PROTECTED AREA MANAGEMENT IN AFRICA

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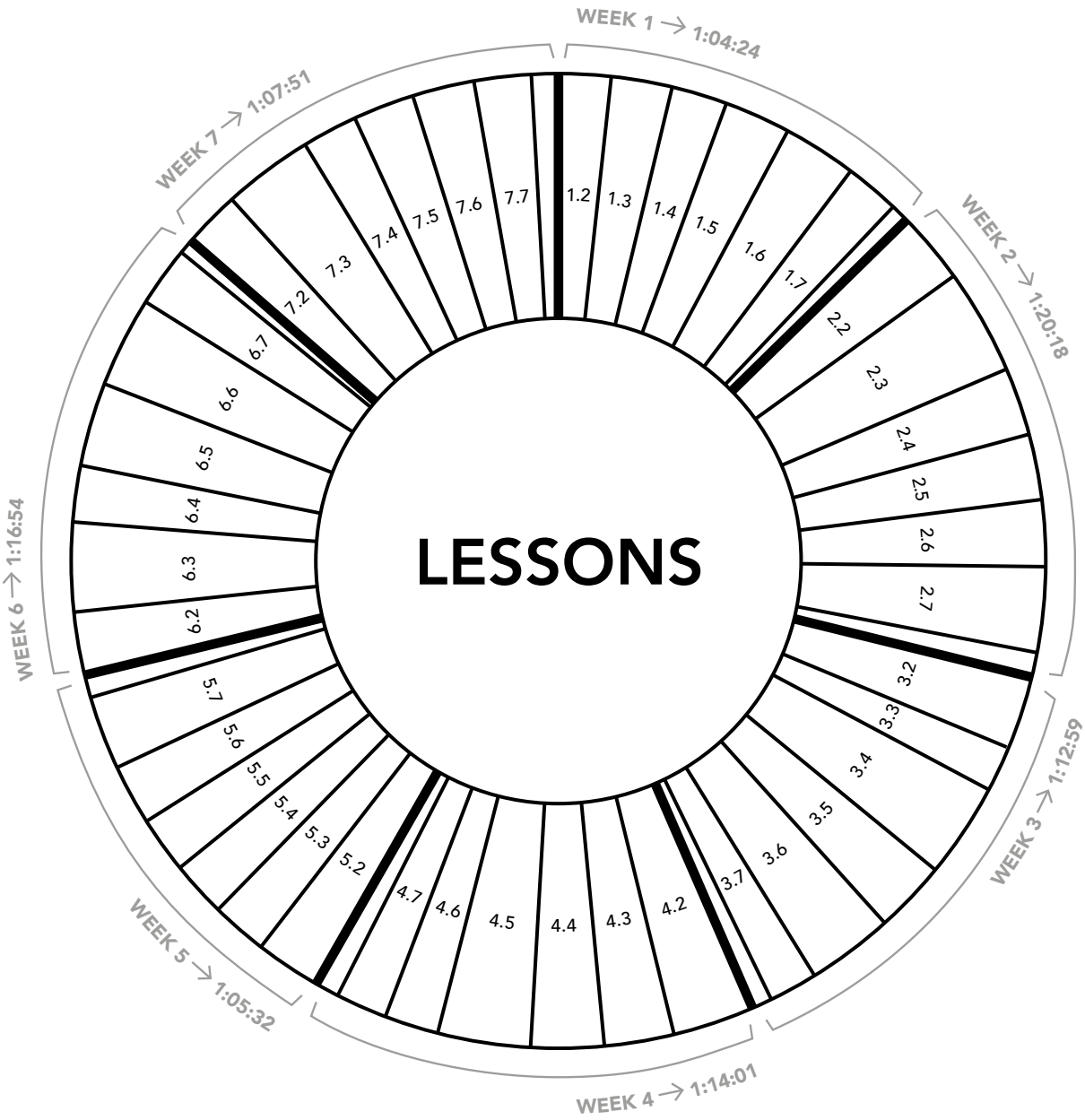

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1.2 IMPORTANCE OF PROTECTED AREAS AND PROTECTED AREA NETWORKS

BRIEF HISTORY OF PROTECTED AREAS

Today, over 15% of the planet is under some sort of formal protection (Illus. 1); these territories are called *protected areas* (PA). In 1872, Yellowstone National Park in North America was the first park to benefit from this official recognition, thanks to the desire of American pioneers to preserve the outstanding landscape that colonization would probably have destroyed. The aim was to conserve nature in its primary state.

Of course, many other forms of more or less official protection already existed. Sacred sites, for instance, were the forerunners in the field of nature conservation. But generally speaking, natural sites were protected for the purposes of specific activities, such as hunting, which was destined for the elite during the Middle Ages in Europe.

The increase in the number of protected areas and of the surface they cover is a very recent phenomenon (Illus. 2). From just a couple of dozen in the 20th century, there are currently over 200,000 of them across the globe.

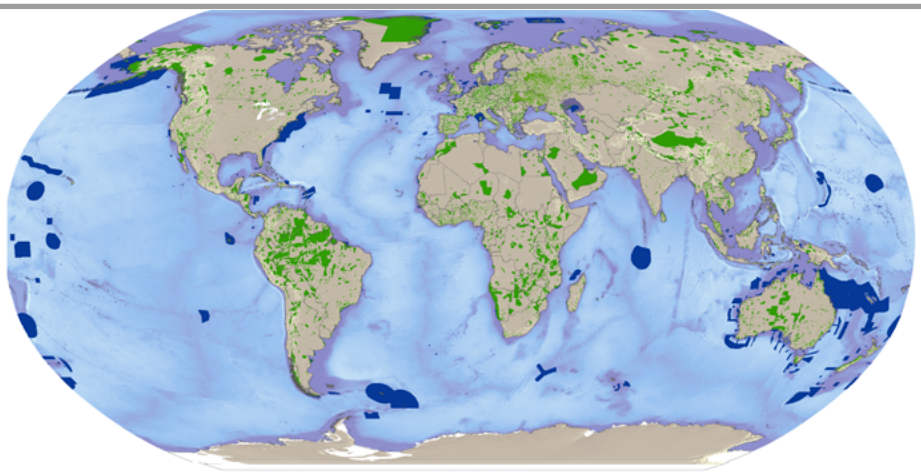

FIGURE 1

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Protected area coverage (terrestrial PA in green, marine PA in blue). Source: Protected Planet 2015

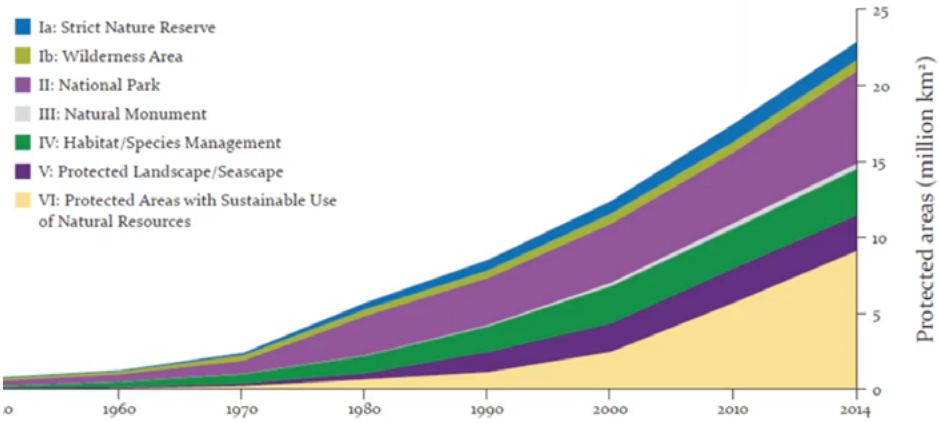

FIGURE 2

2:14 9:26

Evolution of protected areas since the 1950s

HISTORY OF THE SITUATION IN FRENCH-SPEAKING AFRICA

– From the colonial era to the late 1950s: Many classified forests were created. The idea was to implement state-owned forests such as in Europe, whose aim was the preservation of a specific resource (usually wood), but sometimes also to preserve the ecosystem as a whole, including animals. Hunting reserves also benefited from being classified in order to protect game for trophy hunting, or for commercial reasons, as is the case for ivory, for example.
– After decolonization: Because the newly independent countries had other priorities and little to invest, this period was quite neutral in terms of protected area creation and management.
– 1980 to 1990: The Rio conference was the beginning of an era, as protected areas were created in countries that used to have none. Some areas also changed status, such as switching from Classified Forest to National Park, and most importantly, long forgotten areas began to be taken care of again, at least theoretically.
– During this time, parks and reserves progressed from being untouched ground to becoming territories where human activities—when compatible—could be included in the form of sustainable management.

AFRICAN PAs NOWADAYS

Today the situation in Africa is quite varied for historical, legal, and cultural reasons, and sometimes because of security, geopolitics, and opportunism. Currently, there are over 7,000 protected areas in Africa, and they cover around 13.8% of the continent and 3.7% of the seas. However, this coverage is neither homogenous nor representative, be it at a global or continental level. Some territories, such as deserts, have been neglected, and others, more difficult to protect, are less represented, namely the highly populated territories on the coast (Illus. 3).

Information regarding protected areas is contained in the World Database of Protected Areas, which you can find on www.protectedplanet.net.

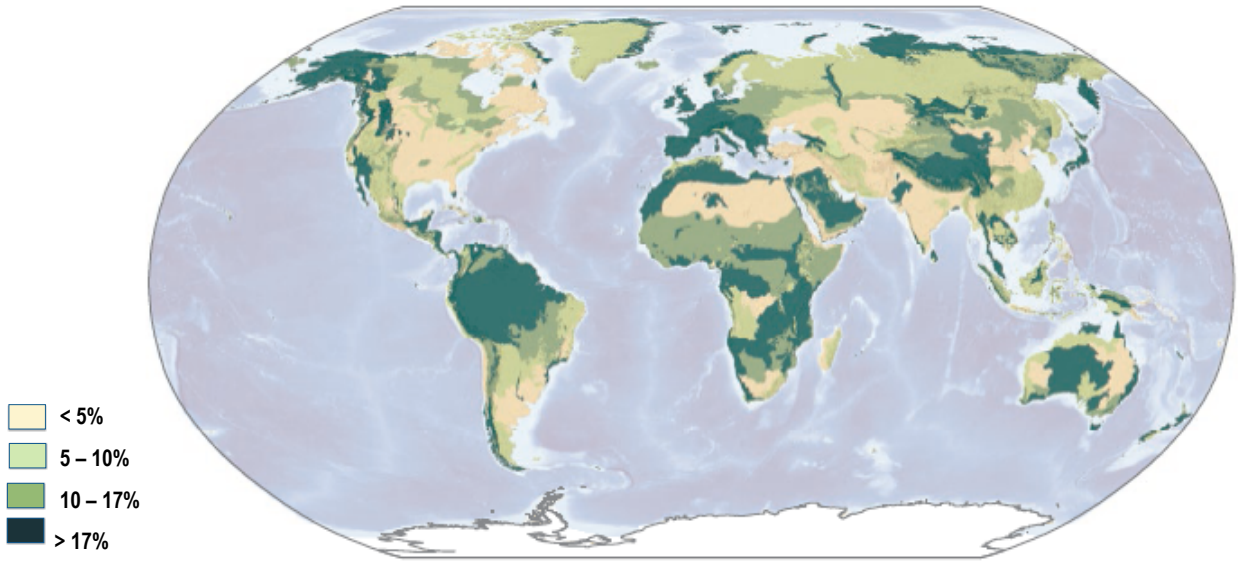

FIGURE 3

7:31 9:26

Coverage of protected areas in 823 identified eco-regions (according to Orson et al. 2001). Source: Protected Planet Report 2014

1.3 THE ROLE OF PROTECTED AREAS

PAs: THE CORNERSTONE OF CONSERVATION STRATEGIES

Protected areas are considered a fundamental tool in the conservation of biological diversity, which explains why they have been increasing in number over the past few years. These protected areas preserve threatened species, specific ecosystems, and rare environments; they are intended to maintain the environment in its "natural" state.

CAN PAs FACE CURRENT CONSERVATION CHALLENGES?

While the number of protected areas keeps growing, biodiversity is slowly disappearing (Illus. 4). Some of the reasons for this situation include the fact that some protected areas lack effectiveness as they haven't been set up properly, they lack funds, and they aren't well managed. Some areas known as "paper parks" are just a line on a map where nothing really happens.

Another main reason has to do with protected area networks and not with the sites themselves. As many of the sites that face great challenges in terms of biodiversity conservation are not classified, these networks are often incomplete, so they are not representative and are badly connected. Illustration 5 gives the example of Burkina Faso: the country only has two protected areas in the north of the country, leaving a void in the rest of the country that could benefit from some sort of protection.

Finally, the governance of these territories can be questioned, especially the inability to get the support of local populations who are directly impacted by their existence.

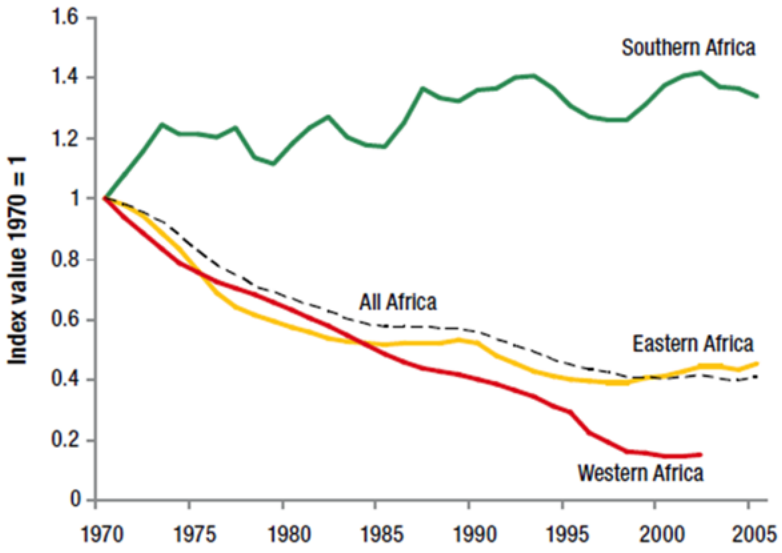

FIGURE 1

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Decrease in big mammal populations in African PAs. Source: Craigie et al. 2010, Protected Area Report 2014

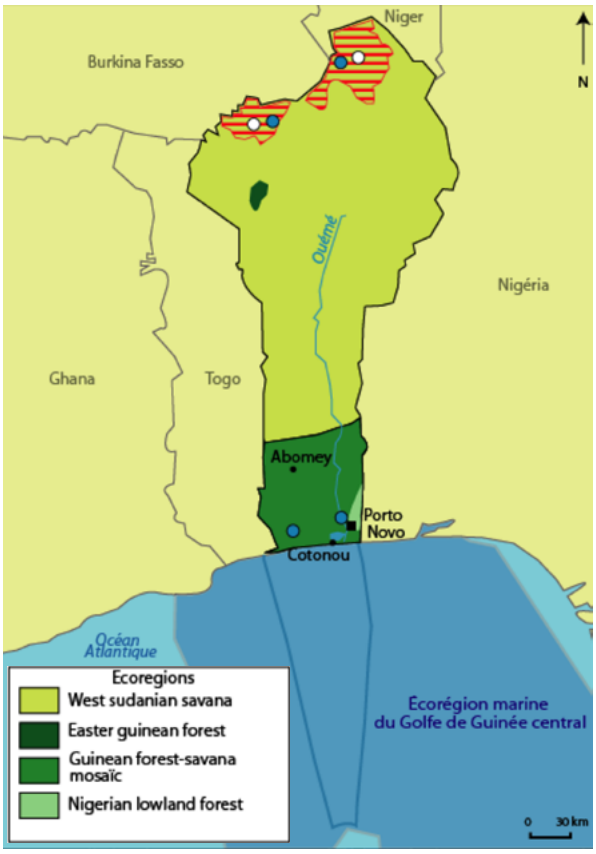

FIGURE 2

5:22 10:18

The only two PAs in the north, leaving a void in the rest of territory

OTHER USES FOR PAs

The uses of protected areas go beyond their simple (yet essential) role in conservation:

– **Raising awareness:** As places of recreation and of nature discovery, they also raise public awareness to what is at stake in conservation. This important function is often underestimated, even as the future of these territories depends on the support of the great majority—especially young people.
– **Research:** Because they offer relatively preserved territories, PAs are ideal for research activities that help better understand the world we live in.
– **Natural resources:** They provide goods and services (e.g., honey as shown in Illus. 6, medicinal plants, etc.) to inhabitants living in and around them, but also to more distant communities as they play a role in water purification and maintaining clean air, etc.
– **A barrier against climate change:** They play a role in mitigating climate change and are comparable to open-air laboratories on the evolution of nature. There is a lot to learn about the ability of ecosystems to adapt (resilience).
– **Conservation of cultural values:** Protected areas conserve sites with cultural or spiritual values, as culture and nature intertwine and shape the territory's global value.
– **Conservation of future resources:** These territories represent today's commitment to the future, in other words, the ability to put aside resources and riches for generations to come, and, when the time comes, to respond to their potential needs.

FIGURE 3

6:55 10:18

Sales of beekeeping products in Kenya. Photo credits: Geoffroy Mauvais

OTHER CONSERVATION TOOLS

Even though they are essential, protected areas aren't sufficient to curb biodiversity loss. Therefore, there are other more environmentally friendly land-use planning options that could also support this effort. For instance, the use of sustainable agricultural practices, balanced forest management, infrastructures with limited impacts on species and sites, etc. All these elements need to add up to reach the expected results, and, if the goal is to preserve the environment as a whole, it is unacceptable to rely solely on protected areas. By themselves, they wouldn't be able to respond to all the challenges. Indeed, protected areas are only part of the solution, as conservation of nature encompasses many more aspects.

