-States. Environmental Conservation, 21, 242-247

Stewart R.R., Noyce T. & Possingham H.P. (2003) Opportunity cost of ad hoc marine reserve design decisions: an example from South Australia. Marine Ecology-Progress Series, 253, 25-38

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Tangley L. (1988) A New Era for Biosphere Reserves - Mexicos Sian Kaan Shows That It's Hard to Be Everything a Biosphere Reserve Should Be. Bioscience, 38, 148-155

Ukeles J.B. (1964) The consequences of municipal zoning. Urban Land Institute, Washington
UNESCO (1995) The Seville Strategy for Biosphere Reserves. Nature & Resources, 1019 31, 2-17

UNESCO (2002a) Biosphere Reserves - Special places for people and nature. In: (ed. United Nations Educational SaCO), p. 208. United Nations Educational, Scientific and Cultural Organization, Quetigny - France

UNESCO (2007) Biosphere Reserves - World Network. In, p. 21. UNESCO, Paris
Werner H.M. (1926) The constitutionality of zoning regulations. University of Illinois Press, Urbana

West P., Igoe J. & Brockington D. (2006) Parks and peoples: The social impact of protected areas. Annual Review of Anthropology, 35, 251-277

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3. Governance

117. The governance of biosphere reserves varies from region to region and among countries. This diversity of management approaches is an asset of the MAB Programme. It is a consequence of the peculiarity of each region and national approaches to biosphere reserves. Biosphere reserves vary in terms of biodiversity from landscape to landscape, from ecosystem to ecosystem. So do the use of natural resources, the constitution of stakeholder groups, and the "governance" and institutions.

118. Governance refers to the structures and processes that determine how decisions about a biosphere reserve are taken and how stakeholders are included. Effective governance is key for implementing and coordinating all activities in a biosphere reserve. Differences in attitudes, governments and culture influence the necessary actions to be taken in each area.

3.1 Governance Structure

119. The MAB Programme emphasizes the importance of exploring and maintaining such diversity, including in the management approaches. The entire "governance" of biosphere reserves varies substantially at national, regional (sub-national) and biosphere reserve level.

120. Some biosphere reserves are recognized at the national level according to specific legislation and part of a national or regional administration. In others, only the core area is legally designated. Governance approaches - in particular regarding the mode of engagement of communities and stakeholders - frequently vary substantially and even within one country, from one biosphere reserve to the other.

121. It is envisaged that every biosphere reserve has one or more persons responsible for the biosphere reserve operations. The title of manager(s), coordinator(s), director(s) etc. varies depending on local conditions and/or rules. The organization, which leads/facilitates the management of a biosphere reserve, and employs such people is typically referred to as the biosphere reserve management entity. It is important to note, that this entity holds the decision-making power over the site.

3.1.1. Why is a governance structure necessary for Biosphere Reserves?

122. Biosphere reserves are instruments for the integrated management of socio-ecological systems or cultural landscapes – i.e. managers/coordinators have to deal with/manage many different interventions at many different levels, targeting for example at the same time: protecting individual species and habitats, improving the water cycle, supporting the marketing of agricultural products, training local communities and monitoring of the environment.

123. Managers/coordinators of biosphere reserves need to work with a team that brings together a vast set of skills and knowledge (especially in TBRs); managers need to act more like moderators and coordinators than rangers. Managers need also specific skills to maintain a biosphere reserve beyond the initial nomination. Starting a project is always much easier than maintaining momentum in the long run. Sometimes the "launchers" of a biosphere reserve are not the best people to manage it over an extended period. In addition, financial resources are often more readily available at the start of an initiative than to institutionally support biosphere

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reserves in a long run. Whatever the context, biosphere reserve management is essentially about empowering indigenous peoples and local communities, not about restricting them. The most important task is to coordinate, motivate, moderate and negotiate, and to interact with local communities in order to inspire sustainable forms of life and work.

124. The diversity of management and governance approaches represents a value in itself and should be promoted, provided that approaches are based on the underlying values and objectives of biosphere reserves, as stated in the Statutory Framework. The MAB Programme encourages international exchange, through MAB's various networks, about advantages and disadvantages in such management/governance approaches. Each biosphere reserve is an opportunity for new institutional innovation, while being able to draw from a wealth of experience globally. Each biosphere reserve first of all is a framework to create opportunities to involve various stakeholders, the people who live and work in the transition areas and/or buffer zones, and promote sustainable socio-economic development, creating the "wealth" of the WNBR.

3.1.2. What is a governance structure and how does it work?

125. The Statutory Framework does not specify or prescribe what kind of governance structure should be set up in order to implement the concept of a biosphere reserve. It only requires that there are appropriate structures proposed or functional, already at the time when a biosphere reserve is nominated (Statutory Framework Art 4, paras 6 and 7).

126. Governance structures are tools to enable the stakeholders to participate in the management of a biosphere reserve, utilizing it to achieve their goals, as defined within a management policy or plan, in a sustainable manner, and to use it as an impartial platform for solving problems, manage nature conservation tasks, promote sustainable development etc. Over time, the role of "participation" has developed almost as the fourth function of biosphere reserves. Local communities and stakeholders should participate in, if not all, then at least most aspects of biosphere reserve management and decision-making. Participation is conceptually important and pragmatically beneficial both for the managers/coordinators of the biosphere reserve as well as for stakeholders and communities – and for the environment they depend on. Participation increases the support of stakeholders and makes management more effective. It leads to empowerment and builds capacities as well as credibility and trust concerning the practices implemented. For stakeholders and communities, participation equals an improved role in decision-making and having a say in vital issues of their lives.

127. Partnerships within a framework of a biosphere reserve can also be perceived as a method rather than a mere function. This broader perception is for example supported by a study provided by Stockholm ResilienceCenter, explaining how biosphere reserves contribute to the 2030 Agenda and their interconnectedness with the Sustainable Development Goals (SGDs). The study showed that the biosphere reserves are producing results by implementing SDG 17: partnerships (https://www.stockholmresilience.org/publications/artiklar/2018-07-02-swedish-biosphere-reserves-as-arenas-for-implementing-the-2030-agenda.html).

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128. There are many occasions for participation in the management of a biosphere reserve, starting with the process of site nomination and continuing through ongoing management and the periodic reviews of biosphere reserves. For participation to be successful there is often a need to overcome suspicion and other forms of prejudice.

129. There are no “universally applicable solutions” for participation, which can take many forms, including: public hearings with face-to-face discussions, working groups and interactive planning, negotiation and consensus building, brainstorming and problem solving, capacity building, competitions, surveys and questionnaires, electronic consultation (email, social media such as Facebook or twitter, survey websites, telecommunication technologies such as skype, etc.). Face-to-face discussions and negotiations have various additional benefits and are therefore more effective than any other form of participation.

130. The Management manual for UNESCO biosphere reserves in Africa, supported by the German Commission for UNESCO, presents the governance structure according to two main categories; the “authority model” and the “NGO model”.
    - In the authority model (management unit dependent on a ministry or another authority), the approach is top-down and the authority is primarily competent for nature conservation and is often only in charge of the core area; it is therefore difficult for the management unit to be active in other fields, concerned with sustainable development. However, the advantage is that decisions can be implemented directly, and that a devoted budget is available.
    - In the NGO model, the management committee is composed of several private and public institutions and acts like a platform to bring together interests and communities. It is well adapted to concertation but it does not, in general, have a competence for direct implementation and is often obliged to negotiate with others institutions to implement decisions made by the platform. In addition, it tends to be project-oriented rather than management oriented. Integrated management with the core area may be more difficult.

131. Case study: “**NGO” governance model in Dana Biosphere Reserve, Jordan**

131a. Dana Biosphere Reserve was established in 1993 with a relatively large area of 300 square km. It covers a rugged landscape along the Great Rift Valley, and includes a series of mountain ridges, plateaus and desert plains. The Biosphere Reserve encompasses Jordan's four different bio-geographical zones: Mediterranean, Irano-Turanian, Saharo-Arabian and Sudanian penetration. Hence, it is home to the country's most diverse nature.

131b. The authority in charge of this site is The Royal Society for the Conservation of Nature (RSCN). The RSCN consists of two bodies. The General Assembly, composed of all individuals who belong to RSCN’s membership program. Members acquire the right to elect board of directors after two years of membership, and will be eligible to run for board election after four years of membership. The second body is the Board of Directors. This is the governing body elected by the general assembly to oversee the management of the RSCN, consisting of nine elected members and two appointed. The Board is elected once every four years, and the right to vote is confined to Jordanians only.

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131c. The governance structure is completed by the Executive Team consisting of RSCN's employees who are appointed to manage day to day operations and programs of the society according to approved policies and systems.

132. Case study: **Local government-driven governance in biosphere reserves of the Republic of Korea**

132a. In terms of governance structure, the biosphere reserves of the Republic of Korea fall under the category of authority model. Provincial/local governments create and operate the management committees of biosphere reserves, in which (vice-) mayors/governors are chairpersons and other government and non-government stakeholders, including representatives of local communities, are members. Based on the administrative authority vested in the provincial/local governments, they support and manage biosphere reserve activities for sustainable development (e.g. labelling and marketing of quality local products, eco-tour village programmes) and community participation (e.g. ecosystem monitoring by local people). Core areas are managed by the concerned nature conservation authorities – local or national -, which vary with protected area categories.

132b. In particular, Gochang Biosphere Reserve and Jeju Island Biosphere Reserve created the separate management units within the provincial/local government administrative structures for the biosphere reserve. Gochang Biosphere Reserve, designated in 2013, established newly 'Gochang Biosphere Reserve Management Office', which covered other relevant tasks of the government such as environment management and National Geopark management. After a few years of operation, the office was dissolved and the task of biosphere reserve management was absorbed to the other department. On the contrary, the Jeju Island Biosphere Reserve, designated in 2002 and extended in 2019, has been under the more stable governance system. The Department of Biosphere and Geopark within the Jeju Provincial Government has been for many years in charge of biosphere reserve as well as UNESCO Global Geopark.

133. Another distinction can be proposed, between already existing structures and ad hoc structures established for the biosphere reserve at the time of its creation.
    - The first category includes the body in charge of a protected area, included in the biosphere reserve (e.g. National Park, Regional Nature Park etc.). It will have a direct implementation power, but arrangements will have to be made to respond to meet the needs of the biosphere reserve, especially for the buffer zones and transition areas, where the body has no competence, and a management committee will have to be added for consultation purposes. This category also includes a public governing body which is adapted to the needs of the biosphere reserve, such as a municipality with the addition of a management committee and associations, or the governance of an Island (Minorca, Isle of Man) in which special provisions are foreseen to deal with the biosphere reserve objectives.
    - The second category includes a grouping of institutions and municipalities (syndicat mixte in France, public structure) or a grouping of partners, including associations (private structure). In this last case, the role of the structure will be only consultative. It can also include public/private partnerships.

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134. These basic models may be combined, which is the case in many biosphere reserves. Other models/principles also exist.

135. Ideally, an effective governance structure should have three main components:
   a) A "*management/coordination team*" of the biosphere reserve consisting of professional staff who performs full-time paid work every day in concrete activities for the biosphere reserve. A budget should be available for its actions.

   b) A "*management committee*" or "*steering committee*" or "*executive committee*" based on key stakeholders. This management entity has the decision-making power and closely cooperates with the management/coordination team. The "committee" is responsible for proposing actions for the implementation of the management policy or plan. It will also be in charge of the evaluation of this implementation.

   c) An "*advisory board*", which may have a specific, overseeing and/or consulting mandate.

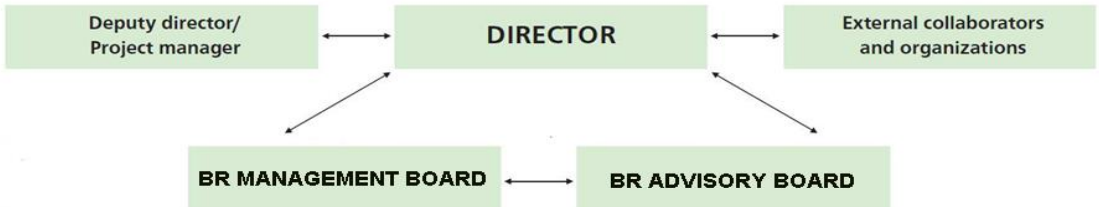
136. Sometimes a wider board and then a smaller executive committee take the roles of the latter two governance components.

137. It is very crucial to have a good balance of interests in the governance structure of the biosphere reserve. Good governance involves not only listening to the majority, but taking care of the needs of minorities, especially if they are vulnerable.

138. Case study: **Stakeholder based governance structure of the Lower Morava Biosphere Reserve, Czech Republic**

138a. The philosophy of the Lower Morava Biosphere Reserve *(LM BR) is based on the notion that the management of a BR should be essentially a 'treaty' between local communities and society as a whole. The management of the LM BR is based on equal participation of the local communities, government authorities, business representatives, the NGO sector and a scientific panel. The governance structure is in the form of an NGO: the LM BR Public Benefit Company. It was founded as the* biosphere reserve*'s administrative organization in August 2004 by Forests of the Czech Republic, (a state enterprise), the Ministry of the Environment, MND (Moravian oil-drilling company, a joint-stock company), Breclav County Chamber of Commerce, and the Czech Union for Nature Conservation. In 2012, the Ministry of the Environment, for internal and organizational reasons, waived its founder status and withdrew from all its positions in* biosphere reserve *bodies. The Ministry's cooperation with the* biosphere reserve *then moved towards an informal partnership, and its interests are assured through "permanent guest position" assigned for a representative of nature conservation authorities.*

138b. The administrative bodies of the Public Benefit Company are: the management board, the advisory board and the director. The management structure is based on the broad



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participation of major stakeholders in the LM BR. The management board is a nine-member management entity. It includes representatives of the current four founders mentioned above, three representatives elected by the communities of the three regions covered by the BR, one representative elected by the farming community, and one from Mendel University in Brno, who also acts as the main scientific consultant of the LM BR. The advisory board is a six-member supervisory body. It includes representatives of the founders, one member representing all the communities within the biosphere reserve*, and one from Mendel University.*

138c. The staff consists of 2–3 full-time employees, who take care of administration, projects and fundraising. The management bodies meet every two months or more frequently if necessary. Funding comes mainly from stakeholder donations, the biosphere reserve*'s own activities, and through various projects. In 2014 the MAB ICC recommended that the LM BR can be used as a model for a stakeholder-based management structure.*

139. Case study: **The seven Brazilian Biosphere Reserves Management System and the Integration System – Decentralized and Participative Management**

139a. Having hundreds core zones, large buffer zones protecting or linking these core zone and supporting the ecological corridors, protected areas mosaics and green belts around urban areas, the Mata Atlântica Biosphere Reserve (MABR) shape is more complex than the original concept of biosphere reserves designed by UNESCO.

139b. Considering its huge dimensions and territorial complexity, one of the main challenges of the MABR was to build a specific management system to guarantee its institutional consolidation, the actions decentralization, the field development of biodiversity conservation projects, the knowledge sharing and sustainable development promotion.

139c. In 1993, its National Council was created with the Executive Secretariat, with own staff, on the Sao Paulo City. During the next years, were created the MABR´ State Committees and Subcommittees. Pilot areas were located, priorities to implement the field projects defined and the Advanced Sites- institutions which work as sharing centres of the MABR principles and projects- created. In 1999, it was created the "Instituto Amigos da RBMA" (the MABR Friends Institute), an NGO dedicated to run projects and partnerships for the Reserve. It was ready the most embracing structured network with institutions working to conserve a biome in Brazil, partially thanks to its diverse partnerships and to its autonomous Management System, truly representative, balanced and decentralized. All its decision bodies are collective with simultaneous and balanced participation among governments (national, state and local) and representative sectors from the society – NGOs, science, business and local population.

139d. As consequence of its role, joining and integrating, the Mata Atlântica Biosphere Reserve became more than a special protected area. It is an important institution, inspiring the other Brazilian Biosphere Reserves, managed by the same Management System. This model was confirmed as Federal Law in 2000.

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3.1.3. How to plan and implement a governance structure for Biosphere Reserves?

140. Biosphere reserves are designated because an entire region, including all its communities, credibly aspires to become a model region, or 'site of excellence' for sustainable development of global importance. Therefore, the governance structure should be created in a way that this vision is met. It is recommended that the biosphere reserve governance structure is inclusive and participatory and reflects the stakeholder groups in the area.

141. The planning of the governance structure usually starts during the nomination process, when some steering group is formed. If this group has wide support and mandate, it might be transferred to a permanent governance structure once UNESCO designates the biosphere reserve.

3.2. Participatory Planning

142. ***Organizational arrangements should be provided 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 of the functions of a biosphere reserve.*** *(Statutory Framework, Article 4, item 6)*

143. Planning (and implementation) of the governance structure is already a key issue in the nomination process, providing an indication of how good the participation of stakeholders is likely to be. Some biosphere reserves build on direct local stakeholder participation, while some sites pursue modern style "authority model" with true participation applied (for example as used in Germany).

144. Participation requires time and resources, but is usually cost-effective in the long run, as it reduces conflicts and harnesses innovative ideas of communities.

145. Several categories of participatory planning include public authorities, local communities, traditional authorities, civil society, private sector and scientific community.

3.2.1. Public authority

146. In many biosphere reserves, a single public authority (e.g. a park or forest Administration, or a local or regional government) is in charge of the governance. In such cases, it is necessary to ensure that stakeholders can participate effectively in governance through complementary structures that have the power to influence the biosphere reserve activities and site management.

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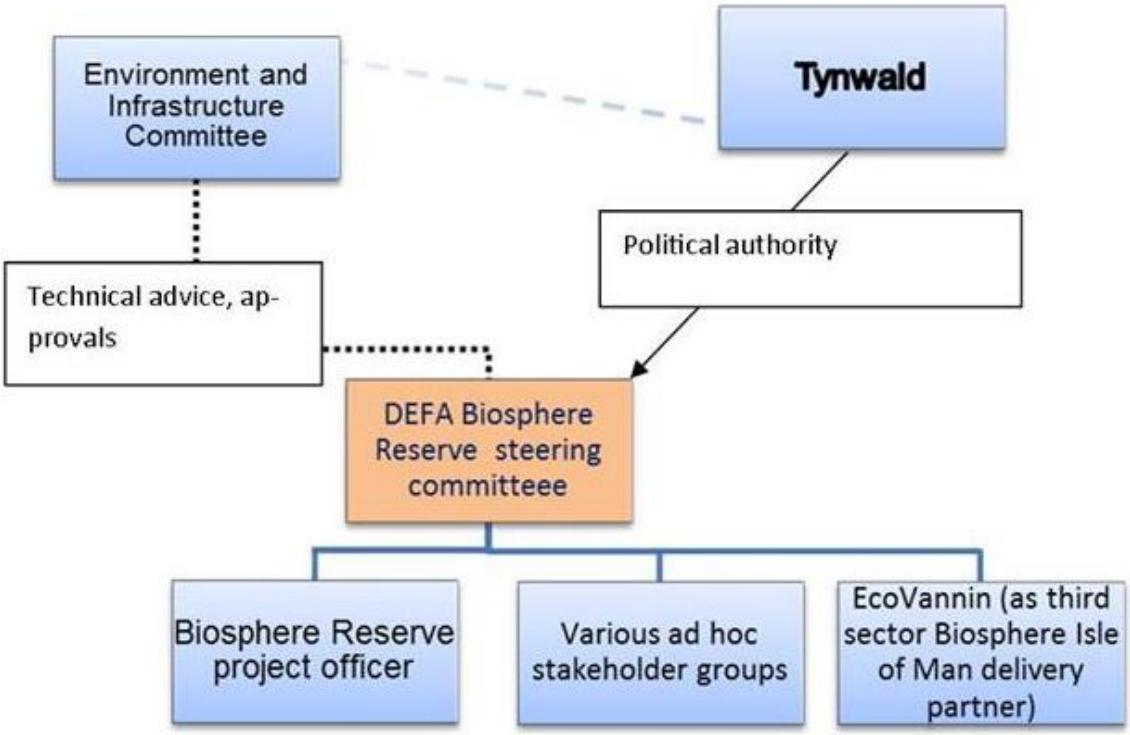
147. Case study: **Isle of Man Biosphere Reserve**

147a. The biosphere reserve includes the area of the Isle of Man and the Manx Territorial Sea. The site fully involves local communities as the entire population of the Island, some 84,500 residents, live within the terrestrial buffer zone and transition area.



147b. The Tynwald is the democratically elected decision-making political body for the Isle of Man as a whole, and to whom progress is ultimately reported. The Tynwald approved the decision to pursue biosphere reserve status, and is ultimately responsible for ensuring the implementation of the biosphere reserve functions as set out in this nomination. Other organisations in the UNESCO Biosphere Isle of Man Steering Group include Department of Environment Food and Agriculture (lead organisation), Centre for Manx Studies, Children's Centre, Culture Vannin (formerly Manx Heritage Foundation), Department of Economic Development, Department of Education and Children, Department of Infrastructure, EcoVannin (third sector partner), Institute of Directors representative, Manx Fish Producers Organisation, Manx National Farmers Union, Manx National Heritage, and Manx Wildlife Trust.

