

Exchange and Transparency

The Way to a Internet Exchange Platform for Biosphere Reserves

Discussion Paper
Rennes, 26.11.2006



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1. Introduction

As the 19th meeting of the International Coordinating Council of the "Man and the Biosphere" programme (MAB) draws to a close in the end of October 2006, the number of sites forming the World Network of Biosphere Reserves (WNBR) has crossed a new mark: The world has more than 500 biosphere reserves. The MAB Secretariat confirm on its website that it has concentrated its activities on the development of the WNBR over the years. In terms of numbers, the programme is a success.

A closer look, however, reveals some shortcomings of the network character. Information is not exchanged in the way it could be, some reserves seem not to exist, others wait passively for higher levels to make the first step, contact data is out of date. Although recent additions to the network were applauded for their "high quality", this does not necessarily mean that they will automatically become active members of the network.

The MAB Secretariat stresses the network character of the MAB programme and relies on the willingness of its members to contribute to its success. Nevertheless, recent observations indicate that information flow and exchange between all levels, an essential part of a network, is still limited.

This discussion paper introduces the idea that an internet platform for biosphere reserve managers and all other stakeholders within the MAB could assure a free flow of information, promote participation and transparency and increase the WNBR's attractiveness in the eyes of decision makers and the interested public while at the same time taking a major workload from the shoulders of the coordinating institutions (secretariat, regional offices, regional and thematic networks).

2. Present Situation

2.1. Seville Strategy and Goals

Communication between members is an essential precondition for each network's functioning. The significance of free flowing information has been recognized in the Seville Strategy, which in five of its objectives stresses the importance of improving communication between reserve managers. Exchange of experiences, guidelines and methodologies is given a special emphasis (UNESCO 1995)

- *III.1.5 (international level): Develop a clearing-house for research tools and methodologies in biosphere reserves*
- *III.3.1 (international level): Facilitate the exchange of experience and information between biosphere reserves, with a view to strengthening the involvement of volunteers and local people in biosphere reserve activities.*
- *III.3.2. (international level): Promote the development of communication systems for diffusing information on biosphere reserves and on experiences at the field level.*
- *IV.1.3 (international level) and IV.1.9 (national level): Organize forums and other information exchange mechanisms for biosphere reserve managers.*
- *IV.2.4 (international level): Lead the development of communication among biosphere reserves, taking into account their communication and technical capabilities, and strengthen existing and planned regional or thematic networks.*

2.2. Increasing Importance of Internet

Although Internet has not yet reached all parts of the planet, access rates are increasing worldwide, especially in developing countries (e.g. + 600% in Africa between 2000 and 2006¹). It can no longer be neglected that Internet will dominate worldwide communication for the decades to come.

A generation of young managers and scientists has grown up with Internet, is able to appreciate its advantages and shortcomings and will increasingly rely on this medium of communication. Taking into account that it is them who are going to shape protected area policy in the future, current policies have to define the appropriate frame to foster the rational and goal-directed use of Internet communication.

A noteworthy phenomenon is the rise of web communities based on decentralized content provision, notably "Wikis" with its most prominent member Wikipedia.org, but also YouTube, MySpace, Flickr,

¹ <http://www.internetworldstats.com/stats.htm>

Couchsurfing². Their remarkable success is based on the recognition of an existing need, the provision of an appropriate technological and structural framework and the animation of a "sense of community". It will later be shown how this concept can be applied in the context of the WNBR.

2.3. Communication within the MAB programme

Within the MAB programme, several hundred actors on local, national, regional and international levels communicate with each other in a complex and multidimensional process that follows the rules of a chaotic network. Responsibilities are not clearly defined between the different levels and bottlenecks exist where communication channels are bundled or destined partners don't exist (e.g. inactive national focal points). Relevant information is withheld by different institutions, in paper form or by individual employees. Redundancies emerge and it is sometimes difficult to assess which information is the most up to date. An important trade-off exists between the need to decrease transaction costs (working hours and resources allocated to information exchange), and the need to maintain a high degree of up-to-dateness and transparency.

