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ISSRM 2008
14th International Symposium on Society and Resource Management
People and Place: Linking Culture and Nature

International environmental policy making process to develop management principles:

The Ecosystem Approach of the Convention on Biological Diversity

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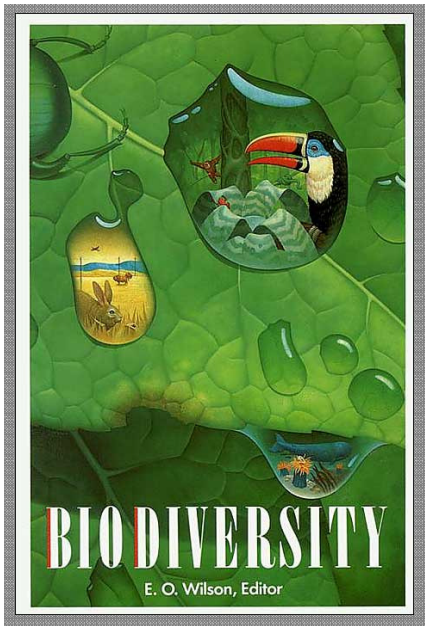
10th June 2008



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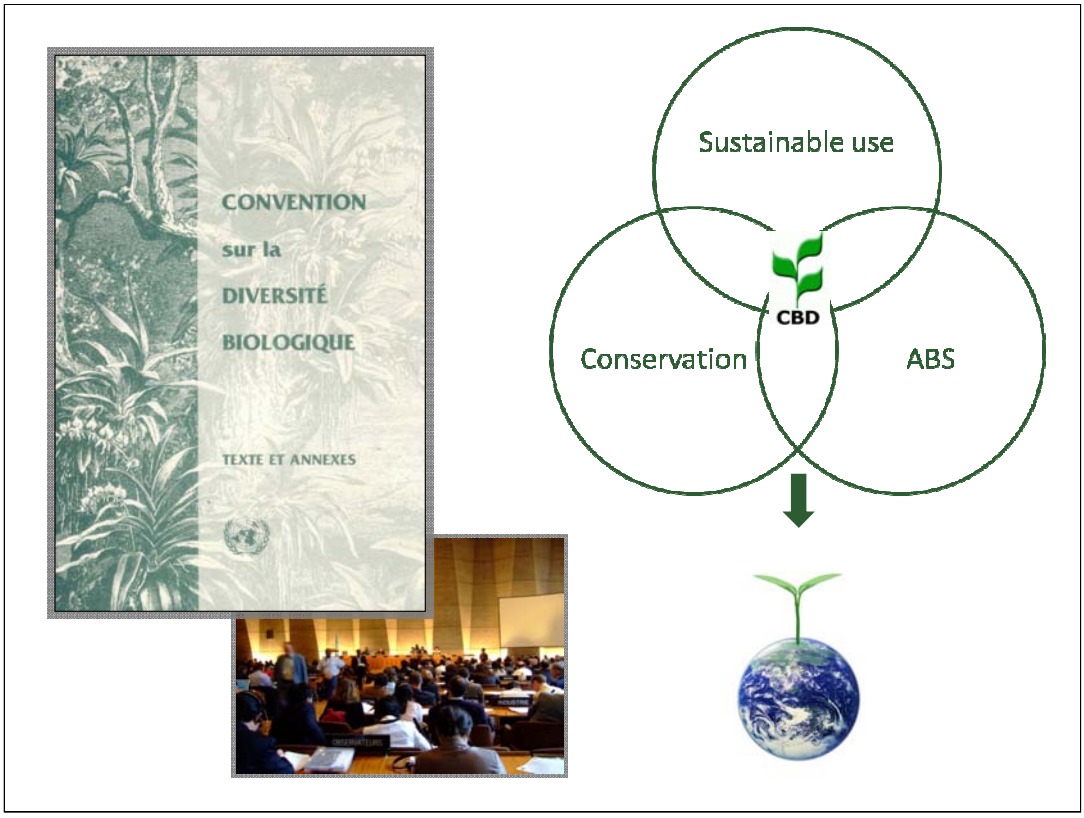
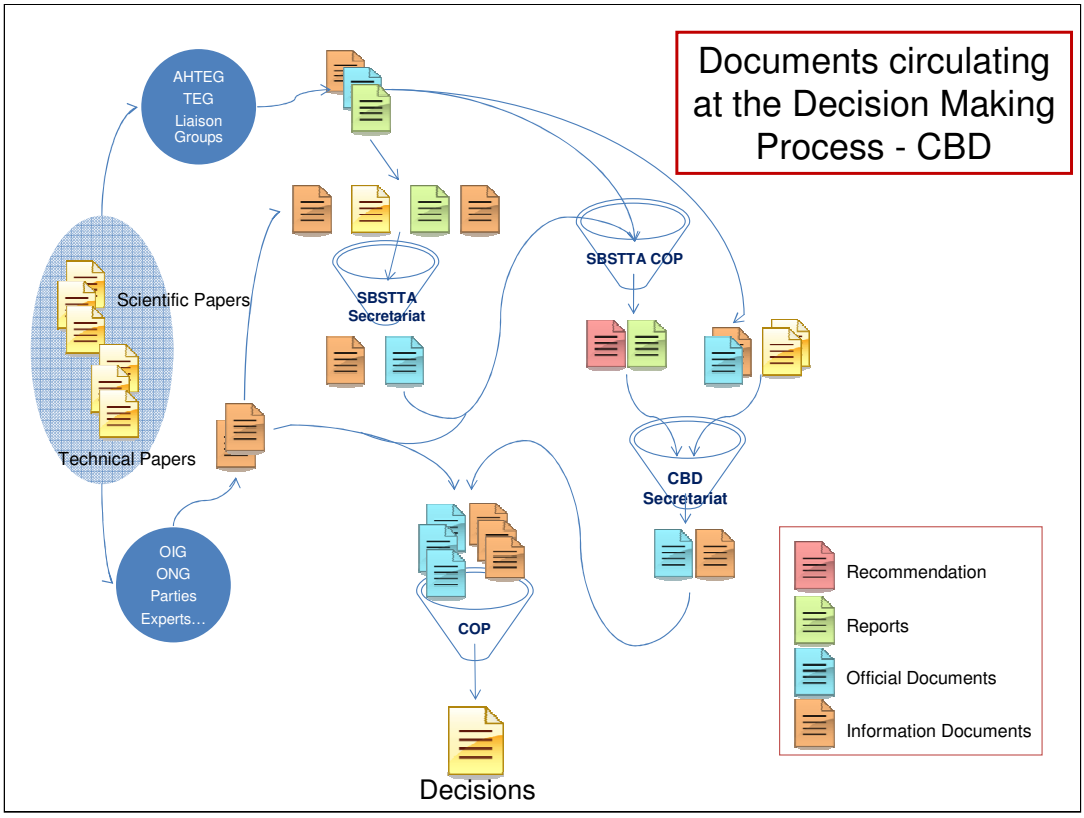
In the late 80's, scientist and activists gave the alert of a "biodiversity crisis" going on. The urgency of this discourse, along with the raising and complementary discourse of sustainable development, pushed made scientist, international policy-makers, state representatives and activists to work together to build a new global regime to tackle this crisis. The result of their collective work is the Convention on Biological Diversity. Today this convention stands as the most important legal instrument to deal with biodiversity issues.