147c. *Detailed information on individual entities involved can be obtained on https://www.biosphere.im/who-involved.*

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3.2.2. Local communities

148. Local communities are the essence of each biosphere reserve. It is important that they are directly involved in the governance for several reasons. The local inhabitants should act as the landscape's everyday "guardians" – the people who use the landscape and protect its values. They frequently hold the traditional knowledge, important for sound management decision-making. As the people directly dependent on the area, they represent the main target group of a majority of the biosphere reserve's activities.

149. In some cases, local communities take charge of a biosphere reserve, setting up their own institutions. In other cases, groups of communities take charge, e.g., through a structure that involves multiple municipalities. Moreover, there are mixed approaches, e.g., where multiple local or regional administrations work with different stakeholders in a formal structure.

150. Case study: **Multiple municipality involvement in Nordhordland Biosphere Reserve, Norway**

150a. Nordhordland Biosphere Reserve is centrally located on the coast of western Norway and comprises the coastal landscape between Bergen and Sognefjorden. The biosphere reserve *was proposed as a project under the Nordhordland Regional Council. Its organisation was based on the collaboration agreement signed in 2013 by Nordhordland Regional Council and the University of Bergen to prepare an application for* biosphere reserve *status and for research cooperation in the* biosphere reserve*.*

150b. Nordhordland Region Council is the executive body, but all the local authorities, representing communities that are linked to Nordhordland Regional Council, also take part in the biosphere reserve*. These are Austrheim, Fedje, Gulen, Lindås, Masfjorden, Meland, Modalen, Osterøy and Radøy. In addition to these, Øygarden, Vaksdal and parts of Askøy, Bergen, Voss, Vik and Høyanger are also part of the* biosphere reserve*.*

150c. Even during the nomination process, the local communities played a vital role. The highest formal body that led the establishment of the biosphere reserve *was a broadly composed steering committee comprised of 10 members. The committee had representatives from the local communities in the region (three mayors), Nordhordland Development IKS, the County Governor's Office in Hordaland, Hordaland County Council, the University of Bergen, an environment organisation, and representation from business and industry.*

150d. The steering committee has the supreme economic and strategic responsibility for all activity in the biosphere reserve*. It meets approximately four times each year.*

150e. The project manager reports to the chairperson of the steering committee who is one of the mayors in the region. Simple majority makes decisions in the steering committee.

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151. Another good example of involvement of local communities in site management can be found in Kenya. Information from Kiunga biosphere reserve and Malindi Watamu biosphere reserve indicate that they have the interesting Community managed forest through forest associations, similar to Community Resource Management Areas (CREMA) system in Ghana. The national Forest service signs agreements with the indigenous communities for forest management and other activities including benefit sharing.

3.2.3. Traditional authorities

152. Traditional authorities are the key stakeholders of many biosphere reserves worldwide. They are the holders of traditional knowledge and represent vital link between the history and the present of the sites. As in many areas, the traditional authorities have great power and must be included in every issue related to a biosphere reserve, from the first consultations on the proposal for a biosphere reserve through its ongoing management. Whenever feasible, traditional authorities should be explicitly included within the biosphere reserve governance structures.

153. Case study: **Tsá Tué Biosphere Reserve, Canada**

153a. Located in Canada's Northwest Territories, the Tsá Tué Biosphere Reserve encompasses the last large pristine arctic lake and its watershed. Boreal forest and taiga cover much of the watershed and form the habitat of wildlife including muskox, moose and caribou.

153b. The human residents of the site are the Sahtuto'ine, the 'Bear Lake People', the First Nation Dene community, which have always relied on their spiritual and cultural connection to the land and lake. The community established a Stewardship Committee in 2013 and led a designation process for Tsá Tué to be part of the World Network of Biosphere Reserves.

153c. The biosphere reserve *was designated in 2016, and few months afterwards, the Canadian government granted the Deline First Nation (part of Sahtu Dene Council) self-government administration. Tsá Tué is the first Biosphere Reserve in the world designed and managed by First Nations.*

3.2.4. Civil society

154. Very often, civil society not only conceives the idea of nominating a biosphere reserve, but also takes on a large part of its governance once the site is designated. A governance structure built on civil society usually has very participative and inclusive character. One weakness that might occur is the lack of financial stability. That can be eliminated by transparent partnerships with businesses or feasible business plans.

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155. Case study: **Gouritz Cluster Biosphere Reserve, South Africa**

155a. The Gouritz Cluster Biosphere Reserve is located in southern South Africa, across parts of the Western, Southern and Eastern Cape. The GCBR is also the name of a non-profit company registered as an association incorporated not for gain to manage the Biosphere Reserve in terms of the requirements of MAB Programme. The GCBR is a membership organization governed by an elected non-executive board of directors. A lean management team is responsible for direction, strategy implementation and day to day operations. Project leaders are appointed on a project-by-project basis, coupled with partnerships as a preferred way of delivering on the ground.

155b. The GCBR's organizational culture and methods of working are characterized by the principle of enabling and informing others through:

- *Partnerships and networks with champions across the domain: inter alia local action and youth groups, innovative farmers and associations, non-governmental organisations, faiths such as church groups;*
- *Active mobilisation, hosting and facilitating multiple stakeholders to work together for ecological sustainability: stakeholders include business, government, communities, educational establishments, foundations, farmers, para-statals, corporates, associations;*
- *Influencing public opinion, perceptions and behaviors with special attention to the youth and tomorrow's leaders.*

155c. The GCBR largely depends on donor financing for its operations. Gouritz Enterprises Pty Ltd, a for-profit company, was registered in 2016 with the GCBR as its sole shareholder. The intention of this company is to develop business opportunities from which surplus can be derived. Profits will be paid to the GCBR to build up an unrestricted fund to further support delivering on the GCBR's mandate.

3.2.5. Private sector

156. It is highly desirable to include representatives from the private sector in the biosphere reserve governance structure, to help to improve feasibility of biosphere reserve actions by providing different and valuable point of view on biosphere reserve activities, and private interests should be considered while planning strategies for implementing these actions. Sustainable production and consumption are essential elements in biosphere reserve, and private sector involvement is often necessary to achieve the biosphere reserve goals. The private sector can also help to support the biosphere reserve management through sharing its resources (financial, information etc.). Incorporating the private sector into the governance of a biosphere reserve does not mean "greenwashing" and needs clear rules and benchmarks. As a general guideline, documents or directives concerning UNESCO's partnership with NGO and business partners can be used (https://en.unesco.org/partnerships, https://unesdoc.unesco.org/ark:/48223/pf0000370506/PDF/370506eng.pdf.multi).

157. Other stakeholders involved should monitor the management to avoid conflicting situations.

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158. Case study: **Private sector involvement in Pendjari Biosphere Reserve, Benin**

158a. The site is located in north western Benin, near the border with Burkina Faso. The biosphere reserve covers a diversity of plant formations such as grass, shrubs, woodland and forested savannahs, as well as open forests and gallery forests. It is renowned for its rich fauna and a great variety of bird species.

158b. In Pendjari Biosphere Reserve, private safari hunting companies operate in the buffer zone as dealers on the basis of specifications. These companies are responsible for anti-poaching activities, making arrangements (tracks, water points, salt works, etc.) with a view to optimum development of wild animals and their tourist exploitation without compromising wildlife capital. This form of exploitation provides substantial income, thus contributing to the sustainable financing of the conservation of the entire biosphere reserve: covering recurrent costs of managing central areas and economic and social benefits for local communities in particular, the creation of 'gainful employment, the provision of meat from hunting.

158c. The Biosphere Reserve management committee has also partnered with several cooperatives, like the public-private partnership Cotton ALAFIA, aimed at organic and sustainable cotton production. One of the project's goals include guaranteeing local actors are fairly compensated.

3.2.6. Scientific community

159. Universities, research centres or individual scientists usually do not have the potential to create an entire biosphere reserve governance structure alone, and this would not be in line with the Statutory Framework of the WNBR. However, the scientific community is an excellent partner for site co-management. It is desirable to include scientific representatives as a part of biosphere reserve governance.

160. While some biosphere reserves have embedded the scientific community directly in the governance scheme, others established a special scientific committee or scientific advisory board as an important element in fulfilling the logistic function and informed evidence-based decision-making. No matter what form the cooperation takes, all activities must remain balanced, going beyond the logistic function.

161. There are many examples of good partnership between scientific community and biosphere reserves. For example, the Austrian Academy of Sciences has a special grant programme for Austrian biosphere reserves. Every year, selected biosphere reserves are financially supported in order to work on local, national and international projects. In Norway, the University of Bergen and Nordhordland Biosphere Reserve have a memorandum of understanding, and scientists and students from the university undertake many projects in the biosphere reserve. Another good example is the Mendel University in Brno (Czech Republic) that directly participates in the Lower Morava Biosphere Reserve governance and combines research and education activities with the biosphere reserve agenda.

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162. Case study: **Co-management of Mount Arrowsmith Biosphere Region, Canada**

162a. This biosphere reserve, designated in 2000, is located on the east coast of Vancouver Island in British Columbia. The Mount Arrowsmith Biosphere Region (MABR) includes the entire watershed draining the area. Management focuses on the maintenance of healthy aquatic, coastal estuarine and intertidal ecosystems. The administrative authority for the biosphere reserve *is the Mount Arrowsmith Biosphere Foundation, originally established in 1996 to raise awareness of the biodiversity of watersheds on Vancouver Island's Mount Arrowsmith and adjacent marine areas. Members of the Foundation voted in 2013 to dissolve the society and hand over management of the MABR to Vancouver Island University (VIU) and the City of Parksville. They signed a Memorandum of Understanding to co-manage the MABR and to build a roundtable involving First Nations, municipal and senior levels of government, private industry, conservation groups, and others regional representatives. In 2014, VIU established the Mount Arrowsmith Biosphere Region Research Institute (MABRRI). MABRRI's purpose is to connect the expertise and experience of university researchers with the brainpower and energy of students and the priorities and concerns of the community to develop a collaborative research agenda for the MABR.*

3.3. Transboundary Biosphere Reserves

163. The governance of transboundary biosphere reserves can be challenging. Normally, TBRs have national governance structures that are in charge of the respective national part and also a joint one, that coordinates and plans transboundary activities.

164. Case study: **Vosges du Nord/Pfälzerwald Transboundary Biosphere Reserve, France/Germany**

164a. The Natural Park of Vosges du Nord (France) was designated as a biosphere reserve in 1988, and the Pfälzerwald Natural Park (Germany) in 1992. Subsequently, these two parks prepared the creation of a transboundary biosphere reserve and in 1998 this goal was achieved. Administration of this site is provided by Parc Naturel Regional des Vosges du Nord; Verein Naturpark Pfälzerwald; Ministry of Nature Protection and Forest Management. The coordinating structure of the Vosges du Nord-Pfälzewald TBR has *been established since the beginning when the TBR was created. The structure was reaffirmed and further defined by a protocol of agreement signed in February 2017 by the Chairs of the two entities and representatives of German and French authorities.*

164b. Concerning the objectives of the TBR, the agreement lists 11 fields for transboundary cooperation and development: Conservation of biodiversity, Sound forestry, Agro-ecology, Quality tourism, Education on sustainable development, Support of innovations, Support to sustainable energy, Climate change, Cultural heritage, Intercultural communication, Participation in the MAB networks.

164c. The structure consists in a coordinating Committee with the following composition: heads of the two parks, four members of the steering committee of each park, personalities representing the local instances (two of the French departments Bas-Rhin and Moselle, two of the French region Alsace and two of the Land Rhénanie Palatinat) and the chair and the vice-chair of the scientific Council of the TBR

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164d. A scientific Council is also created with three representatives of the two scientific boards of the German and French parks. It is consulted by the coordinating Committee on any issue regarding the management of the TBR.

164e. The Committee has no legal status, which prevents it to benefit of a financial autonomy and to establish its own Secretariat. However, the Committee approves and recommends future orientation and projects for the TBR. Its decisions are taken by a 3/4 majority.

164f. The Committee meets at least twice a year. The Committee can create thematic working groups when it considers it appropriate. Such groups have for instance been created on eco-renovation, green and blue networks, environmental education, short channels and biodiversity. The Committee can also invite any expert that could help the debates according to the agenda. The Committee elects one chair and one vice –chair for two years. The Committee adopts its rules of procedure.

3.4. Multi-designated sites

165. Biosphere reserves with multiple international designations may have a slightly more difficult position in terms of governance as different designations have different objectives and the representatives of various designations might have problems to cooperate better. In such situations, it is essential to create a platform that is able to manage the different designations jointly or to coordinate them effectively. The biosphere reserve manager may then take on the role of coordinator of multiple interests.

166. In most cases, the different designations cover different areas, but there are also examples of various designations sharing common area.

167. Case study: **Jeju Island Biosphere Reserve, Republic of Korea**

167a. Jeju Island Biosphere Reserve was designated in 2002, and expanded to the whole island in 2019. A part of the island was inscribed on the World Heritage list thanks to its geological value in 2007. In 2010, the whole Jeju Island was also endorsed as a Global Geopark. At first, the management structures of these designated sites were complicated. Management of the biosphere reserve and the Global Geopark was under the Department of Environment Policy of Jeju Provincial Government, which is in charge of conservation of biodiversity and management of the national park. However, management of the World Heritage Site was under the Department of Cultural Policy of Jeju Provincial Government. Later, Jeju government established a specialized authority, the Jeju World Natural Heritage Centre, for the integrated management of the biosphere reserve, World Heritage and Global Geopark. The Centre set up a comprehensive management committee of UNESCO designated sites which is composed of 30 people from the central governments, academics, institutions, civil society, local communities *and local governments who are involved in the three UNESCO sites. The Committee has three sub-committees, on biosphere reserve, World Heritage and Global Geopark, which meet biannually and advise on management issues.*

168. Other examples of functional multi-designated sites can be Wudalianchi BR in China, Malindi Watamu BR of Kenya or Delta du Saloum BR in Senegal etc.

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3.5. The role and structure of National MAB Committees

169. Government-appointed National MAB Committees play a fundamental role in the coordination of activities related to the MAB Programme at country level. In order to ensure maximum national participation in the international programme and to define and implement its national participation, every Member State is invited to establish a permanent and fully-functioning national committee. The committee should work closely with its UNESCO National Commission and Permanent Delegation.

170. The National MAB Committee serves as a relay between the different institutions and ministries concerned by the MAB Programme and UNESCO i.e. MAB Secretariat, Division of Ecological and Earth Sciences etc. Even though they do not play crucial part in biosphere reserve governance structure, they have important role in overall MAB Programme coordination on national level as well as the critical roles in implementing the vision and mission of the MAB Programme.

171. In order to take account of the interests of the scientific community and the administrative authorities, the National MAB Committee should be composed of representatives of the main scientific research centres, and of the universities and ministries concerned and be interdisciplinary. The authority in charge of each biosphere reserve should also be represented on the MAB National Committee. For example; Indonesia MAB National Committee Membership 2016-2019 involved four Ministries as Advisory Board i.e. Minister of Education and Culture, Minister Environment and Forestry, Minister of Marine and Fishery, Minister of Internal Affairs, and Chairman of Indonesian Institute of Sciences and involving all local government and head of national parks or conservation areas of the biosphere reserves, universities, private sectors and NGOs. At this period was the for the first time that more ministers were included and provided official letter of commitment.

172. The importance of trans-disciplinary membership in National MAB Committees is also underlined in Lima Action Plan (Outcome E2 Action E 2.1).

173. The guidelines for establishing the National MAB Committee can be found at https://unesdoc.unesco.org/ark:/48223/pf0000111527

BIBLIOGRAPHY

Sustainable heritage areas: Partnerships for ecotourism: https://www.shapingecotourism.eu/about-shape/governance/

Schaaf, T. and Clamote Rodrigues, D. (2016). Managing MIDAs: Harmonising the management of Multi-Internationally Designated Areas: Ramsar Sites, World Heritage sites, Biosphere Reserves and UNESCO Global Geoparks. Gland, Switzerland: IUCN. xvi + 140 pp.) https://www.iucn.org/content/managing-midas-harmonising-management-multi-internationally-designated-areas.

https://en.unesco.org/partnerships

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https://unesdoc.unesco.org/ark:/48223/pf0000370506/PDF/370506eng.pdf.multi

https://web.archive.org/web/20121019014342/http://www.rainforestrealities.com/articles/industry-preserves-globally-recognized-conservation-site/

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4. Plans, Policies and Strategies for Biosphere Reserves

174. This chapter explains several strategic documents that are needed (and/or suggested) to effectively manage a biosphere reserve. The Statutory Framework (Article 4, paragraph 7) requires that every biosphere reserve should have a “Management Policy or Plan” (section 4.1.2). It is envisioned as an overall framework for all stakeholders to work together towards jointly achieving the goals defined for the biosphere reserve and to address new and emerging challenges.

175. Other documents discussed in this chapter are optional. A “Business Plan” is an alternative (or additional) approach to a “Management Plan”. It focuses not on the collective action of all stakeholders, but on the action of the main management entity itself (sometimes authority of an incorporated protected area). Even if the management entity of a biosphere reserve operates in a not-for-profit manner and/or is a government authority, it is wise to apply certain proven management principles of commercial businesses.

176. The “Marketing Strategy” and the “Communication Strategy” can be separate documents or integrated with other documents. Their main purpose is to position the biosphere reserve towards its stakeholders; and/or to position the products and services of the commercial businesses within the biosphere reserve for tourists and other customers, in order to generate income for local communities.

177. Managing a biosphere reserve according to such strategy documents provides many benefits. This includes clear direction and strategy for all stakeholders; smooth transition/retention of knowledge between staff, directors and volunteers, committees and board members; monitoring, record-keeping and evaluation of progress; expectations of possible donors; and compliance to government regulation.

4.1. Management Plan

178. All biosphere reserves should have a “Management Policy” or “Management Plan”. This is understood as an official document for a multi-year period, formulated through a participative process and adopted by the relevant decision-making body. It serves to achieve the declared objectives of the biosphere reserve in a structured, measurable way.

179. A management plan is mandatory and required by the Statutory Framework of the WNBR (Article 4.7.b). Biosphere reserves should involve all of the various stakeholders in planning and decision-making and provide training to enable meaningful participation. As a management plan should also accommodate the principles of adaptive management, a management plan should be updated at regular intervals. Also, a request for a management plan or policy is included in nomination form, periodic review form and Lima Action Plan 2016 – 2025 (Actions A2.2, A3.2, A4.5).

180. The MAB Programme refers to both “management policy” and “management plan” in the mentioned statutory documents. This double terminology reflects that, in different countries and in different management styles, different concepts are used. At present, the term *management plan* is preferred. To be clear, the MAB Programme *requires only one* multi-year

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strategic document from each biosphere reserve, *not two.* Typically, a management plan will address a (plus/minus) 10-year period (in line with the frequency of the periodic review); sometimes, its duration is shorter (e.g. 5 years).

181. A management plan needs to address all zones of a biosphere reserve equally. Conserving biodiversity is necessary in all three zones, but various instruments are available in the different zones. Promoting sustainable economic and social development is necessary in all three zones, but means something different in each zone. Research and education should be promoted in all three zones. Some biosphere reserves have the challenge of including multiple designations, with possibly diverging zonations, such as national parks, Ramsar sites, World Heritage sites etc.

182. For biosphere reserves, UNESCO specifies three categories of zones (core area, buffer zone, transition area). However, sub-categories of these zones could be defined for management purposes and spatial planning purposes, in accordance with national law or local specificities (e.g. core 1, core 2, buffer 1, buffer 2, zone of influence, etc.). Nevertheless, in biosphere reserve official documentation provided to the MAB Programme (nominations, periodic reviews etc.) the authorities should only use the appropriate three-category classification and terminology without additional attributes. If a site has different designations (e.g. Biosphere Reserve, Ramsar, World Heritage) and corresponding zonation, the zonations must be legally and conceptually compatible. All these different zones must be addressed by the management plan.

4.1.1. Why is a management plan necessary (i.e. what are its crucial benefits)?

183. A management plan is needed because:

a) It is a requirement of the statutory texts of the MAB Programme;
b) The biosphere reserve management entity (like all organisations) needs a basic document guiding its action;
c) National government will most likely require such a document for accountability and for providing funding;
d) Any potential donor will most likely require it to understand how an individual project fits into an overall approach of the biosphere reserve;
e) Local partners might expect a written document, outlining goals, priorities and main lines of action;
f) Management without a plan is “ad-hoc” and not effective; it can rapidly lead to “strategic shifts” away from key goals;
g) Formulating a management plan is one of the best opportunities to engage in-depth with stakeholders and communities to secure support and buy-in.