With respect to the use of the Internet, several observations indicate that – apart from the use of emails and a few static websites – the potential of a structured and transparent exchange has not yet been fully explored (see Fig.1)

- The centralized MAB database on the website of the UNESCO³ does not meet the objectives of enabling communication. More than 80% of the contact information (email, phone numbers) of biosphere reserve managers and focal points is outdated⁴. Basic information about biosphere reserves often lacks detail and sometimes has not been updated for several years.
- Valid contact data is sometimes held by individuals in UNESCO offices, but in this form not rapidly available to the general public – only upon request (time-intensive).
- Some reserves, countries or networks have own websites, with varying degrees of sophistication. They are not always linked with the MAB database, can sometimes be confused with websites provided by private persons or tourism agencies and sometimes only exist in the local language.

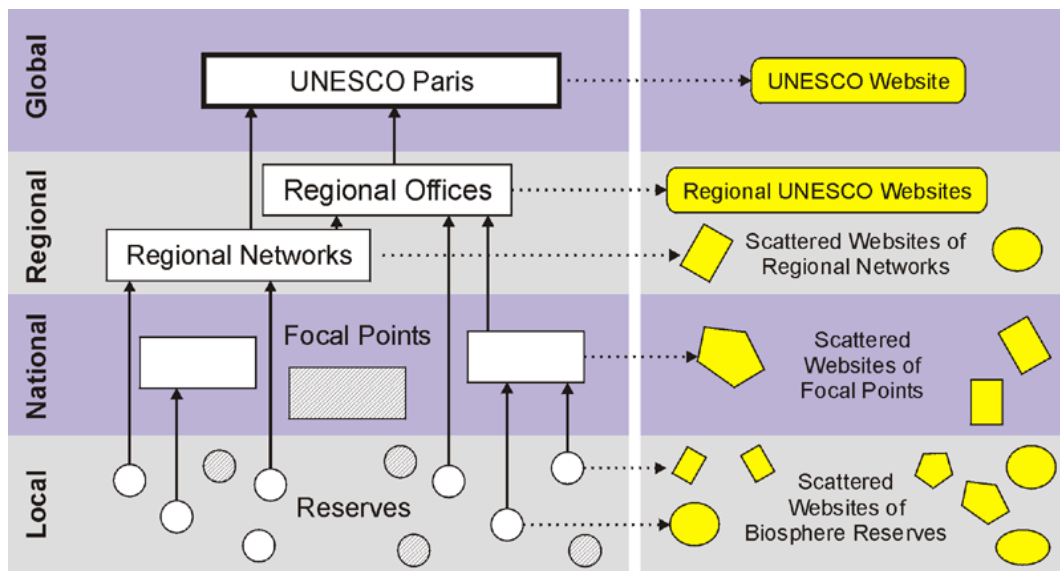


Fig. 1: Simplified view of the multiple communication channels within the MAB system.

² www.wikipedia.org, www.youtube.com, www.myspace.com, www.flickr.com, www.couchsurfing.com

³ www.unesco.org/mab/wnbrs.html

⁴ 2006. Observed by the research group "Governance of Biodiversity" (www.biodiversitygovernance.de), Humboldt University, Berlin, Germany, in the context of a tele-survey of worldwide biosphere reserve governance. The research group was obliged to postpone its deadlines due to the time-intensive requests for valid contact data.

Personal observations by the author⁵ indicate that several reserve managers are not satisfied with the amount of communication and exchange within the network and would like to increase exchange.

2.4. System's Perspective, Costs and Effectiveness

Although this discussion paper lacks detailed information about the substructures of communication within MAB, the above-mentioned issues of unclear responsibilities, bottlenecks, redundancies, and outdated information indicate a lack of efficiency and considerably high transaction costs.

Managers and office employees on all levels are subject to budget and time constraints. However, due to the present structure, they (have to) spend non-negligible parts of their resources with tasks that could be avoided:

- Concentrating and forwarding relevant information forms part of the daily work of the MAB Secretariat, regional offices, thematic and regional networks and focal points (as far as they exist). If the marginal cost-benefit ratio is considered too high, information is not forwarded.
- Setting up and maintaining personal websites for networks, focal points and reserves can involve considerable costs and workloads, sometimes resulting in a neglect of the site as time proceeds.

Given current constraints to communication and taking into account that large parts of the WNBR network call for an improvement and an increase in information flows, the author argues that the MAB community should seriously consider a different approach to exchange and transparency: A platform for structured information exchange via the Internet.