The CBD introduced a surprising combination in its objectives (conservation, sustainable use and faire and equitable sharing of benefits). Before the CBD, international agreements rarely link conservation and use of nature. But reaching a balance between the 3 objectives at the field level is not easy. To do so, the CBD proposes a particular strategy: The Ecosystem approach.

Many strategies are being proposed in science and politics, and is interesting to understand why a particular one, the EsA was chosen for the CBD.



We studied the process leading to the establishment of the EsA as the principal framework for action under the CBD. To follow this process we used content analysis and bibliometrics to analyze the documents used to propose, informs and support the decision making process. The policy making process at the CBD is extremely complex and all the negotiations are based on documents furnished by the secretariat (CBD and SBSTTA) which acts as filters of the information writing documents for parties. As well, experts, ONG, OIG and groups of experts organized directly by CBD produced documents to inform the process. As documents are the basis of and the final product of the negotiation that have to finish by an agreement among 191 countries, they contain the trace of the political struggle among countries and experts. We consider the documents as a technology of government able to assure the government trough distance. Documents contain the capability to act over “things” (Charvolin, 2003; Foucault 1971). We completed by analyzing the documents reporting the political discussions among countries and by personally assisting the last two negotiation conferences as well.

CBD endorses the EsA

- EsA as a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.
- EsA is based on the application of *appropriate scientific methodologies* focused on level of biological organization, which encompasses the essential *structure, processes, functions* and *interactions* among organisms and their environment.
- Consistent with the definition of ecosystem as not specifying a particular spatial unit or scale.