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4.1.2. What is included in a management plan?

184. A management plan as a document should contain several items. The following list is only one possibility; these items can be worded differently, and there can also be additional or fewer items:

a) Organizational/governance structure responsible for implementation of the plan.
b) Status-quo analysis of opportunities and threats, strengths and weaknesses.
c) Status-quo analysis of priorities for the biosphere reserve, including from a stakeholders' perspective.
d) Scenario development, including analysis of external pressures and internal vulnerabilities.
e) A long-term vision (either short "summary statement" or visions for several priority themes, possibly "mission statement").
f) Medium-term goals which need to be attained to make the vision a reality, accompanied by indicators and benchmarks.
g) Priority projects, whose implementation will lead to attaining the medium-term goals.

185. Case study: **Management plan of Waterberg Biosphere Reserve, South Africa**

185a. The biosphere reserve in the Limpopo province in the northern part of South Africa was designated in 2001. A management plan was completed in 2011, together with the first periodic review and hand-in-hand with the successful application for a considerable extension of the biosphere reserve. Its main goals are to address the various challenges such as mining, hunting, unemployment and fragmentation of the landscape; as well as spatial planning, development guidelines and the long-term conservation objectives. Since biosphere reserves do not have legal status in South Africa, achieving leverage and impact on land use practices on the ground is of utmost importance. Thus, in the context of formulating the management plan, improved strategic planning was foreseen to go hand in hand with engaging with all competent levels of government. The management plan spells out a vision and a mission statement, a detailed analysis of lessons learnt and of present and future challenges and specific priority projects (e.g. communication, skills training, tourism development, community tourism, conservation of wetlands, rhino protection and environmental education). The plan also confirms the organizational structure, including a stakeholder committee representing a balance of up to 30 local interest groups.

4.1.3. Issues to be addressed by a management plan

186. The management plan needs to address all issues that are *relevant* for the *specific* biosphere reserve. For coastal or marine biosphere reserves, the topics are different from those for mountain or dryland biosphere reserves; for very rural areas, the topics are different to those of densely populated and of semi-urban biosphere reserves. The issues should not only be defined according to their current relevance, also "upcoming issues" that are likely to become relevant soon, should be integrated.

187. The issues to be addressed will need to be defined jointly within the already established or the interim biosphere reserve governance structure (including the management entity), and, in particular, through a participatory approach involving stakeholders and local communities to

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the maximum extent (if perspectives, interests and possible actions of stakeholders are not integrated, the plan should rather be called the “business plan” of the management entity). For most biosphere reserves, the following issues will likely be part of their management plans:

- Biodiversity and ecosystem services and their conservation and use;
- Sustainable land-use and resource use;
- Improving livelihoods and generating benefits for communities;
- Promoting green economies;
- Infrastructure development;
- Ecosystem restoration;
- Disaster reduction and risk management;
- Tourism;
- Climate change;
- Research and education.

188. Depending on the specific biosphere reserve, issues such as mining or local/traditional/ indigenous knowledge might also be high priorities.

4.1.4. How to plan and draft a management plan?

189. The process of formulating a management plan can be long and may need considerable resources (in some biosphere reserves, the process takes 1 to 2 years). Therefore, the management entity of a biosphere reserve should seek full and explicit support from all relevant partners, including government institutions and communities. Essential partners should fully understand why a plan actually is beneficial for everybody, beyond the requirement by the MAB Programme. Before a process is started, sufficient funding has to be secured. Such a process might be eligible for funding from international donors.

190. If the biosphere reserve management entity lacks necessary funds, it is still its duty to create a feasible management plan utilizing whatever resources it has available, with as many collaborating stakeholders as possible.

191. Formulating a management plan should be seen as an opportunity to reach out to communities and stakeholders. It can also be seen as a chance to experiment with new, more dynamic, more participatory and more efficient working methods.

192. Suggestion for possible steps to be taken when drafting a comprehensive management plan:

Step 1 - Establishing a steering group and its working methods:
A steering group is helpful and should be established for the entire duration of the process of elaborating a management plan. The steering group has to be under experienced leadership and under the coordination of the biosphere reserve management entity. Ideally the steering group should be multidisciplinary and needs to include key stakeholders and political mandates according to the dynamics of the specific biosphere reserve. The steering group needs to agree on ways of collaborating, on a schedule of meetings and on its decision-making process and power. The steering group is helpful as a supervisor; its tasks typically includes controlling the progress of the process, identifying gaps, and revising and finally adopting texts.

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Step 2 - Collecting information and priorities from stakeholders and communities:
Communities and stakeholders should be consulted on their specific interests and problems. This could take place in a series of workshops, for example as an initial step an open brainstorming session on a "status-quo analysis": What is the situation today? What should change, what should change immediately? Interests and problems could be clustered; cluster themes and priorities should not be imposed in advance. If repeated workshops are organized, subsequent workshops can validate or adapt the results of previous workshops.

Step 3 - Developing a vision:
A management plan should contain a long-term vision for the biosphere reserve. The vision should be developed in a participatory manner by the entire community. It should not only be driven by an analysis of problems, vulnerabilities, threats and risks, but just as well by an analysis of opportunities and strengths. Cooperation with scientists and external consultants can support scenario-building. The final decision about the exact formulation of the vision should be made by the steering group.

Step 4 - Formulating goals and objectives aligned with the vision:
These are the goals that need to be achieved in 3, 5 or 7 years (for example), such that in 10 years the vision is achieved. There should also be a clear and credible causal connection. Measurable success indicators that provide insight about reaching the goals should be formulated. Some of the goals also can specifically relate to the current WNBR Action plan (e.g. Lima Action Plan 2016 - 2025).

Step 5 - Projects and interventions:
The final step of developing a management plan is to identify the projects and interventions whose implementation is expected to lead to reaching the goals. A project or intervention is something really concrete, as "presenting the region at the national tourism fair" or "hiring a tourism consultant". It is helpful to reach out to stakeholders and communities also for collecting ideas for projects and interventions, and for later clustering and prioritizing them. This again could be done through consultation meetings, but also through competitions or calls for proposals. Projects should be prepared with reference to what is realistic and the likely budget scenarios which could lead to limitations on implementation success.

193. Once the management plan is formulated, there needs to be a process of approval and adoption. If there is a steering group for the process of formulating the management plan, then the final document should be adopted by this steering group first (possibly later by local and/or national authorities).

194. Case study: **Elaborating the management plan in Swabian Alb Biosphere Reserve, Germany**

194a. From 2011 to 2012, the German biosphere reserve Swabian Alb (designated in 2009) established its first management plan in a very participatory process. More than 1,000 individuals were involved (population of the site is about 150 thousand inhabitants). Twelve working groups worked on topics such as education, nature conservation, tourism, forests, agriculture and cultural heritage; altogether these working groups brought together more than 200 people and met 46 times. A steering group of 23 members which met 6 times; in addition, there was an accompanying government supervising committee of 13 persons met 3 times.

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194b. Two managers and one external expert as coordinators met 22 times. In addition, several competitions for children were carried out, an internet discussion forum was established and 2 large public hearings with more than 300 participants were organized. There were 5 additional public hearings on specific topics. The result was that 12 thematic visions were formulated, 55 concrete goals adopted, and 350 ideas for concrete projects selected, of which 28 were prioritized. The management plan itself consists of 3 comprehensive documents of several hundred pages.

195. The case study presents very sophisticated and demanding way to elaborate a top-quality biosphere reserve management plan. However other approaches are available as well, to fit the local or regional conditions and resources. It needs to be emphasized that the common goal in all cases should be the production of a feasible and assessable management plan, generated in a participative manner.

4.1.5. How to implement a management plan?

196. Successfully implementing the management plan involves some key aspects:

- Establishing precise responsibilities for implementation of the different parts of a management plan to be clearly shared between the management entity and other relevant stakeholders;
- Establishing precise responsibilities for seeking financial support for funding the priority projects and interventions agreed in the plan;
- Ensuring that other projects and interventions, beyond the scope of the management plan, possibly implemented by third parties, are in line with the vision and goals of the plan, to the extent possible;
- Monitoring of implementation success.

197. Management entities of biosphere reserves with long-term success have proper strategies, acquire the funds needed, and have the right staff to implement the strategies. In addition, they constantly listen to the needs and wishes of stakeholders and communities and set priorities accordingly; they create support, commitment and shared values; they involve stakeholders in implementation processes. Participatory management involves collaboration with all stakeholders and include community involvement and community engagement.

198. For funding, it is helpful to try to integrate the biosphere reserve and its goals into national laws, policies and/or strategies. In the long run, each biosphere reserve has to be funded at least in part from national, and/or provincial or municipal sources. If this is not possible, for example in some developing countries, the UNESCO biosphere reserve designation should be used as a “quality label” in order to attract a wide variety of funding from national, international, and private sources. That this is indeed possible, e.g. through GEF (Global Environment Facility). It is the specific combination of various factors (environmental, economic, social) that make biosphere reserves specifically attractive towards donors.

199. Through a diversified funding portfolio, and in addition to national sources, biosphere reserves can acquire funding for individual projects, for example from scientific institutions, ODA (official development assistance) donors, intergovernmental institutions, international NGOs (non-governmental organisations) or charitable foundations.

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200. Plans do not lead anywhere if the implementation and the results from implementation are not monitored. Management is based on a continuous cycle of planning, implementation, monitoring and evaluation. Monitoring and evaluation should form an integral part of the management plan and should be adequately resourced. Indicators (data collected as part of monitoring) should be quantified and accompanied by benchmarks. The indicators need to be linked to the goals and objectives to give an indication whether the medium- and long-term goals of the biosphere reserve are likely to be achieved. Monitoring of the management plan should go hand-in-hand with all other relevant monitoring, to optimize the human and financial resources. For example, it should be fully in line with the cycle of the periodic review. It should also be in line with the monitoring of any large-scale project, as funded by one or several donors.

4.2. Policies and Legislation

201. The MAB Programme and biosphere reserves need visibility, recognition and acknowledgement in the legal system of any country. Consequently, Action A3.1 of the Lima Action Plan (2016 – 2025) states that biosphere reserves need to be recognized in legislation and policies. This is not a straightforward action, as some countries provide a legal basis for the implementation of the MAB Programme, whereas others opt for other ways and means to implement biosphere reserves. Some examples include a royal decree in the case of Tonle Sap Biosphere Reserve in Cambodia; formal legislation in the case of biosphere reserves in Germany, Ghana and Brazil; a voluntary non-profit organization in Canada; and a government focal point assisted by the National Commission for UNESCO in Australia.

202. Case study: **The South African Biosphere Reserve Strategy**

202a. The MAB Programme in South Africa is not referenced by national legislation and therefore biosphere reserves are implemented in a soft-law spirit. The national Department of Environment, Forestry and Fisheries facilitated the first ever relevant South African strategy (Government of South Africa, 2015), the South African Strategy for the Biosphere Reserve Programme (2016 – 2020). The aim of this Strategy is to provide a shared direction to the different components of the MAB Programme regarding the interlinked objectives of biodiversity conservation and sustainable socio-economic development, thereby supporting the achievement of national priorities and international obligations. The Strategy is supported by an implementation plan and a related monitoring and evaluation framework. The vision for the MAB Programme is: "South African biosphere reserves are recognized as special landscapes where socio-ecological land management is practised towards a more sustainable future for all." The Department will report on the progress with the implementation of the Strategy during the annual national MAB Committee meetings and expects all biosphere reserves to provide input towards this process.

203. Case study: **Biosphere Reserves in German Federal Environmental Law**

203a. Article 25 of the German Act on Nature Conservation reads (unofficial translation, excerpt):
"(1) Biosphere reserves are areas that are to be protected and developed in a consistent way and that 1. are large and are typical representatives of certain landscape types, 2. fulfil the

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requirements for nature conservation areas in essential parts of their territory, and the requirements for landscape protection areas throughout the greater part of the rest of their territory, 3. serve the primary purpose of conserving, developing or restoring landscapes shaped by traditional, diverse forms of use, along with their species and biotope diversity as evolved over time, (...) and 4. illustrate ways of developing and testing forms of economic activity that are especially conserving of natural resources. (2) To the extent permitted by their protection purpose, biosphere reserves also serve purposes of research, of observation of nature and landscape and of education for sustainable development. (….)"

4.3. Business Plan

204. The Lima Action Plan (2016 – 2025) foresees, in its "outcome A5" (financial sustainability of biosphere reserves), the development of biosphere reserve business plans. This clause is an inspiration for developing business plans, but it is not a statutory requirement, i.e., of the Statutory Framework. Although some biosphere reserves refer to business strategies, the term 'business plan' is preferable.

205. A business plan is a written plan stating the goals of a specific organization (profit or non-profit), with a focus on how and when these goals will be achieved financially.

206. A business plan is more limited in scope than the 'management plan' of a biosphere reserve, which typically addresses the collective work of all stakeholders of a region in a combined manner, detailing how to achieve their collective goals, defined based on wide participation (with the management entity as main actor).

207. In contrast, the business plan is the operative plan for the management entity as such, as a well-delineated organization. It can be a document for the short term (typically one year) or the longer term. It is also more focused on fundraising. It will include sources of funding, how the organization will raise (additional) money, how many staff will be required, the details of how they will operate, the criteria used for allocating funds and, if applicable, how any capital investment will be repaid.

208. Case study: **Business plan for the restoration of income generation affected by the war in Shouf Biosphere Reserve, Lebanon**

208a. The Shouf Biosphere Reserve (SBR) was declared a UNESCO Biosphere Reserve in 2005. It includes: the Al-Shouf Cedar Nature Reserve (established in 1996), the Ammiq Wetland Protected Area, and twenty-four (24) villages surrounding the biosphere from the eastern and western sides of the Barouk and Niha mountains.

208b. The SBR has become a popular destination for ecotourism activities (hiking, snowshoeing, bird watching, etc.). Ecotourism is a field that is very dependent on effective and efficient planning.

208c. The SBR Ecotourism Strategy, as part of the SBR Management Plan, puts focus on the role of ecotourism as an effective step in reconciling conservation of biodiversity with economic development.

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208d. The methodology adopted in the SBR Ecotourism Strategy was based on field work and a series of meetings, discussions, and workshops held by SBR coordination team with different stakeholders (local communities, and a variety of key persons). This helped in formulating a strategic plan to improve income by increasing visitor numbers while minimizing threats to the environment.

208e. The steps followed in the preparation of the ecotourism strategy were:

- *Assessing the current situation (natural resources, tourism demand and facilities available, relation with the surrounding local communities, etc.)*
- *Establishing the goals (improve management, upgrade the tourist experience, minimize the negative impact of tourists, enhance benefits to local communities, develop future tourism /conservation scenarios, etc.)*
- *Strategic planning (identification and prioritization of tasks to decide the level and type of tourism activities desired, time, etc.)*
- *Partnerships (redefining partnership between the management team and tour operators, other NGOs, local communities, government and local authorities, etc.)*
- *Monitoring and new guidelines (define the appropriate types of tourism in the protected area, minimize the impact of tourism activities, establish the appropriate carrying capacity levels, create new guidelines based on what we have, etc.)*
- *Implementation (establishing a solid coordination between planning and management processes, ecological and scientific values, economic and social consideration, recreational and conservation concerns, etc.)*

208f. The "Revised Business Plan" prepared by "Conseil et Développement" in January 2004 for the Al-Shouf Cedar Nature Reserve aimed at helping the reserve reach self-sustainability by developing an appropriate marketing strategy.

208g. The purpose of the Ecotourism Strategy is to become an effective tool for conservation in and around protected areas, and enhance economic opportunities for local communities thereby improving their quality of life. To achieve this objective a number of goals needed to be set (providing financial support to protected areas, supporting sustainable use of natural and cultural resources, linking practice to conventions/guidelines, fostering attachment to heritage, working with local stakeholders and industry). Implementing these goals required national recognition and support for the protected areas, and encouragement of tourism opportunities that benefit conservation. However, tourism can have negative impact if not well controlled, so the design of ecotourism activities needs to become a top priority in the management of the SBR.

208h. The methodology adopted in the ecotourism strategy for the SBR was based on field work and a series of discussions with the different stakeholders. These meetings, discussions, and workshops were held with the SBR management team, local communities, and a variety of key persons from different backgrounds. This helped with the analysis of the current situation and the formulation of a strategic plan to improve income by increasing visitor numbers, and at the same time minimizing threats to the environment and biodiversity.

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209. Case study: **Project Green Economy in Biosphere Reserves (GEBR): A means to Biodiversity Conservation, Poverty Reduction and Sustainable Development in Sub-Saharan Africa, Ghana, Nigeria and Tanzania**

209a. The Korea International Cooperation Agency (KOICA) financial and human resources financed between 2013 and 2017 project in Bia Biosphere Reserve (Ghana), Omo Biosphere Reserve (Nigeria) and East Usambara Biosphere Reserve (Tanzania). The projects goal was to conserve biodiversity, reduce poverty and contribute to sustainable development in sub-Saharan Africa through biodiversity businesses in biosphere reserves. The specific objectives of the GEBR project consisted of diversifying the economy through improved alternative biodiversity related livelihoods, reducing the pressure on forest resources because of overexploitation, and building the capacity of communities to ensure the sustainability of the biodiversity businesses and to conserve the resource.

209b. The project covered fields such as bee-keeping, palm oil production, snail rearing and production, mushroom production, fish farming, wildlife (grasscutter) domestication, charcoal production, butterfly production and spice production. These livelihoods helped to reduce poverty among community members. However, as a pilot phase, the scale of the project impact remained limited in terms of percentage of beneficiaries reached (The GEBR covered only about 2%, 2% and 4% of beneficiaries from among the estimated population of the three sites).

209c. Important issue was also the development of a management strategy customized to the context of each country aided project implementation. It seemed that the most efficient management strategy was the one, which was adaptive. There is high possibility that the registered farmers' associations and the project impact will be sustained because most of the *strategies used provided an opportunity for the farmers to get some income.*

209d. Vital prerequisite of the project was strong stakeholder involvement such as the village Chiefs, the District Chief Executive and other community leaders.

210. Case study: **Self-funded trust to protect endangered species and increase local income resource in Nuruu BR, Mongolia**

210a. The Hustai National Park Trust (HNPT) is dedicated to protecting and reintroducing Przewalski's Horse (Equus ferus) to the wild. Following its extinction in the wild in the 1960s, the horse was reintroduced to Hustai Nuruu in the 1990s. It remains the last wild horse species and is rare and endangered. The fund also aims to protect the many other endangered fauna and flora species in the Hustai Nuruu Biosphere Reserve.

210b. HNPT provides soft loans to local people to help them generate new incomes, and trainings for herders and the local community in and around the Hustai Biosphere Reserve. Several ongoing research projects aim to understand the effects of climate change on Hustai Nuruu's ecosystem.

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210c. This Fund, which was established through sustainable tourism activities, is slowly increasing by interest fee and reached 700,000,000 Mongolian Tughrik *(MNT) (http://www.hustai.mn/wp/language/en/)*

4.3.1. Why is a Business Plan necessary?

211. If there is a management plan for a biosphere reserve, any business plan of its management entity must be aligned to the management plan, or even better, be its consequence.

212. A business plan is often a prerequisite for funding agencies to invest in the biosphere reserve's main management entity. It can also often be critical to monitor how the organization is performing compared to its objectives, and it provides a clear understanding of the goals and performance of the organization. The details of a business plan will vary with the type of management. Some will be government authorities, others NGOs relying almost completely on government funding, some will be charities, and others semi-commercial businesses. But even governmental entities today are often required or expected to raise third-party funds; a business plan can then be helpful or even necessary.

4.3.2. How to plan a Business Plan?

213. A business plan should address at least the following aspects:

a) What are the top goals and objectives of the management entity to be focused on within the time frame of the business plan;
b) What resources are necessary to fulfil these goals and objectives;
c) How will the management entity fill the budget gap between what it currently has available and what is necessary;
d) Defining funding and fundraising strategies.

4.3.3. How to start writing a Business Plan

214. To begin writing a business plan for a management entity, write (and map) the following:

a) State the objectives of the biosphere reserve as contained in the management plan. Refer to the Lima Action Plan (2016 – 2025) and any applicable international or national other sources that legitimate your work. State briefly the current status of the biosphere reserve in terms of sustainable development, conservation and community involvement, and what improvements are expected over the lifetime of the business plan, and what resources will be realistically required to achieve them. See the guidance manual "Planning and Management of a Biosphere Reserve" , Urtans, A.V. & Seilis, V. (eds.) (2009).
b) State clearly the importance of the biosphere reserve for its region and how this importance is communicated, especially to people who may think that it is unimportant, peripheral, a restriction on development or a waste of money (if available, refer to the biosphere reserve communication strategy). This is a critical part of the business plan, as it is the basis for convincing people that the biosphere reserve is worth investing in. Cite successful examples in other countries.

