

African biosphere

Proposals for a reinforcement of the Biosphere Reserves managers capabilities in Sub-Saharan Africa

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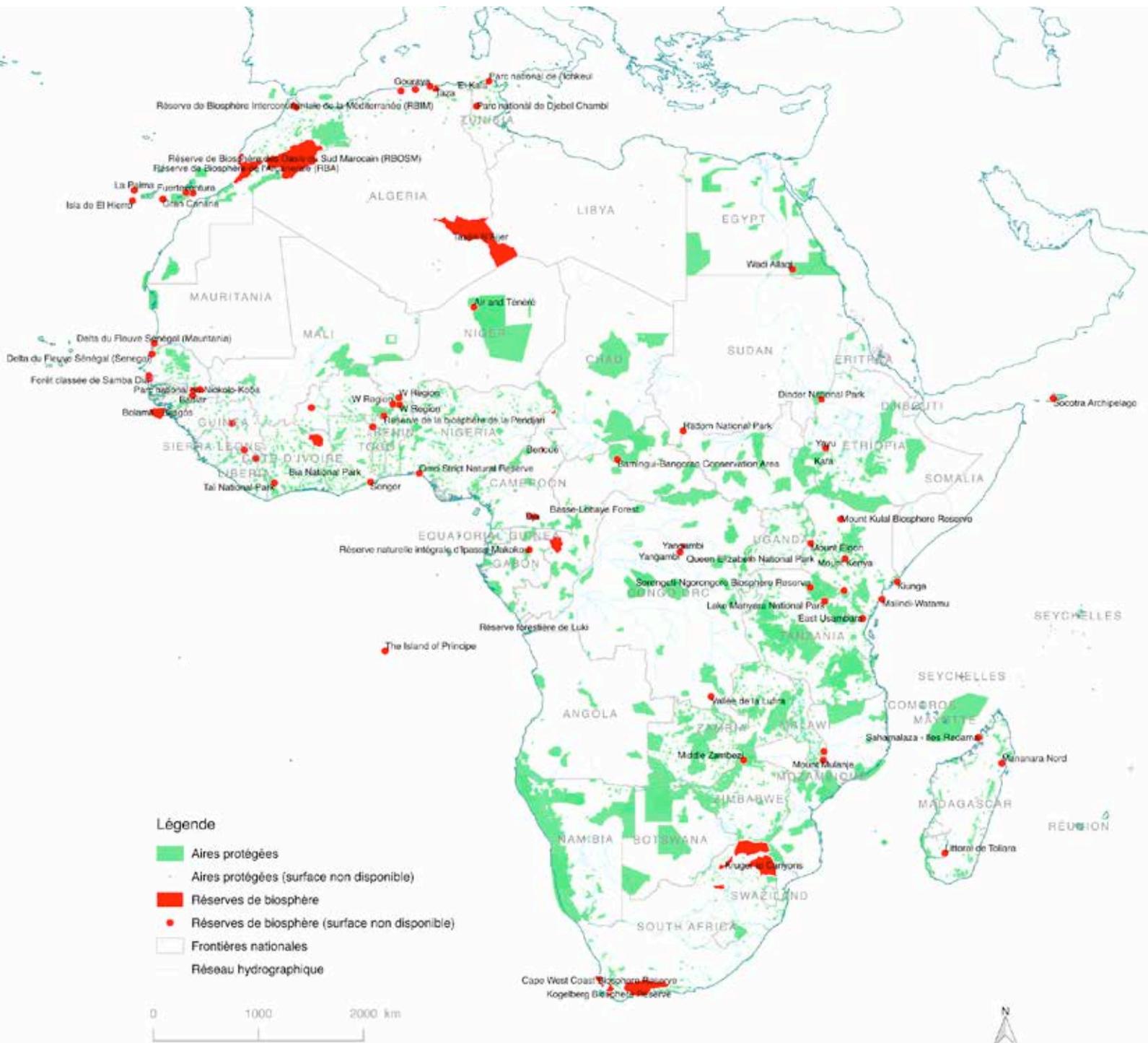
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Protected areas and african biosphere reserves



Editorial

Although the results attributed to the Man & Biosphere program in Africa might sometimes seem rather disappointing, this UNESCO program still offers a high, often underexploited potential for the local emergence of real sustainable development models.

It is however worth noting the requirements and limits of such a package whose local players await a lot but the implementation of which is often slow and uneven.