Since the CBD entry into force, the question of how to manage BD arose. In 95 the conference of the parties retained the Ecosystem approach was retained as the primary framework for action under the Convention, and subsequently has referred to the ecosystem approach in the elaboration and implementation of the various thematic and cross-cutting issues work programs under the Convention. Today, its diffusion among the IGOs, NGOs and funding agencies for sustainable development and/or conservation of biodiversity (World Bank, WWF, IUCN) leaves it as a fundamental principle for biodiversity management.

EsA: a paradigm shift

- Moves away from traditional resource management (pragmatic, nature as a collection of resources that deliver economic goods) towards a new paradigm of ecosystem protection and integrated land use planning.
  - Humans are seen as stewards using practices in synergy with ecosystem function and processes
  - Acknowledges the dynamics and complexity of ecosystems.
  - Nature cannot be controlled by humans.
  - EsA combines conservation of the structure and functioning of ecosystems with efforts to meet social needs and the sustainable uses of ecosystem for human purposes.
  - It needs flexible institutions capable of evolving.

- A policy innovation with great potential to impact on natural resource management

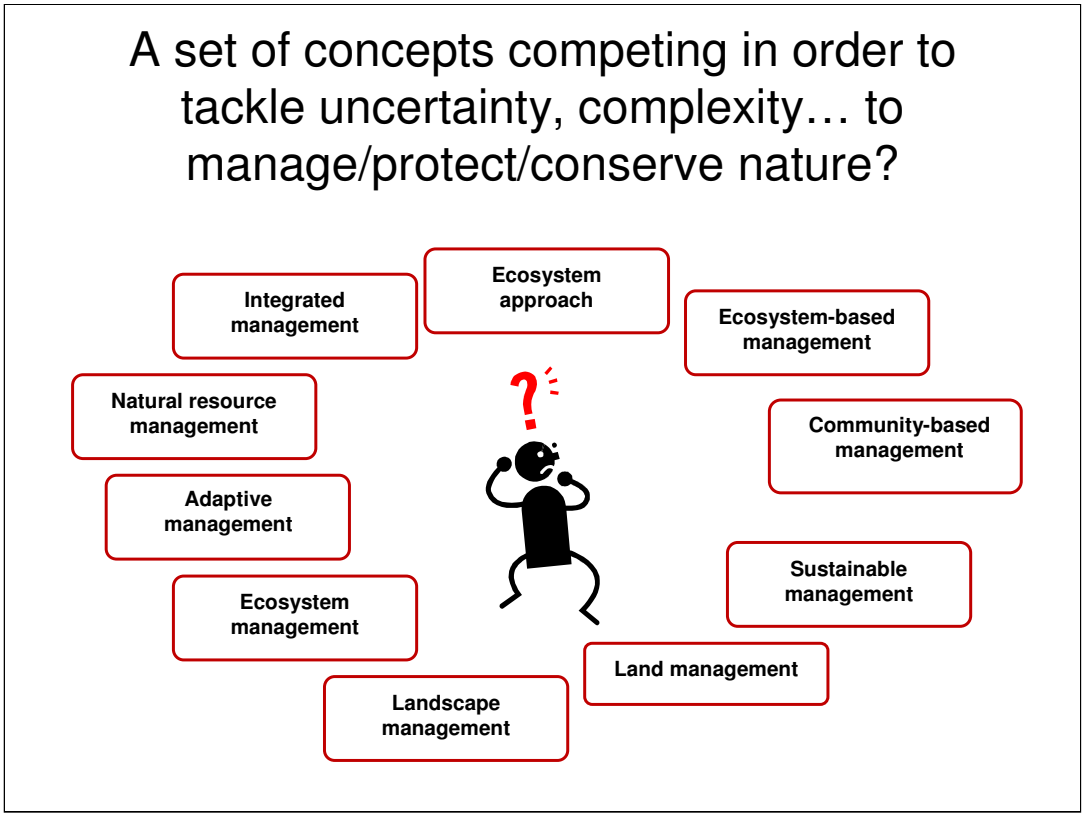
In deed, the EsA represents a paradigm shift in natural resource management, moving away from traditional RM which takes nature as a collection of resources that delivers economic goods, toward a new paradigm were nature is seen as dynamic and complex. The EsA acknowledge these complexity, accepting that nature can not be controlled by humans. EsA uses the ecosystem as defined by the CBD as its biological unit. This choice of taking into account structure and function leads to define the scale of action in terms of functional units defined by the problem to be tackled.