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c) List the activities that are needed during the duration of the business plan in order to achieve your goals.
d) Propose realistic expected sources of income and/or funding for one year. Predict expected costs for the activities.
e) Explain your fundraising strategy and how likely income sources are; explain potential co-benefits to donors. It is preferable to verify and document the intent to secure funds from different sources, in order to show that the business plan will work financially.

4.3.4. How is a Business Plan structured?

215. The structure can vary, but here is an example:

(1) Executive summary
(2) Vision, objectives and legal status of the biosphere reserve as in the management plan
(3) Objectives and activities of the management entity, as derived from the management plan
(4) Expected impact, environmentally and socially, and why impact is expected
(5) Sources of funding and criteria for funding
(6) Communication strategy to funding sources (cp. below)
(7) Resources, staffing and assets required to achieve objectives
(8) Details of management, including staff skills
(9) Performance monitoring and adaptive management
(10) Financial budget
(11) Cash-flow and basis for cost estimates
(12) Assessment of financial, operational and governance risk

216. Items that could be included in an income and expenditure budget

Sources of Income

(1) Central Government funding
(2) Local Government funding
(3) Industrial sponsorship
(4) Donations
(5) Endowment funds
(6) Ecotourism levy
(7) Natural resource use levy
(8) Sales of merchandise
(9) Sales of labelled local produce
(10) Partnership in funded projects
(11) Subsidized loans

Expenditure (and/or Assets obtained without costs, and from which partner)

(1) Full-time and part-time staff (incl. taxes, social security)
(2) Consultants
(3) Rangers
(4) Office facilities (hired or owned, including water, electricity, telephone, internet)
(5) Equipment
(6) Travel

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(7) Expenses for community consultations, workshops and/or board meetings
(8) Expenses for monitoring and evaluation; possibly for research and studies
(9) Expenses for projects (nature conservation, community benefits, education, etc.)
(10) Services such as IT, printing of brochures/flyers, exhibitions, website
(11) Miscellaneous expenses

4.3.5. Funding models for Biosphere Reserves

217. There are many funding models for biosphere reserves within the WNBR. These models reflect local, regional, national and even international conditions and resources. The common goal in all cases should be reliable, long-term funding, preferably generated from multiple sources to provide financial resilience of the biosphere reserve.

218. Case study: **Biosphere reserve funding models in South Africa**

218a. In South Africa, government funding to biosphere reserves is through the nine provinces of South Africa, which receive annual fiscal allocations from the National Revenue Fund. Provinces with biosphere reserves allocate a small amount of funding annually to each biosphere reserve. These allocations differ greatly between provinces. Each biosphere reserve has to secure additional financial support, including for operational expenses and project implementation. For this reason, all biosphere reserves in the country have adopted the model of a non-profit private organization as their management entity.

218b. Biosphere reserves go to great lengths to source funding support from national as well as international donors. A few biosphere reserves have been extremely successful in facilitating and securing donor partners, mostly from European countries. In these cases, the biosphere reserves sign funding agreements through which money is being made available for operational and project costs for several years, subject to adhering to regulating and reporting procedures. In a few cases, such relations with funding partners have resulted in highly successful and effective biosphere reserve implementation.

218c. One South African biosphere reserve is currently experimenting with the new funding model of a social enterprise. Such an enterprise will implement profit-driven activities in order to fund the core costs of the non-profit biosphere reserve company. This novel idea, if implemented successfully, will assist in the biosphere reserve becoming fully self-funded regarding core costs in the future.

219. Case study: **Funding of the Mbaracayú Forest Biosphere Reserve, Paraguay**

219a. The Mbaracayú Forest Nature Reserve is a protected area of 64,400 hectares, located in north-eastern Paraguay. It is a continuous block of the few remaining parts of the Inner Atlantic Forest. This was the first private protected area in the country and forms the core zone of the Biosphere Reserve Bosque Mbaracayú (about 340,000 hectares, designated in 2000). The following steps have been performed for funding the Nature Reserve and its surrounding Biosphere Reserve: 1. In Paraguay, the Moisés Bertoni Foundation was created as an umbrella organization for all activities. 2. The Foundation initiated an international fundraising campaign to purchase the property and land rights of the Nature Reserve and convert it into a private reserve in perpetuity. 3. Income was generated by selling carbon credits for avoided

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deforestation on the international voluntary market. Carbon credits were sold in the order of 2 million dollars, inter alia to the American electricity production company AES to offset their carbon emissions. 4. A trust was established to enable a stable and permanent flow of income to the Nature Reserve and Biosphere Reserve. For legal reasons, the trust was established in the United States. The trust today provides around 50% of all the income required for the integrated programs management of the Nature Reserve. Such management mainly addresses the need to generate sustainable social value and rural development in the peasant and indigenous communities around the Nature Reserve. They are allowed to continue entering the Nature Reserve to hunt and collect, as long as they use their own traditional methods for this purpose.

220. Case study: **Funding models for biosphere reserves in Brazil**

220a. In Brazil, management and funding structures vary considerably between biosphere reserves and across time. Their secretariat and basic operational costs can be provided by governmental, non-governmental organizations or universities. In most cases, additional project funding is raised from different institutions.

220b. For example, in 2019, 90% of Pantanal Biosphere Reserve funding sources are non-governmental, while 100% of São Paulo City Green Belt´s sources are provided by the state government. For both Caatinga and Mata Atlântica Biosphere Reserves, 30% of their costs are covered by state governments and funding agencies, with Mata Atlântica obtaining another 50% from the private sector, and Caatinga obtaining another 30% from non-governmental (non-private sector) sources. Espinhaço Range Biosphere Reserve is supported by a local NGO and the catholic university, plus in-kind contributions from several institutions. Central Amazon Biosphere Reserve funding originates from federal and state governments, NGOs and the university.

4.4. Marketing Strategy

221. For most not-for-profit actors, “marketing” is a term which they think does not apply to them. They think that marketing should only be used by, and when referring to, commercial businesses, where it is almost universally understood as a core function of a business. They associate “marketing” to the sale of products and services.

222. However, marketing is not really about sales: It is about identifying your partners (or customers), their interests and needs, what they might expect from you, and how you can best gear what you have to offer to their interests and needs. The result of marketing does not need to be the “sale” of a good or service. The result of marketing can also be to strengthen a partnership, because the partners understand better what they want from each other and that they can benefit from each other.

4.4.1. Why is a marketing strategy sensible or even necessary?

223. This understanding of “marketing” as a tool for strengthening partnerships takes into account that all human interactions have some aspect of “competition for attention”. This also applies to biosphere reserves. Hardly ever is a biosphere reserve the only designation of a region. Within the same area, there might be a National Park, a government priority area for a specific

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purpose, a “research testing site” etc., all of which might not be well connected to the biosphere reserve. There will also be many partners, whose role is not based on a spatial context. All these partners will “compete for attention” by local stakeholders. A biosphere reserve and its responsible managers cannot avoid “competing” with the other partners for attention. This is why a marketing strategy can be helpful.

224. The MAB Programme inspires a positive future by connecting people and nature. To this end, a biosphere reserve will need to understand its stakeholders and know the relevance of the biosphere reserve to them, in order to create awareness and build relationships. Developing and implementing a marketing strategy can support and guide this process.

225. There is a difference between marketing and communication. Marketing focuses on ‘the who’, identifying partners. Communication is ‘the how’, how the messages will be delivered to the various stakeholders. Increasingly, not-for-profit organisations are realising the value of marketing in developing a strong understanding of their stakeholders to achieve their strategic objectives. This is also true for the management entities of biosphere reserves, seeking to implement their management plans.

226. There is also a separate understanding of a Marketing Strategy. This relates to identifying the customers for the commercial products and services of a biosphere reserve and its commercial business partners.

4.4.2. What is a marketing strategy, what could be its key content?

227. Key objectives of a marketing strategy would be to optimise engagement with as many stakeholders as possible, focused on the key stakeholders; for improving awareness, understanding and collective action in the biosphere reserve, geared towards the objectives of the management plan. Such stakeholders could be government representatives, elders, landowners, community leaders, local businesses, tourism agencies, children and youth, local residents, tourists.

228. Key components of a marketing strategy:

a. **Introduction and Background:** Relate the marketing plan to other documents (e.g. management plan, business plan), reiterate vision, objectives, etc.

b. Internal Analysis - understanding the current situation in relation to stakeholders**:**

1) SWOT (strengths, weaknesses, opportunities, threats) analysis or similar internal reflection (compare the management plan).
2) Who are the stakeholders, which are the key stakeholders, what are their interests and needs? Are there “market segments” (e.g. landholders can be grouped into segments by their landholding size, with an obvious segment being small landholders compared to commercial farming operations), including trends?
3) The partner experience: how are stakeholder relations developed and maintained.

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4) What products and services does/can the biosphere reserve provide to its stakeholders (e.g. additional income to local communities; e.g. research support for national/international research projects; etc).
5) Competitors: Consider key "competitors", what their profile is and how to manage the risk associated with their presence.
6) Unique selling point or point of difference in the "market": why is the biosphere reserve the relevant framework for stakeholders to engage in.
7) Branding: Existence of brand and current knowledge of its use and uptake by stakeholders.
8) Potential: How can the organisation achieve greater buy in and engagement in the actions to achieve the biosphere reserve's objectives. For example: consider area of operation, expansion of stakeholder base.
9) The people of the organisation: Every employee, committee/board member, volunteer and contractor in the organisation can influence and be involved in "marketing". Policies and procedures become extremely important in managing how the organisation markets itself and to what standard.

c. The Marketing Strategy:

1) Marketing objectives: Your objectives may be financial, or marketing focused i.e. build awareness of your group. An effective and accountable way to build your objectives is for them to be SMART (specific, measurable, achievable, realistic and time bound).
2) Develop a Marketing Action Plan which details the marketing activities linked to marketing objectives, identify audiences, defines clear actions with nominated responsible people, timelines, costs and success indicators.

d. Marketing Finances/Budget:

A marketing budget can be integrated into the organisation's business plan.

e. Monitoring and evaluation:

To ensure ongoing improvement, it is critical to test and measure the results of your marketing activities.

229. Case study: **Marketing activities in Volcanoes Biosphere Reserve, Rwanda**

229a. The Volcanoes biosphere reserve is located in north western of Rwanda on the border between Rwanda, Democratic Republic of Congo and Uganda, and is composed by five volcanoes including Karisimbi, Muhabura, Bisoke, Sabyinyo and Gahinga. It has a surface area of 160km² covered by rainforest and bamboo. It is home to 30% of global population of mountain gorillas (Gorilla beringei beringei). It has 115 mammals' species, 187 bird species, 27 reptile and amphibian species, and 33 arthropod species. It has 13 orchid species protected by CITES, and 3 endangered reptile species. It has also 245 plant species, 17 of which are threatened as per IUCN red list.

229b. The most important economic sector in the region is tourism. At national level, tourism activities are a source of revenue estimated to 33 million US$ in 2006, 100 million US$ in 2010, 367.7 million US$ in 2015 and 404 million US$ in 2016. The numbers of tourists increased

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from 10,495 in 2005 to 27,885 visitors in 2014. After tea and coffee, tourism represent by order of importance the third most important income earner in Rwanda.

229c. The Volcanoes Biosphere reserve runs successful marketing activities focused on sustainable tourism based on the presence of gorillas. Visitors from across the world enjoy gorilla tours, treks and safaris. Other marketed activities include bird watching trips, golden monkey treks, guided nature walks and cultural visits. In case of the cultural tours or the cultural safaris, visitors can visit any of the cultural centres within Rwanda, or visit one of more like the Iby'iwacu Cultural village that is operated by a non-profit organisation that helps the reformed poachers.

229d. Kwita Izina the annual Rwandan ceremony of naming newborn baby gorillas is the most famous marketing activity in the country attracting worldwide known scientists, artists, athletes, business man/women, politicians etc. The event is named after the ancestral baby naming ceremony that happened after the birth of a newborn. The ceremony's main goal is in helping monitor each individual gorilla and their groups in their natural habitat. It was created as a means of bringing attention both locally and internationally about the importance of protecting the mountain gorillas and their habitats.

4.4.3. How to develop a brand for Biosphere Reserves?

The "UNESCO Biosphere Reserve logo"

230. In 2007, the General Conference of UNESCO adopted the "**Directives on the use of the name, logo, acronym and domain names of UNESCO**" (https://unesdoc.unesco.org/ark:/48223/pf0000144183).

231. These directives have the goal to ensure coherent use of the name and logo of UNESCO by all authorized entities, and to prevent misuse both by any unauthorized entity as well as by authorized entities. They should also ensure avoiding any misunderstanding, for example that a site/entity is connected to UNESCO and/or a National Commission for UNESCO in a different way than "designation"; they should also prevent any wrong impression that UNESCO were to certify the quality of products or services.

232. Authorization of the use of the name and logo of UNESCO is a privilege of its General Conference and Executive Board as well as the Director-General. To a certain extent regulated by the Directives, the National Commissions for UNESCO are the competent body to deal with questions at the national level. No other entities are entitled to authorize the use of the name and logo of UNESCO.

233. The sale of goods or services with the name and logo of UNESCO chiefly for profit are regarded as "commercial use" and must be expressly authorized by the Director-General of UNESCO, under a specific contractual arrangement.

234. The logo of UNESCO consists of the "temple" plus specific graphical elements (the full name of the Organization and a "dotted line". Programmes of UNESCO such as the "Man and the Biosphere" (MAB) Programme have their specific emblem. The emblem of the MAB Programme (the letters "MAB" in a specific design) has to be used together with the UNESCO logo in all contexts; it is not possible to use the MAB emblem without the UNESCO logo or vice

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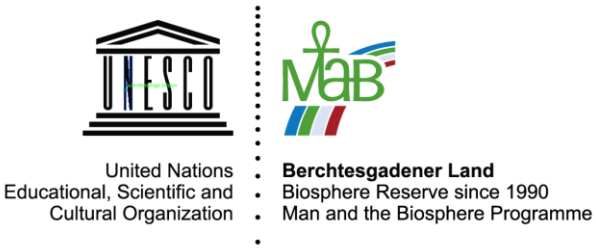
versa, or to graphically alter/adapt the logo. Upon Member State request, UNESCO design the logo which features the name of the biosphere reserve with its date of designation the MAB emblem as in the example below:



235. For the management entities of UNESCO biosphere reserves, this means that they are entitled and encouraged to use this “UNESCO Biosphere Reserve logo” consistently in all non-commercial contexts (on flyers, panels, exhibitions, websites, etc.). They are also entitled to use the name and logo in general tourism marketing and advertising, as long as such marketing and advertising is not connected to specific commercial offers (tour operators, hotels, transport). They are not entitled to authorize their partners (museums, guides, municipalities, schools, companies, “associations of friends”, etc.) to use this “UNESCO Biosphere Reserve logo”. For example, municipalities or districts within a biosphere reserve are not entitled to use the UNESCO logo on their letterheads or their general websites. The designation of a biosphere reserve by UNESCO means receiving a title, not a new name.

Own brand and logo

236. Because of this very restrictive legal situation as regards the “UNESCO logo”, many biosphere reserves have their own brand logos. Such logos only contain the term “Biosphere Reserve”, a term which is not legally protected by UNESCO. Many biosphere reserves have registered their “own logo” at the national trademark office. This is fully supported by UNESCO, as long as such a logo does not contain the acronym “UNESCO”. Biosphere reserves are completely free to use and authorize such logos, including in commercial contexts. Where biosphere reserves have their own logo, they use this in commercial contexts and the “UNESCO Biosphere Reserve logo” in non-commercial contexts (often combined with their “own logo”).

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Branding of partners of the Biosphere Reserve and their products/services

237. If a biosphere reserve has its own logo and brand, this can be used to create a “network of partners”. These can be non-commercial partners (schools, museums, etc.) and commercial partners (tour operators, farmers, hotels, gastronomy, guides, etc.).

238. Usually, such partners are selected through a process with ambitious sustainable development criteria (e.g. organic farming, decent work conditions, offering specific information about the biosphere reserve, etc.), and/or improvement criteria. Typically, partners are selected for a time-bound period only and the selection is understood as a “certification”. The partners then receive the “own logo” of the biosphere reserve for a time-bound period. In some cases, they are entitled by the biosphere reserve concerned to use the “own logo” on product labels as well (the acronym “UNESCO” may never appear on product labels).

239. Different concerns and scenarios should be considered when developing an effective labelling plan. It should include branding and packaging, the value of promoted products and its image e.g. by use of mapping for marketing and branding (example of the Google earth package which was developed for the Lebanese Shouf Biosphere Reserve and uploaded on its website http://www.shoufcedar.org/maps/index.html). Also, unique values of the place should be reflected when branding is based on the terms “environmental, social, economic”. Furthermore, the package is supposed to be built on unique characteristics of a BR, but in a manner that conserves it.

4.4.4. Communication Plan

240. Communication is more than just the materials produced, awareness campaigns about the MAB Programme, and reports published of activities in biosphere reserves. It is about how we engage the stakeholders in meaningful ways to inspire them, share in the pride of collective achievements, and empower people to take responsibility and action. In the MAB Programme and its WNBR, all involved participants are also communicators in sense. Without making and sustaining connections in our communities, we cannot fulfil our purpose. Communication is essential to the collaborative nature of what the biosphere reserves do, and who they are as a global network.

4.4.4.1. Why is a communication strategy and plan necessary?

241. Much of the success of the MAB Programme, and individual biosphere reserves, depends on communication. One of the five Strategic Action Areas of the MAB Strategy (2015-2025) is: “Comprehensive, modern, open and transparent communication and data sharing”. Consequently, Action A2.4 of the Lima Action Plan (2016 – 2025) directs, at individual biosphere reserve level: “Ensure that biosphere reserves have clear communication plans and mechanisms to implement these”. As for the “biosphere reserve business plan”, this is a strong and well-founded recommendation, not a statutory requirement.

242. During its 30th session in 2018, the MAB-ICC adopted a global MAB communication strategy (UNESCO, 2018), downloadable at: http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/images/SC-18_CONF_210_12_MAB_Comm_Strategy-ANNEX_1-EN.pdf .

243. The biosphere reserve marketing strategy is about the target groups of communication, the “why” and “who”. A communication plan is relevant for a fixed time and answers the question of “how”. Sometimes, the term “communication strategy” is differentiated, but this will not be done for the purpose of this guideline.

4.4.4.2. What is a communication plan, what could be its key content?

244. A communication plan is a tool to assist the biosphere reserve in spreading its core messages to all relevant stakeholders and target audiences in order to meet the biosphere reserve’s goals and objectives.

245. In the official approach of the MAB communication strategy, biosphere reserves should communicate much less “technically” than was usual in previous years; for example, previously, technical terms such as zones or functions were often used. The new approach inspires a biosphere reserve to create its story, its message, maybe its slogan, starting with the vision as adopted by all stakeholders. It is generally accepted that simple ideas are easier to understand. As stated in the UNESCO MAB - Global Communication Strategy and Action Plan, the biosphere reserves are connecting people and nature to inspire a positive future today. Two examples of easy slogans are from Vhembe Biosphere Reserve in South Africa, “We celebrate Life in the Land of Legend”; and from Dana Biosphere Reserve in Jordan, “Caring for Nature, Caring for People”. Other inspirational slogans: “About people, by people, for people”; “A vehicle for people to organise around”; “Connect people across the world”; “Connecting culture, nature and economy”; “Understand heritage, create future”; “Explore better solutions in practice”; “Share values and language”; “Fuelled by passion”.

246. A communication plan is time-bound and includes deadlines - in other words, what you will be doing before a certain time. It is crucial to engage with audiences in a meaningful way to inspire them, and to empower people to take responsibility and action.

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247. The global MAB Communication Strategy proposes six key elements for communication plans (for further inspiration, compare https://www.odi.org/publications/5186-planning-tools-how-write-communications-strategy):

1) Objectives (aligning all communication activity to engagement outcomes);
2) Foundation (a framework for storytelling);
3) Target audiences (getting specific information on who you are engaging and what they care most about in order to connect with them; should be identical with the audiences for the marketing strategy, if it exists);
4) Create messaging (consider inspirational messages, storytelling, narratives, which the target audiences will listen to; also consider "who" will tell the message);
5) Choose activities (selecting the best method to deliver the message to the target audiences with impact; also include resources, timescales and expectations);
6) Measurement (measuring communication impact (increased awareness), reach (number of people), investment (money spent) and effectiveness according to proven methods. Monitoring and evaluation also includes adaptation and improvement.

248. Communication tools and activities could include (amongst others) at least a website to hold publicly available information about the biosphere reserve and its activities (e.g. newsletters; press releases; public information days and meetings; biosphere reserve related festivals and family events; youth competitions; regular meetings with stakeholders; forums both for knowledge exchange and conflict resolution etc.). The webpage should present and represent the entire area and its activities and not only its parts, as seen in some cases (typically, the core areas).