The concept of Biosphere Reserve is often misunderstood by local populations and ecology professionals because of incoherent perimeters and zoning, sometimes superposed on the perimeter of protected areas. The distinction between the objectives of the buffer zone and that of the transition zone is difficult to make and their perimeters are systematically unknown by local players and agents in charge of the reserves.

The absence of any clear objectives or key measures makes it impossible for the concept of BR to really take shape and offer perspectives for the players. In this way, the production of renewable energy, the conservation of traditional agricultural seeds, the respect by foreign companies of national regulations, the setting up of compensations for mining, the controlling of GMO agriculture and the disappearance of the use of phytosanitary products would be as many indicators recognizable by all the parties involved.

In Sub-Saharan Africa, the MAB program is clearly faced with the risk of a transformation of its reserves into “paper parks” whose existence would be strictly administrative, with no real effect on the field. Consequences may be wideranging, starting with the disintegration of the network, the loss in credibility for the programme and the abandonment of sustainable development actions set up several years ago.

This document proposes, based on the contribution of about a hundred agents from 52 African reserves, to engage in very concrete measures which will allow gathering the players and setting them in motion



UICN - PAPACO

Created in 1948, the International Union for Conservation of Nature is an organisation integrating 218 states and governmental agencies and more the 1000 NGOs and having more the 16000 experts at its disposal working in 160 countries. It offers to public, private and non-governmental organisations the knowledge and tools necessary to a harmonious human advancement, economical development and nature conservation. It is one of the main providers of data, evaluations and analyses on conservation.

Based in Pretoria, the IUCN program on African Protected Areas Conservation (**PAPACO**) counts around 10 permanent agents in South Africa, Burkina Faso, Senegal and Kenya.

UNESCO & AFRIMAB

The UN Educational Scientific and Cultural Organization is a UN specialist institution created on November 16th, 1945 following the damages and massacres of WW II.

The Man and Biosphere regional network for Africa (**MAB**) Program is a scientific intergovernmental mechanism that aims at establishing a scientific basis to improve man-nature relationships worldwide.

Launched at the beginning of the 70s, the MAB program proposes “an interdisciplinary research planning that encourages the reinforcement of capabilities and mainly aims at reducing the loss in biodiversity by treating its ecological, social and economical aspects.” Sites applying this program are Biosphere Reserves. In Africa, the Man & Biosphere program is coordinated by AFRIMAB, a UNESCO affiliated organism in charge of the networking and technical material for reserve managers.

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GOVERNANCE

The superposition of traditional structures and national, regional and local organisations often means confusion, misunderstanding or division. The absence of structures recognised by all the players is detrimental to the implementation of coherent policies: legal and regulatory frameworks don't encourage rural population to sustainably manage wild fauna on the territories where they live together and which often belong to the State.



KNOWLEDGE

The low recognition level of the environmental services provided by ecosystems and the low level of understanding of the impact of demographic growth and human activity on the biomes are widespread at all levels (political leaders, entrepreneurs, local users, etc.). Example: spacial overlapping of forest concessions, mining rights and protected areas in the Congo basin. The lack of sensibilisation among consumers and occidental or Asian leaders also contribute to a non-sustainable exploitation of ecosystems and wild life.



APPROPRIATION

Appropriation of the land essentially serves the interests of big industrial groups and is a factor of unbalance and conflict in the use of fertile soils, among others (ex:palm oil). These groups acquire vast surfaces of land without any beforehand planification of land affectation or any respect of the land settlement planning and no transparency on the use of the lands. The agri-food, mining, forestry and pharmaceutical sectors are all involved in these practices.



MEANS

Limited resources: With limited financial, human and logistic resources in parks and reserves sometimes spreading on several thousand square kilometres, it is difficult for managers to enforce national laws and standards (on pollution, emissions, wastes, electromagnetic waves, fertilizers and pesticides, genetically modified organisms and fishing).



1A. Pressures and threats

It is essential to allow ecology to establish itself as a structuring topic for the future development.

DESTRUCTION

There are many causes for the direct destruction and fragmentation of habitats: agriculture, fences, oil, gas, mine and hydroelectric developments, forest products industries, urbanisation, traffic routes, energy equipments, population displacement and pollution.