EsA also replaces humans and its practice and choices at the center of the decision making process. By stating that management objectives are a matter of societal choices, the EsA pleas for democracy and participation. The EsA thus stands as a policy innovation with great potential to impact natural resource management.

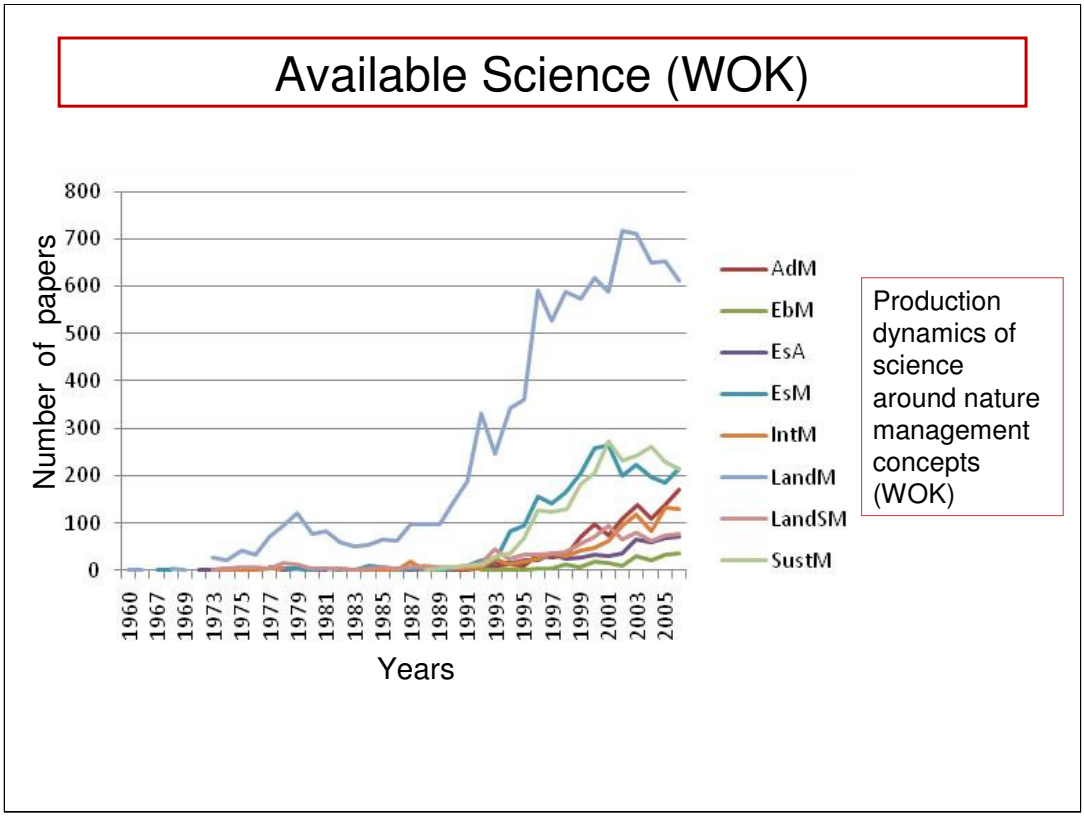
How such a change became possible?

- **Historical background of the EsA**
  - Available science
  - USA (and Canada) developed ecosystem management principles
  - Role of IUCN Commission on Ecosystem Management to introduce Ecosystem management principles into the CBD
- **Entry into CBD**
  - Competing concepts inside the CBD
  - Epistemic communities
  - Knowledge availability and circulation inside the CBD

How such a shift became possible? To answer this question, we analyze the genealogy of the ecosystem approach out and inside the CBD in science and in policy.



Over these last 50 years, scientist and managers have produced an important amount of knowledge about how to manage nature.