3. Proposal for an Internet Exchange Platform

The author suggests the MAB Secretariat to turn the current MAB database and its corresponding website into an interactive, dynamic, adaptive and attractive exchange platform, where reserve managers and staff, focal points, regional and thematic networks, regional UNESCO offices and – possibly – even the interested public all share information in a semi-structured way (see Fig.2).

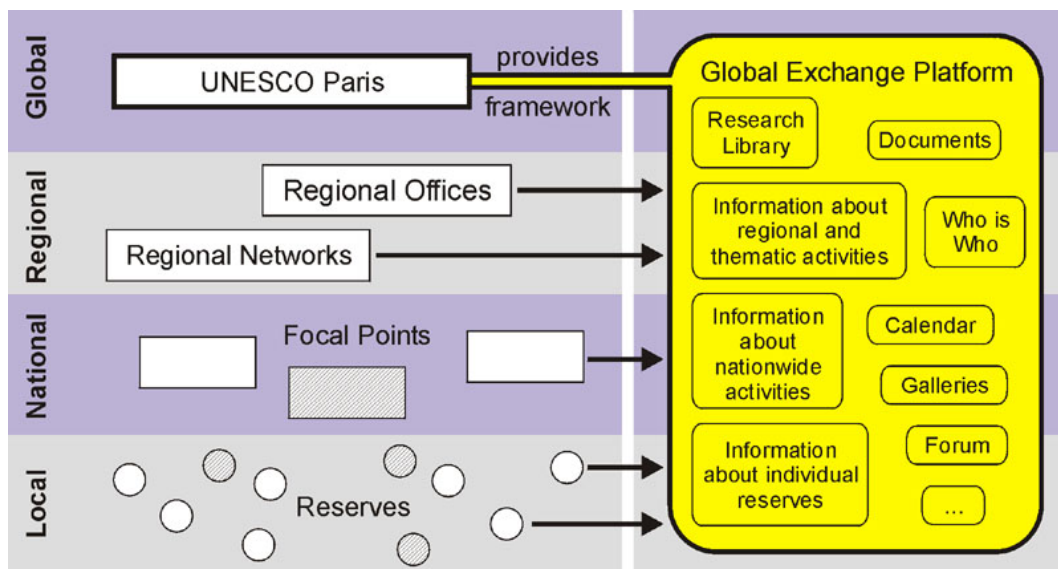


Fig. 2: Simplified view of information flow within the MAB system using a global web platform with decentralized content responsibilities

⁵ 2005-2006. Observed by the author during the project "The Biosphere Tour" (www.biosphere-tour.org), a bicycle journey to 18 biosphere reserves in 16 countries.

3.1. Centralized Frame, Decentralized Responsibilities

In order to establish the suggested communication process, the MAB Secretariat would only have to provide the technical and structural framework (software development, help, publicity and animation), while all responsibilities for keeping data up to date would be delegated to the individual entities (reserves, focal points, networks, offices). In this way, all levels could directly communicate with each other without intermediates. A high degree of user-friendliness and context-sensitive interlinking would turn the website from a mere working tool to a place where network members actually like to spend time, exchange viewpoints – and nurture a community spirit within MAB.

3.2. Exchangeable Content

An adaptive exchange platform would have to satisfy both present and future demands. The following is a list of exchangeable content that responds to present needs observed in different parts of the MAB community and could be part of a first version.

- Contact Data: Every user would have to keep his contact data up to date and thus participate in generating the most comprehensive and current address book of the MAB community. Automated annual reminders could easily check whether email addresses are still functional.
- Meta Data: Changes in management policy, research focus, zoning etc. could be easily updated while further information (e.g. activities, participatory methods, reserve-reserve partnerships, external partners, tourism) would enrich the reserve's profile and render it more specific.
- Publications: A lot of basic and applied research is generated in the biosphere reserves, guidelines are written by UNESCO and other institutions, but exchange remains limited. Uploading available digital documents in a well-structured online library with topics relevant to biosphere reserve management could give a boost to rational and informed decision-making worldwide.
- Research Interests: In direct connection with the online library, reserve managers could define research questions which, to their knowledge, haven't been sufficiently treated yet (some reserves already publish those lists). Besides generating a research need portfolio within MAB, such a feature would enable reserve managers to find other individuals asking the same questions and establish partnerships or joint projects.
- Opinions / Discussions: If certain issues are controversial or interesting enough to generate a need for discussion with other members within the MAB (e.g. conflict resolution, reserve evaluation, quality economies), adapted forums or commentary functions could easily respond to these needs (but most probably need the support of a moderator or animator).
- Events: Congresses, conferences, meetings, workshops and other events could be collected in a calendar with notifications and reminders being send to participants as deadlines approach.
- Images: Sometimes underestimated by scientists, but not by managers and MAB brochure editors, the power of visualization is characterized by the proverb "a picture says more than a thousand words". Enabling each member to maintain own structured photo galleries on the site would not only greatly increase its attractiveness but also create a large pool of pictures from which everybody could draw.
- Indicators: Last but not least, the exchange platform could also be the frame in which indicators are reported and generated. Tools for a self-assessment of reserves (or