1.4 DEFINITION OF PROTECTED AREAS

WHY IS THE DEFINITION IMPORTANT?
The number of protected areas is continuously growing: there are over 200,000 today, covering over 20 million km². They are also more complex and work according to different management categories and governance methods. It is therefore essential to clearly identify what a protected area is and what it is not, so that the tools, knowledge, and practices specifically developed for its management or governance can be used wisely.

Research around the definition of *protected areas* started in the 1930s, as the aim was to add precision to the terminology used. Over the years and after different congresses, the definition has continued to improve and adapt to the evolution of these territories. The current definition was established in 2008 during the World Conservation Congress, organized by the IUCN in Barcelona:

Protected area: "A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values."

FIGURE 1

3:10 9:10

Map showing the limits of the Rusizi Natural Reserve. Photo credits: Geoffroy Mauvais

It is very important to understand each word and what it represents. Some are particularly important: *defined*, *recognized*, *managed*, and *conservation of nature*.

- **"Defined":** A protected area is a territory that can be identified—it is possible to determine where it starts and where it ends. These boundaries do not necessarily require road markings, signposting, or fences. Sometimes, the limits of the park can be difficult to see, especially when they are combined with natural elements, such as rivers or forests, which can change over time.
- **"Recognized":** Protected areas must be recognized at a certain level: nationally, internationally, or locally. This doesn't necessarily require a legal document or a decree, as some protected areas can be recognized by a traditional authority (such as community areas and sacred sites) or by private entities such as an NGO.
- **"Managed":** This means that decisions are made, so PAs cannot simply be a line on a map—such as the infamous paper parks. This, however, does not necessarily imply physically taking action, as management decisions can consist of deciding to have no human intervention in the ecosystem whatsoever.
- **"Conservation of nature":** This is evidently the most fundamental notion of the definition. A protected area is a defined territory, recognized, and managed to preserve nature. Therefore, the aim is to preserve nature as a whole, in the field and in the long run. A zoo, for instance, protects animals, but outside their natural habitat—it is not a protected area. A military field where access has been restricted for several years can become home to many different species of fauna and flora, but it remains a military field that can be used again as such without notice—it is not a protected area.

To conclude, a protected area is a territory with specific characteristics, and where the primary goal is the conservation of nature—territories that do not strictly fit into this framework are not considered as such. PAs barely cover 15% of the planet, but fortunately, other zones also contribute to the conservation of nature.

Ankarana National Park in Madagascar, one of the 200,000 existing national parks to date

1.5 IUCN PROTECTED AREA CATEGORIES (PART 1)

Before looking at categories, the first step is to understand the nature of the territory: the main goal *must* be the conservation of nature.

PUTTING PAs IN HOMOGENOUS GROUPS

The main use of categories is to classify the different protected areas in homogenous groups based on their shared characteristics. Classifying the 200,000 protected areas of the planet in different categories helps to identify them, to work more specifically on each one of them, to develop the tools that are best adapted to their modus operandi, to train staff accordingly, and to compare protected areas, etc.

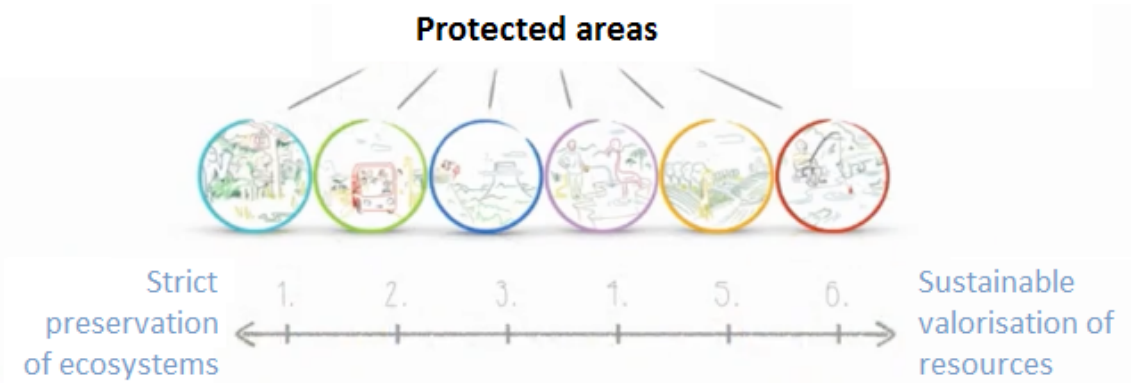

FIGURE 1

4:57 11:21

PA Categories

WHAT IS CATEGORIZATION BASED ON

Categorization is based on the goal of the PA, indeed, the different categories are used to differentiate the sites according to their main management target. Sometimes, there is a gap between said target and the reality in the field. But to determine a category, one should always refer to the target set, even when the manager deviates from it.

Even if the categories refer to a main management target, the latter is often connected to the site's manager, and to the fact that some management categories can help in the creation of new types of governance. The protected area management target is defined in the text determining its classification (in the case of a classic site), or by decisions of the relevant authority (through oral tradition in the case of sacred sites, for example).

1.6 IUCN PROTECTED AREA CATEGORIES (PART 2)

There are six categories in total, and they correspond to a progressive evolution from territories that we want to conserve in the most natural state possible (categories I to III), to territories where human intervention is more and more visible (categories IV to VI).

CATEGORY Ia: STRICT NATURE RESERVE
Protected areas aiming at protecting biodiversity and geological/geomorphological characteristics, where human visits, uses, and impacts are strictly controlled and limited to guarantee the protection of conservation values.

Primary objective: to preserve exceptional ecosystems at a regional, national, and global level, as well as the species and/or characteristics of geodiversity. These distinctive aspects were mainly induced by non-human forces, and would be degraded by any form of human activity.

CATEGORY Ib: WILDERNESS AREA
Vast areas that have remained intact or have been slightly modified. These areas have kept their natural character, and there are no permanent or significant human habitations. They are protected in order to maintain their natural state.

Primary objective: to protect the long-term ecological integrity of natural sites that have not been modified by significant human activity, that are bare of modern infrastructures, and where natural forces and processes prevail, so that such spaces will continue to exist for current and future generations.

CATEGORY II: NATIONAL PARK
Vast natural or near-natural areas, protected to preserve ecological processes, as well as species and the region's ecosystem characteristics. Spiritual, scientific, educational, and recreational visits are allowed, provided they respect the environment and the culture of local communities.

Primary objective: to protect natural biodiversity as well as the ecological structure and underlying environmental processes, and to promote education and recreation.

CATEGORY III: NATURAL MONUMENT OR FEATURE
Territories protected to preserve a specific natural monument, such as a topographical feature, a mountain, an underwater cave, a geological, or even a living element such as an ancient forest patch. These are generally rather small protected areas and they are often of much value to visitors.

Primary objective: to protect exceptional specific natural elements, as well as biodiversity and related habitats.

CATEGORY IV: HABITAT/SPECIES MANAGEMENT AREA
They aim to protect specific species or habitats, and their management is a reflection of this priority. Many protected areas of category IV need frequent and active intervention to meet the requirements of specific species, or to maintain the habitats—but this is not a requirement for the category.

Primary objective: to maintain, conserve, and restore species and habitats.

CATEGORY V: PROTECTED LANDSCAPE OR SEASCAPE
A protected area where the interaction between humans and nature has produced, over time, a site that has distinctive features, with significant ecological, biological, cultural, and panoramic values, and where the conservation of the integrity of human/nature interactions is vital to protect and maintain the site, the nature associated with it, as well as other values.

Primary objective: to protect land and seascapes, the nature it is related to, as well as other values created by the interaction of traditional management practices.

CATEGORY VI: PROTECTED AREA WITH SUSTAINABLE USE OF NATURAL RESOURCES
Protected areas that preserve the ecosystem and habitats, as well as cultural values and related traditional management systems. They are generally vast, and the biggest part of their surface area is natural. Part of it falls under a sustainable management of natural resources, and one of the area's main objectives is the moderate and non-industrial use of natural resources that is compatible with the conservation of nature.

Primary objective: to protect natural ecosystems and use their natural resources in a sustainable way, when conservation and sustainable use can be mutually beneficial.

CATEGORY STRENGTHS AND CHALLENGES
Here are some of the main attributes of these categories:
– A shared system: internationally shared, this system enables effective communication between park wardens and managers.
– A coherent system: classifying does not reflect the effectiveness of the protected area management, but is supposed to guide the manager's work.
– Categories are synonymous with diversity: a good network should contain protected areas of different categories to ensure the different management tools at hand are used in the best possible way.

A park can only belong to one category, as it is supposed to have one main management objective.

WHAT IF A PARK HAS SEVERAL MANAGEMENT AREAS AND/OR MANAGERS AND/OR TARGETS?
If a park has different management zones, but is managed, as a whole, by the same entity, the park's main target will determine its category. It is, for instance, the category that applies to its largest surface, in general, to at least 75% of the park.

But if the park is made out of zones managed by different entities, pursuing different aims, a different category can be assigned to each zone, as if they were in fact separate parks. This can be the case when a transboundary park is made out of two parks separated by a country border: each park will have its own category, which can, of course, be the same. This is the case of the W parks (Illus. 1), where one ecosystem is divided into three separately managed parks, shared between Burkina Faso, Benin, and Niger. In this case, it just so happens that all parks are of category II.

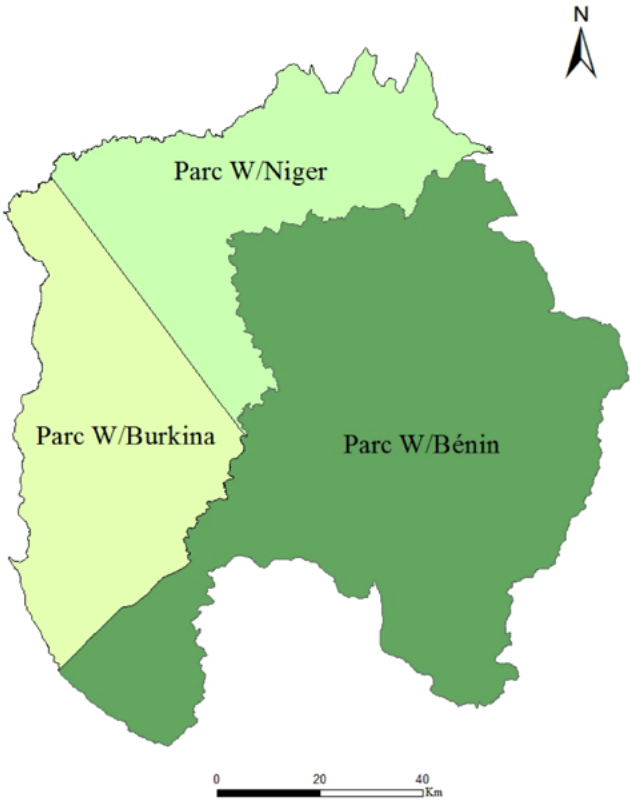

FIGURE 1

11:00 11:46

Example of the W Park: Burkina, Benin, Niger. Source: Project ECOPAS (UE)

1.7 CONVENTION ON BIOLOGICAL DIVERSITY (CBD)

The planet's biological resources are key to the social and economic development of humanity. It is therefore more and more generally acknowledged that biological diversity is a universal priceless asset for present generations and those to come. However, the threats faced by nature and ecosystems are greater than ever before, and this is where the Convention on Biological Diversity comes into play.

Biological diversity: the variability of living organisms at three levels: genes (genetic resources), species, and ecosystems or habitats.

In 1988, the United Nations Environment Programme (UNEP) gathered a special workgroup of biodiversity experts, in order to discuss the creation of an international convention in their field of specialty. The Convention opened for signature on 5 June 1992 during the Rio Earth Summit and currently has 196 contracting parties.

The CBD has three main objectives:
– Conservation of biological diversity
– Sustainable use of biological resources
– Equitable sharing of benefits arising from their use

According to the CBD, protected areas are the cornerstone of biodiversity conservation, as they preserve key areas, offer refuges, enable the migration of species, and guarantee the preservation of natural processes within the entire landscape. Not only do protected areas guarantee the preservation of biodiversity, they also ensure the wellbeing of humanity.

The CBD bodies are as follows:
– The Conference of the Parties, which gathers all the signatories and meets every two years. It is the CBD's governing body and facilitates the convention's implementation.
– The subsidiary body in charge of giving technical, scientific, and technological advice.
– The intergovernmental committee for the Nagoya Protocol.

The CBD has drawn up a Strategic Plan for Biodiversity covering the period 2011–2020, containing the Aichi Targets for biodiversity. It also sets the implementation mechanisms as well as the framework for cooperation and partnership.

The CBD strives to restore the global environment and contribute to sustainable development. The works undertaken in virtue of the CBD are increasing in number and in specificity, enabling several stakeholders to take part in international negotiations. But, as it is with all multilateral treaties, the CBD requires a lot of consensus that can sometimes limit the impact of the decisions.

1.8 CONCLUSION AND ADDITIONAL READING

SUMMARY OF THIS WEEK'S KEY POINTS

Protected areas are increasing in number and in diversity. This diversity is their strength but requires more competent managers and more effort to preserve them.

These protected areas are a vital tool for the conservation of nature. And even if they don't always succeed in curbing the planet's loss of biodiversity, they are part of the solutions that will eventually allow us to reach that goal, and therefore they deserve all our attention. However, they are evolving and are tending to increasingly include nearby populations and the production of related natural resources.

The main goal of any protected area is the conservation of nature.

Protected areas are grouped in six categories based on their main management objective, going from the strict preservation of ecosystems to the sustainable development of resources:
– Category I: full protection
– Category II: conserving nature by organizing activities
– Category III: conserving a natural monument
– Category IV: managing the environment to maintain a milieu or a species
– Category V: preserving a landscape or ecosystem created by man
– Category VI: sustainable use of natural resources that benefit populations

ADDITIONAL READING MATERIAL

For this session, please go through "The Protected Planet 2014" report (available in English only), the IUCN guidelines on management categories (available in English and French) and/or the NAPA 59 that summarizes these guidelines (available in English and French). Those who may want to go further can also read the CBD (available in English and French) and the IUCN guidelines on gap analysis (available in English and French). Finally, the websites you can go through for this session are https://www.cbd.int and http://www.protectedplanet.net.

2.2 PLANNING A PROTECTED AREA

WHY PLAN PA MANAGEMENT?
The global human population is booming, and therefore, natural resources are increasingly solicited and used at different levels. The most vulnerable populations—often the local ones—depend directly on these resources for their daily survival. It is therefore urgent to plan the use of these natural resources and to promote their sustainable use.

PA PLANNING: WHAT IS IT?
Whether planning is done at the scale of a site (a protected area) or of a network of protected areas, the approach is the same:
– Identify the PA/PA network values and all the stakeholders involved;
– Identify the threats presently faced by the values, as well as upcoming threats;
– Set the vision, the goals, and the actions to implement in order to reduce the threats and to maintain the values in the long run.

ACTORS INVOLVED IN THE PLANNING PROCESS OF PAs
It is vital to involve all the actors intervening in and around the protected area (and not only managers) from the beginning of the planning process and in all decisions and management activities. If these actors do not realize that the resources they use daily are limited, the threat faced by the protected area will increase, which might compromise the ecosystem as well as all the related services. Socio-economic investigations on the zones where PAs are found, can give important information to help determine the groups of actors to include in PA planning.

PLANNING AT THE LEVEL OF A PA: DRAWING UP THE MANAGEMENT PLAN
The IUCN guidelines set 13 steps to create (or update) a PA management plan:
1. Pre-planning: deciding on a plan, recruiting a team to draw up the plan, terms of reference, defining procedures to follow.
2. Collecting data, identifying the problems, random consultations.
3. Assessing the data and the information on the different resources to establish a heritage value.
4. Identifying the threats, the constraints, and the territory's potential.
5. Developing the PA vision and the management goals.
6. Developing management activities to fulfill the vision and meet the goals, including zoning.
7. Drawing up the draft.
8. Public consultation on the draft.
9. Assessing the requests, revising the draft, producing a final version, publishing the analysis, and reporting on the results of the consultation.
10. Approving and signing the plan.
11. Implementing the plan.
12. Follow-up and assessment.
13. Decision to revise and update the plan.

FOCUS ON STEP 3

***Heritage value**:* a value that justifies the creation of the PA and that still exists today.

Heritage: a common good that belongs to everybody and is important to preserve for future generations.

The goal of a protected area is to preserve the heritage value that is the basis of all protected area decisions in terms of management and uses. During the planning phase, it is key to have a mechanism taking into account the values considered by local communities and other stakeholders for two reasons:
– If the PA value is misunderstood, the management actions might affect the natural resources as well as the social and economic situation.
– The local populations will not grant their support to the management plan if their concerns are not taken into account.

FOCUS ON STEP 4
The threats can be natural or induced by man, and are often caused by the socio-economic demand of PA resources. The study of the threats/opportunities is indeed a stress analysis, and once this is done, it is easy to deduce management goals and activities to implement in order to maintain these values in the long run. Once the threats are identified, they need to be prioritized in order to determine the chronology of management actions to implement.

FOCUS ON STEP 5
The vision describes the desired state of the protected area (and of its values) in the long run. It should be realistic and be set by all actors involved in protected area management. Thereby, it grants long-term continuity to the management style and guides future managers of the site.