249. Other communication means may comprise online social media such as blogs, Instagram, Facebook or Twitter feeds. Production of promotional materials such as T-shirts, banners, hats, leaflets and brochures, biosphere reserve branded merchandise is also effective.

250. Case study: **Communication in the political landscape of South Africa**

250a. Biosphere reserves in South Africa, individually and collectively, have to secure buy-in and support for their long-term survival from all stakeholders, in particular politicians, from all stakeholders, in particular politicians, for their long-term survival, including local, provincial and national ministers, parliamentarians, mayors and councillors. Thus, they need to create awareness of the local benefits of the MAB Programme, communicate with partners, educate the public, and secure financial resources. Elections in South Africa follow a five-year cycle, with national and provincial elections held simultaneously and municipal elections held two years later. This results in a continual cycle of new officials entering office. Biosphere reserves therefore have to constantly enter into communication with these officials. Communication with national ministers is facilitated through the Department of Environment, Forestry and Fisheries. Communication at provincial level is mostly done by the relevant government department. However, communication with local government officials is the task of biosphere reserves. Mayors and relevant officials are to be invited to biosphere reserve meetings and events on a regular basis. It is also advisable to request the mayor or municipal manager to designate a specific person to attend biosphere reserve meetings as a municipal representative in order to reinforce relationships. Biosphere reserves could opt to strengthen the biosphere reserve

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message through making use of existing platforms for communication, such as municipal websites, municipal newsletters etc.

4.4.4.3. How to draft and implement a communication plan?

251. Drafting a communication plan is not overly complicated; but it is also not easy, since it requires a shift of perspectives. There are different ways of approaching this task. The process should start with establishing a working group, coordinated by the management entity of the biosphere reserve, which should include, or have access to, communication experts. The working group should manage the drafting of the plan as a two-way process, both vertically and horizontally, across all audiences, levels and spheres. The working group could start from a situation analysis to evaluate the current state of communication. Following actions could comprise workshops with external stakeholders, timelines for gathering of information, drafting responsibilities, and the process of adopting the communication plan.

252. Implementation of the communication plan is the responsibility of the biosphere reserve management entity. They should also ensure that capable consultants and/or service providers are appointed in cases where there is a lack of relevant expertise. The management entity should also facilitate monitoring and evaluation of the communication plan, whether the work is done internally or by appointed service providers.

4.5. Transboundary Biosphere Reserves

253. Transboundary Biosphere Reserve (TBR) establishment is a complicated task that requires effective coordination among the countries on the TBR creation, functioning and sustainable development; and, if possible, harmonized inter-State approaches. The existing practice in TBRs also includes the creation of management plans.

254. In general, Management and Business plan(s) for a TBR have the same content and should be drawn up with the same process as for national biosphere reserves. Nevertheless, in the frame of a TBR management plan, the following considerations are important:

a) There should be one integrated management plan, combining management and business plans (not two separate documents).
b) Within the framework of drafting the management plan, stakeholders from both sides of the border should have as many dialogues as possible, such that the vision, the objectives and the priority projects on both sides of the border really are integrated.
c) The plan should contain short-term and long-term cross-border cooperation programmes in the TBR.
d) The plan should foresee harmonization of approaches across the border in as many aspects as possible; e.g. this concerns integrated databases, integrated monitoring systems for the TBR; preparation of regular reviews and forecasts containing operational materials and proposals for regional governmental bodies
e) The plan should also foresee integrated communication, e.g. creation of a unified TBR website.

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255. For most TBRs, there is one management entity on each side of the border. Both management entities would have their separate business plan, based on an integrated management plan. However, a TBR can be strengthened if the two management bodies would agree on a joint business plan:

a) Moving towards a fully integrated TBR secretariat with sustained funding for its functioning and dedicated staff;
b) Development and implementation of cross-border pilot projects;
c) Short-term and long-term cooperation programs in the TBRs;
d) Engagement of stakeholders, local enterprises and entrepreneurs, including producing and labelling of local products by the TBR label;
e) Raising awareness of the TBR with residents and visitors.

4.6. Multi-designated sites

256. Biosphere reserves may include more national and international designations such as a World Heritage Site, Ramsar site, UNESCO Global Geopark etc. with some peculiar challenges (e.g. zoning). Also, management plans can be potentially challenging. A landmark report on multi-internationally designated areas (MIDAs), was published by IUCN in 2016. While Jeju Island biosphere reserve in the Republic of Korea is the only area in the world where the WHS, Ramsar and Geopark designations directly overlap, many biosphere reserves incorporate at least two or three of these designations.

257. In some cases, different national authorities oversee the management of different designations. The above-mentioned report includes management recommendations for site managers as well as national authorities, which includes the revision and update of management plans. It is advisable that all different international and national designations, registrations and agreements are reflected in one overall management plan and integrated into one management entity. Specific aspects to be clarified include (but are not limited to) spatial extent, management responsibilities, collaborative management arrangements, reporting responsibilities, values and benefits, marketing, communication and branding. This will facilitate collaborative management, monitoring, reporting and review, and will prevent duplication of tasks and efforts. It will also contribute to knowledge sharing and the pooling of resources when it comes to awareness raising, educating the communities and stakeholders, showcasing benefits, and report writing.

258. With regard to using a specific brand for the biosphere reserve, care should be taken to facilitate a joint branding exercise with other designations. The alignment between all designations, as well as the role and value of each, should be explicitly communicated to all involved communities and other stakeholders.

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259. Case study: **Comoé Biosphere Reserve, Côte d'Ivoire**

259a. The Comoé Biosphere Reserve is located in the north-east of the Côte d'Ivoire between the Comoé and the Volta River. It comprises an interfluvial peneplain and a series of ridges and granite inselbergs.

259b. Its core area is designated as a World Heritage site. The North-East Direction of the Ivorian Office of Parks and Reserves is the management authority of the core area. However, the entire biosphere reserve has a local management committee composed in addition to the manager of the core area, representatives of local communities, prefectural body, regional technical structures, universities and research structures, NGOs and private sector.

259c. The development and management plans as well as the reports on the state of conservation of the World Heritage site, the reports of periodic reviews of the biosphere reserve as well as those of studies covering the entire biosphere reserve are based on the initiative of the manager of the core area. All the documents are subject to consultations, exchanges and sharing within local management committee.

260. Case study: **Multi-designation in Brazilian Biosphere Reserves.**

260a. Having the São Paulo Green Belt Biosphere Reserve as exception, all the other Brazilian Biosphere Reserves share, inside its huge territories, different international designations.

260b. The Central Amazonia Biosphere Reserve is almost totally designated as Natural World Heritage Site (WHS) and partially as a RAMSAR Site. The Mata Atlântica Biosphere Reserve host five Natural WHS – and several other Cultural and one mixed WHS – and some RAMSAR Sites. The Caatinga Biosphere Reserve shares its territory with a WHS and a GeoPark. The Serra do Espinhaço Biosphere Reserve hosts several Cultural WHS. The Cerrado Biosphere Reserve has one Natural WHS and several Cultural WHS, with one RAMSAR Site. The Pantanal Biosphere Reserve hosts a Natural WHS and some RAMSAR Sites.

260c. These designations are in perfect harmony, including aspects like zoning and management – because the RAMSAR Sites, the GeoPark and the WHS (nor considering the Cataratas do Iguaçu WHS, older) were nominated after the Biosphere Reserves designation – and they were studied by the same team during the recognition proposals design, under the supervision of the Ministry of the Environment. This synergy has helped to the conservation and to the tourism development of many important core zones of the Brazilian Biosphere Reserves.

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BIBLIOGRAPHY

German Commission for UNESCO (2015). Management Manual for UNESCO Biosphere Reserves in Africa. URL: https://www.unesco.de/sites/default/files/2018-01/Manual_BR_Africa_en-1.pdf

Government of South Africa. (2015). The South African Strategy for the Biosphere Reserve Programme (2016-2020). Department of Environmental Affairs, Pretoria, South Africa. 53pp.

URL: https://www.environment.co.za/wp-content/uploads/2018/08/south_african_strategy_biosphere_reserve_2016_2020.pdf

Mata Atlântica Biosphere Reserve. 2018. Periodic Review and (2008-2018) and the Zoning of the Mata Atlântica Biosphere Reserve.

Schaaf, T. & Clamote Rodrigues, D. (2016). *Managing MIDAs: Harmonising the management of Multi- Internationally Designated Areas: Ramsar Sites, World Heritage sites, Biosphere Reserves and UNESCO Global Geoparks*. Gland: IUCN. (https://www.iucn.org/content/managing-midas-harmonising-management-multi-internationally-designated-areas)

UNESCO. (1996) *Biosphere reserves: The Seville Strategy and the Statutory Framework of the World Network.* UNESCO, Paris.

UNESCO. (2017) *A New Roadmap for the Man and the Biosphere (MAB) Programme and its World Network of Biosphere Reserves: MAB Strategy (2015-2025); Lima Action Plan (2016-2025); Lima Declaration*, URL: http://unesdoc.unesco.org/images/0024/002474/247418E.pdf

UNESCO. (2018) UNESCO MAB Global Communications Strategy and Action Plan. 47pp. URL: http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/images/SC-18_CONF_210_12_MAB_Comm_Strategy-ANNEX_1-EN.pdf

Urtans, A.V. & Seilis, V. (eds.) (2009) *Planning and management of a biosphere reserve.* Latvian National Commission for UNESCO, Salacgriva. URL: http://www.unesco.lv/files/NVBR_Ref_book_100605_d0770d00.pdf

Other useful sources:

Nature Conservancy (2013) http://www.conservationgateway.org/ConservationPlanning/BusinessPlanning/Documents/CBP_Guidance.pdf

Education for sustainable development in biosphere reserves and other designated areas: a resource book for educators in South-Eastern Europe and the Mediterranean , Chapter 4 pp. 93-96 (fund-raising for Biosphere Reserves)

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5. Monitoring and Evaluation in Biosphere Reserves

261. Biosphere reserves are called “learning sites for sustainable development”, exploring approaches to sustainable development and setting standards for knowledge-generation. Significant volumes of data are being generated; therefore, many scientists love to do their research in biosphere reserves because here they may have ready access to data and knowledge, collected in previous years and decades. Monitoring and long-term research projects (over decades) may be done better here than anywhere else, even if data are sometimes held by different authorities.

262. Also, effective planning and management of a biosphere reserve requires much knowledge about its biophysical (landscape, climate, biodiversity, etc.) and socio-economic features (livelihoods, power, culture, conflicts, etc.).

263. A key difference between the biosphere reserves and typical protected areas is the very conscious approach to “management based on knowledge”. Many of the first biosphere reserves were established around world-class monitoring stations and environmental research laboratories. Today’s biosphere reserves excel in bringing together different forms of knowledge and data. Biosphere reserves can be regarded as “custodians of knowledge” for a particular region. They recognize that knowledge can emerge from indigenous/traditional sources, from common-sense experiences, and from scientific research – and they bring these sources together as needed.

264. Knowledge and data need to be appropriately validated, because tradition, common-sense and scientific research can all result in questionable data and false knowledge. Biosphere reserves should also play an important role in properly handling knowledge, e.g. as regards Intellectual Property Rights. Every biosphere reserve should possess a database built with the consent of data owners, complemented by the data source list, where the links to relevant databases are available.

5.1. What data should Biosphere Reserves monitor?

265. Too frequently, many biosphere reserve managers/coordinators in their quest for knowledge focus only on natural resources (endangered species, water cycle, etc.) and on the biophysical description of their biosphere reserve. However, this is only a part of the data portfolio that the biosphere reserve managers should monitor.

266. The basic answer to the question of what kind of data should be gathered and monitored can be obtained from the Periodic Review Form that every biosphere reserve has to submit every ten years (see Section 5.4). In order to answer all the assessment questions listed in the review, crosscutting data from different fields about the biosphere reserve is required. For example, about socio-economic aspects: How many people live in a biosphere reserve, where do they live, what are the main sources of incomes and other information on cultural diversity? What are the job opportunities and forms of land use? Who are the stakeholders, what are their social and economic perspectives and interests, which power structures exist? What are the external pressures on the biosphere reserve, what are the vulnerabilities? Which causal relationships exist between different trends and phenomena, e.g. global change, local land-use and observed biodiversity loss? Which measures can improve conservation, which

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measures can improve livelihoods and which interactions between these measures could increase effectiveness?

267. It has to be emphasized, that the Periodic Review Form is not covering all possible topics for data monitoring. Therefore, the data that a biosphere reserve gather and monitor might be much broader and should reflect the individual needs of each site, as the local challenges might be very specific (e.g. based on indigenous knowledge and citizen science, data to assess the implementation of biosphere reserve management plan and other plans/strategies if they exist etc.). However, their monitoring might enrich the knowledge generation potential of the WNBR.

5.2. Quality Control

268. Quality control is a normal and necessary element of the work of every manager, in particular in the context of project management. Quality control for the biosphere reserve should lay out the process intended to meet the management goals and expectations. Such exercises do not necessarily have to follow scientific standards – although in order to demonstrate real achievements and societal change, the impact of a project actually needs to be measured systematically or using a scientific approach, e.g. in projects targeting society through surveys with test groups.

269. Quality control has to be based on definition of goals, expected outcomes and associated success indicators; they must be measurable and accompanied by appropriate success indicators and associated data requirements and benchmarks (generic or situation-specific indicators). It has to be clear what exactly is being evaluated, by whom, according to which standards, and why. There need to be clear guidelines on what will be done with the results, including how the results can be used for the benefit of the biosphere reserve and its communities.

270. Evaluation should be regarded as the most important learning opportunity for improving the biosphere reserve management.

5.2.1. How to track performance of a Biosphere Reserve?

271. Main performance indicators are reflected in the Periodic Review form, including an ecosystems service inventory and an analysis of the contribution of the biosphere reserve to sustainable development. However, each site is welcome to create its own performance scheme. The management entity, through frequent performance reports and annual reports, should track performance of the biosphere reserve. These documents should be used for communication with the biosphere reserve stakeholders, National MAB Committees, MAB Secretariat and general public.

272. According to the attributes and specificities of a biosphere reserve, it is necessary for managers to choose, from the time of nomination, a set of data for progressive monitoring. The choice of data to be measured allows managers to create their own monitoring system. It is also important to note the justification for choosing the data to be collected.

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273. Workshops are valuable to present findings to stakeholders, including community members, government and non-governmental institutions, and to provide opportunities for the discussion of results and observations from participants.

5.2.2. What tools can you use to monitor Biosphere Reserves?

274. There are many tools to monitor a biosphere reserve. The choice depends greatly on local conditions, human and financial resources and/or ability to obtain appropriate partners and engage stakeholders with access to relevant databases and monitoring tools, willing to use them for biosphere reserve purposes. The monitoring can be based on assessment of results generated by small or large dedicated research projects implemented by specialists of one scientific discipline, interdisciplinary research projects bringing together many scientific disciplines, Long-term monitoring (e.g. by a weather station or by your national statistics office), specific projects of valorisation of traditional knowledge, joint brainstorming of all stakeholders, or a combination of all these approaches. Cooperation within specific networks such as Long-term Ecological Research (LTER) or Long-term Socio-Ecological Research (LTSER) can also be used as a tool for monitoring biosphere reserve. Developing and nurturing a close affiliation between biosphere reserves and universities and/or research institutes has proven to be very valuable for monitoring. The ideal situation is if these institutions have their position in the biosphere reserve governance structures, ensuring that their research goals coincide with the goals of the biosphere reserve.

275. The use of new technologies that facilitate data collection (drones, camera trap networks, acoustic monitoring), and citizen science to monitor species like birds, butterflies, etc. can improve access to the data.

276. Case study: **Use of drones for ecological monitoring of great apes and their habitat in Dja Biosphere Reserve (Cameroon), Luki Biosphere Reserve (Democratic Republic of Congo), Niokolo Koba Biosphere Reserve (Senegal) and Badiar Biosphere Reserve (Guinea) in collaboration of National Museum of Natural History (France) and Sebitoli Chimpanzee Project (Uganda)**

276a. Through its internationally designated areas, UNESCO contributes to conservation of Great apes and their habitat. There are currently 34 UNESCO designated areas home to GA worldwide (17 BR, 11 WH and 6 mix sites). The World Heritage sites represent between 4 and 8.6% of the range area of the chimpanzee, gorilla or orangutan. The Biosphere Reserves, between 3 and 35% (for orangutan) of range area of the chimpanzee, gorilla or orangutan. The UNESCO has also established a network including all the African Biosphere Reserves, which are habitat for GA (19 BR out of 79).

276b. Biosphere reserves with their zonation are particularly relevant for monitoring wildlife as well as its interaction with humans. Therefore, monitoring system with a vivid community of practice has to be utilized and monitoring project was proposed in Dja Biosphere Reserve (Cameroon), Luki Biosphere Reserve (Democratic Republic of Congo), Niokolo Koba Biosphere Reserve (Senegal) and Badiar Biosphere Reserve (Guinea). The reference site to develop the monitoring protocol is Kibale National Park in Uganda.

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276c. The objective of the project is to establish a harmonized protocol using drones coupled with well-designed monitoring protocols *to monitor the forested habitat of Pan sp. and Gorilla sp. of targeted sites. The goal is to provide data which could be systematically collected and compared over seasons:*

- *on the food resources present inside the forests but also at the edge, e.g. to monitor the crops which are around to better understand the crop-feeding behavior and better plan how to prevent it.*
- *to monitor the illegal activities related to forest degradation (charcoal, fire, agriculture inside PA, illegal tree cutting…).*
- *to monitor Great Apes distribution*

276d. This project should eventually expand over 19 African biosphere reserves that are home to GA.

5.2.2.1. Systematic Zoning and Biosphere Reserves

277. Looking towards the near future, biosphere reserves will need to organize themselves, more systematically. Systematically zoned biosphere reserves allow for more objective design methods and accountability. Transparently measuring the contribution of each zone against the biosphere reserve objectives and goals is key to enhance the public views and opinions of this internationally recognized category of territorial ordination and its sustainability pathway.

278. This process and the toolboxes that support systematic conservation planning include the use of large datasets, computational techniques and decision support software, which together enable planners and stakeholders to make better choices and minimize avoidable conflicts in biosphere reserve design.

279. The use of CARE principles of Complementarity, Adequacy, Representation and Efficiency in designing biosphere reserves can and will produce more robust biosphere reserves moving forward. The use of zone compatibility and juxtaposition measures allow for spatially organize incompatible land use forms. Existing optimization algorithms such as Simulated annealing used by Decision Support Software tools (e.g. MARXAN with Zones and Zonation software) was used in The Pantanal Biosphere Reserve in Brazil to recognize the contribution of biosphere reserve Zones, to monitoring and measure the achievement economic/socio-cultural and environmental objectives, proving that systematic zoning in Biosphere Reserve contributes to the enhance, accountability, efficiency and robustness of the Biosphere Reserve Network.

5.3. What does a functioning model of a Biosphere Reserve look like?

280. There is a need for some assessment in order to answer the question what does a functioning model of a biosphere reserve looks like. Such assessment can have various forms. It can be a one-off action, or a periodical or continual process. Reasons for such assessment can vary. It may be requested by the stakeholders, funding donors, the MAB Secretariat (as in the case of a Periodic Review), or others. This procedure also gives great feedback on the biosphere reserve management and can lead to better decision-making.

281. Assessing the functionality of a biosphere reserve requires a comprehensive view. However, in practice, a small number of features give a quick insight into functionality They can be divided into several groups (technical compliance, usefulness for people as well as the environment and contribution to the WNBR). When assessing, any evaluator has to focus mainly on how a biosphere reserve:
a) Fulfils the technical requirements of the Statutory Framework of WNBR (zonation in line with the criteria, equal execution of the three functions in compliance with a management plan/policy, functional and participative governance).
b) Provides added value for local communities. That means whether the communities are actively utilizing the means provided by the biosphere reserve to reach sustainable lifestyles and use of natural resources, enhance biodiversity and or protect cultural diversity or helps to cope with varied challenges.
c) Works with various stakeholders within and beyond the biosphere reserve, cooperates with fellow biosphere reserves and similarly oriented networks. Special attention is given to actively sharing good and bad experiences within the WNBR.

282. In the end, a biosphere reserve assessment should provide an answer to a simple question. Would the impact observed be achieved without the designation of the biosphere reserve? If the answer is clearly negative, providing real empirical and not just anecdotal evidence, then this is the sign of an effectively functioning biosphere reserve.

283. Case study: **System of Indicators for the effective functioning of biosphere reserves (SIRBA) in Argentina**

283a. The Working Group on Protected Areas of the National Directorate of Planning and Environmental Management of the National Secretariat of the Environment and Sustainable Development from Argentina has put together a System of Indicators that will evaluate the effective functioning of Argentina's biosphere reserves, based on the criteria of the MAB Statutory Framework and the strategic lines of the Lima Action Plan.