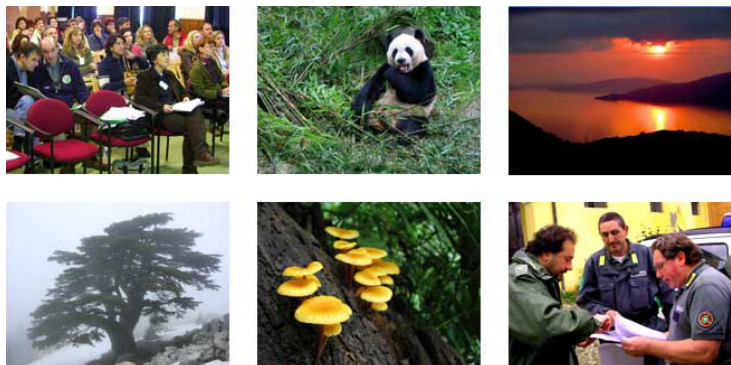


Fig. 3: Pictures increase attractiveness, communicate and strengthen ideas and are a source of motivation.

even focal points) according to the Seville Strategy could help in identifying weaknesses. An activity indicator (based on logins, up-to-dateness, compliance with Seville, provided documents, etc.) could help in identifying active reserves and "best practice" examples.

3.3. Motivations for Adding Content

Providing a structure is not enough. The incentives for all stakeholders (especially reserve managers that provide the lion's share of the content) have to be high enough in order to use the platform and bring it to life.

- The exchange platform should not be launched without the existence of a critical mass of biosphere reserves that indicate in advance that they see the benefits of the system and are willing to be the first to update their profile and initiate the discussions.
- The Carrot: "Seeing What Others Do". As soon as the first reserves set a good example, others are likely to follow. By browsing the pages, research profiles and galleries of other reserves and by seeing how the system can be used, still hesitating but otherwise motivated reserve managers would then realize the benefits of participation and join.
- The Stick: "Being seen". With an increasing rate of activity, participants could easily discern which reserves are actively working within the framework of the MAB programme and which are not. As responsibilities for content management are clearly defined and visible (see Tab. 1), this effect is expected to exert a subtle pressure on "sleeping" reserves to wake up.
- The exchange platform would need a small group of proactive animators that adapt structures, frame and animate discussions, inform about changes, send newsletters etc. Depending to the activity of all other participants, this work might become an important task, which could be distributed among the MAB Secretariat, regional offices, network officers and other committed individuals.

UNESCO Paris / Regional Offices	Thematic and Regional Networks	Focal Points	Biosphere Reserves
Contact Data	Contact Data	Contact Data	Contact Data
Programmes and participating reserves	Publications Discussions	Workshops / Meetings	Metadata
Publications & Guidelines Discussions & Animation	Workshops / Meetings	Local Research Interests	Publications Discussions
Workshops / Meetings	Local Research Interests	Related Links	Research Interests
Newsletters	Related Links	Indicators	Images
			Zoning Maps
			Partnerships
			Related Links
			Indicators

Tab. 1: Possible assignment of responsibilities for content maintenance. Should a reserve not be able to maintain its profile, the responsibilities could be transferred to higher levels (focal point, offices)

3.4. Possible Extensions

Alongside improving communication between reserve managers, the exchange platform could also serve as a valuable tool with respect to several other objectives of the Seville Strategy (see Annex).