As for the targets, they describe the PA short-term desired state. They need to be practically doable, and prioritized according to the severity of the threats identified in step 4. All the goals should be coherent with the long-term vision of the PA.

FOCUS ON STEP 13
This step consists in deciding when and how the plan will be updated. It implies that all the other steps were carried out properly, especially the follow-up assessment which identifies actions that have worked or not, and were corrected if needed—it is the essence of adaptive management. Generally speaking, the management plan should be revised at least every 10 years, and should start one or two years prior to the programmed end of the plan, in order to have time to collect the data on the indicators and analyze them, to consult the stakeholders, and have the new plan approved. In case of delay, the previous version of the plan should be used.

2.3 PROTECTED AREA NETWORK PLANNING

PA CONNECTIVITY AND PRESERVATION OF ECOSYSTEM RESOURCES

The existence of ecosystem resources relies on the preservation of a fragile and complex balance within multiple natural cycles between plant and animal species, and they are available only if the ecosystems that produce them are in good condition. Therefore, it is important to manage the natural resources well. Protected areas and the connectivity between them are an important tool to guarantee the conservation of ecosystems, and this is why it is crucial, at the scale of a country or a region, to plan the protected area network with the preservation of key ecosystems in mind.

GAP ANALYSIS: WHAT IS IT AND HOW DOES IT WORK?

Gap analysis: comparing the coverage of key biodiversity areas with existing PA networks in order to set the conservation priorities within an optimal network.

By compiling data available on biodiversity, it is possible to identify the key areas of biodiversity (KAB) according to criteria of vulnerability (related to the threats faced and risks of seeing the site disappear) and irreplaceability (the uniqueness of a site). Then, overlapping the KAB network with the protected area network is a way of mapping the gaps, in other words identifying the KABs that are not included in the PA network yet (or that are not under any other form of protection). Eventually, this approach will redesign a more coherent PA network, including not only the ecological challenges, but also the main threats, making them thereby more inclined to take on conservation challenges.

WHO DOES THE ANALYSIS INVOLVE?

The process should of course be participatory, and involve all the actors connected with the protected area. The main difficulty is in fact to have all the information needed to set priorities and to be able to gather together everyone able to make decisions.

ASSESSING A NETWORK OF PAs

Once the management actions are designed and implemented, the follow-up assessment at the scale of the network checks on its ability to meet the management targets. This measures the effectiveness of the network. Simple tools (such as RAPPAM—Rapid Assessment and Prioritization of Protected Area Management) help understand the management effectiveness at the level of the entire network. National management agencies can then take the required measures to reinforce their action on the weakest protected areas.

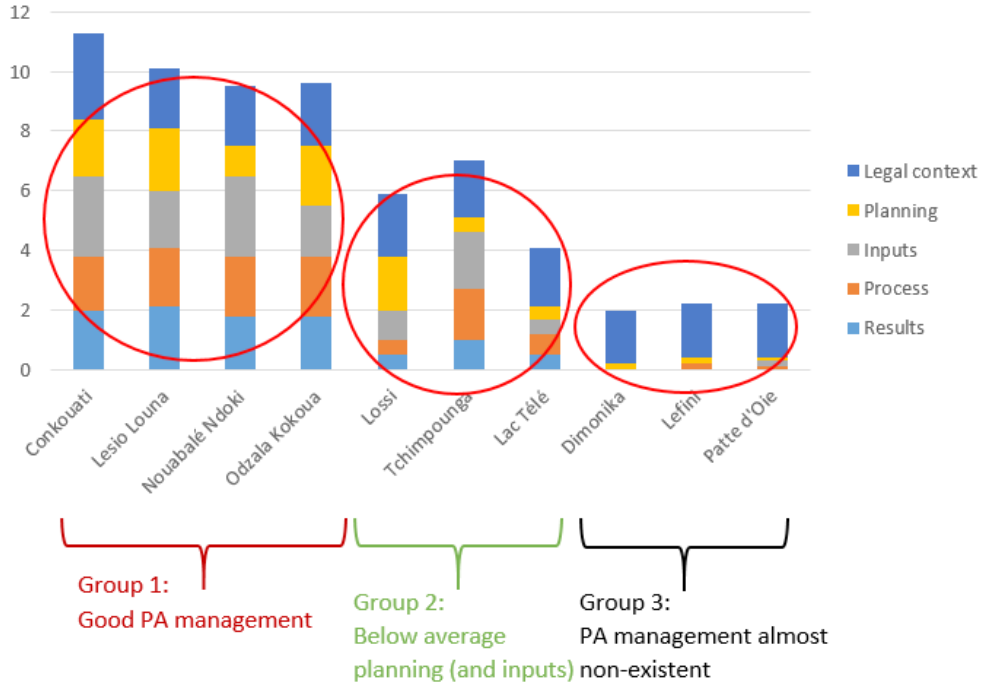

FIGURE 1

8:33 17:23

Comparison of PA management effectiveness within a network (in Congo).

WHY DO WE TALK ABOUT A PA "NETWORK"?

Usually, a protected area protects only part of the ecosystems required to ensure the conservation of all the values of a territory. Therefore, as required by the CBD in the Aichi Targets, a complete and representative network needs to be developed:

"By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes."

2.4 MONITORING THE RESULTS AND IMPACTS OF PLANNING

Monitoring: this is the regular follow-up of the same parameters on the same sites, in order to assess the evolution of these parameters in the long run. It is generally carried out according to a baseline condition defined beforehand.

THE PURPOSE OF MONITORING

Monitoring should be planned and organized, and requires funding, capacities, and long-term commitment. It has three key roles:

– Guide the managers in the decision-making process: assessing and adapting the management plan accordingly.
– Inform the decision-makers and the sponsors: namely in terms of efficiency and effectiveness of site value and by assessing the impact.
– Raise awareness among stakeholders: informing all the stakeholders that contribute to the protected area's management.

DIFFERENT TYPES AND LEVELS OF MONITORING

Several levels of monitoring can be implemented in protected areas. Two levels are particularly important:

– Monitoring the management effectiveness and the implementation of the management plan: In other words, determining if the management plan is being executed, drawing lessons from implementation, and adapting management actions accordingly.
– Monitoring the impacts and the evolution of the site: This goes further in assessing the results and goals of protection—it is about measuring the impacts of management and the evolution of the context, etc. Different types of monitoring related to impacts can be carried out:
  • Biological and ecological monitoring: assessing the evolution of the environments' health.
  • Socio-economic monitoring: assessing the socio-economic health condition of the communities living in and around the PA.
  • Monitoring emblematic species representative of the PA.
  • Monitoring activities relevant for the PA.

These different levels of monitoring involve strong and effective coordination, as well as a certain level of prioritization in the face of a lack of means and capacities.

WHO IS INVOLVED IN MONITORING?

Generally speaking, these studies are carried out by scientists, managers, and park staff, sometimes with the help of surrounding populations. Some monitoring mechanisms require strongly scientific methodology, and most of the time, it should be strict and carried out consistently. This requires important financial means as well as specific skills. Other forms of monitoring can be adapted to a less qualified team, but the level of precision in this case will vary slightly. It must be possible to switch between these different levels and the capacities of the PA, based on the finances available.

EXAMPLE OF MONITORING: PARTICIPATORY MONITORING

This type of monitoring involves communities, and scientific methodology should be strict. In West Africa, women have been trained to monitor shells. This method is interesting in the sense that it strengthens the level of appropriation by local communities of their own territory, it can be less costly, and requires more time (training) as well as proper management (Illus. 1).

FIGURE 1

6:53 11:11

Participatory guide of the shell business in West Africa. Dr. Malick Diouf, Dr. Gwenhael Allain, Dr. Alassane Sarr, Nathalie Cadot, FIBA (2010)

2.5 COMPREHENSIVE INTEGRATED LAND-USE PLANNING

National land-use planning is widely dependent on international conventions that establish priorities and commitments. This can be done through national strategies used as guidelines, and in some cases, by giving a special prominence to protected areas.

WHAT IS COMPREHENSIVE PLANNING?

Comprehensive planning establishes the sharing and utilization of resources and space, the aim being their conservation. There are two key aspects to this:

– The foundations of planning: These refer to three vital principles that are difficult to reconcile: legality, legitimacy granted by local communities, and partnership (all actors that might be affected should be involved).
– The benefits of planning: This is related to conservation (the aim of planning) and the local communities that should be the natural beneficiaries of this exercise.

Good integrated comprehensive planning capitalizes from the start on these two aspects, which partially prevent conflict of interest or of competency. Spaces should be thought through in an integrated way, by taking into account the views of all users. Planning should not further the separation, but should rather create links. Thus, territories that seem separated or separable (such as land and sea in coastal areas) should be considered and thought of as a whole.

HOW DOES IT OPERATE?

Planning is usually carried out with the following several steps, roughly presented below:

– Identifying the spaces' missions (what is their use?)
– Organizing a management zoning scheme (which can include specific zones of full protection, spaces in between, etc.)
– Setting up governance bodies of the different territories
– Setting up management bodies

PAs AS PART OF A WHOLE

It can be tedious fitting protected territories into a wider space that is in constant evolution according to needs, desires, changing regulations, and governance, etc. But even if the context is chaotic, it is important to plan out protected areas.

Land-use planning should therefore be seen as an absolute necessity for protected areas, and their managers should step out of their circle of influence to engage with all stakeholders. Too often, protected area management focuses on the protected area itself, while crucial decisions that concern them are taken on the outside—a proactive management approach is expected.

2.6 TRANSBOUNDARY PROTECTED AREAS

The particularity of a transboundary protected area is that it extends far beyond national borders, thereby erasing the separation between countries involved. Consequently, the movement of people and animals is unusually free (see example in Illus.1). We move from managing each area in an isolated way to the shared management of a common space.

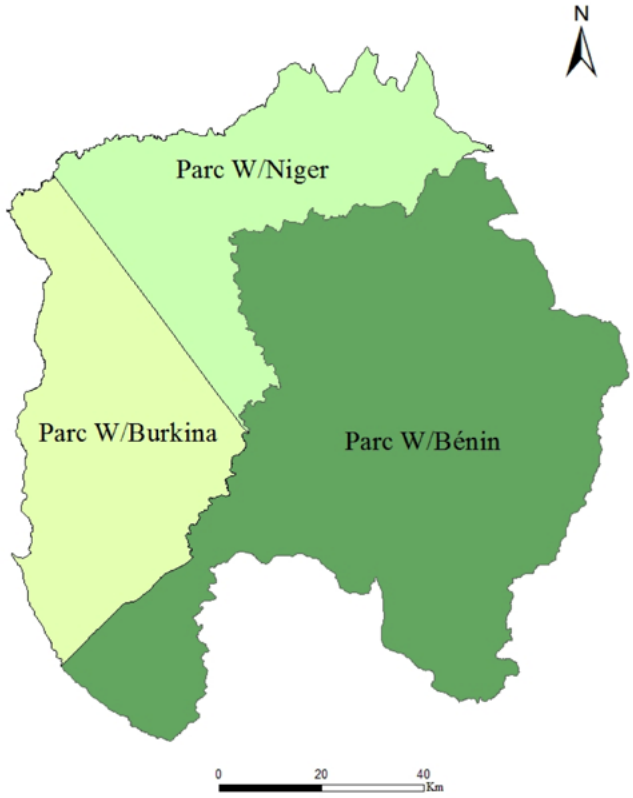

FIGURE 1

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The W park, an example of a transboundary protected area. Source: Programme ECOPAS (UE)

Three types of transboundary areas can roughly be identified:
– Transboundary parks: gather two or more contiguous protected areas that are separated by a border and decide to work together.
– Transboundary landscapes: gather two or more protected area connected by patches of ground that contribute to the whole.
– Transboundary conservation territories: gather different territories, among which some are protected, that are needed to maintain the migration of certain species.

WHY ARE THE TRANSBOUNDARY PAs IMPORTANT?
A third of the important zones for biodiversity straddle at least one border, which stresses the importance of working on the scale of several countries. Such parks working together enable the expansion of an area that is collectively protected, in order to develop shared strategic activities such as patrols against poaching, optimizing the park's organization, improving the resilience of the zones as well as their ability to adapt to changes, and increasing the attractiveness of a site and its economic potential in terms of tourism or other economic activities.

CHALLENGES AND ACCOMPLISHMENTS

Of course, establishing transboundary collaborations can be rather complicated as they require high-level agreements, as well as actual collaboration in the field between the PA on either side of the borders. The challenge is then to set up operational transboundary governance systems. This model has been developing in Austral Africa around the TFCAs (Trans Frontier Conservation Areas). In French-speaking Africa, the movement is less developed but is starting to take shape. A specific case can be found in the Peace Parks, which focus on making countries work together that are usually not very eager to do so.

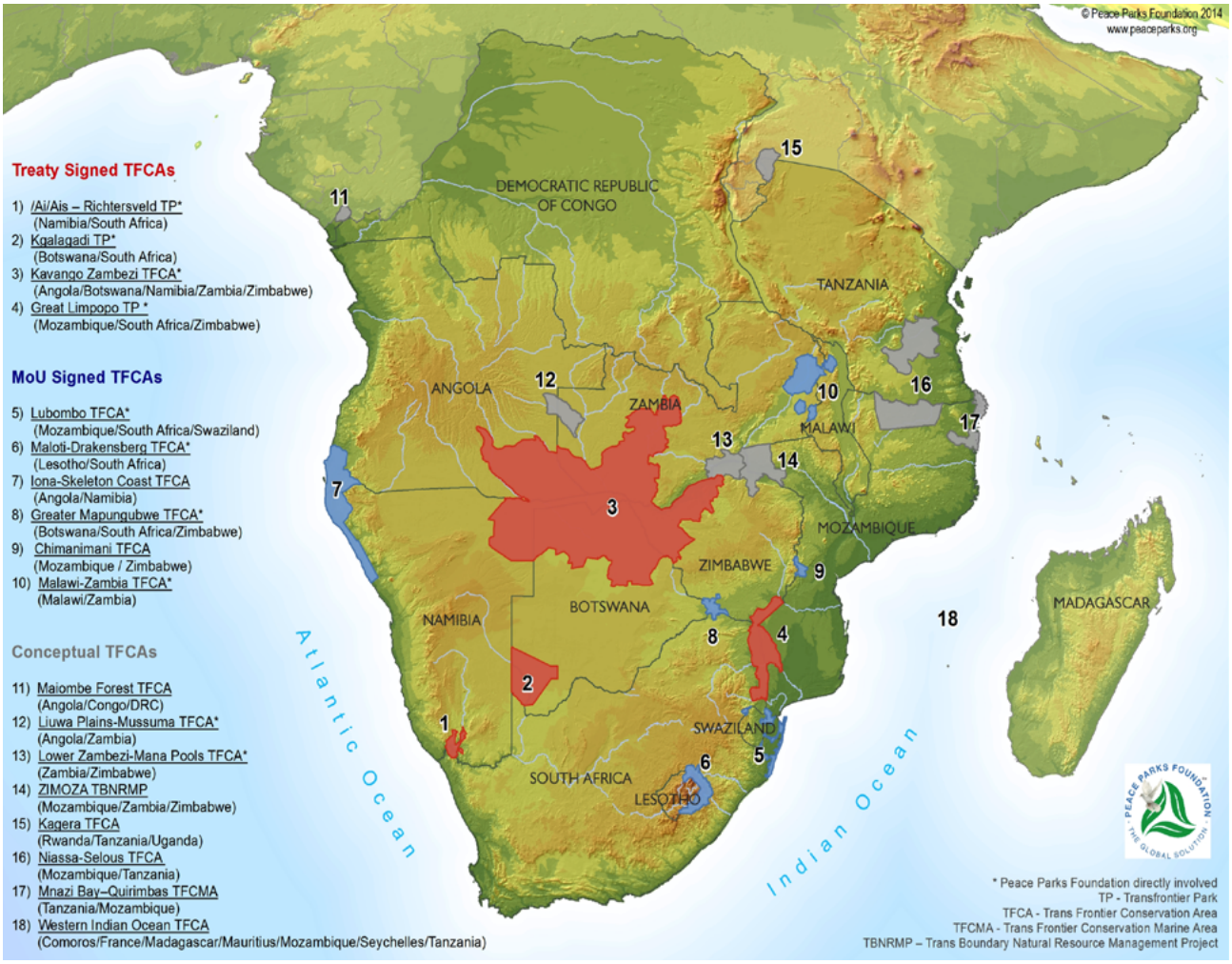

FIGURE 2

6:52 11:13

Transboundary protected areas in Sub-Saharan Africa. Source: Peace Parks Foundation (2014)

2.7 AÏCHI TARGETS

The Aichi Targets were adopted in the Strategic Plan for Biodiversity 2011–2020 at the COP10 gathering of the Convention on Biological Diversity. It is a general framework for biodiversity that aims at living together in harmony with nature, and that by 2050, biological diversity will be valorized, preserved, restored, and used wisely by ensuring the preservation of ecosystem services.

The Strategic Plan for Biodiversity 2011–2020 is based on 5 goals, including the 20 Aichi Targets on biological diversity. They are relevant for the creation, governance, and restoration of terrestrial and marine protected areas:

- Goal #1 (Targets 1 to 4): address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society.
- Goal #2 (Targets 5 to 10): reduce the direct pressures on biodiversity and promote sustainable use.
- Goal #3 (Targets 11, 12, and 13): improve the status of biodiversity by safeguarding ecosystems, species, and genetic diversity.
- Goal #4 (Targets 14, 15, and 16): enhance the benefits to all from biodiversity and ecosystem services.
- Goal #5 (Targets 17 to 20): enhance implementation through participatory planning, knowledge management, and capacity building.