283b. The System was carried out together with the biosphere reserves managers and regional representatives who reviewed different international experiences. Indicators and variables were then examined, and the feasibility of their application was analysed according to local realities. Eight priority indicators were selected and defined according to criteria that respond to biosphere reserve functions and zonation:

Indicator 1: Degree of compliance with the Zoning of a Biosphere Reserve

Indicator 2: Initiatives to fulfil the Conservation Function

Indicator 3: Management Committee

Indicator 4: Availability of a Management Plan for the entire Biosphere Reserve

Indicator 5: Available Financing Mechanisms

Indicator 6: Participation in Networks

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Indicator 7: Initiatives to fulfil the Logistics Support Function

Indicator 8: Initiatives to fulfil the Development Function

283c. Each variable that makes up an indicator is assigned a percentage contribution, which is the weight that this variable has in the final value of the indicator according to its importance.

283d. The result of the indicator is classified by intervals, which try to synthesize four situations, from the least favourable to the most favourable: null, insufficient, average, adequate or excellent. In addition, these intervals are represented graphically (by means of colours, from green to red) which facilitates their interpretation.

283e. Once the situation that best describes the variable has been identified, it is assigned a value, from most unfavourable to most favourable (from 0 to 3), and the indicator is calculated according to the actual contribution made by each variable.

283f. This system will help in an objective manner to have a clear idea of the situation of the biosphere reserve and to be able to take the necessary measures to reinforce the weakest aspects.

5.4. Periodic Review

284. The Statutory Framework of the World Network of Biosphere Reserves stipulates the obligation for each biosphere reserve to submit a periodic review every ten years, based on a report prepared by the concerned biosphere reserve management entity. The original hard copy, with the original signatures, letters of endorsement, zonation map and supporting documents should be sent to the Secretariat through the Official UNESCO channels, i.e. via the National Commission for UNESCO and/or the Permanent Delegation to UNESCO. An electronic version (on CD, etc.) of the periodic review form and of maps (especially the zonation map) can be sent directly to the MAB Secretariat with possible copy to Permanent Delegation and National Commission for UNESCO

285. The report is examined by the International Advisory Committee for Biosphere Reserves, which then makes recommendations. These recommendations are scrutinized by the Bureau of the MAB-ICC to assess if and how each biosphere reserve fulfils the criteria of the Statutory Framework and the three functions in particular. The final assessment on the compliance of the biosphere reserve with the Statutory Framework is then endorsed by the MAB-ICC.

286. There is a standard form, available on-line (https://en.unesco.org/sites/default/files/periodic_review_form_english_2013.pdf), for biosphere reserves to use to prepare their reports and to update the data available to the Secretariat.

287. The periodic review preparation process should be done in participative manner with as many biosphere reserve stakeholders involved as possible. The information provided in the document should be as sincere and accurate as possible and all requests should be

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addressed. If there are any weaknesses described in the documents, it is helpful if the authorities in charge briefly indicate a procedure to take to improve the situation.

288. This system of evaluation has important consequences, i.e. that biosphere reserves as model regions can be developed into very stable and globally visible institutions, which are attractive to donors and other partners. Conversely, if the periodic review is not done or if a periodic review reveals major shortcomings, a biosphere reserve risks its status (Article 9. of the Statutory Framework). If MAB-ICC considers that the biosphere reserve no longer satisfies the criteria contained in Article 4 of the Statutory Framework, it may recommend that the State concerned take measures to ensure conformity with the provisions, taking into account the cultural and socio-economic context of the State concerned. MAB-ICC indicates to the secretariat actions that it should take to assist the State concerned in the implementation of such measures. Should MAB-ICC find that the biosphere reserve in question still does not satisfy the criteria contained in the Statutory Framework, within a reasonable period, the area will no longer be referred to as a biosphere reserve. The detailed procedure is provided in the Process of Excellence.

289. Requirements included in the Periodic Review may influence day to day monitoring and data collection within the biosphere reserves as it is usually built on its results. They can also provide topics for project themes or one-off surveys.

290. The information presented in the periodic review is used not only for evaluation of the state and performance of a biosphere reserve, but also as a source for publications, facilitating communication and interaction amongst persons interested in biosphere reserves throughout the world.

5.4.1. What is the Process of Excellence?

291. The situation within the WNBR is very diverse. In the past, many biosphere reserves did not meet the criteria defined in the Statutory Framework of WNBR, or the authorities concerned did not provide comprehensive information to enable the MAB-ICC to assess and monitor the situation of progress of a biosphere reserve. The majority of the biosphere reserves concerned were nominated before 1995, before the current biosphere reserve criteria and functions were defined by the Statutory Framework of WNBR. Since they joined the Network, they focused mainly on conservation and had not shifted towards voluntary engagement, involving local communities, with impacts on management practices leading to sustainable development.

292. Since 2013, at the request of Member States in the MAB ICC, further focus has been placed on raising the excellence of the Network and helping Member States to enable their biosphere reserves to become fully functional and to comply with the criteria defined under the Statutory Framework. In 2017, the MAB ICC adopted the “Process of excellence and enhancement of the World Network of Biosphere Reserves” that evolved from former “Exit strategy”. The objective was to reestablish the communication within the sites and MAB Secretariat, to help non-compliant sites to identify and address challenges, and to ensure that all of the biosphere reserves included in the network ultimately meet the required criteria and contribute to the implementation of 2030 Agenda for Sustainable Development.

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293. Since the adoption of the process of excellence, encouraging results have been achieved. A large number of Biosphere Reserves improved their zonation, governance and management aspects. The Process has been developed with the help of ad-hoc working group. It includes various ways to help sites in need.
294. The expected outcomes also include the strengthening of regional networks and the exchange of information, and better opportunities for biosphere reserves to monitor similar data and to cross-check information.

295. The MAB-ICC set the year 2020 as the final deadline for all biosphere reserves in question to become fully functional and report to the MAB-ICC if they wish to remain in the Network. The sites that do not meet the criteria are recommended for withdrawal. An exception from deadline is made for Biosphere Reserves in areas of international or national conflicts or major disasters.

5.4.2. How to prepare a report for the periodic review?

296. The periodic review is a great tool to inspire the biosphere reserve stakeholders for deeper engagement in the biosphere reserve activities. It improves acceptance of the biosphere reserve and enhance the sense of belonging. It helps to create a good vision for future heading of the biosphere reserve. Therefore, the review process should be very inclusive and not a pure administrative task.

297. There are several ways to prepare a periodic review report. In the majority of cases, the report is done by the manager/coordinator, as a result of team work. But it can also be provided by external agency or as a peer review. No matter what approach is used, stakeholder participation is essential.

298. The involvement of stakeholders is important for several reasons. It provides a forum to voice support for the biosphere reserve – or concern about problems. If the result of a consultations is that communities do not think that the biosphere reserve is beneficial, then the biosphere reserve has a serious problem. It is only in this moment of reporting to UNESCO that substantial change to address such a serious problem can be legitimized easily. There are also many pragmatic reasons for seeking participation. The various stakeholders have a wealth of information (including traditional knowledge) on changes in species and ecosystems and other matters (e.g. local economies etc.) related to biosphere reserve. Often, traditional tracking systems or indicators may serve as vital tools to inform these reviews. Such participatory structures for data collection should be used and maintained from nomination to review and throughout the life of a biosphere reserve.

299. The means to produce a periodic review report include meetings, workshops, public hearings with face-to-face discussions, working groups, surveys and questionnaires, electronic consultations, meetings with specialists etc. Smaller management groups can then process all the data into the report; however, the outcome must be subject to wider stakeholder endorsement.

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300. Case study: **Periodic review in Rhön Biosphere Reserve, Germany.**

300a. This biosphere reserve covers the Rhön, a low mountain range in the centre of Germany. In contrast to other German low mountain ranges which are covered by forests on mountain tops, the Rhön is also known as the 'land of open vistas', with its open cultural landscape due to sheep pasture shaped by human use across many centuries. The Rhön was designated by UNESCO as biosphere reserve immediately after the reunification of Germany, with parts in three federal states on both sides of the former East-West border.

300b. About 210,000 inhabitants live in this rural area with its 66 municipalities. While agriculture is important, only about 1% of the population are fully employed; organic agriculture has greatly improved in significance. Most inhabitants work in manufacturing and are out-commuters. Local jobs are mostly from small businesses and tourism. The biosphere reserve has been successful in creating robust corporate partnerships among hotels, restaurants, farmers, artists, etc., there is a longstanding marketing brand of products from the biosphere reserve, which includes direct marketing of products, such as products from the Rhön sheep, a formerly endangered breed and apple products from regional orchards. Several visitor centres have been established, providing exemplary education for sustainable development to the public.

300c. Two periodic review reports so far have been submitted to UNESCO, in 2003 and 2013. Recommendations from the 2003/2004 cycle, both those of the MAB-ICC and the German MAB National Committee, had been greatly implemented by 2013, including an improved zonation. The report with two dozen annexes was elaborated by the managers (there are three management entities, one for each federal state), with the full participation of all stakeholders at very high quality, and with scientific support. A similar similarly full participatory process with 300 stakeholders and 11 working groups was performed in 2014-2017 for the second Management Plan. The great efforts invested into the periodic review process, which was closely accompanied by the MAB National Committee with several meetings on the ground, has led to considerable improvements for the biosphere reserve in and after 2013, including improved staffing of management entities and improved formal cooperation structures across the three states. All documents of the periodic reviews are available freely in English and German on the website www.biosphaerenreservat-rhoen.de*. The MAB ICC in 2014 referred to the "periodic review report as a model for the WNBR".*

5.5. Web-based information clearing house and information centre

301. A wealth of the WNBR is in the availability of diverse information and potential for sharing this information. The Biosphere Smart initiative (http://portal.biospheresmart.org/en/), provides a web-based platform linked to UNESCO-MAB Website. It offers instruments for all interested to voluntarily include information, share ideas, knowledge, best practices and experience on all issues related to green economy and sustainable development.

302. Also, UNESCO website includes a place for sharing good practices that were created in the biosphere reserves (https://en.unesco.org/mab/strategy/goodpractices)

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303. Case study: **Guidelines for web-based information clearing houses and information centres in Chinese biosphere reserves**

303a. A special approach is used in China, where Computer Network Information Centre of the Chinese Academy of Sciences provides guidelines designed for Chinese biosphere reserves to consider their web-based information clearing house and information centres. The overall architecture consists of data acquisition layer, network transmission layer, data resource layer, support layer, application layer and user layer. In order to ensure the standardization of data resource construction and management, it is also necessary to build a standard and specification system and a security protection system. An integrated space-sky-earth data monitoring system is built to acquire timely dynamic data covering meteorology, hydrology, soil, flora and fauna, and personnel activities in biosphere reserves. Conventional reserve-based surveys, various types of sensor monitoring networks, video monitoring systems, mobile intelligent terminals, remote sensing satellites, and unmanned aerial vehicles, so as to monitor and manage resources and protection conditions of biosphere reserves in a real-time and dynamic manner are used.

304. Case study: **The Scientific Research Monitoring Information Platform for Chebaling Biosphere Reserve in Guangdong Province, China**

304a. Under the guidance of the Chinese National Committee for Man and the Biosphere Programme and the International Society of Zoological Sciences, Guangdong Chebaling National Nature Reserve Administration, the Institute of Zoology of the Chinese Academy of Sciences (CAS), the Computer Network Information Centre of the CAS, and the Institute of Remote Sensing and Digital Earth of the CAS have developed the "space-earth" key technology and integrated standardized evaluation technology for comprehensive biodiversity monitoring in Guangdong Chebaling National Nature Reserve. They have formulated the technical specifications for the inventory and evaluation of large and medium-sized terrestrial animals and their habitats in the nature reserve, with a 700M communication network platform for research and monitoring set up. They have developed technologies such as wireless uploading of field images from infrared cameras, artificial intelligence identification, cloud storage and automatic data analysis, and cloud services for automatic display of remote sensing monitoring image models. These technologies have been applied to perform the functions of automatic image acquisition, intelligent identification, processing and analysis, storage and display, and data sharing, improving the output efficiency of scientific research and popular science achievements. Over 300,000 valid photos and videos have been collected by Chebaling Biosphere Reserve, capturing 68 species of wild animals belonging to 31 families in 15 orders.

304b. The visual, intelligent, and standardized management of biodiversity resources in the reserve has been conducted, providing scientific and technological support for effective protection and assessment of important species.

305. The above case study presents very sophisticated and demanding way to design a complex biosphere reserve scientific research monitoring information platform. However other approaches are available as well, to fit the local or regional conditions and resources. It is important to emphasize that the common goal in all cases should be the production of some form of biosphere reserve web-based information clearing house and information centre.

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5.6. Transboundary Biosphere Reserves

306. The situation in data management and monitoring, as well as in periodic review reporting, is the same as in any other aspects of TBR management and functions. In TBR, more than anywhere else, coordination is important. The national teams should collect the data and share them in order to improve joint management, uncover the trends and create model solutions on larger scale. In terms of periodic review of TBRs where separate biosphere reserves are designated in each country, it is expected that each national biosphere reserve will submit its own report, and will contribute to the TBR periodic review. These reports should be synchronized to minimize workload.

307. Case study: **Data Management in the Great Altai TBR, Russia/Kazakhstan**

307a. The Great Altai TBR was designated between Russia and Kazakhstan in 2017. The designation followed 12 years of joint meetings and projects, which resulted in a joint management plan. In order to provide coordination within the TBR, a Joint Management Commission has been established, with the participation of national biosphere reserve authorities, national ministries, regional authorities, MAB committees and relevant experts from both countries on a parity basis. During its annual meetings, the Commission develops plans, adopts reports and discusses other issues related to the TBR management.

307b. The management plan of the TBR was developed in a participatory way, involving managers and staff of national biosphere reserves, local stakeholders, scientific experts and external facilitators. After completion, the Joint Management Commission adopted it. Developed along with the TBR nomination, the management plan contains a set of management strategies and performance indicators, aligned with the Lima Action Plan. This helps to assess not only the performance of the management plan, but also is useful for preparing MAB periodic reporting.

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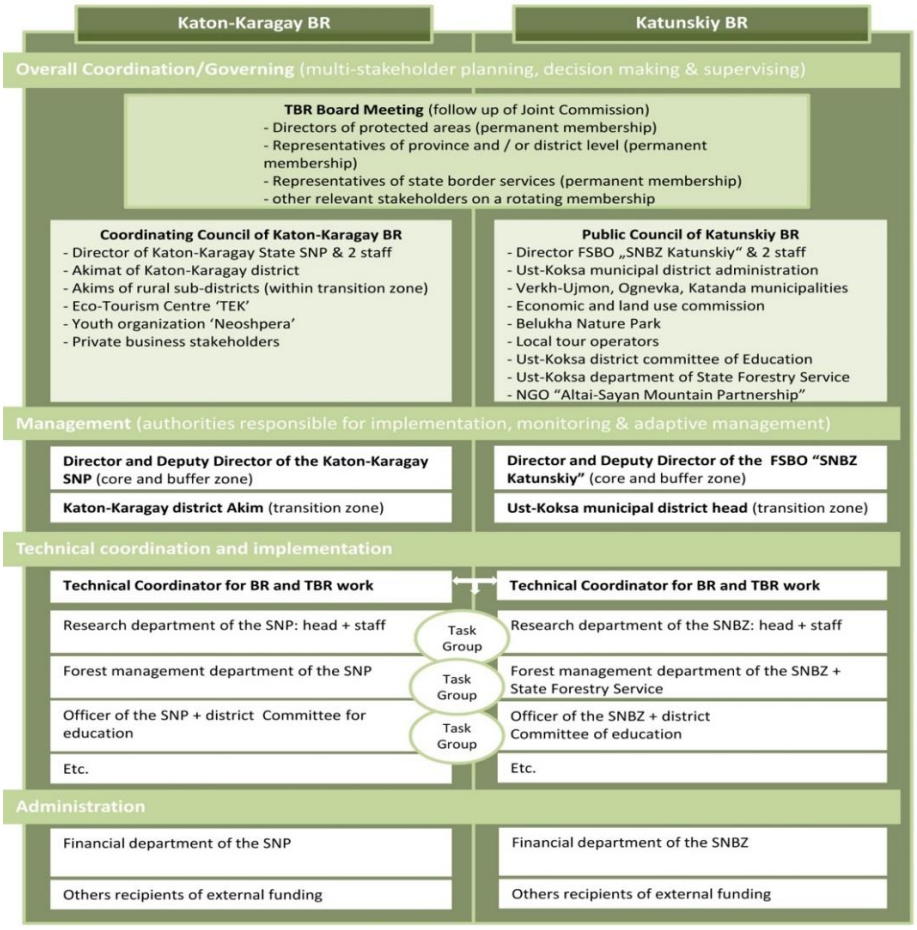
307c. The TBR Great Altai management structure is shown in the scheme below.



307d. According to this scheme, data obtained by individual national teams working on the same methodology at the same time is managed at periodic joint meetings. In the future, during joint Task Groups meetings, data is discussed, analysed and agreed upon for the preparation of a joint report to national authorities, international organizations and for presentation at the annual meeting of the TBR Great Altai Joint Commission.

307e. The institutional basis and formal frameworks of the data exchange are described in the Intergovernmental Agreement on the Establishment of the Transboundary Reserve, thus providing a legal mechanism for the international exchange and cooperation.

5.7. Multi-designated sites

308. Multi Internationally Designated Areas (MIDAs) that include Ramsar sites, World Heritage sites, Biosphere Reserves and UNESCO Global Geoparks, also face some challenges in terms of monitoring and evaluation. Differing reporting requirements in terms of depth of information and time cycles solicited by the designating bodies pose a heavy workload on site managers and national authorities.

309. The Ramsar Convention uses the web-based Ramsar Sites Information Service where site information is uploaded into a database and can be publicly accessed through site maps and

Ramsar Information Sheets (RIS) for each listed site. A RIS has 35 chapters and is accompanied by an explanatory notes and guidelines, as well as annexes.

310. The World Heritage Convention puts great emphasis on reporting with a view to assessing application of the Convention at the national level and to ensuring the state of conservation of World Heritage properties at the site level. The reporting process is complemented by regional capacity-building and networking activities among sites. The Periodic Reporting on the Application of the World Heritage Convention was required every six years. Periodic Reporting under the World Heritage Convention is complemented by Reactive Monitoring, which entails reporting to the World Heritage Committee on the state of conservation of specific World Heritage properties that are under threat. The State Parties submit State of Conservation reports whenever requested to do so by the World Heritage Committee, on an ad hoc basis, when a specific threat to the properties' Outstanding Universal Value (OUV) emerges. The World Heritage Committee decided on a standard format for the submission of State of Conservation reports as part of the Reactive Monitoring Process.

311. For revalidation of a UNESCO Global Geopark and its maintenance within the Global Geopark Network, a nine-page Excel form needs to be completed by the site manager. An on-site evaluation mission by two external UNESCO Global Geopark experts who record their observations in a separate Excel form complements this self-evaluation.

312. For Biosphere Reserves, a Periodic Review Form must be completed (plus various annexes relating to the MABnet Directory of Biosphere Reserves, promotion and communication materials, and the Statutory Framework). The periodic review questionnaire for Biosphere Reserves is the most detailed among the four international designating instruments.

313. When comparing the content of the required reporting, some information is obviously similar such as the name of a site, its state of conservation (or changes in conservation), and on-going educational and scientific programmes. Other requested information, however, can differ quite substantially from one international designation to another. UNESCO Global Geoparks, for example, require detailed evidence on how the sites and their managers have contributed to the work of the Network. On the other hand, the Periodic Review Form for Biosphere Reserves requires a detailed and analytical spectrum of information to assess whether a biosphere reserve is still fulfilling its conservation and sustainable development functions, as well as to evidence its governance status and management system.

314. Any reporting takes time and effort, since various data for monitoring has to be collected and summarized, and achievements in sustainable development efforts have to be detailed. One or several staff members need to be allocated to this important task. Many site administrations are understaffed and underfunded given the considerable requirements for a site's appropriate management and monitoring, outreach to local communities, and reporting. While this is particularly true for developing countries, many site administrations in developed countries are confronted with the same challenge since the public sector is usually requested to keep expenditures as low as possible. Therefore, adequate funding should be given to site management teams when an area receives multiple international designations so that they can cope with the additional workload that comes with the international designating bodies' requirements.