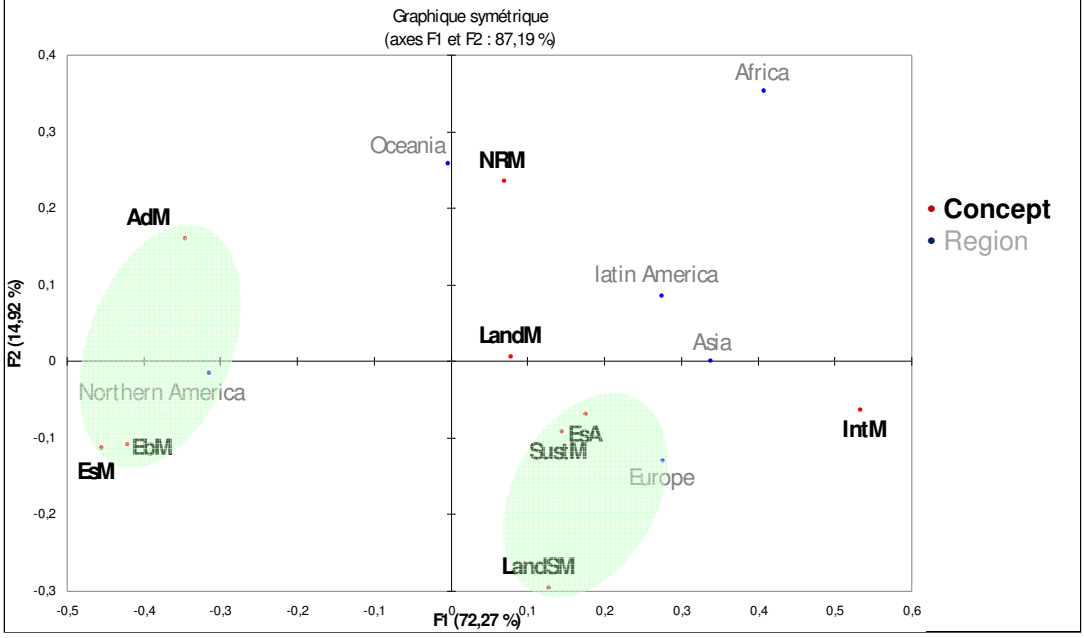


This graph shows the evolution of the production of scientific papers measured by the number of times a concept is cited (title, keyword, abstract).

As you can see, most of the production is concentrated in SustM and EsM, followed in importance by

As you can see, EsA is not the leading concept in scientific arenas. Why then it became the leading concept at the international level, knowing that today policy making process must be science –based?

Geographical anchoring of concept's production



As each concept has been developed by scientists working for institutions based in particular parts of the world, we were interested to look for the geographical anchorage of EsM and EsA as they exists in sciences. EsM, AdM and EbM are mostly developed by North American institutions and scientists and EsA, LandSM and SustM mostly by European institutions and scientist.

Frontrunner countries and organizations

- By 1980's leading resources management professionals and the scientific community began to favored an integrated management.
- From 1993-1995, the Inter Agency Task Force for Ecosystem Management works to develop principles for managing american nature and in 1995 published "*THE ECOSYSTEM APPROACH:* Healthy Ecosystems *and* Sustainable Economies"

By 1980's leading resources management professionals and the scientific community began to favored an integrated management with a preference for landscape-scale, decentralize management and public participation.

The vice-president Al Gore organized an Inter Agency Task Force for Ecosystem Management (1993-1995) to prepare USA's position for signature of the CBD.

Its work produces a conceptual package built by a synthesis work among North-American agencies, NGOs and universities regarding natural resources conservation and management in rural areas. They published "***THE ECOSYSTEM APPROACH:* Healthy Ecosystems *and* Sustainable Economies"** This synthesis work was scientifically validated by the Ecological Society of America and many scientific journals.

The IUCN "Commission on ecosystem management" was already working at the international level to develop ecosystem management as taken from the American context.