Target 11 deals directly with protected areas: "*By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.*"

A set of guidelines related to the Aichi Targets were developed to provide the parties involved with an introductory presentation of each target. The key terms are explained therein, as well as the implications for the implementation of national targets.

PURPOSE OF THE AICHI TARGETS

The Aichi Targets were developed on the basis of an analysis of the advantages that nature offers humans. They highlight the link between biodiversity and sustainable development. The Strategic Plan and the targets are key instruments that were negotiated and adopted by the 196 contracting parties, which give them strong legitimacy and are an excellent basis for sustainable development.

The Strategic Plan and its targets are currently implemented through national action plans for biodiversity. Some countries have already or are in the process of including these obligations in their national systems.

In spite of the progress accomplished in terms of biodiversity conservation, this will not be enough to meet the targets set for 2020.

2.8 CONCLUSION AND ADDITIONAL READING

SUMMARY OF THIS WEEK'S KEY POINTS

Protected area planning is an important tool in reaching conservation goals. To be effective, it should follow a simple, logical, and universal approach: identify the values of the protected area as well as the threats it is facing, and set the vision and targets to preserve values in the long run. On the basis of this approach, management activities will flow. There are two rules: planning must be done in a participatory way, and it should not be outsourced. Whatever the level, this approach should always be based on the identification of values, followed by preservation. Of course, the contracting parties involved will vary.

For a good network of protected areas, a larger consultation needs to be carried out. But, first, a gap analysis on the entire country helps to determine the key areas that should absolutely be protected for the sake of biodiversity and for the connectivity between these areas. To be efficient, the network will also look into including all the management categories and all the possible forms of governance.

In the case of comprehensive integrated planning, the implementation process should be thought through to enable the protection of resources in the long run and cover the needs of inhabitants. Planning usually involves all the actors involved.

Monitoring protected areas is a crucial aspect of planning. From the start, wise choices need to be made regarding the measured indicators. These indicators are assessed throughout the implementation of the management plan to help understand what works and what doesn't, and the actions can therefore be adjusted accordingly. This is an iterative procedure called adaptive management. Monitoring has three key functions:
– Guiding the managers
– Informing the decision-makers
– Raising awareness among all actors contributing to the PA management

The Convention on Biological Diversity enables the planning of environmental conservation at a global scale, by setting quantifiable targets such as the Aichi Targets. It helps in defining conservation strategies for each nation, in order to build a network of protected areas that will include the world's important ecosystems.

ADDITIONAL READING MATERIAL

For this session, please go through the IUCN guidelines on management planning (available in English and French), the IUCN guidelines on transfrontier protected areas (available in English only), a document on marine protected areas (available in French only). Those who may want to go further can also read a guidebook edited by FIBA, FFEM, and AFD on shells' uses and participatory monitoring in Western Africa (available in French only), the NAPA letter n°50 summarizing a study on some PA management plans in Western Africa (available in English and French), and examples of management plans. Finally, the website you can go through for this session is https://www.cbd.int.

3.2 DEFINITION OF GOVERNANCE

WHAT IS GOVERNANCE?

The notion of governance of a protected area is related to matters of power, relationships, and responsibility. From a practical perspective, it can be understood by asking the following question: who has the management authority and responsibility and should give accounts for the obtained results? So governance doesn't have much to do with management, instead, it informs us about the decision-makers and the way decisions are made.

Governance can also answer the following questions: "How to make decisions for a protected area? Which norms are applied and what approach, values, and principles serve as guides to the decision-makers? The answer to these questions inform us about the quality of governance.

FOUR TYPES OF GOVERNANCE

- State governance: Protected areas are under the authority of the government (locally, nationally, or supranationally).
- Shared governance: Protected areas are under the authority of several stakeholders.
- Private governance: Protected areas are under the authority of the private sector (generally the owner of the land or of the natural resources concerned)
- Community governance: Protected areas are under the authority of indigenous peoples *or* local sedentary and/or mobile communities holding customary and/or legal rights.

WHAT DO WE KNOW ABOUT AFRICAN PA GOVERNANCE?

Lack of data. Unfortunately, protected area governance is rarely reported in the World Database of Protected Areas. Current estimations take into account less than 30% of African protected areas, and according to them, 80% of protected areas are under state governance, with a very small number of them being under shared, community, or private governance.

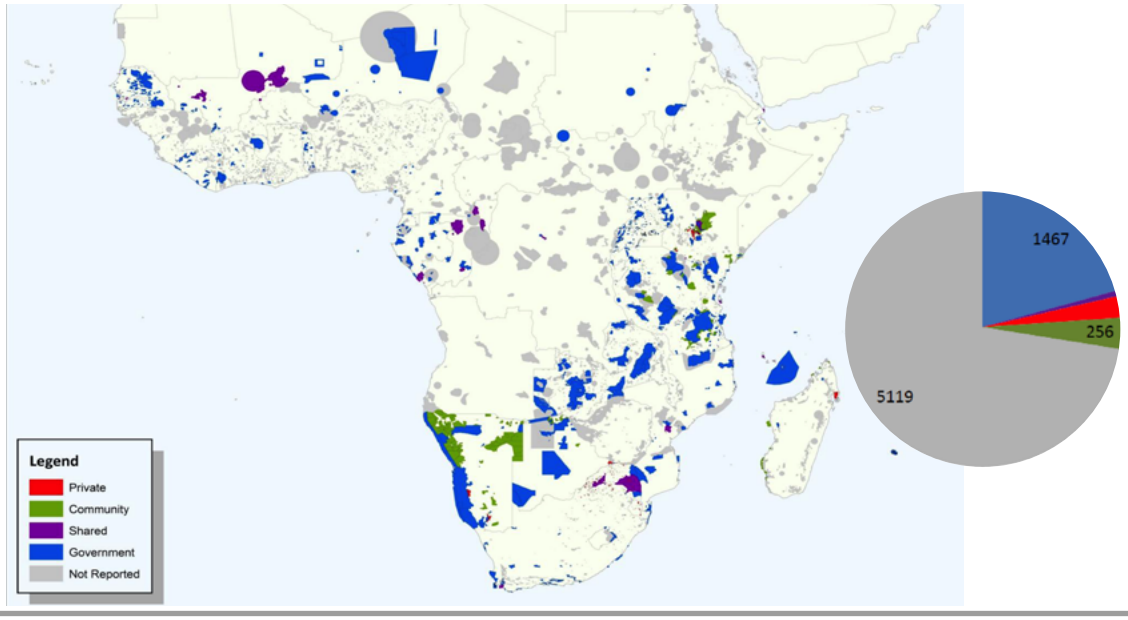

FIGURE 1

African protected areas listed in the World Data Base of Protected Areas. Source: Global report of protected area governance in Africa PAPACO/ UNEP-WCMC 2015

Evolution. Even though we do not have a clear idea of the distribution of all types of governance throughout the continent, we know that governance keeps evolving. Over time, statuses change—this demonstrates the need to improve governance and thereby the conditions of conservation efficiency.

GOVERNANCE, DECISIVE FOR PAs

The quality of governance is a decisive element in the protected area's ability or not to play its role. If governance is failing, even if better management strategies are implemented, results will be mediocre or non-existent. Working on a park's governance is then, in this regard, at least as important as looking for technical solutions to the problems encountered.

The concept of governance deals with matters of power, relationships and responsibility

3.3 STATE GOVERNANCE

A governmental organism (such as a ministry or a park administration):
– Holds the authority and responsibility for protected area management;
– Determines the conservation targets (like the ones that will define its management category);
– Develops and implements the management plan;
– Is often the owner of the protected area lands, water, and related resources .

Subnational governmental bodies can also be in charge of these offices and/or owner of the lands and protected area resources. In some cases, the government maintains control over the protected area—it makes the decisions regarding the targets, but delegates planning and/or daily tasks to a parastatal organization, NGO, private operator, or community.

From a legal perspective, state governance can include a legal obligation or not to inform or to survey stakeholders before introducing new protected areas, and making and applying decisions regarding their management. Participatory approaches are increasingly frequent, and they are also recommended.

3.4 PRIVATE GOVERNANCE

Private governance includes protected areas that are controlled and/or owned by an individual, a cooperative, an NGO, or a company, managed for profit or not. A typical example is found in areas belonging to NGOs for the purposes of conservation.

Many private owners also practice conservation out of respect for the land and to preserve aesthetic and ecological values. Incentive measures, such as benefits from ecotourism and hunting or even reducing taxes, encourage this type of governance.

In all cases, the management authority of the protected area and its resources belongs to the owners who determine the conservation goals, develop the management plan, and remain in charge of the decisions, as long as they respect legislation.

This form of governance is currently evolving in Africa, but it requires an incentive regulatory framework to fully play its role and enable the significant extension of protected area networks in a country.

Lewa Conservancy, a Kenyan privately governed protected area

3.5 COMMUNITY GOVERNANCE

This type of governance has two main subgroups:
– Areas and territories of indigenous populations established and managed by these peoples
– Areas of community conservation, created and managed by these communities

These subgroups, which may not always be separate, apply to both sedentary and nomadic populations and communities. The IUCN defines this type of governance as: "Protected areas where the management authority and responsibility rest with indigenous peoples and/or local communities through various forms of customary or legal, formal or informal, institutions and rules."

These areas can be relatively complex: different indigenous peoples or communities can be responsible for the same area at different times, or of different resources in the same area. Regulations intertwine with cultural and spiritual values, and customary rights and organizations managing the natural resource do not always benefit from legal statutory recognition or disciplinary power. In other cases, however, indigenous people and/or local communities are fully recognized by the state as the authorities in charge of protected areas, or they possess legal rights over the land, the water, and other resources. Whatever the structure, governance agreements require for the area under the control of indigenous peoples and/or local communities to have identifiable institutions and regulations accountable for meeting the set targets.

These PAs are places where:
– Indigenous peoples and/or local communities feel responsible for the ecosystems in question. They are usually connected to them for cultural reasons, and/or because they are the basis of their livelihood, and/or because they are their traditional territories by customary law.
– Indigenous peoples and/or local communities are the actors involved in decision-making and the implementation of decisions regarding ecosystem management, which involves them having an institution exercising authority and responsibility. They are able to enforce regulations.
– Decisions and management efforts of indigenous peoples and/or local communities lead to the conservation of habitats, species, ecological functions, and related cultural values, even if the original intention may have included a variety of targets that were not directly linked to the protection of biodiversity.

Community protected areas allow a network to be completed where and when the government is unable to manage certain territories. All protected area categories can be involved in this type of governance. These areas sometimes face a lack of recognition, either from governments, or at the request of local populations themselves, as they fear official recognition would lead protected areas into broader systems in which they will have no control whatsoever.

3.6 SHARED GOVERNANCE

Complex institutional mechanisms and processes are used to share the authority and responsibility of management between groups of governmental or non-governmental authorized stakeholders (formally and informally). Shared governance, also called co-governance, takes on different forms according to how far the sharing of decision-making goes. For instance, in collaborative management, the decision-making authority and responsibility are given to an institution, but the latter is required by law or by political decision to inform or consult the other stakeholders. In the case of joint management, different actors are on the board of a governing body and have decision-making authority and responsibility—the degree of responsibility sharing is more important. Decisions may or may not require consensus.

A particular form of shared governance is related to transboundary protected areas that involve at least two governments, and sometimes even other local participants. The study led by PAPACO in Africa shows that it is relatively complicated to find examples of shared governance that meet all the criteria of this type of governance. Rather, three hybrid types can be discerned, in the sense that they combine different actors, without going as far as sharing decisions and processes.

3.7 NAGOYA PROTOCOL

The Nagoya Protocol is an international treaty that follows up on and supports the Convention on Biological Diversity, particularly one of its three aims: the fair access and benefit sharing (ABS) from the use of genetic resources. It came into force on 12 October 2014, after the ratification of the protocol by 12 countries. The protocol applies to genetic resources and its core elements are: access and benefit sharing, respect of obligations, and traditional knowledge.

The ABS is based on the prior consent between "providers" (people or countries making their resources available) and "users" (countries using the resources), on the negotiation between parties and the way to gain access to genetic resources.

IMPORTANCE OF GENETIC RESOURCES AND ABS

The protocol ensures broader legal security and greater transparency for the providers and the users of genetic resources. It contributes to the sharing of benefits, especially when said resources leave the providing country. It also sets conditions granting more predictable access to genetic resources.

Genetic resources are present in all living organisms (plants, animals, microbes) carrying genetic information that is likely to be useful to mankind. These resources can come from wild and domesticated fauna, as well as from wild or cultivated plants. They are present in environments where they grow naturally and also in artificial settings such as botanical gardens, GMO, and seed banks, etc.

Genetic resources are a source of information crucial for better understanding the natural world. They can be used to develop products and services intended for human use, and the accessibility and use of benefits can create incentives for the conservation and the sustainable use of biodiversity.

The Nagoya Protocol encourages research, creates indicators for the rational and sustainable use of genetic resources, and increases the contribution of biodiversity to development. Protected areas and ABS share the same goal of conserving biodiversity. The Nagoya Protocol is a great opportunity for protected areas to benefit from research and bio-prospection.

3.8 CONCLUSION AND ADDITIONAL READING

SUMMARY OF THIS WEEK'S KEY POINTS

Governance is the decision-making process related to a protected area, not the management actions. It is about *who* makes the decisions, and *how*. There are roughly four types of governance:

State governance: This refers to cases where decisions are made by governments. The state generally owns the territory and can choose to consult other parties involved in managing the protected areas, but at the end, it is always the state who makes the decision and takes responsibility for it.

Shared governance: Decision-making involves several actors that each hold part of the responsibility in the final decision. This sharing of decision-making can go as far as a full delegation of the protected area management by the state or a third-party. But in most cases, the state is reluctant to delegate its authority, even when it is unable to meet the set targets.

Private governance: Territories that are controlled or owned by an individual, an NGO, or a company, for profit or not. In this case, the management authority of the protected area and its resources belong to the owner, who sets the management targets, develops the management plan, and remains in charge of the decisions. It must, however, respect the legislation in force. This is quite a rare form of governance in Africa, but it is developing.

Community governance: Management responsibility is granted to local inhabitants under different institutionalized forms or by formal or informal customary regulation. In this case, the territory is under the control of local communities, responsible for meeting the targets, even if the protected area is not recognized by a legal instrument. By allowing local stakeholders to be the users and guardians of their own resources, the hope is to generate a more effective support for conservation of the protected area.

Whichever actor is in charge of governing the protected area, governance relies on the notion of responsibility. Too few African protected area decision-makers give accounts for the decisions they make and the way they are made. This weakens the management results in the field. Evolving towards a better governance of the conservation sector requires more responsibility and transparency from the actors involved.

ADDITIONAL READING MATERIAL

For this session, please go through the IUCN guidelines on protected areas' governance (available in English and French), the NAPA n°84 on governance of African protected areas (in English and French), the NAPA n°85 (in English and French) and 86 (in English and French) on private governance, the NAPA n°87 (in English and French) on governance by the government, the NAPA n°88 (in English and French) on shared governance, a PAPACO study on community protected areas in Western Africa (available in French only), and/or the NAPA n° 25 (in French only) on community protected areas. Those who may want to go further can also read the Nagoya protocol (available in English and French). Finally, the website you can go through for this session is https://www.cbd.int.

4.2 PROTECTED AREA EFFECTIVENESS AND ADAPTIVE MANAGEMENT

If protected areas are not managed properly, their contribution to preserving ecosystems will be in vain. The notion of management effectiveness roughly covers two aspects:
– The ability of a person to do the job well
– The impact of the person's actions

A global analysis of the situation shows that less than 25% of protected areas in the world have proper management (Illus. 1); it is therefore urgent to improve their management.

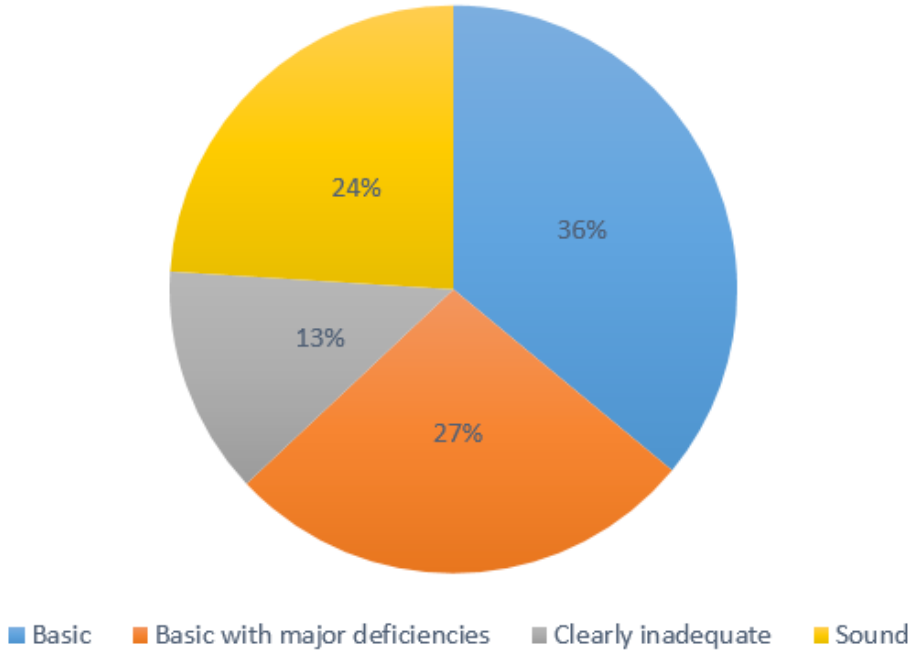

FIGURE 1

5:42 13:25

Source: Effectiveness of management. Source : Leverington et al. 2010 in Protected Planet Report 2012

MANAGEMENT ASSESSMENT METHOD: COMMON APPROACH

The World Commission of Protected Areas has developed an assessment framework facilitating the development of management methods based on the same approach. This helps meet the different expectations, means, skills, and contexts in a homogenous way, by having strong common ground on discussion. Below are the steps of this framework:

– **Step 1: Where are we?** This is about setting the context. Working on management effectiveness is first about identifying the initial situation, the framework in which activities are carried out. For instance, it is in this step that the values of the protected area will be identified.
– **Step 2: Where do we want to go?** Planning helps to establish the management plan, but also the questions regarding the protected area's design, its legitimacy, and its place and role in the global system of protected areas of the considered country.
– **Step 3: What do we need?** The focus is on the necessary means. The budget is to be assessed, as well as the human and technical resources at hand and their allocation.
– **Step 4: How do we proceed?** Everything that is done is to be analyzed, and if possible, compared with recognized standards, for instance, the number of agents per acre and the sampling rate needed for good ecological monitoring, etc.