INVASION

The introduction of invasive species and the risk of proliferation of Genetically Modified Organisms, namely from 3 countries - Sudan, Burkina Faso and South Africa – that officially produce GMOs on the African soil.



ts on african ecosystems



FAUNA CONFLICTS

Man-fauna conflict: for local rural communities, man-fauna interaction often means fear, livelihood disruption and food insecurity which in turn undermine conservation strategies. These conflicts are a direct threat to populations of charismatic species, such as lions or elephants.



ARMED CONFLICTS

Conflicts humains et prolifération d'armes Human conflicts and spreading of weapons of war: a number of countries have been upset by conflicts, in particular in Central Africa. Several of these conflicts are closely linked to the presence of natural resources. Conflicts and weak governance reinforce each other and result in rapid biodiversity losses as weapons of war allow an increase in wildlife removal and an increase in the defense of poachers compared to classical hunting weapons.



CLIMATE

Climate change: changes can already be observed in various African ecosystems, such as variations in reproduction periods of land and marine species, as well as migration, feeding and nestling behaviours.



EPIDEMICS

Emerging or endemic diseases, such as malaria, onchocerciasis, trypanosomiasis or bovine plague, have for a long time served as natural defenses, maintaining vast regions virgin of any human intervention. Their eradication or better control have removed that constraint and opened those regions to human occupation. Diseases that had been stable among animal populations are now in contact with human populations and have infected this new host, such as HIV and Ebola. Consequent epidemics have created population movements resulting from the collapse of local economies, social services and wild life protection.



SAMPLINGS

Excessive land and marine, legal and illegal biological sampling: bush meat trade, fresh water fishing, and traffics.



FINANCES

Apart from some rare exceptions, virtually all protected areas in Africa will never be in a position to generate sufficient funds to cover their management expenses. However, it is to be noted that financing is a necessary but not sufficient condition to ensure the success of the development or conservation programs. Quality of management is essential but being poorly paid and badly supervised, the field personnel will always be prone to corruption.



1B. Why reinforce BR agents capabilities?

Faced with an increasing number of environmental, financial, political and technical challenges Biosphere Reserves managers truly need to reinforce their skills in terms of ecology, regional planning and governance.

Beyond helping them in their daily missions, reinforcing these players' capabilities should allow them a better control of local issues and a greater empowerment in their dealings with the authorities, industrial groups and other influent players, often benefitting from strong strategies and qualified personnel to defend their interests.

These agents therefore need to be able to propose alternative solutions for the projects that could affect their sites, suggest examples of solutions, identify legal provisions or build formal governance models. Reinforcing the capabilities of these agents will allow the setting up of stable governances and the taking of informed decisions by national authorities as well as local communities.

Indeed, the existence of a Biosphere Reserve with qualified personnel clearly has to have an

influence on regional planning, waste management, economical strategy or else agricultural practices.

It is important to note that profiles of players and managers of African Biosphere Reserves are varied and that needs may be multiple depending on the sites²³. Although Reserve coordinators and managers will be the main target of the reinforcement of capabilities, as they have a multidisciplinary approach and work on the 3 areas set out in the Statutory Framework; it is also imperative that the other field agents should be implicated, so as to widely spread the acquired or reinforced knowledge and know-how.

In a long-term perspective, the challenge will be to keep the trained agents at their current posts in the reserves, thus creating a wealth of skills which will not be transferred to the private sector or to NGOs offering better employment opportunities.



Meeting of players within the K2C BR, South Africa 2017 © GA

²³ De Pompignan N., 2004: A study on the creation of Biosphere Reserve Management Training Centres, Eighteenth session of the International Coordinating Council of Man and Biosphere program. P7-8.

1C. Existing training programs and technical material

Institutional or independent, physical or digital, a diversified offer of contents is accessible to the African ecology and development professionals, via Internet, in nationally recognized establishments or during single meetings. This offer, proposed by both public and private organisms, goes from conceptual and strategical approaches to teaching practical field methods.

Among the many analysed offers, it is however difficult to identify tools specifically meant for Biosphere Reserves managers: Often intended for conservation professionals, the contents and materials don't address some essential subjects, such as land planning, geopolitics, gender equity or the conduct of impact studies.

The PAPACO's MOOC (Massive Open Online Course) on the "Management of Protected Areas" is an exception among the training programs, as it is at 60% applicable to BRs and has a very accessible mixed format, combining short videos and more technical material.