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315. Case study: **Challenges of multiple designations of Socotra Archipelago, Yemen**

315a. The Socotra Archipelago is located in the north-western Indian Ocean, between the Horn of Africa and the coast of Yemen. It is recognised as a regional centre of biodiversity, with spectacular endemic species such as the Dragon Blood Tree (Dracaena cinnabari). Socotra has a rich cultural heritage, including the unique Soqotri language. Isolated from the rest of the world, traditional land and sea uses remained little changed until the 1970s. The archipelago was designated a Biosphere Reserve in 2003. One year later, its part - the Detwah Lagoon (Ditwah Protected Area) - was listed as a Ramsar Site. In 2008 the Socotra Archipelago was listed as a natural World Heritage site encompassing over 75% of the total land area. All international designations are managed by the Environment Protection Authority (EPA), an administrative body of the Ministry of Water and Environment. The main reason for the listing of the site under different international designations was to address and reverse several anthropogenic pressures and threats (e.g. uncontrolled development, invasive species, over-exploitation of resources and loss of valuable traditional knowledge etc.). International designations have enhanced the visibility of the Socotra Archipelago, and has attracted sponsor organisations or funding facilities (e.g. UNEP, UNDP, GEF, GIZ etc.) to fund local projects on environmental conservation, sustainable development and information and knowledge exchanges at the global and regional level. However, the onset of war and unstable environment in Yemen have left Socotra in a risky situation. Funding for site management is a challenge. Furthermore, national and international projects to support the protection and sustainable development of the Socotra archipelago are still scarce. It can only be hoped that when peace returns to Yemen, national and external support for Socotra will resume. Moreover, it is essential to reinforce the role of local communities in environmental management and ecotourism activities in the area.

316. The biosphere managers/coordinators are rarely trained in handling multiple international designations. Therefore, for monitoring and evaluation in multi-designated biosphere reserves it is important to organize regular joint meetings of the respective authorities (at least on an annual basis). These meetings can help to assess the state of various designations within the biosphere reserve and improve the information and data exchange, ease the reporting processes, allow to work on joint management measures and plan new projects.

BIBLIOGRAPHY

German Commission for UNESCO (2015). Management Manual for UNESCO Biosphere Reserves in Africa. URL: https://www.unesco.de/sites/default/files/2018-01/Manual_BR_Africa_en-1.pdf

Schaaf, T. and Clamote Rodrigues, D. (2016). *Managing MIDAs: Harmonising the management of Multi-Internationally Designated Areas: Ramsar Sites, World Heritage sites, Biosphere Reserves and UNESCO Global Geoparks.* Gland, Switzerland: IUCN. xvi + 140 pp. https://www.iucn.org/content/managing-midas-harmonising-management-multi-internationally-designated-areas

DRAFT 3 TSG_MCAP BUREAU

References:

Gaston K.J. & Rodrigues A.S.L. (2003) Reserve selection in regions with poor biological data. Conservation Biology, 17, 188-195

Gaston K.J., Rodrigues A.S.L., van Rensburg B.J., Koleff P. & Chown S.L. (2001) Complementary representation and zones of ecological transition. Ecology Letters, 4, 4-9

Higgins J.V., Bryer M.T., Khoury M.L. & Fitzhugh T.W. (2005) A freshwater classification approach for biodiversity conservation planning. Conservation Biology, 19, 432-445

Pressey R.L., Humphries C.J., Margules C.R., Vanewright R.I. & Williams P.H. (1993) Beyond Opportunism - Key Principles for Systematic Reserve Selection. Trends in Ecology & Evolution, 8, 124-128

Margules C.R. & Pressey R.L. (2000) Systematic conservation planning. Nature, 405, 243-253

Possingham H., Ball I. & Andelman S. (2000) Mathematical Methods for identifying representative reserve networks. In: Quantitative Methods for Conservation Biology (eds. Ferson S & Burgman MA), pp. 291-305. Springer-Verlag, New York

Possingham H.P. (2001) Models, problems and algorithms: perceptions about their application to conservation biology. In: MODSIM, pp. 1-6

Possingham H.P., Wilson K.A., Andelman S.J. & Vynne C.H. (2006a) Protected 9 Areas: Goals, Limitations, and Design. In: Principles of Conservation Biology (eds. Groom MJ, Meefe GK & Carroll CR). Sinauer Associates, Sunderland MA.

Ball I.R. & Possingham H.P. (2000) Marxan v1.8.6 Marine Reserve Design; using 841 Spatially Explicit Annealing. URL www.ecology.uq.edu.au/marxan.htm 842

Moilanen A. & Kujala H. (2006) Zonation. Spatial conservation planning framework and software - v. 1.0. In. Atte Moilanen/ Metapopulation Research Group, Helsinki

Pressey R.L. (1994) Ad Hoc Reservations - Forward or Backward Steps in Developing Representative Reserve Systems. Conservation Biology, 8, 662- 668

Pressey R.L. (1999) Systematic conservation planning for the real world. PARKS, 9, 983 1-5

Pressey R.L. & Tully S.L. (1994) The Cost of Ad Hoc Reservation - a Case-Study in Western New-South-Wales. Australian Journal of Ecology, 19, 375-384

Sabatini M.d.C., A. V., R. I.R.M. & Vidal M. (2007) A quantitative method for zoning of protected areas and its spatial ecological implications. Journal of Environmental Management, 83, 68-76

Reinaldo Lourival1, Matt Watts, Robert Leslie Pressey, Guilherme de Miranda Mourão, Carlos Roberto Padovani, Marta Pereira da Silva & Hugh Phillip Possingham, What is

DRAFT 3 TSG WG_AC_BUREAU

missing in Biosphere Reserves Accountability? (2011) Natureza & Conservação 9(2):160-178, December (2011)

Marxan with Zones: Software for optimal conservation-based land- and sea-use zoning. Watts, M.E; Ball, I. R.; Stewart, R. S.; Klein, C. J.; Wilson, K.; Steinback, C.; Lourival, R.; Kircher, L.; Possingham, H.P. (2010) Environ. Model. Softw - doi: 10.1016/j.envsoft.2009.06.005

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6. Networks and partnerships to support Biosphere Reserves

317. Active participation within the WNBR and other networks is one of the features of a successful biosphere reserve. The cooperation should be at various levels (in the immediate surrounding, national, regional, international) and in different fields. It is important that the biosphere reserve not only draws information from the networks, but is also willing to share its own experiences (positive and negative as well) to keep the network alive and viable.

6.1. Scientific research

318. The MAB programme is an intergovernmental scientific programme that aims to establish a scientific basis for enhancing the relationship between people and their environments. It combines the natural and social sciences with a view to improving human livelihoods and safeguarding natural and managed ecosystems, thus promoting innovative approaches to economic development that are socially and culturally appropriate and environmentally sustainable.

319. It is very valuable for a biosphere reserve to establish close links with the scientific research staff of regional or national universities, and this is foreseen in the Lima Action Plan (Action A4). These universities can provide access to scientific networks (national and international) that have been established and/or they cooperate with. The biosphere reserve can benefit from such access through utilizing available data, sharing own experiences, or offering research opportunities for both students and scientists.

320. Another possibility for a biosphere reserve to make a difference in scientific research is to engage with sites and MAB Committees in the neighbouring countries. This will improve prospects for scientists to work on their research in new areas with increased possibilities for experience exchange.
321. The global level of scientific cooperation may seem very demanding, but there are ways to achieve this goal by using simple means e.g. online exchanges. If the site has favourable conditions for scientific cooperation, activity such as the twinning of sites can be a feasible option.

322. Case study: **International Long-term Ecological Research Network (ILTER)**

322a. ILTER consists of networks of scientists engaged in long-term, site-based ecological and socio-ecological research. They improve the understanding of global ecosystems and thereby provide the prerequisites for knowledge-based solutions to many current and future environmental problems.

322b. ILTER members are mostly national networks of scientists engaged in long-term, site-based ecological and socio-economic research (known as LTER or LTSER). They have expertise in the collection, management and analysis of long-term environmental data. Together they are responsible for creating and maintaining a large number of unique long-term datasets.

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322c. Specifically, the purpose of ILTER is to provide a globally distributed network and infrastructure of long-term research sites (many of them are designated as a biosphere reserves), for multiple use in the fields of ecosystem, biodiversity, critical zone and socio-ecological research, and to secure highest quality interoperable services in close interaction with related regional and global research infrastructures and networks.

322d. ILTER comprises 44 member networks each of which has established a formal LTER program nationally. These networks are grouped into four major regions: Americas, East-Asia-Pacific (EAP), Africa, Europe.

6.2. Education and training

323. Education and training falls under the logistic function of the biosphere reserve. In this field it is very important to cooperate with biosphere reserve stakeholders (municipalities, schools, universities, professional associations etc.). Each site should have at least a basic framework to be used to organize education and training activities.

324. On the national and local levels, education and training could be provided with support of local civil society organizations, schools and universities. Their engagement can provide the target groups as well as help with design and implementation of education and training programs. Good practice is if a biosphere reserve can offer an internship to the students of cooperating education facilities.

325. Regional impact of education and training programs can be reached through twinning programs between biosphere reserves or utilization of international contacts of civil society organizations, schools and universities. Such an approach was successfully used in Slovenia, where The Karst Biosphere Reserve established The International Schools Network with several primary schools involved.

326. It is also helpful to participate in appropriate networks used or operated by relevant biosphere reserve stakeholders (e.g. university networks, professional networks etc.). These networks can provide access to target groups or offer new ideas and approaches in education and training on a various levels and fields.

327. Great asset to education and training can bring cooperation with relevant UNESCO networks e.g. UNESCO Associated Schools Network (ASPnet). ASPnet links primary and secondary schools, kindergartens, or teacher training centres in more than 180 countries worldwide. These schools are pioneers in advancing quality education, in particular Global Citizenship Education (GCED) and Education for Sustainable Development (ESD). Many ASPnet schools are located within biosphere reserves. Also, partnerships between ASPnet schools and biosphere reserves have been established as a mean of cooperation.

328. Case study: **Kenya Green University Network**

328a. The UN Environment Programme (UNEP) launched the Kenya Green University Network (KGUN) in 2016 to promote environmental and sustainability practices among Kenyan universities. The network serves as a knowledge and innovation hub and support the sharing of best practices to support achievements in sustainable development.

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328b. UNEP launched KGUN with Kenya's National Environment Management Authority (NEMA) and the Commission for University Education (CUE). The network brings together over 70 universities with the aim of incorporating environmental and low-carbon strategies into Kenyan higher education, fostering student innovations in environmental sustainability, catalysing the need for more sustainable universities and promoting the adoption of green schools and universities and the Greening Universities Toolkit.

6.3. National biosphere reserve networks

329. Where available, on the national level any biosphere reserve can get in contact with other sites within the country, to exchange experience and initiate joint activities. Formal or informal "national networks" create more impact in utilizing scientific evidence as well as in creation of useful databases, relevant to decision making at the national level.

330. National networks of biosphere reserves so far exist only in a few countries. For example, in Germany, the managers of all biosphere reserves have been meeting two times per year for more than 20 years already, to discuss the German implementation of MAB Programme.

331. Case study: **Canadian Biosphere Reserve Association (CBRA)**

331a. In 1980, Canada's national committee for the UNESCO/MAB Programme convened a Biosphere Reserves Working Group. The goal was to foster cooperation among the existing biosphere reserves and to facilitate the development of new Canadian reserves. Under the stewardship of the Working Group, six areas in Canada had received biosphere reserve designation by 1990. From the early 1990s onwards, Parks Canada and Environment Canada's Ecological Monitoring and Assessment Network (EMAN) supported the Working Group in their initiatives. Amongst other projects, the EMAN facilitated the development of biodiversity monitoring plots in biosphere reserves across the country. In 1996, the Working Group, together with representatives from the existing biosphere reserves, formed the Canadian Biosphere Reserves Association to enhance the scope of support and program activities beyond what was possible under its prior arrangements. CBRA was incorporated in 1997 and received official charitable status in 1998.

6.4. Twinning of Biosphere Reserves

332. Among the ways of encouraging the sharing of information and experience is that of promoting the pairing or twinning of biosphere reserves in different countries which often, but not always, having similar ecosystems and challenges. This mode of cooperation encompasses twinning of biosphere reserves, e.g. between Malindi-Watamu biosphere reserve (Kenya) and North Devon biosphere reserve (United Kingdom), Kruger to Canyons biosphere reserve (South Africa) and Rhön biosphere reserve (Germany) or Schaalsee biosphere reserve (Germany), and Lake Bosomtwe biosphere reserve (Ghana) etc.

333. Twinning partnerships among biosphere reserves, such as the one among Kruger to Canyons, South Africa, and Rhön, Germany, or the one among Malindi-Watamu, Kenya and North Devon, UK, are not "donor partnerships", but "partnerships of mutual learning". Yet they can facilitate access to various donors.

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334. Case study**:** **Malindi-Watamu Arabuko Sokoke (Kenya) and North Devon (United Kingdom) biosphere reserves twinning project**

334a. Sharing experiences and understanding is an important function for the biosphere reserve network. North Devon's Biosphere Reserve has twinned with Malindi-Watamu Biosphere Reserve in Kenya so they can learn from one another about how to adapt to a world of climate change, sea level rise and coastal erosion. The intention is to twin the communities not just the coordinators or management groups. Representatives from Malindi have visited North Devon and vice-versa. The twinning process has strengthened the profile of Biosphere Reserves in Kenya, helped the formation of a Management Committee for Malindi-Watamu that is working hard to encourage community participation in the decision-making process. The twinning also helped communities in North Devon's Biosphere Reserve understand the shared challenges of adapting to the impacts of climate change in the UK and in Kenya. One of the tangible outcomes was also a TV documentary "Rising Tides" about adapting to climate change in North Devon and Malindi. Commissioned by UNESCO, it has been shown on BBC World and at local screenings in a number of arts venues across North Devon. The documentary was produced by the TV Trust for the Environment (TVE).

6.5. Regional and thematic networks

335. Over time, various international networks have been created within the MAB Programme, through which each biosphere reserve can contribute, draw experience, and find support. These networks are built on the regional affiliations or ecosystem specifics of the participating biosphere reserves and often also include the MAB National Committees.

336. Regional and sub-regional networks have key roles to play in the exchange of information, best practices and experience, sharing research programmes and developing training activities at regional level:

a) Sub-Saharan Africa:
   - AfriMAB

b) Latin America and the Caribbean, Portugal and Spain:
   - Ibero-American MAB Network (IberoMAB)

c) Europe and North America:
   - EuroMAB
   - NordMAB (Nordic countries)

d) Arab States: ArabMAB

e) Asia and the Pacific:
   - East Asian Biosphere Reserve Network (EABRN)
   - Pacific Biosphere Reserve Network (PacMAB)
   - South and Central Asia MAB Network (SACAM)
   - Southeast Asian Biosphere Reserve Network (SeaBRnet)

f) Inter-regional:
   - East Atlantic Biosphere Reserve Network (REDBIOS)

337. Regional and sub-regional networks are active and meet regularly.

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338. Case study**:** **The African Biosphere Reserves Network**

*338a. The African Biosphere Reserves Network (**AfriMAB**) was created in 1996 and consists of 33 African countries. The network aims at promoting regional co-operation in the fields of biodiversity, conservation and sustainable development through transborder projects, which are primarily based in biosphere reserves.*

338b. To increase efficiency, five thematic sub-networks were created which correspond to:

- *zoning and improving biosphere reserve functioning;*
- *biosphere reserves and local communities; stakeholders/social actors;*
- *participation and income-sharing;*
- *transboundary biosphere reserves;*
- *logistic support function of biosphere reserves.*

339. Case study**:** **The Pacific Man and the Biosphere Network**

339a. The Pacific Man and the Biosphere Reserve Network (PacMAB) was established for the Pacific region in December 2006 at the network's first meeting in Pohnpei, Federated States of Micronesia. PacMAB is opened to any Pacific state with an identified MAB focal point, all existing Pacific Biosphere Reserves, and any site authorities actively working towards the establishment of a Biosphere Reserve. The network was a necessity following the successful nominations of the region's first two Biosphere Reserves in 2005—Utwe in the Federated States of Micronesia and Ngaremeduu in the Republic of Palau.

339b. The network serves as a vehicle for exchange and cooperation among new and emerging Biosphere Reserves and national MAB focal points in the Pacific. Small islands in the Asia-Pacific region are highly vulnerable to climate change, the impacts of which cause poverty, natural disasters, depopulation, loss of traditional culture and the detrimental effect of invasive species. Biosphere reserves have an enormous potential in addressing climate change, particularly as places for learning about sustainable development and for experimenting on mitigation and adaptation measures on climate change.

340. Case study**:** **The network of the National MAB Committees in Arab Countries**

*340a. The network of the National MAB Committees in Arab Countries **(ArabMAB)** was officially launched in 1997 in Amman through Amman Declaration and represents 18 Arab countries. The overall objective of ArabMAB is to promote co-operation between Arab National MAB Committees in order to strengthen the MAB programme in the Arab Region, including through the establishment of biosphere reserves and the implementation of common research and public awareness projects.*

340b. The ArabMAB also helps to:

a) Coordinate and enhance collaboration in various disciplines related to the MAB Programme.

b) Establish principles of a common Arab Programme including the creation of biosphere reserves and other types of protected areas.

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c) Assist member committees in adhering to relevant international conventions.

d) Undertake collaborative research projects and other activities according to proposals from member committees.

340c. Members of ArabMAB constitute the ArabMAB Coordinating Council that meets every two years to elect a Bureau and to adopt a work programme for the biennium. The Council meetings are usually also the venue for expert meetings and technical workshops.

340d. ArabMAB Council meetings have been held in Agadir, Morocco (1999); Damascus, Syria, (2001); Beirut, Lebanon (2004). Sharm El-Sheikh, Egypt (2007). El-Chouf Cedar Biosphere Reserve, Lebanon (2010) and Dana Biosphere Reserve, Jordan (2013), Algeria (2017)

341. Case study**:** **The Ibero-American MAB Network**

*341a. The Ibero-American MAB Network (**IberoMAB**) was created in 1992. It comprises 22 countries from Latin American and the Caribbean, Portugal and Spain. The Ibero-American MAB Network aims at strengthening the MAB Programme in Latin American and Caribbean countries, Spain and Portugal, notably by consolidating their MAB National Committees and co-operative links, and promoting the creation of new biosphere reserves.*

341b. The IberoMaB objectives include the role of the Ibero-American and Caribbean Biosphere Reserves in sustainable development at a regional scale as well as recovering the premises of the Biosphere Reserves: a sustainable balance between conserving biological diversity, promoting economic development and maintaining the associated cultural values and adaptive territorial organisation. IberoMAB helps to preserve biological and cultural diversity and the services provided by ecosystems and landscapes, and strengthen the main lines of work which make the Biosphere Reserves laboratories for sustainable development and adaptation to global change in Ibero-America and the Caribbean.

341c. Each IberoMaB member country is completely independent in adopting the measures considered necessary to improve management of the Biosphere Reserves in its territory. The MaB Programme, through the IberoMaB network, orientates the Biosphere Reserves so that they will prosper with their contribution to people's sustainable development and the conservation of the existing natural and cultural heritage, reinforcing coordinated work and networking between all countries' Biosphere Reserves.

342. In the past, some ecosystem and theme-specific networks supported by dedicated projects provided valuable insights into sustainable development models and climate change mitigation and adaptation possibilities through research, capacity-building and educational collaborations. This is the case for Global Change in Mountain Regions (GLOCHAMORE), which was a worldwide network established in 2003 to study global change processes in mountains or Sustainable Management of Marginal Drylands (SUMAMAD, 2002-2011) which studied sustainable management and conservation of marginal drylands in Africa, Arab States, Asia and Latin America.

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343. Established in 2012, the World Network of Island and Coastal Biosphere Reserves is still very active. It aims to study, implement and disseminate island and coastal strategies to preserve biodiversity and heritage, promote sustainable development, and adapt to and mitigate the effects of climate change. Its two technical headquarters coordinate the network and work together at the global level: the office in the island of Jeju (Republic of Korea) focuses on climate change issues while the other in Menorca (Spain) specializes in sustainable development. This network is formed by the representatives of twenty islands and coastal biosphere reserves around the world and is open to all islands and coastal biosphere reserves that want to join it.

344. Detailed information about the MAB Programme networks can be found on the UNESCO MAB website: (http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/man-and-biosphere-programme/networks/)

345. Smaller networks, in the form of working groups, also emerge within the MAB Programme. These networks are theme based. They include CaveMAB - a network of biosphere reserves around the globe that treasure natural and cultural phenomena related to caves (https://cavemab.com/); the Continental Aquatic Ecosystems MAB Network that started as a working group on 'watercourse and catchment management' (https://cae-mab-network.com/); and others. In September 2019, a network of Biosphere reserves home to Great Apes has been established.

6.6. Other relevant networks of UNESCO, including UNESCO designations

346. UNESCO hosts many diverse networks. Biosphere reserves are invited to connect to members of these networks (and vice versa), both in their immediate neighborhoods and further afield, for the mutual benefit and in order to share forces to contribute to UNESCO objectives of peace, sustainable development, innovation and the conservation of important heritage. In some parts of the world, such as Uruguay, Scotland in the United Kingdom or the German Lausitz region, "UNESCO routes" are being established, connecting different UNESCO designations also in a way visible to the outside world.

a) UNITWIN – UNESCO Chairs

347. The UNITWIN/UNESCO Chairs Program since 1992 promotes global inter-university cooperation and networking to enhance innovation, institutional capacities, international knowledge sharing and collaborative work, in particular North-South-South. There are more than 700 UNESCO Chairs and dozens of UNITWIN Networks (as of 2020) in key priority areas related to UNESCO's fields of competence, in particular on global sustainable development challenges. These networks and chairs serve as think tanks and bridge builders between academia, civil society, local communities, research and policy-making. There are at least five UNESCO Chairs with dedicate work in and for biosphere reserves, and many more with relevant academic interests.