– **Step 5: What have we accomplished?** Assessing the obtained results. The idea is to determine if the work has been carried out in conformity with the announced planning, and if the initial question can be answered. All the products obtained should be counted, for instance the number of patrols, of educational sessions in schools, the number of tourists welcomed, etc.
– **Step 6: What has changed?** This step is about the impacts of management actions, by measuring if the values have been preserved or not. Of course, this step is harder to carry out and a lot of assessment tools do not cover it.

On the basis of the shared framework, different tools have been formalized to enable a quick application of these principles in the field.

FIGURE 2

6:02 13:25

Diagram of the Common Approach.

MANAGEMENT ASSESSMENT TOOL: RAPPAM
The RAPPAM focuses on protected area networks. It is a tool for quick assessment and PA prioritization. It enables the comparison between sites within a coherent group.

MANAGEMENT ASSESSMENT TOOLS: METT AND EoH
Other tools look into assessing a specific site, such as the METT (Management Effectiveness Tracking Tool) that allows for a site's self-assessment. It tracks the progress of a site made over time, but shouldn't be used to compare sites with each other.

Some tools such as EoH (Enhancing our Heritage), originally developed for World Heritage sites, also focus on one site but are complex management analysis tools—they are designed to be used when looking into the work done and its effectiveness.

4.3 PRESERVING PAS: SURVEILLANCE

Protected areas require surveillance systems to ensure laws and regulations are being respected. If all stakeholders were involved in drawing up the management plan, the probability that these laws would be taken into account is higher. But given the changes in population, the migrations and evolution of contexts, well-organized surveillance is vital. To be effective, the surveillance mechanism should take into account a certain number of means and methods:

Means and equipment. Generally speaking, surveillance is carried out using a vehicle or a boat, which can be very costly. A good budget is then necessary to guarantee that surveillance material and maintenance are covered.

Well-trained teams. Given the evolution of poaching, training park staff is essential for success in the protection mission. This mission is not only about stopping poachers, but also developing tight relationships with communities. Therefore, an important part of surveillance consists first of all in raising awareness among communities and visitors. Once acts of poaching have been verified, the guards need to stop the poachers. This requires methodology and experience. In terms of training, teams would then need to be fully up-to-date with regulations and laws on the site.

Organizing patrols. These should be dissuasive and thereby be based on a strong presence in the field, in order to put poachers and counterfeiters at risk of being caught in the act. According to the means at hand, the teams need to be well distributed in the field, and they should be given the means to be mobile in order to move around quickly and to conduct planned and random patrols. Patrolling should be monitored, which is now facilitated by the use of GPS.

Different complementary levels of surveillance. Surveillance should take place directly in the field, to carry out patrols and communicate with the populations, but it can also take place at a more remote level, namely thank to GPS and radars. These two levels are complementary and the information obtained by one enables the actions of the other to be adapted.

Restitution information. After patrolling, the information gathered should be transmitted to surveillance units. Then, thanks to analyses, places where surveillance should be intensified, where it is more effective, and where threats are greater can then be identified.

4.4 ECOLOGICAL MONITORING AND CONSERVATION

Ecological monitoring: all the methods of data collection and analysis helping to assess the status and the evolution of a protected area's values. It also assesses pressures and threats faced by these values.

The main objective of protected area management consists in ensuring the values persist, or increase in time. These values can vary from one area to the other—ecological monitoring is thus worked out for a given area, according to its values. It is not necessarily adapted to another park, which will have different heritage values.

Ecological monitoring should also assess the threats faced by the area. With this in mind, ecological monitoring enables the assessment of management actions that were carried out to preserve the values in the context of the implementation of the management plan. It is consequently a key tool guiding decisions and allowing for the adjustment of actions according to the conservation targets defined and expected for the values.

The results of ecological monitoring are also an effective communication tool for informing all stakeholders involved in management and presenting results to sponsors and other contributors. These results should be presented in an appealing way, such as simple yet complete maps drawn up thanks to geographic information systems.

HOW TO SET UP AND DEVELOP ECOLOGICAL MONITORING IN A PA?

For each value to be followed, indicators that give a precise idea of its health and evolution (population size, distribution, composition, etc.) need to be determined. For each type of indicator to follow, there are several data collection protocols available: it is possible to carry out a census of an entire territory (total count), or to proceed by sampling (partial record). The survey can be done on foot, by car, by plane, etc. Each method has its own protocol, and the one with the best cost/effectiveness ratio should be chosen, in other words, the one that will allow collection of a sample with enough data to have high quality estimation, with good frequency, and at the best cost.

ECOLOGICAL MONITORING IS NOT RESEARCH

Ecological monitoring should not be mistaken with a research program—research activities are designed and destined to answer a scientific question. Of course, most protocols for ecological monitoring can also be used for research, but their aim is different. And they do not always need to be as scientifically strict. Moreover, the analysis of research data is longer and more tedious, and the results of these studies are usually available only a couple of months or years later, making them less useful for immediate management purposes. Ecological monitoring is a key element in leading a protected area, as it is a means to measure the management impacts on values, and consequently, to reorient management if needed. It is therefore essential for it to be prepared and implemented by protected area managers themselves, and not to be outsourced to outside contractors who have no responsibility in managing the territory.

4.5 RAISING AWARENESS AND RESEARCH

EDUCATION AND RAISING AWARENESS

All the actors intervening in and around a protected area need to understand what is at stake, in order to preserve their future as well as the resources on which they depend. If they do not realize that the resources they use in their day-to-day life are limited, they will simply increase the existing pressure on the protected area, and thereby compromise the ecosystem as well as related services. In Kenya, for instance, lions contributes to the balance of the ecosystem and to visual tourism, but are perceived locally as a problem. It is therefore important to educate and to raise awareness among local populations on the role played by mammals in the protected area.

HOW TO REACH THESE ACTORS FOR CONSERVATION?

Research work attesting to the endangered character of some species is not enough, because the results are not accessible enough, badly understood, or badly communicated. Raising awareness consists therefore in making this data available to this wide range of actors.

But communicating on the threats and what is at stake does not always mean that action will be taken in the field. Information should be extended to the target, understood, accepted, implemented, and even repeated if needed, but always without guarantee.

In order to make communication effective and ensure actions will be taken, the emotional reasons pushing actors to act in such a way need to be identified—their own personal interests, establishing a connection with the natural resources to protect, and showing them that it is in their interest to have a different attitude to conserve the resource. The message should be clear, directly connected to their interests, and explicit enough for them to understand what is to be done as an alternative—it is a matter of appropriating the message.

It is by establishing a dialogue that raising awareness will be most effective. The means used to this end should therefore be adapted to each public. Many models of campaigning exist, especially thanks to social media.

MEASURING THE REAL IMPACT OF THESE AWARENESS RAISING EFFORTS

When implementing an awareness strategy, deadlines and associated targets need to be set. Establishing a form of monitoring is extremely important, not only to control the targets, but also to determine whether or not the action had an impact.

It is among young people that raising awareness is the most effective—it is therefore essential to educate them in order to increase the chances of inducing change in future generations.

4.6 THE GREEN LIST OF PROTECTED AREAS

ENCOURAGE CONSERVATION TOOLS THAT HAVE PROVEN TO BE EFFECTIVE

The IUCN red list focuses on species in danger of extinction. It gives an assessment of major threats faced by animals and plants. These threats must be identified and fought against, but it is also necessary to communicate the conservation tools that have proven to be efficient in furthering the values of natural capital—this is the objective of the IUCN green list. It is about recognizing the success of protected areas that reach their conservation targets on the basis of effective management and fair governance.

WHAT IS THE DIFFERENCE WITH OTHER EXISTING LABELS?

There are many labels associated with protected areas, but they usually focus only on one aspect of management. The green list focuses more generally on management effectiveness and on protected area governance, thus on its managers. It is applicable to all protected areas, whatever their management category or governance type may be.

THE BENEFITS OF THE "GREEN LIST" LABEL FOR PAs

The recognition of protected area efforts has several benefits: giving a better marketing visibility to listed protected areas, strengthening the plea for them to be taken into account in national legislation, preventing unsustainable uses of natural resources in and around their territory, supporting research and fundraising, and improving staff motivation, working standards, and skills, etc. Eventually, another major advantage of the green list will be the technical support provided to protected areas that want to be recognized, by ones already listed.

SIGNING UP FOR THE GREEN LIST

Application. Protected areas wanting to be listed in the green list must present a file made up of two parts: a detailed survey that assesses if and how the protected area meets the green list standards, as well as proof (documents, maps, photos, etc.) justifying the answers given. This file is then examined by a designated reference group in the relevant country, who will judge whether or not the information given is relevant. The file is then transferred to an external certifier, who will control the credibility of the information provided, as well as the methods used by the reference group. The certifier's report will then be transferred with the application file to the green list global committee who will take the ultimate decision to list the site or not.

File rejected. Sometimes, protected areas do not meet the required standards for joining the green list. In this case, the global committee gives targeted recommendations to the protected area on the basis of the analysis of their management/governance described in the file, in order to encourage them to work on their weaknesses and present a new file subsequently. It is therefore a stimulating system promoting self-progression and active learning.

Remaining on the list. In order to guarantee the quality of sites listed on the green list, these are only registered for a couple of years (usually 5). After this, they need to be able to prove, by submitting a special file, that they have maintained or improved their working methods.

4.7 WORLD HERITAGE

The Convention on World Heritage aiming for the preservation of architectural sites was adopted by UNESCO in November 1972. The most peculiar characteristic of this convention is that it gathers in the same document, the notions of nature conservation and the preservation of cultural goods.

WHAT IS "WORLD HERITAGE" AND WHAT ARE THE CONVENTION'S GOALS?
World Heritage refers to past heritage that we enjoy today, that we hand over to future generations, and that boasts "exceptional universal value." The goals of the convention are to identify, protect, and present these exceptional goods to the public. Therefore, it establishes a framework where relevant information regarding the site can be shared, harmonizes management systems, helps member states preserve sites by giving them technical assistance and professional training, encourages the participation of local populations in preserving cultural and natural heritage, and gives urgent assistance to World Heritage sites in situations of immediate danger.

HOW IS THE "EXCEPTIONAL UNIVERSAL VALUE" OF A SITE DEFINED?
The exceptional universal value refers to a cultural and/or natural site so important it transcends national borders, and contains an invaluable character for current generations and the ones to come. For natural sites, this universal value is defined following four criteria numbered from 7 to 10:
– **(VII)** Contains superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance.
– **(VIII)** Is an outstanding example representing major stages of Earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features.
– **(IX)** Is an outstanding example representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems, and communities of plants and animals.
– **(X)** Contains the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation.

FIGURE 1

5:44 8:46

Example of Criterion IX: Nakuru National Park in Kenya, a network of lakes where Lesser Flamingos circulate freely.

WORLD HERITAGE SITES IN AFRICA

The state of conservation of African sites is quite worrisome: about 35% of the continent's natural sites are listed as World Heritage in danger, among which some have been listed as such for over 20 years. A good becomes part of this list when it is threatened by a proven, precise, and imminent danger, or when it is confronted with serious threats that could have damaging effects on its essential characteristics. The bad state of World Heritage goods in Africa is connected to many threats and pressures the sites are enduring: poaching, use of forest products, expansion of farming, mining, etc., but also to low levels of commitment from public authorities: no available budget, insufficient staff, bad equipment, inadequate management, bad governance, etc.

4.8 CONCLUSION AND ADDITIONAL READING

SUMMARY OF THIS WEEK'S KEY POINTS

Assessing management effectiveness allows the estimation of the ability of a protected area to conserve its values, to identify the quality of the management plan, but also to assess its usefulness. Carried out regularly, the assessment of effectiveness enables the reorientation of management actions to find solutions to the identified problems. There are several tools that have been developed on the basis of the assessment method prepared by the World Commission of Protected Areas, which comprises six steps: Where am I? Where am I going? What do I need? How do I proceed? What do I obtain? What has changed? Assessment should always be a voluntary process led by or with the managers, and combining all the stakeholders involved in the protected area's management.

Surveillance of a protected area is a key aspect of effectiveness, as it allows for the control of threats faced by the values. Good surveillance comes from relevant analysis and prioritization of threats. The surveillance strategy should be flexible and adaptable according to the evolution of the threats and of the values.

Ecological monitoring is another side to effectiveness and gathers collection methods and data analyses that will assess the evolution of the values of a protected area. There are many methods, direct or indirect—the choice will be based on efficiency. Ecological monitoring should be carried out by the managers and should not simply be outsourced to external contractors.

It is important to make sure everybody understands the priorities of the protected area. Education and raising awareness facilitate the evolution of citizen perception towards a more realistic understanding of the importance of protected areas in their daily lives. This approach is key to ground the conservation as a common cause. It is certainly difficult to assess the impact of the awareness that has given rise to a change in behavior, but this should remain an absolute priority.

Finally, on a global scale, the green list allows the quality of the managers' work to be recognized, not only in terms of management effectiveness, but also for the quality of their governance, which finally allows for the full assessment of their best examples, by sharing useful tools with all sites on their way to being included on this unique list.

ADDITIONAL READING MATERIAL

For this session, please go through the IUCN guidelines on management effectiveness (available in English and French), the NAPA n°75 (in English and French) and n°76 (in English and French) on ecological monitoring, guidelines on communication, education, and public awareness (in English and French), and a short flyer on World Heritage sites (in English and French). Those who may want to go further can also read the World Heritage convention (in English and French) and the document "How is your MPA doing?". Finally, the websites you can go through for this session are http://whc.unesco.org/fr/ and https://www.iucn.org/about/work/programmes/gpap_home/gpap_quality/gpap_greenlist/

5.2 CULTURE AND NATURE

Culture: a human institution based on customs, traditions, and conventions.

Anthropocene: the effects of human activities impacting nature.

It is undeniable that the impact of human activities on nature is increasing, and that the culture that used to spring from nature is now instead becoming a factor determining its evolution. Nature is hence no longer perceived in opposition with culture, but they are rather seen as two closely-knit concepts. For a couple of decades now in Africa, decentralization policies have pushed some local communities to fully commit to the conservation of sites in their control, by building on their cultural frameworks. Sometimes, this involves having certain sacred territories benefit from the protected area status, which legalizes their conservational function.

CULTURE AND INTERNATIONAL COMMITMENT

This trend is widely supported by international commitments, mentioning the active roles played by indigenous communities and populations, and by other municipalities in environmental management. Countries should recognize the identity, culture, and interests of these groups, and grant them all the support they need. The Convention on Biological Diversity also recognizes the place nature should have in conservation and the need to promote traditional knowledge in supporting this effort.

THE IMPORTANCE OF TRADITIONAL KNOWLEDGE

The creation of such protected areas is extended by the possibility of collecting traditional knowledge that strengthens the conservation network's viability. But given the fact that the holders of such knowledge mostly consist of a few elderly and poorly known or sometimes renowned persons, passing on knowledge useful to protected area conservation becomes a problem. To fight this, every opportunity should be taken to broaden the conservation network, as well as the sites traditionally preserved for cultural reasons.

THE CHALLENGES OF COMBINING NATURE AND CULTURE

Some factors in the culture/nature association complicate their integration in conservation. For example, for a park that is represented by different communities with opposite cultural and religious views, the manager's approach would then depend on these differences, and take into account the cultural identity dealt with to manage the park.

In the case of sacred sites, culture is the basis for respecting the identity of protected areas. But in all other cases, good communication between the different actors is key to make sure culture and nature work together. Some studies have shown that biological diversity often goes hand in hand with cultural diversity, meaning that the different cultural frameworks can help preserve different values. Thus, knowledge, habits, and traditional practices can be the basis of a protected area's persistence and resilience.

5.3 TRAINING FOR PROTECTED AREA MANAGEMENT

HOW IS TRAINING IMPORTANT FOR PROTECTED AREAS?
Training is a response to development and it supports change—in the case of protected areas, it is a strategic investment. In Africa, protected area management is rarely accompanied by a capacity-building policy, and little staff is recruited to carry out conservation strategies. Thanks to training, the staffing needs—in terms of quality and quantity—are met, and time induced changes can be faced.