Entry into the CBD

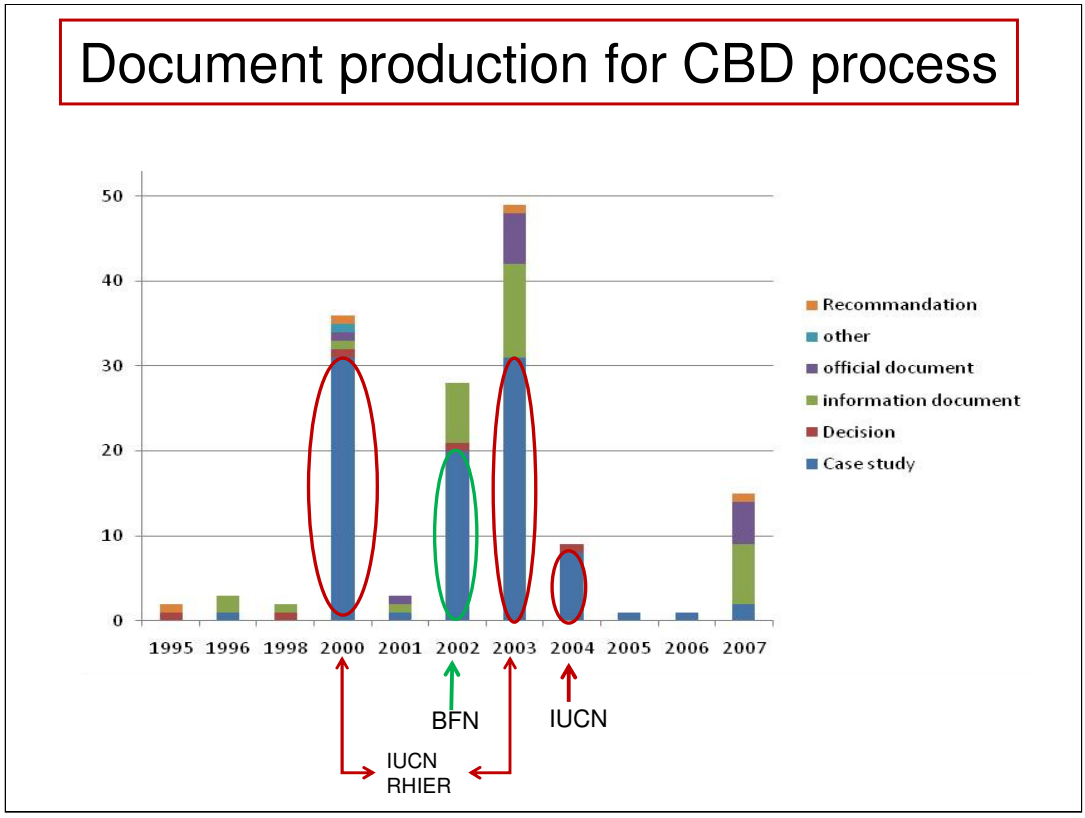
- Political process
  - Competing concepts
  - Key institutions
  - Key countries
- Intellectual basis
- Evolution of principles

Inside the CBD, the process began in 1995 when COP II established that EsA would be the primary framework for action, many reunions, scientific conferences, expert meetings follow, and in 2000 the COP V endorsed the description, 12 principles, the rational and the operational guidance for EsA.

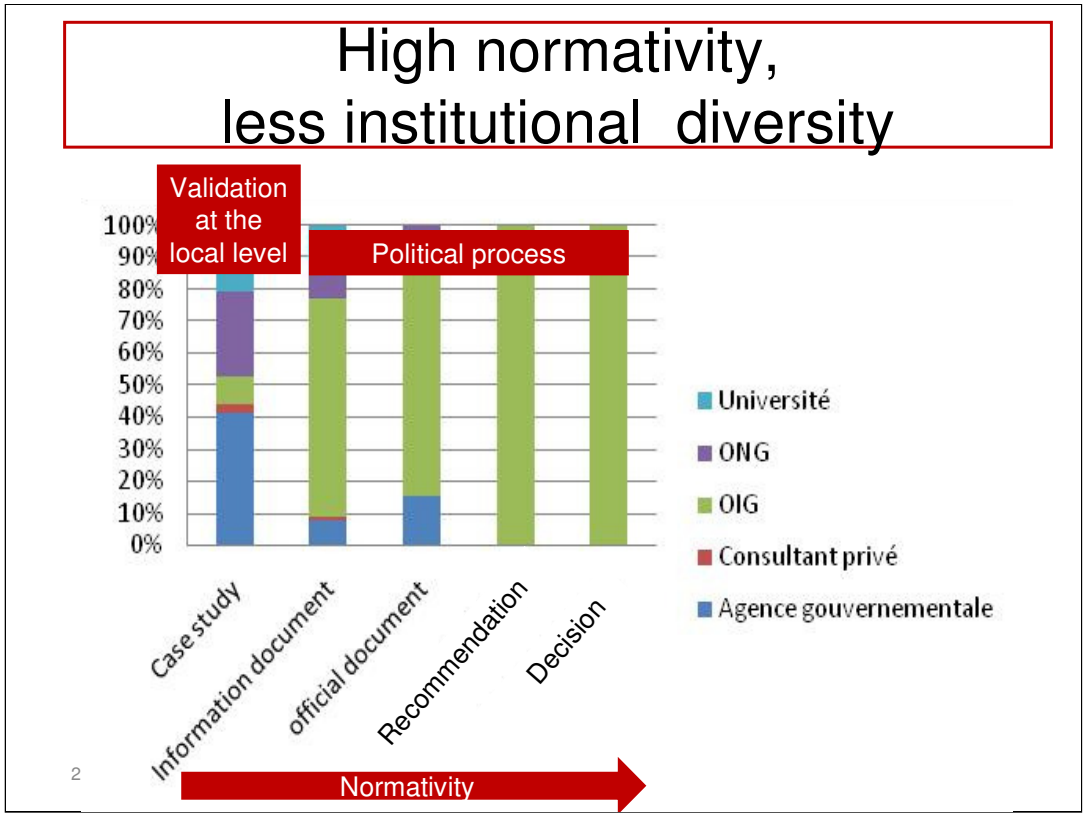
Between 1996 and 1999 two institution work hard to help develop principles for the EsA: IUCN and BFN (**German** Federal Agency for Nature Conservation). Each one produced key documents that were introduced at the CBD as information documents and strongly inspired the final decision that was presented by the secretariat to the conference of the parties to endorsed.