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Region	Member State		Themes	Name Chair
	N°	Country		
LAC	1	Argentina	Environment	Chaire UNESCO-COUSTEAU d'écotechnie
LAC	2	Brazil	Sustainable Development	UNESCO Chair in South-South Cooperation for Sustainable Development
LAC	3	Chile	n/a	UNESCO-EOLSS Chair in Natural Resource Management, Land Planning and Environmental Protection
LAC	4	Chile	Ecotechnie	Chaire d'Ecotechnie UNESCO-Cousteau en « Formation de spécialistes en aménagement et développement durable de la zone côtière »
LAC	5	Costa Rica	Biodiversity, Sustainable Development	UNESCO Chair on Biosphere Reserves and Natural and Mixed World Heritage Sites
LAC	6	Cuba	Environment	UNESCO Chair in Environment and Development
LAC	7	Cuba	Agriculture	UNESCO Chair on Agroecology and Sustainable Development
LAC	8	Ecuador	n/a	UNESCO Chair on Sustainable Development
LAC	9	Mexico	Environment	UNESCO Chair on Biosphere Reserves and Urban Environment
LAC	10	Mexico	Climate change	UNESCO Chair on Climate Change and Sustainable Development in Latin America
LAC	11	Uruguay	n/a	UNESCO Chair on Coastal and Continental Shelf Geoscience
AFR	12	Benin	Environment	Chaire UNESCO en sciences, technologies et environnement
AFR	13	Kenya	n/a	UNESCO Chair on Higher Education Development for a Green Economy and Sustainability
AFR	14	Mali	Environment	Chaire UNESCO-EOLSS d'enseignement et de

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				recherche sur l'environnement
AFR	15	South Africa	n/a	UNESCO Chair in Biotechnology
ASPAC	16	China	Ecotechnie	UNESCO/COUSTEAU Ecotechnie Chair
ASPAC	17	China	Technology	UNESCO Chair in South-South Cooperation on Science and Technology to Address Climate Change
ASPAC	18	India	Climate change	UNESCO Chair in Climate Science and Policy
ASPAC	19	Iran, Islamic Republic of	Climate change	UNESCO Chair on Natural Disasters Management in the Islamic Republic of Iran and Countries in the Region
ASPAC	20	Japan	Geosciences	UNITWIN-UNESCO/KU/ICL Landslide, Earthquake and Water-related Disaster Risk Management for Society and the Environment Cooperation Programme
ECE	21	Russian Federation	Environment	UNESCO Chair in Environmental Dynamics and Global Climate Change
ECE	22	Russian Federation	Ecology	UNESCO Chair in the protection of Biodiversity of Forest Ecosystems in the Context of Sustainable Development
ECE	23	Russian Federation	Ecotechnie	UNESCO-Cousteau Ecotechnie Chair in the Conservation and Sustainable Use of the Biodiversity of the Steppe and Wetland Ecosystems
ECE	24	Russian Federation	Climate change	UNESCO Chair in Social and Human Adaptation of the Arctic regions to Climate Change
ECE	25	Russian Federation	Environment	UNESCO Chair in the Study and Preservation of the Ecosystems' Biodiversity in the Volga River Basin
ECE	26	Slovakia	Sustainable Development	UNESCO Chair in Sustainable Development and Ecological Awareness

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ARB	27	Sudan	Desertification	UNESCO Chair in Desertification
ARB	28	Sudan	Ecology	UNESCO-Cousteau Ecotechnie Chair
ARB	29	Syrian Arab Republic	Environment	UNESCO Chair in Environmental Protection
ENA	30	Belgium	n/a	UNESCO Chair in Eremology
ENA	31	Canada	Environment	UNESCO Chair for Dialogues on Sustainability
ENA	32	Canada	n/a	UNESCO Chair on Biocultural Diversity, Sustainability, Reconciliation, and Renewal
ENA	33	France	Biodiversity	Chaire UNESCO « Parcours MAB »
ENA	34	Germany	Biodiversity, Environment, World Heritage	UNESCO Chair on World Heritage and Biosphere Reserve Observation and Education
ENA	35	Greece	Climate change	UNESCO Chair on Natural Hazards in the Geosphere, the Hydrosphere and the Atmosphere
ENA	36	Greece	Geosciences	UNESCO Chair on Solid Earth Physics and Geohazards Risk Reduction
ENA	37	Greece	Ecology, Sustainable Development	UNESCO Chair on Conservation and Ecotourism of Riparian and Deltaic Ecosystems
ENA	38	Israel	Agriculture	UNESCO Chair in Plant-Water Relationships in Desert Sand Dunes
ENA	39	Italy	Ecology	UNESCO Chair in Sustainable Development and Territory Management
ENA	40	Italy	Biodiversity and Land management	UNESCO Chair on New paradigms and instruments for bio-cultural landscape management
ENA	41	Italy	n/a	UNESCO Chair on Intersectoral Safety for Disaster Risk Reduction and Resilience
ENA	42	Italy	n/a	Prevention and Sustainable Management of Geo-Hydrological Hazards

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ENA	43	Norway	Environmental management.	UNESCO Chair on Sustainable Heritage and Environmental Management-Nature and Culture
ENA	44	Portugal	Biodiversity	UNESCO Chair on Biodiversity Safeguard for Sustainable Development
ENA	45	Portugal	Biodiversity	UNESCO Chair on Geoparks, Regional Sustainable Development and Healthy Lifestyles
ENA	46	Portugal		UNESCO Chair on Life on Land
ECE	47	Russian Federation	Environment	UNESCO Chair in Environmental Education in Siberia
ECE	48	Russian Federation	Environment Protection	UNESCO Chair in Ecologically Safe Development of Large Regions: The Volga Basin
ECE	49	Russian Federation	Ecology	UNESCO Chair in Marine Ecology
ECE	50	Russian Federation	Environment	UNESCO Chair on the Application of the Fundamental Principles of the Earth Charter for a More Sustainable Society
ECE	51	Slovenia	Geosciences	UNESCO Chair on Karst Education
ENA	52	Spain	Coastal Areas	UNESCO Chair in Environmental and Marine Resources Management
ENA	53	Spain	Environment	Chaire UNESCO d'étude de l'environnement
ENA	54	Spain	Environmental Management	Chaire UNESCO-SA NOSTRA en Gestion d'Entreprise et Environnement
ENA	55	Spain	n/a	Chaire UNESCO de Développement durable et éducation environnementale
ENA	56	Spain	Ecology	UNESCO Chair in Life Cycle and Climate Change
ENA	57	United Kingdom of Great Britain and	Geosciences	UNESCO Chair in Sustainable Mountain Development

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		Northern Ireland		
ENA	58	United Kingdom of Great Britain and Northern Ireland	Environment	UNESCO Chair in the Development of a Sustainable Geo-environment
ENA	59	United Kingdom of Great Britain and Northern Ireland	n/a	UNESCO Chair on Geoscience and Society
ENA	60	United States of America	n/a	UNITWIN Network for Improving Biological Sciences Education through the Development and Use of Information Technologies in some Arab States Universities
ECE	61	Belarus	n/a	UNESCO Chair in Science Education with Emphasis on Natural Sciences (2011)-Belarusian State University, Minsk (919)
LAC	62	Ecuador	n/a	UNESCO Chair on Sustainable Development (2018), Universidad Técnica Particular de Loja (1290)
ASPAC	63	India	n/a	UNESCO Chair in Climate Science and Policy (2012), TERI University (999)
ASPAC	64	Kazakhstan	n/a	UNESCO Chair on water resources management in Central Asia (2016), German-Kazakh University, Almaty (1187)
ENA	65	Spain	n/a	Chaire UNESCO d'Etude de l'environnement (2001), Université Rey Juan Carlos, Madrid (560)
ENA	66	Spain	n/a	Chair UNESCO-SA NOSTRA en Gestion d'entreprise et environnement (2001) Université des Illes Balears, Palma de Mallorca (566)

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348. Other Chairs related to water resource management are also in place to cooperate with the MAB Programme and biosphere reserves (e.g. in Sudan).

b) Category 2 Centres and Institutes

349. Category 2 centres and institutes, are academic/research institutes that contribute to the execution of UNESCO's programme through capacity building; the exchange of information in a particular discipline; theoretical and experimental research; and advanced training. They are under the auspices of UNESCO, by a decision of the UNESCO General Conference, but are not legally part of UNESCO and also not financed by UNESCO. Some 100 centres and institutes (as of 2020) are in existence, most of them in the fields of freshwater and heritage. There are also centres and institutes dedicated to renewable energy, geosciences, or remote sensing.

350. Category 2 centres that are devoted to biosphere reserves are École régionale post-universitaire d'aménagement et de gestion intégrés des forêts tropicales (ERAIFT) established in 1991 and International Centre for the Mediterranean Biosphere Reserves established in 2014.

351. There are some other Category 2 centres that can support international designations including biosphere reserves such as International Centre on Space Technologies for Natural and Cultural Heritage (HIST) established in 2011 and Global Research and Training Centre for Internationally Designated Areas approved in 2019.

Region	Member State		Themes	Name Centre
	N°	Country		
ASPAC	1	**China**	Environment	International Centre on Global-scale Geochemistry,
	2	**China**	Space and World Heritage	**HIST:** International Centre on Space Technologies for Cultural and Natural Heritage,
	3	**China**	Ecology	**IRCK:** International Research Centre on Karst
ASPAC	8	**Republic of Korea**		Global Research and Training Centre for Internationally Designated Areas
AFR	4	**Democratic Republic of Congo**	Education	**ERAIFT**: Ecole régionale post-universitaire d'aménagement et de gestion intégrés des forêts et territoires tropicaux
ENA	5	**Spain**	Environment	International centre on Mediterranean Biosphere Reserves
ENA	6	**Macedonia**	Education, earthquake engineering	**IZIIS:** International Institute of Earthquake Engineering and Engineering Seismology,

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			and seismology	University “Ss. Cyril and Methodius”,
ENA	7	**Spain**		International centre on Mediterranean Biosphere Reserves
ENA	9	**Iceland**		International Centre for Capacity Development – Sustainable use of Natural Resources and Societal Change

c) UNESCO Associated Schools Network – ASPnet

352. Established in 1953, the ASPnet today links more than 11,500 (as of 2020) primary and secondary schools, but also kindergartens, or teacher training centers, all across the world, in more than 180 countries. These schools are pioneers in advancing peace, intercultural dialogue and sustainable development in the daily practice of quality education of the schools. The network is a driver for innovation and quality in education, in particular Global Citizenship Education (GCED) and Education for Sustainable Development (ESD). Many ASPnet schools have international partner schools. In many cases, there are ASPnet schools within biosphere reserves, more often, there are close by. In several cases, there are already formal partnerships between ASPnet schools and biosphere reserves. They can be mutually beneficial in particular to promote state-of-the-art GCED and ESD in the schools and in the biosphere reserves, both acting in a global network.

d) Education for Sustainable Development (ESD) Networks

353. UNESCO’s global leadership for ESD has been re-affirmed again and again, in the UN Decade (2005-2014), the subsequent Global Action Program (2015-2019) and in the current Global Framework of UNESCO “ESD for 2030” (2020-2030). Through ESD, UNESCO seeks to support transformative action and structural change towards sustainable development, through, with, and in education. The goal of ESD is to “learn the values, behaviour and lifestyles required for a sustainable future and for positive societal transformation”; it should be noted that ESD is not “knowledge-driven”, even though knowledge is an important part of ESD. UNESCO is operating at the level of ESD policies, learning environment transformation, capacity building, youth empowerment and by “accelerating sustainable solutions at local level”. Because of this full alignment of goals and approaches, the WNBR is formal partner of the UNESCO “ESD Partner Network” for promoting sustainability locally, alongside dozens of other partners in 5 “ESD Partner Networks”.

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e) UNEVOC centers for Technical and Vocational Education and Training (TVET)

354. UNEVOC, as part of the UNESCO Secretariat, is an International Center based in Bonn, Germany. UNEVOC coordinates a global network of 290 TVET UNEVOC centers in 167 countries (as of 2020), encouraging lifelong learning and promoting access to quality training. UNEVOC and its network promotes increased opportunities for productive work, sustainable livelihoods, personal empowerment and socio-economic development, especially for youth, women and the disadvantaged. “Greening TVET” is one of the key UNEVOC thematic areas. Biosphere reserves have the opportunity to partner with the Bonn UNEVOC Center and the global centers, some of them close to biosphere reserves, sharing experience and offering opportunities while fulfilling the development and logistic functions.

f) International Coalition of Inclusive and Sustainable Cities – ICCAR

355. ICCAR is a global network of cities, launched by UNESCO in 2004. More than 500 ICCAR cities (as of 2020) collectively and individually undertake a wide range of initiatives from policymaking and capacity building to awareness-raising. The network, its seven sub-networks and the individual cities advocate for global solidarity and collaboration to promote inclusive urban development free from all forms of discrimination. It has established a common voice for cities striving to fight against societal ills that result from social transformations including rapid urbanization, human mobility, and rising inequalities. In addition to ICCAR, UNESCO hosts seven additional networks and programs at the level of cities, such as the “Learning Cities” network and the “Creative Cities” network – all integrated into the “UNESCO Cities platform”. Especially in cases where biosphere reserves include urban areas, their experience can be an asset to these Cities’ networks, and vice versa.

g) UNESCO Global Geoparks Network

356. UNESCO Global Geoparks are areas with sites and landscapes of international geological significance that are managed with the purpose of protection, education and sustainable development. UNESCO Global Geoparks use their geological heritage, in connection with all other aspects of the area’s natural and cultural heritage, to enhance awareness and understanding of key issues facing society, such as using our earth’s resources sustainably, mitigating the effects of climate change and reducing natural disasters-related risks. UNESCO Global Geoparks give local communities a sense of pride in their region and strengthen their identification with the area. They support the creation of innovative local enterprises, new jobs and high-quality training, in particular through geotourism, while the geological resources of the area are protected. Established as a UNESCO program in 2015, today there are more than 161 UNESCO Global Geoparks in 44 Member States (as of August 2020). They form a closely cooperating global network, inter alia with global meetings every two years, fostering the exchange of ideas and information sharing. There are similarities in approach and goals to biosphere reserves, and in many cases, there are overlaps or there is close proximity which should be used to join forces.

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g) World Heritage Convention and its properties

357. The World Heritage Convention of 1972 is the best-known of UNESCO's many conventions of international law. A highly significant feature of the Convention is that it integrates nature conservation and the preservation of cultural properties, both conceptually and legally. Within the framework of the Convention, the World Heritage Committee since 1978 inscribes cultural, natural and mixed "properties" or sites into the World Heritage List. More than 1,100 properties of "outstanding universal value" in 167 countries have been inscribed (as of August 2020). Since the 1990s, Cultural Landscapes have been inscribed as well. Hundreds of additional sites are currently inscribed on national "tentative lists" as a prerequisite of inscription by the World Heritage Committee. The Convention is accompanied by "operational guidelines" and other authoritative texts. World Heritage Sites reflect the cultural and natural diversity of our world, and are a powerful instrument for conservation. They are both irreplaceable sources of life and inspiration, in particular for global and inter-generational responsibility. World Heritage Sites require the participation of the local population and encourage international cooperation. Increasingly, World Heritage Sites work together across the world. In many cases, biosphere reserves contain World Heritage sites, both natural and cultural; integrated management and partnerships are strongly recommended.

i) Intangible heritage

358. Intangible heritage, as defined by the UNESCO Convention of 2003 that seeks to contribute to its safeguarding, covers oral traditions, performing arts, social practices, rituals, festive events, knowledge and practices concerning nature and the universe or the knowledge and skills to produce traditional crafts. Intangible cultural heritage is an important factor in maintaining cultural diversity, supporting intercultural dialogue, and encouraging mutual respect for other ways of life. Within the context of the UNESCO Convention, certain intangible heritage "elements" can be inscribed by countries / State Parties into three lists, as one of the means of transmitting the wealth of knowledge and skills from one generation to the next. There is high social and also economic value of this transmission of knowledge, both for minority groups and for mainstream social groups, in all countries at all stages of development. In the three lists, more than 500 "elements" have been inscribed, which are sometimes very localized practices in a village or city, but which can also cover wide regions, and often extend countries and sometimes continents. In order to inscribe an element, a country needs to have it included in a national register before. There are many cases of intangible heritage elements, recognized by UNESCO already or on a national register or awaiting inscription, that are highly relevant for managing a biosphere reserve and are interesting to partner with as a biosphere reserve, not only elements concerning "knowledge and practices concerning nature".

j) UNESCO Water Family

359. The Intergovernmental Hydrological Programme (IHP) is an intergovernmental programme of UNESCO, just as MAB is, that promotes international scientific cooperation in water research, water resource management, education and capacity-building. Since its foundation in 1975, IHP has created a UNESCO "water community" of academic and research institutions, governmental bodies, individual experts and also "implementation sites" that operate as a global network. IHP has National Committees, very much like MAB, yet it is much more focused on research; its "implementation sites" have less permanence than biosphere reserves. IHP

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has many sub-programs, for example on drought or on floods, or on permanent monitoring. UNESCO, through the UN World Water Assessment Programme (WWAP), publishes the World Water Development Report (WWDR) annually. IHP and its wide water community, can be the ideal partner to address if a biosphere reserve seeks to better understand and improve its water management approaches.

6.7. Other networks and initiatives

360. Biosphere reserves as learning sites for sustainable development have potential to become an asset to other networks of similar focus also outside UNESCO structures. As also stated in Lima Action Plan it is desirable for biosphere reserves to create opportunities for collaboration and partnerships with international programmes and relevant conventions (Action C 2.2.). By participating in these partnerships, the biosphere reserves enhance the information and experience exchange and may improve their own performance.

361. Case study: **International Model Forest Network (IMFN)**

361a. The International Model Forest Network (www.imfn.net) is a voluntary global community of practice whose members and supporters work toward the sustainable management of forest-based landscapes and natural resources through the Model Forest approach.

361b. A Model Forest can be described as a large-scale landscape encompassing many different land uses; a specific partnership-based approach to sustainable forest management; and a long-term process that adheres to a broad set of principles to promote sustainability. The partnership is voluntary and made up of stakeholders – such as biosphere reserve coordinators, local community associations, indigenous peoples, governments, academia, and industry – representing the environmental, social and economic forces at play within the landscape. The partnership works to define a shared, locally relevant operational vision of natural resource management and then collaborate to achieve it in concrete terms for the benefit of all stakeholders Model Forests bring joint solutions and innovative strategies to shared challenges such as climate change, governance, land degradation, food security, wildfires, markets and livelihoods, health and well-being, and land-use conflicts.

361c. Through the network structure and a commitment to knowledge sharing and capacity building, best practices and lessons learned in one Model Forest can be shared with others to accelerate learning and collectively make lasting progress to realize sustainable development, both locally and globally.

361d. Biosphere reserves have a very similar approach to sustainable development with a focus on large landscapes and broad stakeholder participation. There are a number of biosphere reserves whose boundaries overlap those of Model Forests and both groups work cooperatively to achieve common objectives (e.g., Dja Biosphere Reserve/Dja et Mpomo Model Forest, Huai Tak Teak Biosphere Reserve/Ngao Model Forest, Yungas Biosphere Reserve/Jujuy Model Forest or Lower Morava Biosphere Reserve/Model Forest Czech Republic). In some cases, the Model Forest has facilitated the establishment of a Biosphere Reserve (e.g., Eastern Ontario Model Forest/Frontenac Arch Biosphere Reserve, Fundy Model Forest/Fundy Biosphere Reserve).

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References:

www.unesco.org

www.imfn.net

https://www.biospherecanada.ca/

https://www.northdevonbiosphere.org.uk/our-twin-biosphere.html

https://www.ilter.network/

http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/images/20160316_Lima_BR_ILTER_Mirtl_v02.pdf

http://sdg.iisd.org/news/unep-partners-launch-kenya-green-university-network/

Axelsson, R.: Biosphere Reserve and Model Forest: A Study of Two Concepts for Integrated Natural Resource Management (SLU, 2007)
https://www.academia.edu/10278051/Biosphere_Reserve_and_Model_Forest_A_Study_of_Two_Concepts_for_Integrated_Natural_Resource_Management

http://rerb.oapn.es/images/PDF_publicaciones/oapn_mab_PAI_ing_tcm7-186879.pdf

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