At the scale of an individual, learning additional skills can improve personal motivation and open up new career opportunities. At the scale of a service, an institution, or a protected area, training helps deal with the high turnover of some positions, or the lack of skilled practitioners. The dynamic aspect of the conservation context is also a reason to keep improving staff skillsets.

ARE THERE ANY SPECIFIC NEEDS IN AFRICA IN TERMS OF PA?
In spite of the diversity, some countries share common ground, as some specificities are linked to regional contexts. The needs can be classified in two categories:
– The specific needs of protected area management (ecological monitoring, knowledge in biodiversity, planning, etc.);
– Cross-disciplinary skills that are not specific to protected area management but that have a major impact on it (HR, logistics, IT, etc.).

HOW TO EFFECTIVELY MEET THESE NEEDS?
Training can take on different forms depending on the context, needs, targets to be met, skills required, and means at hand. Therefore, the context as well as the current and expected situations should first be analyzed. From there, the best-adapted training plan possible can be developed. There are different kinds of training methods: classroom training, distance learning, MOOCs, apprenticeships, etc.

5.4 MARINE PROTECTED AREAS (MPA)

Marine protected area: "Any area of intertidal or sub-tidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment." (IUCN, 1999)

The protected area definition given by the IUCN in 2008 gives additional insight to the one above: it is a clearly defined space, where the primary goal is conservation, and where management measures have been implemented.

Between 2013 and 2014, MPA coverage has gone from 2.8% up to 3.4%. However, the situation is far from reaching the Aichi Targets, which aim for a 10% coverage by 2020. Effective management of these protected areas is also still to be confirmed. The map below (Illus. 1) shows the unequal distribution of MPAs, especially in Africa where coverage in most countries doesn't exceed 3%.

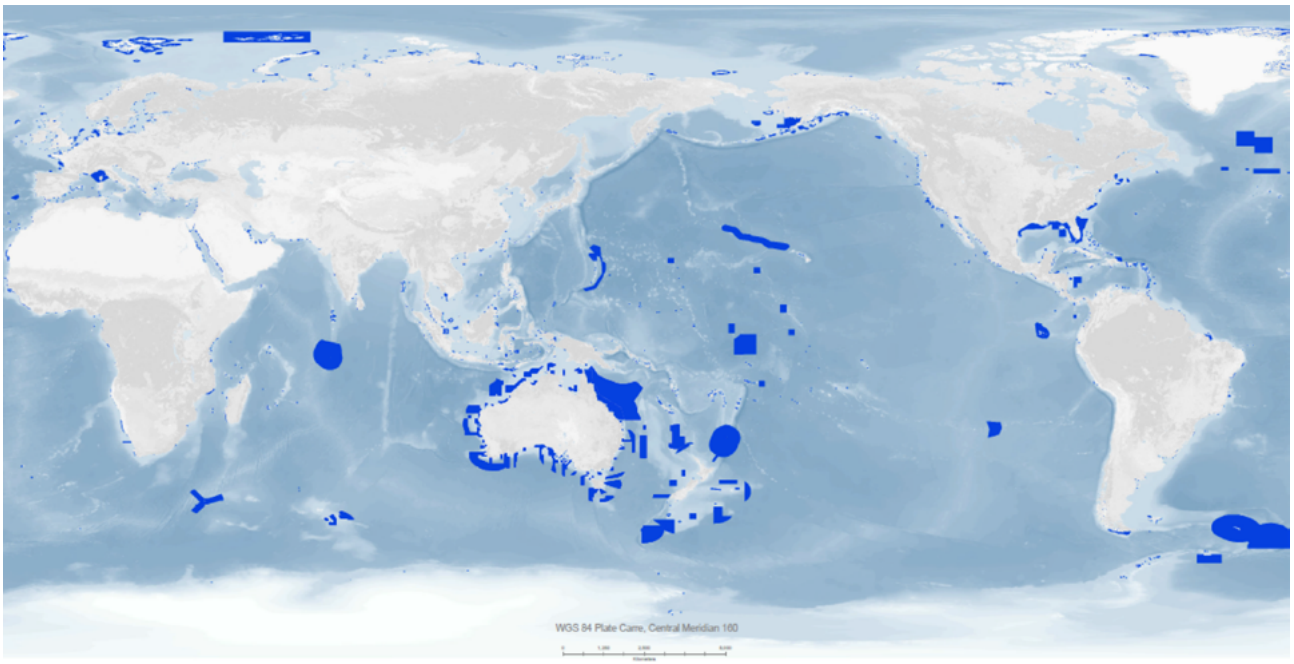

FIGURE 1

3:15 9:56

Map of marine protected areas in the world. Source: IUCN et UNEP-WCMC (2013); protectedplanetocean.org

MAIN CHARACTERISTICS

An MPA is above all a protected area, so the same management principles are applicable. It does, however, have some specific characteristics:

– An MPA is a fluid, open, three-dimensional environment;
– It incorporates multiple ecosystems: marine, terrestrial, and wetlands;
– Its wealth is less visible and is difficult to quantify (underwater, hidden, difficult to access);
– The applicability of the management framework principles is not always compelling; it is often difficult and even impossible (e.g., surveillance);
– Guidelines and handbooks have usually been developed for terrestrial protected areas;
– It is particularly difficult to control the entries and the activities, and to delimit the zones;
– The level of scientific knowledge is known to be less advanced in the field of marine ecosystems; this implies less studies, less funding, and therefore less knowledge.

WHY CREATE MPAs?

Over 70% of the planet is covered with water, which means marine and coastal biodiversity is remarkable, and we have an important genetic reservoir at hand. The first reason to create an MPA is hence the conservation of resources, ecosystems, habitats, and species.

MPAs are also a coastline management tool, given the great threats these areas are facing. The map below (Illus. 2) shows that 60% of the world's pollution is concentrated around coastlines, which increases threats in terms of urbanism, pollution, and waste. Illustration 3 shows the climatic risks the world is facing, which once again mainly affect coastal zones.

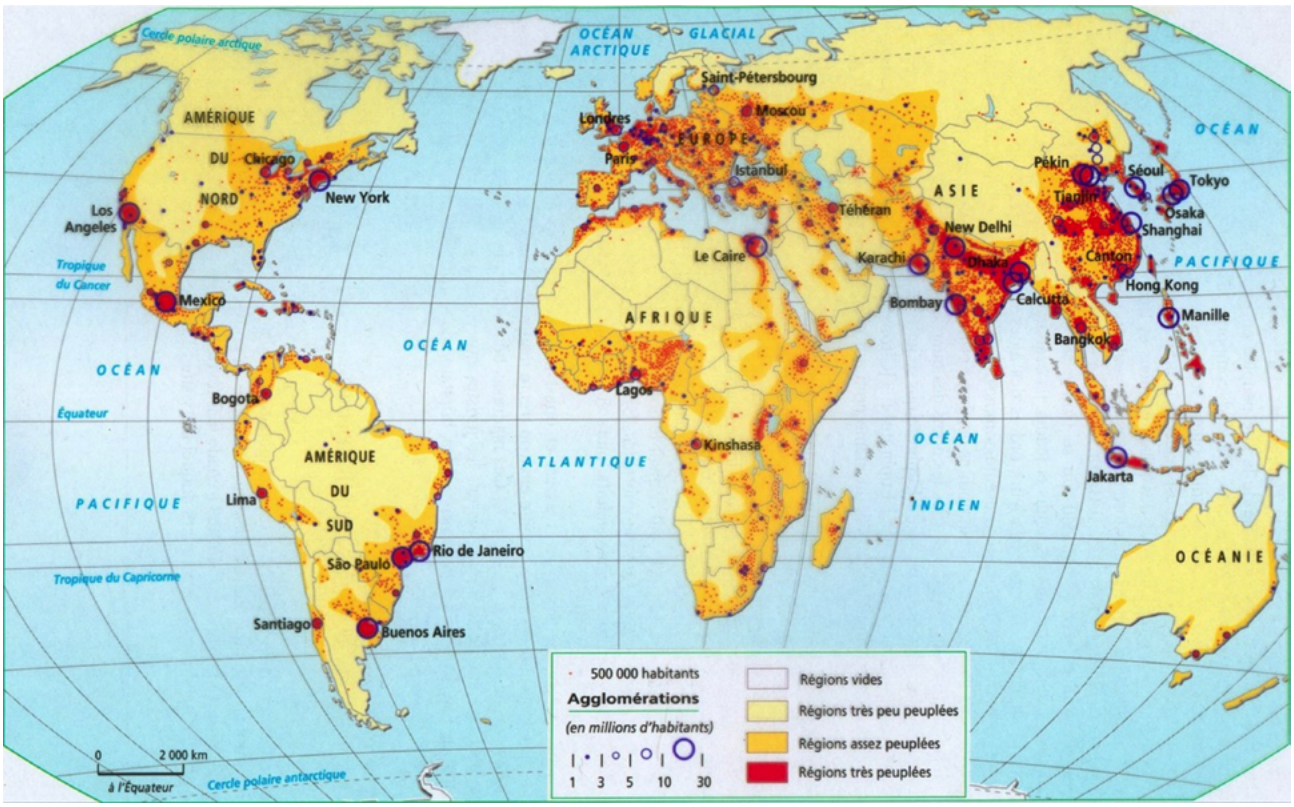

FIGURE 2

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Distribution of world population

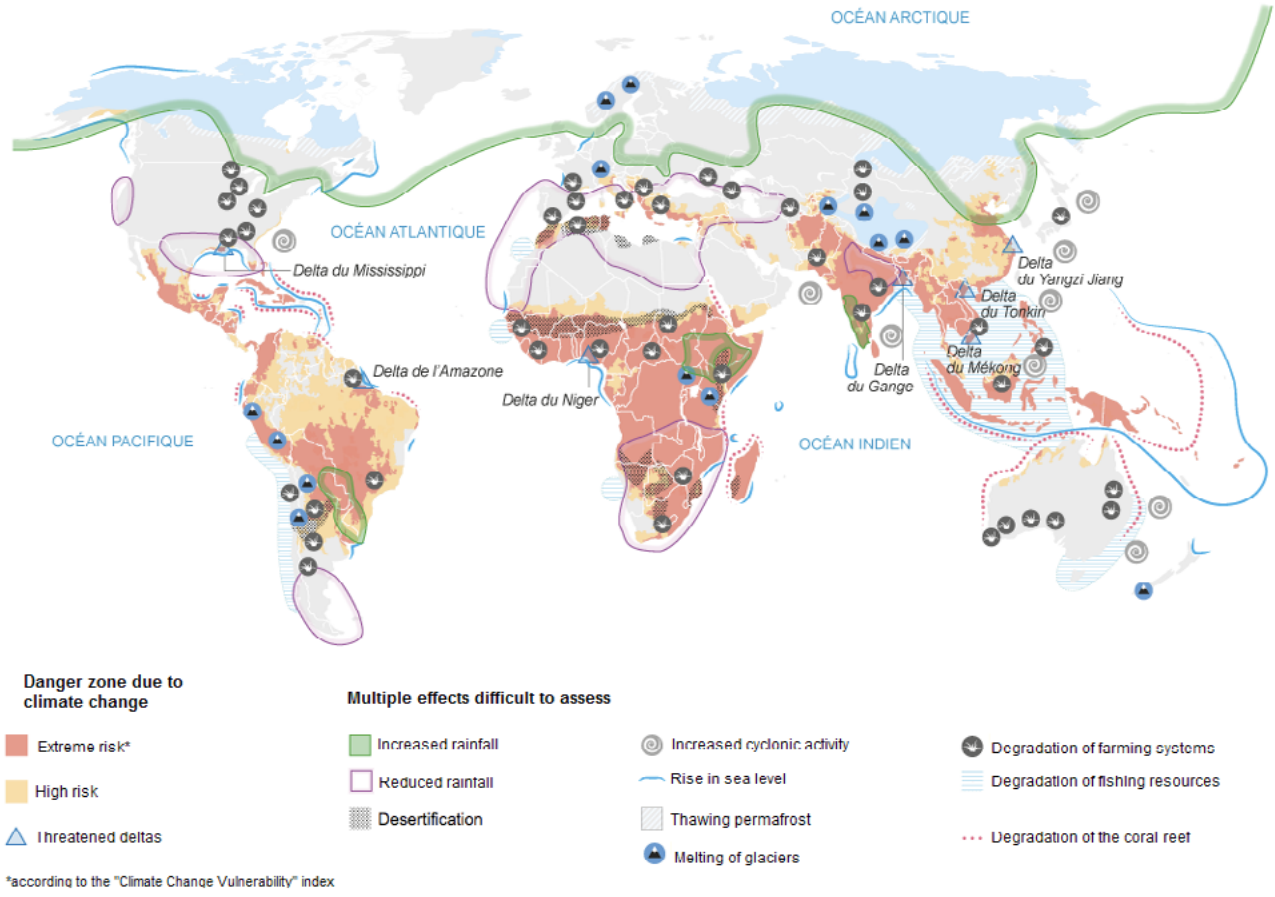

FIGURE 3

6:47 9:56

World map showing climatic risks. Sources: PNUE; V. Raisson, 2033, Atlas of the Futur Worlds, 2008; Maplecroft, Climate Change Vulnerability Index, 2013

MAIN CHALLENGES IN MPA CREATION AND MANAGEMENT

– Strengthening MPA management capacity: Training, raising awareness, and communication in the field are important. They are about better defining the values and effects of MPAs.
– Implementing coherent and representative MPA networks (e.g., RAMPAO in West Africa and MedPAN in the Mediterranean): These networks have a charter, governance, and they implement activities enhancing their capacities, subsidies, and sharing of knowledge. They also have a strong role in representing MPAs amongst politicians and international sponsors.
– Creating MPAs in the high seas: Targeting ecosystems that are currently very little protected.
– Funding: Finding the necessary means to implement management plans.

5.5 PLANT AND ANIMAL SPECIES

Each species has a specific role in the ecosystem, and its evolution within a protected area demonstrates management effectiveness. Some more important species determine the management activities in and around protected areas—they are also more likely to be targeted by harmful activities such as poaching.

Other species can be the cause of management constraints, which can take on different forms. Indeed, in some cases, species with different needs can be a problem for neighboring communities, elephants, for instance, who need space to move around, or predators looking for prey.

ENDANGERED SPECIES

Some species face specific threats and need specific protective measures. To identify them, the IUCN has developed the red list of endangered species. Generally speaking, we know where these species are found and how to handle the threats, etc. Five criteria are used to classify the species in different categories of threats, ranging from "Extinct" to "Least Concern".

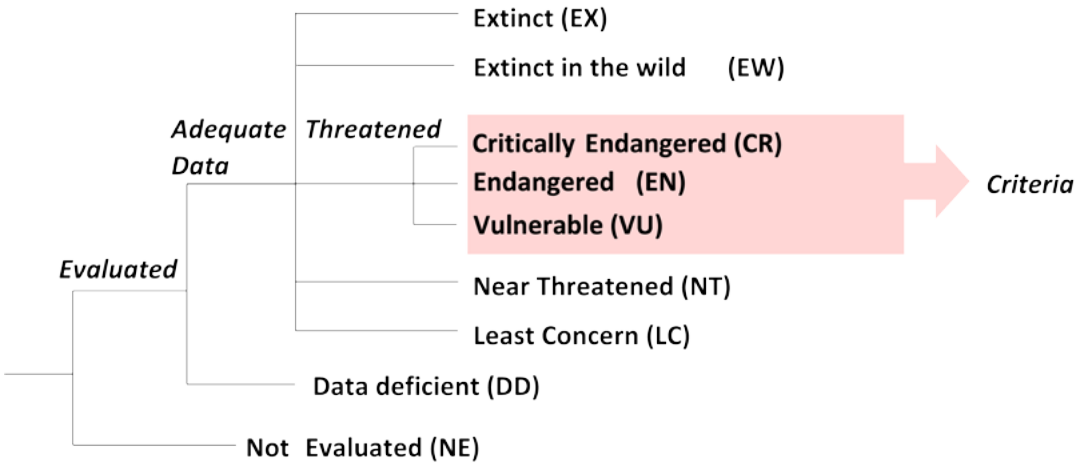

FIGURE 1

8:35 8:59

Red List Categories. Source : iucnredlist.org

DRAWING UP THE RED LIST

The red list is compiled by the IUCN and associated bodies. To complete it, scientific data collected over several years is capitalized on, but information is also obtained by organizing expert workshops in specific regions for given groups of species.

POSSIBLE USES FOR THE RED LIST

The red list has different possible uses. It enables the definition of action plans relating to specific species, it defines the state of biodiversity and the progress made (or not) and consequently adapts conservation effort, and identifies priority areas in terms of conservation. This tool is key for prioritizing conservation actions in protected areas.

5.6 TOURISM IN PROTECTED AREAS

THE IMPACTS OF TOURISM ON PAs
– Positive impacts: Tourism can generate funds for the protected area and for communities; it can inform visitors and populations and preserve the landscape.
– Negative impacts: In terms of pollution and deterioration, tourism can require important resources regarding water, food, and space.
– Cultural and social impacts: Tourism has major effects on population and communities.

DIFFERENT TRENDS IN TOURISM
Five different kinds of tourist activities can be identified:
– Luxury tourism: developed to generate income. Environmental impacts are mixed and the benefits are often exported.
– Medium to low-cost tourism: financially attractive for the protected area, generating high income from entry fees. Environmental impacts are sizeable.
– Ecological and/or responsible tourism: can create jobs for communities, environmental impacts are low, and direct and indirect benefits for the communities are generated. This kind of tourism can fluctuate somewhat and requires a strong technical partnership.
– Community-based tourism: creates direct employment, impacts on the environment are low, and direct and immediate benefits for the populations are generated. This type of tourism is often smaller-scale and requires the support of communities.
– Scientific tourism: little developed in protected areas, but can be very profitable. It requires substantial investment.