The guide for BR managers, initiated by the German Environment Agency also offers high-quality contents but its written format and its density remain obstacles to its

use on a continent with an ancient oral tradition. Except for these two tools, no technical material adapted to African BR agents and other field players currently exists (local authorities, teachers, associations, etc.). There still is no dedicated website, no MOOC, no online videos, no newsletter and no social network targeting this public.

The UNESCO workshops mainly implicate focal points and national officials and a few local agents and the events occurring on very short time periods don't allow the building of a common basis of knowledge and know-how within the 76 African Biosphere Reserves network.

This reserve network, each of which has a local staff of 3 to 7 agents, gathers around **450 professionals** that could use these technical contents to help them for example in a conflict of use, the formalisation of a green economy strategy, the preparation of a meeting with a mining company or when carrying out a periodic review.

It is therefore essential to propose technical contents to these agents and allow them to meet each other on the occasion of onsite workshops.

Hereunder,
Kruger National Park
game keeper, Kruger 2
Canyon BR central area,
South Africa
2017



© GA

2A. Principles to be observed

Based on a study conducted in collaboration with more than 100 agents from 52 Biosphere Reserves in 28 countries, the five following principles can be identified:

- 1. Operational contents.** The proposed contents must concern concrete methods and tools answering the professionals' questions. The explanation of the concept being already widely circulated, the challenge is now to allow it to be implemented.
- 2. Permanent Service.** The contents must be available at all times. Internet is the best medium, allowing almost all African agents to access them without generating long work interruptions and costly business trips. Access to information should not require any specific technical or linguistic skills: there must be very few administrative terms; consultation of a site should not imply any complex registration procedure and menus must be easy to use (limited number of clicks between arriving on the website and obtaining the requested information).
- 3. Orality.** On a continent based on oral tradition, texts, documents to be downloaded or other manuals should be in limited number and audio and video broadcasting as well as educational visual aids should be put forward. English and French are the two reference languages, contents should be proposed in both languages so as to be understood by all BR agents on the continent.
- 4. Workshops efficiency.** Meetings on the field between professionals are put forward, workshops are considered as essential events, both because they reinforce the capabilities of agents and because they favor the implementation of a strong player network. The workshops must be prepared (required prerequisite for participants and production of material before the meetings), regular (once or twice a year for each region) and follow-ups should ensure the broadcasting of the results to all the potentially concerned local agents. To be efficient, workshops should not be limited to 2 days and a 5-day format represents the best opportunity for broadcasting the contents, sharing experiences, testing practical tools and evaluating acquired knowledge.
- 5. Strength of the network.** The BR African network must be functional: members must be identified and must have a common reference – a website, a person, a location – allowing them to find the contents, contacts, maps, calls for projects and all the information useful to the accomplishment of their missions.



Eléphant, Kruger 2 Canyon biosphere reserve, 2017 © GA

2B. Necessary Contents for Agents

A study conducted in 2017 has allowed identifying **38 subjects to be addressed**, defining their content and justifying their relevance.

In order to adapt to the diversity of the players' professional and socio-cultural profiles, each subject should be treated at two levels:

- **A general level** will bring a clear definition of a problem and outline possible solutions. The contents could be in the form of a brief article or of a 4 to 15 minute videos that will help the professional lay the bases of a search for a solution. Field examples may illustrate the point.
- **A more technical level** will provide information on the implementation of practical solutions: maps, price of materials, types of negotiations, agricultural strategy, etc. The contents can be described in a file, a technical sheet, an official report or a comparative study, with the link inscribed under the generalist video.

The contents could be centralized on a dedicated website. Among the 38 identified subjects, 22 of them are already treated in the MOOC GAP in video format. It will be sufficient to publish these contents in the Biosphere Reserves in the form of articles or testimonies, including practical examples.

For the 16 remaining subjects, a search for existing material (universities, NGOs, institutions) or the creation of new material will be necessary.

For training subjects requiring field experience, setting up workshops will enable practical learning processes (drawing a map,

formalizing a project, using GPS, etc.) with a time for teaching and a time for real conditions exercises. The workshops will also be an opportunity to broach in group strategical subjects (green economy, financing, fight against poaching, etc.) and to control each participant has acquired a good comprehension of the previously approached online contents.