- Observatory. Identification of "Best Practice": Activities, research profiles, contributions to discussion and other indicators could help the MAB Secretariat to identify model reserves and approaches that could serve as good examples or regional training centres.

- Communication MAB Secretariat → Reserves: The development and dissemination of methodological guidance and standards covering various subjects of biosphere reserve management is one of the main responsibilities of the MAB Secretariat according to the Seville Strategy. A direct contact to reserve managers would help to achieve these goals much more easily.
- Communication MAB → Public: Interaction between reserves and the public, most notably in the fields of research, education, monitoring and public awareness, but also tourism, is another important aspect of the Seville Strategy. A functioning exchange platform would not only provide a direct insight into biosphere reserves issues, but could also become open to participation and contributions from external experts.
- Other Protected Areas: In the long-term, a functioning environment of creativity and exchange could also be beneficial to other protected areas (notably non-recognized "biosphere reserves" and "regional nature parks", but also any other form of natural areas with human influences). Although exchange platforms such as PALNet⁶ exist, they lack the multi-dimensional, community-oriented aspects and user-friendly aspects of the above-mentioned information system.

3.5. Possible Drawbacks and their Prevention

The following critical arguments could be raised by sceptics of Internet and decentralization. Although these concerns are valid and important, they should be weighed with the possible advantages of an exchange platform

- Languages: Although it is most often used in the context of the MAB programme, a sole reliance on English as the language of communication might raise political resistance and exclude some reserve managers, particularly those communicating in Spanish and French, but also other languages (such as Arabic, Chinese and Russian). Different solutions (simultaneous usage of several languages, translations, integrated approaches) need to be discussed by all stakeholders. There are no technological obstacles to multilanguage support.
- Lack of Computer Literacy: It has been mentioned that the use of modern technology could leave the "weakest" behind, that is, those managers that don't dispose of computers and internet, or have limited knowledge of its usage. Nevertheless, internet access has the highest growth rates in countries with limited penetration, and it is most often managers that first dispose of this technology. Furthermore, if a reserve is not able to exchange and access information on its own, these rights can be easily transferred to focal points or regional offices. Last but not least, the exchange platform could provide a motivation to increase computer literacy in less favoured regions.
- Platform without Participants: Having a perfect system does not necessarily guarantee that members make use of it: Empty forums in the Internet are the best examples. The degree to which biosphere reserves are going to use their system is proportional to the degree to which the exchange platform responds to their needs, to the commitment of the managers to the network and to the effectiveness of animation. A preliminary assessment of these factors is imperative.
- System Abuse: Some stakeholders might fear that the public nature of such a platform could be used by reserve managers to voice discontent in various forms. Although the author believes in the positive effect of such free discussion, it would technically be possible to transfer the content responsibilities of biosphere reserves to higher levels (e.g. focal points). Furthermore, a history system could be implemented in which all changes made are saved and can be restored in the case of abuse or accidental deletion.

The author wishes to stress that concerns about perceived shortcomings should not lead to a swift rejection of the idea – but rather to its improvement.

⁶ Protected Area Learning Network from the World Commission on Protected Areas (IUCN): www.parksnet.org

4. Questions to be Answered

In order to adapt the concept of the proposed exchange platform to the target group, an assessment of the demand structure is essential. Among the questions to be answered are the following:

- Information and structure: What information do reserve managers need? What information would they be willing to share publicly? How do they want it to be structured and presented?
- Willingness and ability: Which reserve managers want to improve communication? Who already uses Internet and how? Who would be willing to be part of the "core group" (see 3.3)
- Risk perception: What obstacles are perceived to hinder the functioning of the exchange platform?

If variations in commitment and abilities between biosphere reserves are too high, the "slower" should not block the "faster" to embark on the communication process they want to have. An effective communication management within the MAB programme would allow reserves with various degrees of sophistication and technological abilities to choose different communication channels.

Finally, for a core group of committed reserves, it could also be envisaged to develop and test an exchange platform independently from the rest of the MAB programme if the demand is high enough. However, the legitimisation of the exchange programme by the MAB Secretariat would provide a better standing of the exchange platform and stronger "subtle" pressures on the non-active (see 3.3).