PA MANAGERS' ROLES IN TERMS OF TOURISM
– Incentive role: the manager has to encourage the development of sustainable eco-tourism, which is often complementary for local communities and populations.
– Preventive and supportive role of touristic development: anticipating and reducing the risks and impacts—impact assessments should be carried out to make sure the protected area is able to host the predicted number of tourists, a business plan should be drawn up to anticipate risks and manage conflicts between stakeholders.
– Financial role: capture part of the revenues from tourism for the protected area.

FINANCIAL FALLOUTS FOR THE PA
The financial fallout calendar can vary from country to country, as it depends on services offered. The protected area's financial autonomy is not to be expected for many years—if it ever reaches that point, in spite of substantial profit that can be generated earlier. Revenues generated by tourism are fourfold:
– Admission fees
– Fees on certain activities
– Fees on hospitality concessions, and on community side activities and sources of income
– Craftsmanship, local products, etc

KEY CONCEPTS RELATING TO TOURISM IN PA

Redistribution of profit derived from tourism: This needs to be studied on a case-by-case basis. It is important to assess the amount of possible profit generated by tourism, and to clarify, beforehand, the share that can be used to fund the protected area in the long run.

The manager's role in the park regarding tourism: The question can be asked whether or not the PA manager's role truly lies in the development of touristic activities, or if he should rather focus on supporting suitable touristic development for the PA and mitigate the impacts.

Tourism and business: It is strongly advised to rely on partnerships with industry professionals and to develop effective tools with them.

Good practice in terms of tourism should be developed at all levels: This should be done in relation with communities, in the choice of the site, in terms of planning, and when carrying out the works on the site and during the operational phase.

East African parks are amongst tourists' favourite African destinations. Here, the Masai Mara in Kenya

5.7 CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was adopted in Washington in 1973. Its goal is to regulate the international trade of wild fauna and flora species, in order to make sure this type of trade does not lead to overexploitation of the species.

WHY SHOULD THIS TYPE OF TRADE BE REGULATED?

This trade is a threat to species of fauna and flora. It is continuously increasing to serve growing demand, but natural resources are not unlimited, and sooner or later, the requested products will no longer be available.

This trade specifically targets some endangered species. If not regulated, species can reach the brink of extinction.

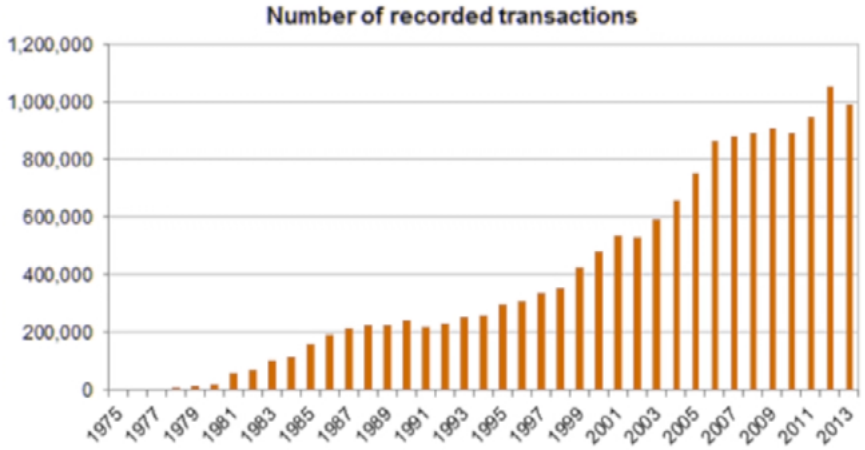

FIGURE 1

1:58 11:38

The evolution in the number of transactions between 1975 and 2003

HOW THE CITES WORK

In the CITES, species are classified in three Appendices according to their degree of protection and threat:

- Appendix I: species that are threatened with extinction and of which commercial trade is illegal (permitted only in exceptional licensed circumstances).
- Appendix II: trade is permitted but regulated by an export permit or re-export certificate granted to the exporting country under very strict conditions.
- Appendix III: species are listed at the request of a member country, in order to protect a species of which overexploitation is being suspected at a national level.

5.8 CONCLUSION AND ADDITIONAL READING

SUMMARY OF THIS WEEK'S KEY POINTS

Culture is an important element to consider in the conservation of protected areas. In most cases, it is a value that can support the protection of parks and reserves. Some protected areas consider culture a value to protect along with fauna and flora, and some parks have it as their cornerstone, as is the case of sacred territories, for example.

Training is another aspect in the development of protected areas. Managers of these territories and their partners need specific skills, and learning is a fundamental factor in supporting the changes occurring in protected areas, in terms of management and governance.

Generally speaking, marine protected areas meet the same requirements as protected areas. However, knowledge, methods, and specific equipment are needed, as they are natural environments with different issues at stake and balances to preserve. MPAs should also be considered tools for coastal management.

Species in protected areas are often good indicators of the challenges and threats faced by the territory. They are unfortunately sources of conflict with neighboring populations, and this requires the development of strategies to control the disturbances. A specific tool to help understand and protect these species is found in the red list, which formalizes their status and the urgency of their conservation.

Tourism in protected areas can be connected to these species in some territories where emblematic animals and flora are abundant. It can be a source of income for the community and the protected area itself. It can also be used as a vector for raising awareness among the public on the importance of protecting these zones. One on hand, the manager's role is to support touristic development in order to reduce the risks and negative impacts—if any, and on the other hand, there is an incentive to develop sustainable eco-tourism, which can generate direct profit for neighboring communities.

Finally, the CITES looks at the international trade of endangered fauna and flora to avoid their extinction. It prohibits or regulates the trade of these resources according to its three appendices.

ADDITIONAL READING MATERIAL

For this session, please go through the IUCN guidelines on tourism in protected areas (available in English only) or the NAPA n°35 (in French only), the IUCN guidelines on natural sacred sites (in English and French), a flyer on the Red List (in English and French) and the CITES convention (in English and French). Those who may want to go further can also read the IUCN guidelines on marine protected areas (in English only) and a report of the French GEF on tourism in marine protected areas (in French).

6.2 FINANCIAL PLANNING

FINANCIAL NEEDS OF A PA

When identifying the financial needs of a protected area, it is important to connect the management objective and the conservation needs. Then, study the opportunities for reducing costs and optimizing mechanisms currently in place, and take into account the protected area's financial management system. After this, extrapolate the needs over the coming years. The identification of protected area needs and possible sources of funding can reveal if there is a substantial financial gap.

PREREQUISITES IN IMPLEMENTING THE FINANCIAL SYSTEM

Before looking for funds, it is important to analyze the site's prerequisites: identify the role and the values of the site, become familiar with the general policies to ensure they fully recognize the PA roles and values, establish the technical capacities and skills, and whether financing options are profitable, and if there is a governance system that implements and promotes values of transparency, responsibility, and trust.

Then, identify the mechanisms that can be implemented in the most effective way possible, while taking into account current legal and administrative provisions regulating the country. This new mechanism of fundraising should be fair and legitimate, and should be supported by the parties involved and by the government. Finally, beware of the environmental impacts of the mechanisms on the PA goods and services.

DRAWING UP A BUSINESS PLAN

The business plan helps compare the different options and establish the financial viability of initiatives. When adapted to protected areas, it maximizes environmental results, with usually limited financial input. It also helps in comparing the different options in the long run, which gives a clear picture of the future, and to plan the inputs and the financial needs of the PA. The business plan should give a five or ten-year perspective, on one hand regarding the expected expenses, investment, staffing, activities, and the way the PA is run, and on the other hand, the expected income from revenues, self-financing, government budget support, sponsors, and projects. It is truly an internal management tool that provides long-term technical and financial vision.

The process for drawing up a business plan is as follows:
– Define the business plan processes;
– Analyze past financial executions;
– Determine medium and long term needs, investments, operating expenses, salaries, and staffing needs;
– Introduce existing sources of funding and extrapolate potential revenue;
– Analyze the funding gap and the different possible scenarios, and assess other sources of funding.

Note that pursuing financial sustainability is key for a protected area. It is a matter of identifying the financing needs in the long run, studying and assessing the country, site, and PA's prerequisites, and defining the financing options.

6.3 PROTECTED AREA ECONOMIC VALUES

Not only does a protected area have ecological values, it also counts many social, cultural, and economic goods and services for different groups and levels of the general population. Each of these levels gives value to the goods and services; economic valuation consists in identifying, quantifying, and assessing this value.

IDENTIFICATION OF PA GOODS AND SERVICES

The valuation of PA goods and services justifies the important investments needed to protect the site—it is about showing that protecting the site leads to a good state of values. This valuation does not necessarily result in cash flows to guarantee the site's sustainability and protection. It is a matter of taking measures to capture these values and generate revenue that will allow the site to be protected, as well as the sustainable development of communities.

WHAT IS THE VALUE OF THE GOODS AND SERVICES FOR THE GROUPS CONCERNED?

Categories of the good's economic value. Economic valuation consists of giving a quantitative estimation of the goods and services. The total economic valuation is broken down into a use-value and non use-value (see Illus. 1). Often, only the use-value is taken into account and can be monetized.

Different methods to ascribe value. Considering the difficulty of ascribing value to the environment, economists have given several methods for assessing the value of an environmental asset. The following steps should be followed to select the most relevant method:
– Identify the user and the client of the good in question;
– Frame and confirm the study perimeter, the time, the data, budget;
– Select the valuation method.

In terms of method, it is easier to refer to the economic values on the market. Whenever there is no market, estimate the value clients or users would ascribe to the good. In order to do this, the contingent valuation method can be used (directly asking the people concerned), or observe the behavior of people concerned. A way to carry out the latter is to use one of the following methods:
– The hedonic valuation method: compare the prices consumers are willing to pay for similar goods in different environments;
– The travel cost method: estimate the value people ascribe to a good by measuring how much they pay in terms of travelling;
– Assess protection and reparation of expenditures: assess the price of environmental degradation, by calculating the replacement or restoration cost of a good.

Note: none of these methods is truly satisfying in a theoretical perspective. In practice, different methods used at once can lead to different results—so it is important to choose wisely.

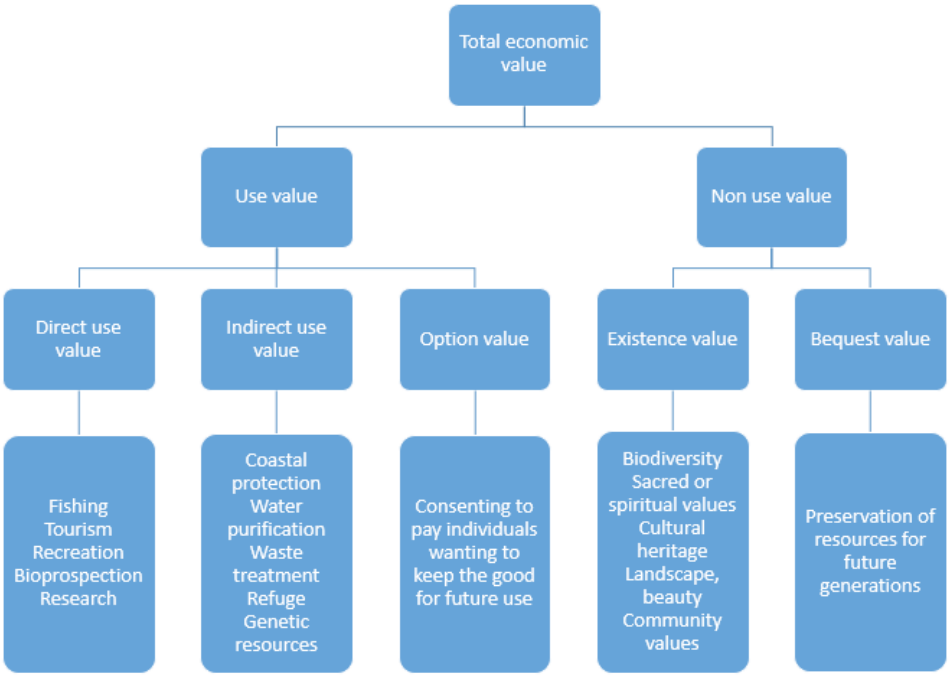

FIGURE 1

4:08 14:46

Value of the goods categories – after Barbier et al. (1997)

CAPTURING THE VALUE OF THE GOODS AND SERVICES

In order to guarantee the consistent generation of income to the protected area, identifying goods and ascribing them value is not enough—it is necessary to capture the value of the goods and services. In the table below (Illus. 2), examples of capturing are given:

Benefits	Market	Value capturing tools
Sustainable harvesting of PA products	Income from sales, price on the market for similar products	Tax on the use, access fee
Recreation	Tourist expenditures	Entry fees, concession, tax, guiding fees
Carbon capturing through mangrove	Carbon market	REDD+ project
Scientific	Share of income from research activity	Fees for scientific access to the site
Ecosystem services	Price of alternative service	Tax

FIGURE 2

10:22 14:46

Methods of capturing the value of goods and services values

IN AFRICA: WHAT TOOLS AND VALUATION METHODS SHOULD BE USED?

First, determine the degree of precision needed, as well as the geographical distribution of profit. From there, two methods can be identified:

– At the scale of the country or the region: here, the approach is very broad, as we tend to assess who the area's main beneficiaries are—the economic analysis is preliminary.
– At the scale of a PA: the approach is much more precise with studies carried out in the field, in order to define the diffusion and the geographical distribution of the relevant goods and services.

6.4 SOURCES OF FUNDING

DEFICIT
Protected areas and their management suffer from important budgetary deficit, particularly in developing countries: recent studies have shown a deficit nearing 1 to 1.7 billion dollars per year. To guarantee the effective management of these areas, current expenditure should be at least doubled, and increased by a factor of 6 to guarantee effective management of a broad network.

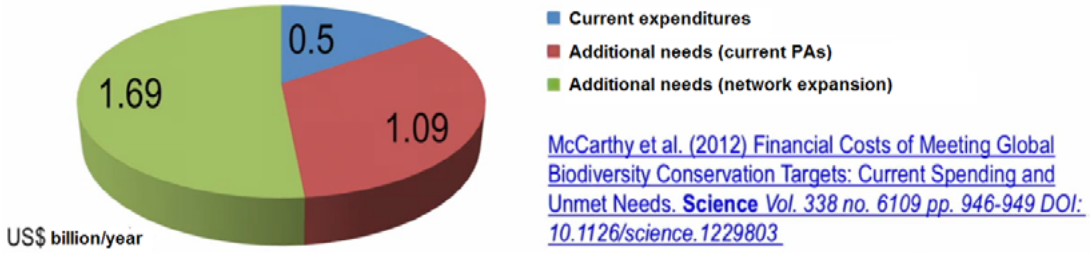

FIGURE 1

2:00 9:32

The financial gap of protected areas

DIFFERENT FUNDING OPTIONS
State and government budgetary contribution. On average, public funding accounts for around 60% of funding available for protected areas. This number is certainly lower in developing countries, but this means there are possibilities by calling on ministries.

Contribution of donors, often in the form of projects. There are different kinds of donors:
– Bilateral donors: foreign cooperations through the KfW or the French development agency;
– Multilateral cooperations such as the Global Environmental Fund (GEF);
– International NGOs: WWF, IUCN, Conservancy International…
– Private foundations.

Beyond these important projects, it is generally possible to ask for smaller subsidies, and several types of organizations have some available for protected areas.

Private resources or self-financing. Revenues from self-financing can go directly to the PA, or transit through the authorities at the Ministry of Finance. Among the options at hand are fishing and hunting licenses, commercial licenses, and fees for the use of resources, to name just a few.

Fines or compensations for degradation. Revenue can also be generated from degradation or illegal activities within the PA. Of course, they are to avoid, but when they occur, it is important to make sure the revenue generated by these degradations and fines go to the PA.

Payment for ecosystem services. Revenue can be generated by PA goods and services. For example, the PA can contribute to providing water, so the protection of a watershed contributing to the water resources of populations downstream can be monetized. To capture this payment, it is generally necessary to connect a well-defined ecosystem service consistently providing the same level in quality and quantity, with at least a buyer or a seller and a well-managed transaction. It can be either voluntary or legal, but should always be verified to ensure the service is provided as agreed.

6.5 FUNDING MECHANISMS

Protected area funding can transit through different channels, three in particular:

DONOR PROJECTS
In Africa, donor projects are often the main source of PA income. Project funding is not always deposited into PA accounts, which leads to parallel accounting systems often difficult to consolidate.

GOVERNMENT BUDGET SUPPORT
A protected area is a public good, and it is therefore the government's responsibility to guarantee its functioning. Government funding has more than one source: yearly public allocations issued by the government, fines and taxes, debt conversion mechanisms with foreign powers, payment for ecosystem services, but also exploitation agreements, donor and institutional budget support. Once all the compensations and allocations are granted to the government, revenue capturing should go directly to the PA.

NATIONAL CONSERVATION TRUST FUNDS

Conservation trust funds (CTF): they are private institutions, legally independent, making sustainable funding available for biodiversity conservation. Generally speaking, these funds cover part of a country's protected area network management costs in the long run, as well as conservation and sustainable development initiatives outside protected areas. The main objective of CTFs is to raise funds from different sources and to transfer these revenues or funds as donations to numerous programs and projects in the field.