Monitoring by the African BR agents of the « Management of Protected areas » MOOC and their subscription to News on Protected Areas in Africa (PAPACO newsletter) are highly recommended: in many cases, BR managers are also managers of the central PA and therefore concerned by all the addressed subjects. More generally, using these materials will allow building a common culture by gathering all the players of conservation and development in Sub-Saharan Africa.

However, it doesn't seem relevant to create a MAB MOOC as soon as 2018. Before investing money and drafting agreements with the universities for the creation of material, it is necessary to identify, create and test some contents, a job that we could reasonably think will take 2 to 3 years. Besides, the absence of a network gathering the 400 players of the African MABs doesn't currently allow imagining a dynamic rallying the students of a potential MAB MOOC.

The setting up of the tools prescribed in the current report may however be a prerequisite to the creation of a MAB MOOC: centralisation of contents, testing of material, mobilisation of agents, experience gathering, identification of partners, etc.

2C. Proposals for a reinforcement of agent capabilities

Each of the 76 African Biosphere Reserves has at their disposal a team of 3 to 7 agents, representing a total of around 450 professionals. Their profiles are heterogeneous and vary according to the region and the site history: technical executives of the Department of Water and Forest, researchers, administrative agents or army officers are as many profiles in charge of activities, management or coordination in each reserve.

To circulate 38 training and information contents among all these field players, it is possible to use additional material (online technical presentations, videos, personnel contact, social media, professional meetings, etc.)

In that, the following strategy might be considered for the 2018 - 2019 period, within the framework of a cooperation between IUCN-PAPACO, the German Environment Agency (BfN), the UNESCO and Afrimab:

1. Centralisation of contents on a website, as of December 2017: The 38 contents are shared on a dedicated website: explanatory videos, maps, articles, useful actualities, manager testimonies, information on call for projects and MOOC sessions. The address must be known to all and the interface must be very simple (www.africanbiosphere.org or www.afrimab.org).

- 2. Organisation of two « biosphere workshops » per year:** These technical regional workshops will gather 20 professionals. They will be organized at the Sub-Saharan Africa level or that of the 4 sub-regions defined by Afrimab. The professionals must know the previously referred to online contents and a mini question form will allow making sure each candidate is prepared and what his specific requests are. These workshops will have at the same time a practical dimension (drawing of maps, presenting a BR, drafting an activity report) and a strategic one (search for funding, green economy, environmentally virtuous agriculture, etc.).
- 3. Monthly activities and reinforcement of the Afrimab network, as of January 2018:** As the link between professionals must be permanent, the circulation of a newsletter is essential, as is the hosting of a facebook page to keep agents informed and raise their interest (job offers in BRs, internships, current research, maps, testimonies or feedbacks, comparative studies); an update of the full contact list and reserve mapping in a true geographical information system is necessary.

Today, a dynamic process has been launched with the guide circulated by the German environment agency, the technical contents made available by the PAPACO and the new www.africanbiosphere.org website

African biosphere

Capacity Building for Biosphere Reserves managers in Sub-Saharan Africa: **Analysis and Proposals**

In a global context of ecological crisis and the collapse of biodiversity, UNESCO's Man & Biosphere program appears to be a tremendous support for the protection of remarkable ecosystems and the definition of sustainable development models throughout the world.

Sub-Saharan Africa today faces major environmental, economic and social challenges and the 76 biosphere reserves can be examples of ecological governance and sustainable resource management. Yet in 2017, 30 of these reserves are exposed to an exit from the program because they are not operational, and many others are in difficulty.

This report was produced within the IUCN Program for Protected Areas in Africa and Conservation (PAPACO) and was based on more than 100 contributions from the officers of 52 African biosphere reserves. It proposes to strengthen the information and training of field workers and to affirm the existence of a genuine network of managers. Indeed, more than half of those contacted said they were isolated and deprived to implement the principles defined by UNESCO.

The organization of effective workshops (preparation and follow-up), the creation of a website offering adapted technical content (videos, testimonials), and the quarterly animation of the MAB network in Africa are the 3 keys to a recovery the dynamics of this system in 2018 and 2019.

Strengthening the capacities of these agents will help informed decision-making by both national authorities and local communities. Indeed, the existence of a biosphere reserve with qualified personnel must clearly have an influence on the development of a territory, waste management, economic strategy or agricultural practices.

This report presents an original iconography that recalls the ecological stakes in Africa and proposes the contents and supports needed to mobilize and reinforce the capacities of the agents of the biosphere reserves of the continent.

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