But The EsA is an evolving concept as the political process is an ongoing process, in 2004 annotation and implementation guidelines were added, in 2008 the application of the EsA was reviewed and clearly linkages between EsA et the Millennium Development Goals were established.

Political process of EsA

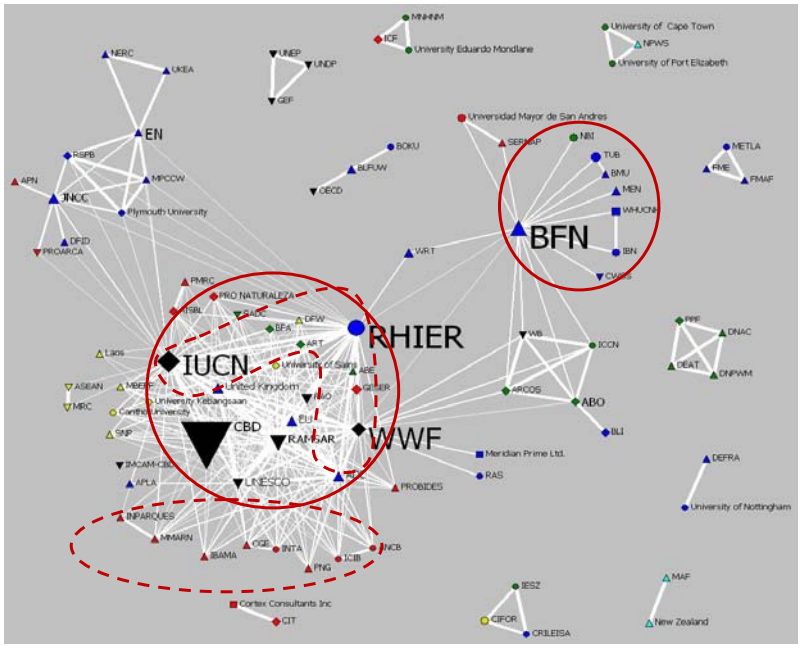


Here we have a graph that show the evolution of document production in the CBD. It exists 5 types of document at the CBD (6): case studies, information, official, recommendation, decision. The picks coincide with the key moments that ended up with decisions endorsed by the Conferences of the Parties. Indeed previous to any key conference of parties or conference of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) the organizations willing to pass their messages, become more active. It is a strategy to prepare documents to advice the policy decision making process. As you can see, most of the documents produced are study cases.



Each type of document produced for the process has a different degree of normativity. The lowest being the case studies and the highest being the Decision. The case studies stands for the validation of the EsA principles at the local level and the other document stand as part of the political process. We found that the higher we go in normativity, the less type of institutions are producing documents. So, the great variety of collaboration is found among the study cases, were all type of institutions (universities, NGO, IGO, private consultant, govern agencies) are able to present their documents.