5. Conclusion

A network is a network if its participants participate. In the context of the WNBR, the issue of information exchange is as crucial as the need to nurture the sense of a mutually supporting community with flat hierarchies. An open and transparent communication policy, implemented via a multi-dimensional, adaptive and attractive Internet exchange platform and backed with sound technology could strongly improve both network character and community spirit of the MAB programme. For reserve managers, it opens a window to the world and to other reserves. For the Secretariat, it opens communication channels to reserves and other stakeholders.

The author does not want to force his idea – but believes that there is a demand for communication and that an exchange platform could satisfy large parts of this demand. Therefore, he wishes that this discussion paper is perceived as what it is: A relevant input into the discussion about the future of communication within the MAB programme, which shall be debated with all stakeholders, notably reserve managers – in order to improve their knowledge, abilities and motivation.

6. About the Author

Before Christoph Nolte graduated in "Environmental Management", he developed the prototype (now in use) of a similarly decentralized website for a large university hospital (4500 employees) in 2001. He also programmed a multi-stakeholder tourism database on the Galápagos Islands (2002) and worked four years as a part-time web developer for BackendMedia, Berlin. After a 12000km bicycle journey to 18 biosphere reserves (<http://www.biosphere-tour.org>), he now studies a master in "Rural Development" in France, Spain and Germany.

Annex I: Selected Objectives of the Seville Strategy

Objectives stressing the exchange between biosphere reserves

III.1.5 (international level): Develop a clearing-house for research tools and methodologies in biosphere reserves

III.3.1 (international level): Facilitate the exchange of experience and information between biosphere reserves, with a view to strengthening the involvement of volunteers and local people in biosphere reserve activities.

III.3.2. (international level): Promote the development of communication systems for diffusing information on biosphere reserves and on experiences at the field level.

IV.1.3 (international level) and IV.1.9 (national level): Organize forums and other information exchange mechanisms for biosphere reserve managers.

IV.2.4 (international level): Lead the development of communication among biosphere reserves, taking into account their communication and technical capabilities, and strengthen existing and planned regional or thematic networks.

Objectives stressing the identification of good examples:

III.4.2 (international level): Identify representative biosphere reserves to serve as regional training centres.

IV.1.1 (international level): Identify and publicize demonstration (model or illustrative examples of) biosphere reserves, whose experiences will be beneficial to others at the national, regional and international levels.

Objectives stressing methodological guidance

II.1.1 (international level): Prepare guidelines for key aspects of biosphere reserve management, including the resolution of conflicts, provision of local benefits, and involvement of stakeholders in decision-making and in responsibility for management.

II.1.1. (national level): Identify and promote the establishment of activities compatible with the goals of conservation, through the transfer of appropriate technologies which include traditional knowledge and which promote development in the buffer and transition zones.

III.1.9. (individual reserve level): Develop a functional system of data management for the rational use of research and monitoring results in the management of the biosphere reserve.

III.2.2. (international level): Encourage the adoption of standardized protocols for meta-data concerning the description of flora and fauna, to facilitate the interchange, accessibility and utilization of scientific information generated in biosphere reserves.

IV.1.4 (international level): Prepare and disseminate information on how to develop management plans or policies for biosphere reserves.

IV.1.5 (international level): Prepare guidance on management issues at biosphere reserve sites, including, inter alia, methods to ensure local participation, case studies of various management options and techniques of conflict resolution.

Objectives stressing communication with the public

III.1.1. (international level): Use the World Biosphere Reserve Network to conduct comparative environmental and socio-economic research, including long-term research that will require decades to complete.

III.1.6. (international level): Encourage interactions between the World Biosphere Reserve Network and other research and education networks. Facilitate the use of biosphere reserves for collaborative research projects of consortia of universities and other institutions of higher learning and research, in the private as well as public sector, and at non-governmental, as well as governmental levels.

III.2.1 (international level): Use the World Biosphere Reserve Network, at the international, regional, national and local levels, as priority long-term monitoring sites for international programmes, focused on topics such as terrestrial and marine observing systems, global change, biodiversity and forest health.

III.3.4 (national level): Encourage participation of biosphere reserves in international networks and programmes, to promote cross-cutting linkages in education and public awareness.

IV.2.7. (international level): Give biosphere reserves more visibility by disseminating information materials, developing communication policies and highlighting their roles as members of the World Network of Biosphere Reserves.