Thereby, CTFs are above all a financial institution that mobilizes additional innovative funds for the benefit of conservation. It is a legally independently organization, run by a joint management board. Finally, it is a mechanism that can manage different accounts for different goals. Today there are around 80 CTFs in the world, a growing number thanks to the increasing interest of donors and protected areas themselves. It is estimated that the funds raised have reached over 800 million dollars. In Africa, there are around 20 CTFs, with an average funding ratio of 10 million dollars—this number is increasing as CTFs are gaining interest from donors and partners, who are ready to invest in this tool.

As its name suggests, a CTF is a financial institution, and should therefore have attractive financial returns—over the last few years, these financial returns have been comparable to reference indices: more than 9% in 2013. An increasing number of donors consider CTFs to be promising tools. It has also been shown that these institutions are able to generate significant income in the long run, and thereby to contribute to the financial sustainability of protected areas.

6.6 COMPENSATION & OFFSET AND FINANCIAL INVESTMENTS

WHAT IS MITIGATION?
Mitigation is the last step of the process aiming at confronting residual impacts from projects: prevent, reduce, mitigate. Companies should finance mitigation and ensure the results are sustainable.

HOW IS MITIGATION REFLECTED?
– Through management improvement: Restoring or rehabilitating an area, reintroducing a species, etc.
– Through the curbing or stopping of current losses: Priority areas can benefit from a form of protection, they can be connected or consolidated, and threats to conservation can be reduced or eliminated, etc.
– Through payment: Transferred to private property owners or to communities for the management of lands, for the conservation of biodiversity.

WHAT CONTRIBUTION TO PAs?
Mitigation mechanisms have been used as a conservation tool since the 1970s. Several countries are currently exploring "no-net-loss" policies. When considering the regulated and the voluntary market, the funds generated yearly have gone from 1.8–2.9 billion to 2.4–4 billion dollars between 2009 and 2010. It is estimated that the funds made available for these mechanisms could generate up to 5 or 10 billion dollars yearly by 2020.

The increasing use of mitigation mechanisms is motivated by four main reasons:
– Funding institutions' requirements
– National mitigation laws
– Company voluntary actions (for public image, market positioning, etc.)
– Increasing pressure from NGOs and civil society organizations

Consequently, there is a potential increase in the number of funds coming from the private sector to finance conservation and protected areas.

INNOVATIVE APPROACH: PRIVATE SOURCES OF FUNDING
Investment in the conservation of the world's important ecosystems could reach between 200 and 300 billion dollars a year. The main constraint would be the lack of "investable" projects, meaning ones with a clear risk/return pattern and where the benefits of conservation can be clarified, assessed, and quantified. The interest of investors in this type impacts on investing in conservation and in the increase in protected areas.

6.7 CONVENTION ON THE CONSERVATION OF MIGRATORY SPECIES (CMS)

The Convention on the Conservation of Migratory Species of wild animals, or CMS, is an international treaty aimed at ensuring terrestrial, water, and flying migratory species are conserved throughout their area of distribution. The convention has 121 contracting parties.

IMPORTANCE OF MIGRATORY SPECIES

Wildlife is an irreplaceable part of natural ecosystems on earth and should be conserved for the good of humanity. Migratory species are the basis of activities generating billions of dollars. For their livelihood, many rural communities depend on the predictable seasonal flow of wild fauna. Migratory species also contribute to local ecosystems' operations by moving from one place to another (pollination and grain dispersion). They also regulate the populations of non-migratory species as predators and sources of essential food.

THREATS TO MIGRATORY SPECIES

Due to their nomadic nature, migratory species are particularly vulnerable to human-induced factors. They depend on many different habitats and migratory corridors. Non-sustainable fishing and hunting, invasive plant species, industrial pollution, obstacles to migration, etc., are all seen as significant threats. Moreover, climate change disrupts reproduction, increases the transmission of disease, reduces the resilience of ecosystems, and alters migratory schemes, thereby having a negative cumulative impact on long distance migratory species.

WHY IS CMS NEEDED?

CMS is the only multilateral agreement for the environment that covers all migratory species. It is a unique and necessary approach to take on the challenges of the conservation of species living in more than one place.

HOW DOES THE CMS WORK?

The CMS has three different internationally legally binding tools, as well as agreements between governments on the distribution area of species and groups of migratory species. One of the legal tools used is the classification of species on lists of one or more appendices, where the first gathers endangered migratory species in all or a significant part of the distribution area. No collection is authorized, except for scientific reasons, reproduction, or in the context of traditional use or livelihood, or under exceptional circumstances.

6.8 CONCLUSION AND ADDITIONAL READING

SUMMARY OF THIS WEEK'S KEY POINTS

Protected area management requires good financial planning: it is a matter of identifying and appreciating a PA's financial needs in the medium term, and the predictable resources and prerequisites of the country and the protected area for the implementation of certain mechanisms and conditions that can determine the choice of one tool or the other. It is about strengthening the business plan. The functionalities produced by the PA are important for the contracting parties: the community, the government, and even the whole of humanity.

Economic valuation consists of highlighting and giving a quantitative estimation of the goods and services obtained by a PA. These studies allow for the justification of investments in protected areas, and to compare the costs and benefits of conservation. To reduce substantial PA financial deficit, different options and sources of funding are available, namely government subsidies, donor contributions, and different internal revenues or self-financing means of the PA. Among the financing mechanisms, donor projects, government budget support, and Conservation Trust Funds are especially relevant.

ADDITIONAL READING MATERIAL

For this session, please go through the IUCN guidelines on Sustainable Financing of Protected Areas (available in English only), WWF guidelines on conservation finance (available in English only), on raising revenues for protected areas (available in English only), and a document on simplified business plans (available in French only). Those who may want to go further can also read the IUCN guidelines on economic values of protected areas (in English only), a document on ecosystems and biodiversity economy, and a review of conservation trust funds (available in English and French). Finally, the website you can go through for this session is www.cms.int.

7.2 PROTECTED AREAS AND CLIMATE CHANGE

Climate change: changes in relation to expected and usual climatic conditions in a given region.

CHALLENGES FOR PAs

Climate change turns PAs into a tool of adaptation to climate alterations. In this regard, their purpose is threefold:

– Help species adapt to climate change and to sudden climatic events by providing refuges and migration corridors;
– Protect populations against sudden climatic events and reduce the vulnerability to food, drought, and other climate-related catastrophes;
– Directly help economies adapt to climate change by reducing the costs related to damaging climatic events.

Social issue: Protected areas could provide services specific to an ecosystem and enhance the capacities of local populations to adapt to climate change.

Ecological issue: The world's 200,000 protected areas consist of land surfaces covering over 15% of the world's surface, and they are among the most effective tools to protect species from extinction and the impacts of human-induced threats.

ADAPTATION AND MITIGATION ROLE OF PAs

Protected areas contribute to mitigation and adaptation to climate change. If they are well preserved, protected areas are important carbon sinks. They can also as buffer zones in the face of catastrophe, be they caused by natural or human activity. They also provide key ecosystem services: food, pure air, and fresh water.

7.3 CONNECTIVITY AND BUFFER ZONE

Connectivity: species' ability to move between different point of the ecosystem; or the number of connections existing between constitutive elements within this ecosystem. It can also designate the nature of these connections, or the environment's ability to conserve ecological processes taking place there.

Connectivity suffers from discontinuities produced by human-made territories where protected areas are separated and create the need to implement functional migratory corridors. If some naturally mobile species free themselves rather easily from the physical links between themselves and their usual habitats, other species will stay bound to them by these links.

The creation of corridors is based on the affirmation that the protected area species will indeed move around, but also use the corridor. Three types of corridors can be identified:
– Landscape corridor: thin strips of habitats having multiple uses (farming, hunting, gathering) that can be crossed by animals;
– Linear corridor: a territory kept in a natural state to connect two protected areas;
– "Stepping stone" corridors: territories that are close enough to allow certain species to move from one PA to the other.

BUFFER ZONE

The most common model for zoning protected areas is promoted by UNESCO. It has a central core, a buffer zone, and a peripheral zone. The central core is generally made of ancient classified forests turned into National Parks or Wildlife Reserves and is surrounded by a buffer zone, yet to be defined.

Generally, the buffer zone helps to better secure natural resources, to improve the relationship with neighboring populations of the PA, and gives the possibility of better meeting the needs of some species in the park that could, from time to time, leave the strict limits of the central core. Its size should be ecologically sensible, but should also take into account the outskirts in order not to encroach on other territories too much.

7.4 ECOLOGICAL RESTORATION OF PROTECTED AREAS

Ecological restoration is the process designed to facilitate the restoration of an ecosystem that was degraded, damaged, or destroyed. It is a matter of intentional activity that initiates or accelerates the recovery of a previous ecosystem, with respect to its specific composition, community structure, ecological functioning, the physical environment's ability to support its living organisms, and its connectivity with the landscape.

REASONS AND OBJECTIVES BEHIND ECOLOGICAL RESTORATION

Restoration in and around a PA contributes to many societal goals and objectives related to the conservation of biodiversity and to human well-being. The motivation behind restoration projects varies and includes, for example, recovery of specific species, strengthening of an ecological function, or connectivity at the scale of a land or seascape, etc. Climate change and other rapid global changes constitute new challenges for restoration and highlight the need for adaptive management.

PRINCIPLES AND GUIDELINES OF THE ECOLOGICAL RESTORATION OF A PA

The World Commission of Protected Areas identifies three fundamental principles for the ecological restoration of protected areas. They ought to be:

– Effective: they should recover or preserve the PA values;
– Efficient: they should maximize the positive results while minimizing costs in time, resources, and effort;
– Committed: they should be established in collaboration with the partners and the contracting parties, promote their participation, and improve visitor experience.

THE ECOLOGICAL RESTORATION PROCESS FOR PAs

The WCPA recommends a 7-phase project to carry out the ecological restoration of PAs. The phases aren't strictly sequential, and certain characteristics such as using adaptive management should be present throughout the project.

7.5 GENDER AND EQUITY

Equity: fair access of men and women to the development of their abilities, regardless of their sex, gender, social class, religion, and age.

In the PA management process, dialogue usually only takes into account men's perspective, and thereby excludes other groups: women, young people, the elderly, and other minorities. Yet, sustainable development requires the recognition and taking into account all the forces of a nation to meet targets. It is therefore crucial to include the principle of equity to any development project and at every single phase.

EQUITY PRINCIPLES AND BENEFITS

Equity's first aim is to restore justice, meaning to eliminate all kinds of barriers keeping individuals from benefiting from what is rightly theirs. So, all the barriers keeping people from enjoying their economic, social, and political rights need to be taken down.

In West Africa, a "gender equity" perspective values people's knowledge, distributes benefits, and showcases many of these people by allowing them to speak out—these groups are usually given no voice. In spite of much effort, many barriers still block progress in this field. The key is to inform populations, explaining that change isn't necessarily bad.

Taking into account the principle of equity in PA management is crucial: it allows the manager to promote dialogue with all social groups, to integrate equity in the elaboration and preparation of a business plan, to have all groups participating in the PA activities and actions, and, finally, it is matter of guaranteeing fair access to development, to activities, and to the benefits a protected area can give.

7.6 CORRUPTION AND TRAFFIC OF NATURAL RESOURCES

THE WEIGHT OF CORRUPTION IN PAs

Corruption of actors involved in PAs is inevitable, and it takes place at different hierarchical levels—policemen, prefects, and eco-guards can all be approached by poachers (or the other way around) for profit. Corruption can also take on different forms: an agent could be turning a blind eye to trafficking taking place in front of him, while another could be organizing the traffic.

MAIN CHALLENGES CAUSED BY WILDLIFE TRAFFICKING IN AFRICA

Two main factors impede the fight against this type of trafficking: the absence of true political willpower, and corruption. In countries such as Botswana and Namibia, where there is true political willpower and where corruption is barely present, there are much less reported cases of trafficking. Another challenge relies on current teams present in affected areas: they are often ineffective and lack integrity and competence.

SOLUTION FOR THE FIGHT AGAINST WILDLIFE TRAFFICKING

The first solution would be to work with anti-trafficking specialists rather than with biologists and eco-guards, for example. Individuals with experience in the fight against drug trafficking are much more effective, as they are used to the judicial system, they are trained in law, and in leading criminal investigations.

Rosewood, pangolins, rhinos and elephants are just some of the species threatened by corruption-sustained trafficking

7.7 RAMSAR CONVENTION ON WETLANDS

Wetlands are a collective good to protect, as they are home to 80% of biodiversity and play a crucial role in the regeneration of water resources and in the preservation of biodiversity. The Ramsar Convention on Wetlands was adopted in 1971 in Iran and has 169 contracting parties.

The Ramsar wetlands include:
– Natural wetlands
– Artificially-created wetlands
– Inland wetlands
– Coastal and marine wetlands

CONVENTION BODIES
The bodies of the convention are presented in the illustration 1. Every three years, representatives of the contracting parties gather to adopt the resolutions that will manage how the Convention works and improve the means enabling parties to implement their objectives (Illus. 1).

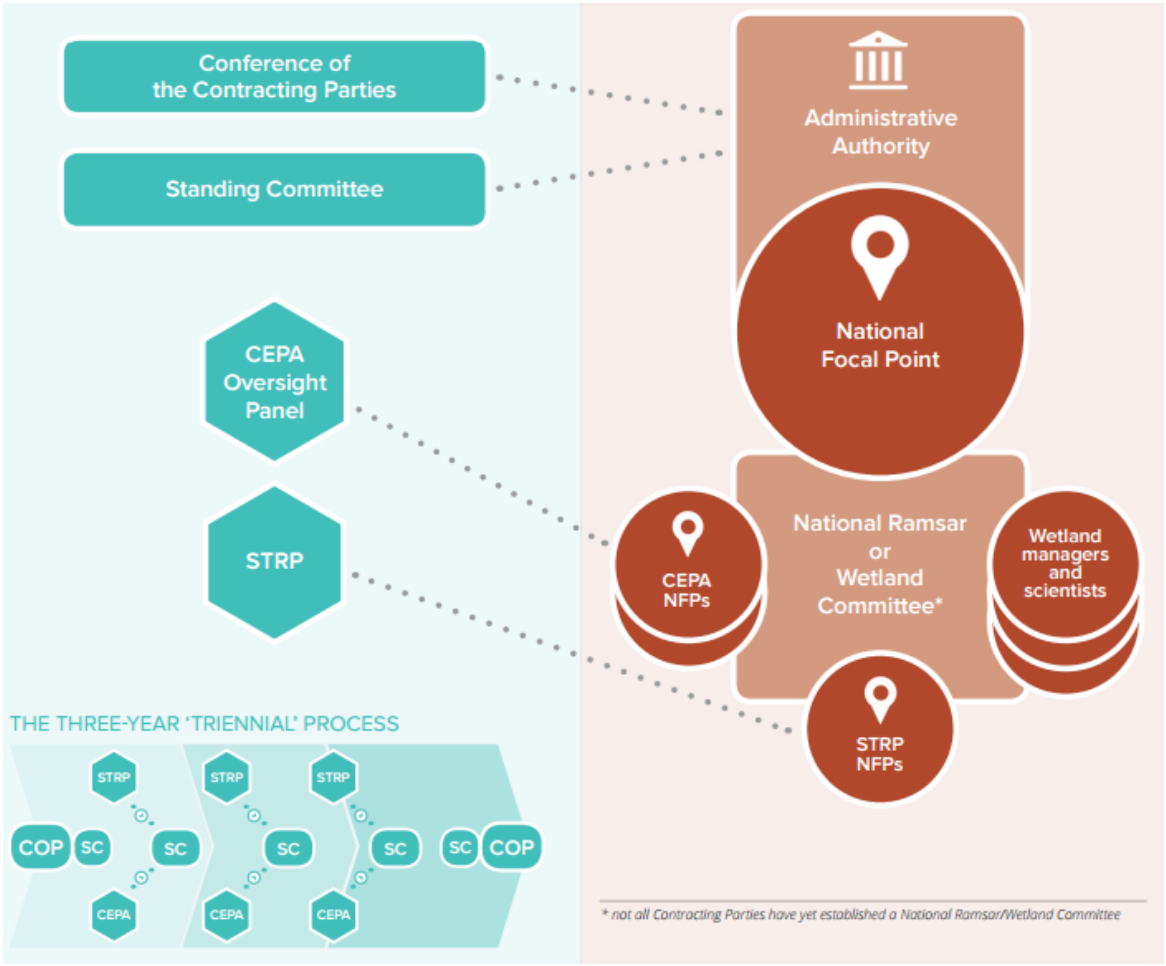

FIGURE 1

2:19 9:42

Diagram of the Ramsar Convention bodies.

MISSIONS AND FOUNDATION OF THE CONVENTION

The Convention's mission is: "The conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world."

In accordance with the convention's first "three pillars", the Contracting Parties commit to:

– Work towards the wise use of all their wetlands;
– Designate suitable wetlands for the list of Wetlands of International Importance (the Ramsar List) and ensure their effective management;
– Cooperate internationally on transboundary wetlands, shared wetland systems, and shared species.

Djoudj National Bird Sanctuary, one of the 2,200 Ramsar sites (2016)

7.8 ADDITIONAL READING

For this session, please go through the IUCN guidelines on ecological restoration (available in English and French), the NAPA n°69 on ecological restoration (available in English and French), the document "Gender and Equity in Protected Areas of Western Africa" (in French only), the document "Natural Solutions" on climate change (in English and French), and the chapter of "Protected Area Governance and Management" on connectivity (in English only). Those who may want to go further can also read the Ramsar convention (in English and French). Finally, the website you can go through for this session is www.ramsar.org.

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