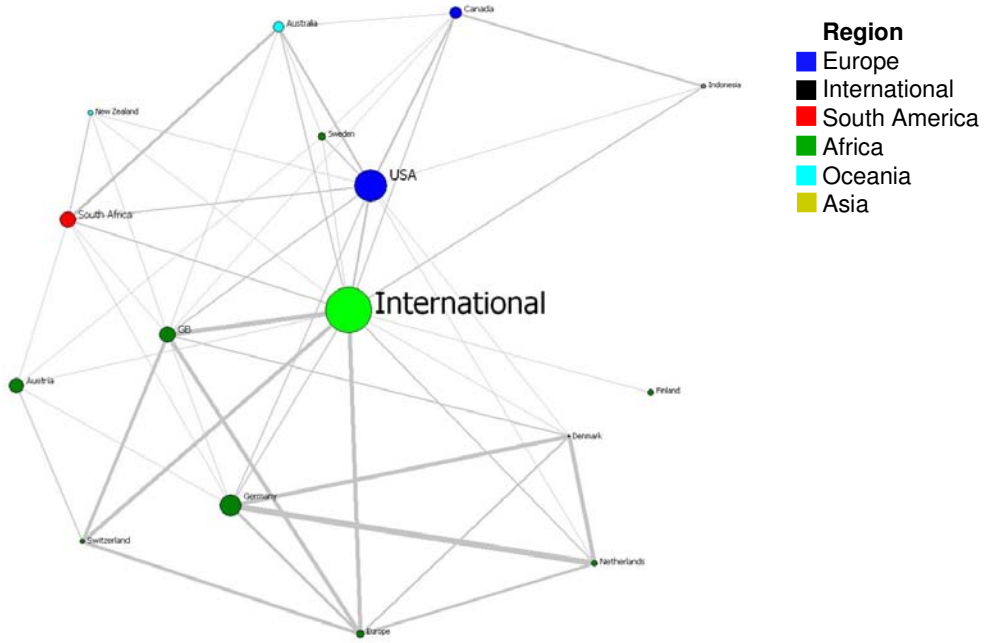
Collaborating institutions in policy-making documents



The graph represent the institutional collaborations among producers of documents circulating in the policy process.
It shows the centrality of the German Ministry (BFN) who mainly collaborate with European institutions.
The second main cluster is structured around IUCN, RHIER and WWF who collaborate with southern NGO and agency (for instance south America in red) in particular to produce the case studies. The links are even stronger because mainly of theses institutions are funded or led by theses International institutions. These central institutions have a key role in the framing of the EsA concept. But Bfn and IUCN have different views of The EsA.

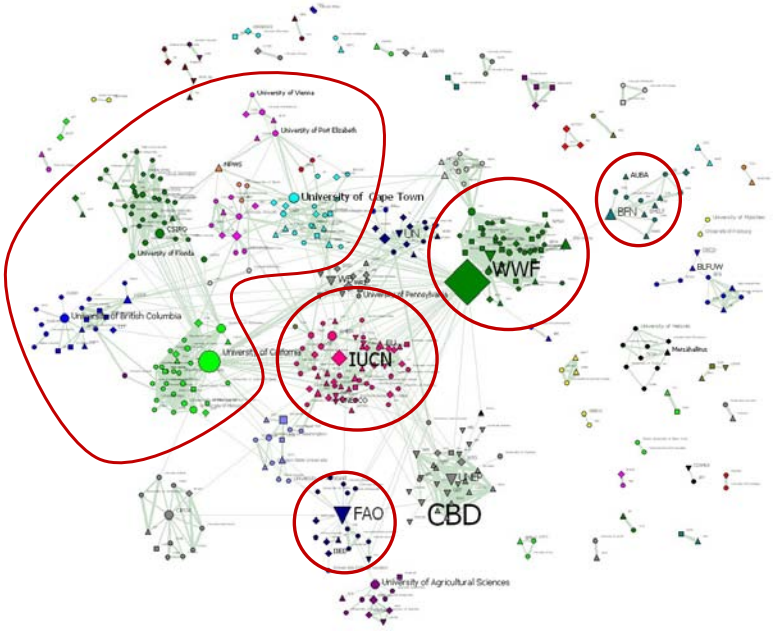
Intellectual basis (cited documents)

Intellectual basis of EsA: from USA to European Union



Now we are going to take a look of the intellectual basis of the EsA inside the CBD. We analyzed here the bibliography used within the documents circulating inside the CBD. The graphs represent the collaborations among cited references authors at the country level. the first one is exhaustive , the second focuses on the core of the most cited countries.
It shows the peripheral position of southern countries in the intellectual basis and the centrality of international institutions and northern countries. Among them, two clusters appear to be main references for the EsA construction: an Anglo-Saxon one and a germano-nordic one.

Collaborating institutions in intellectual basis



The following graph details this fact at the institutional level. It identify some intuitional sub-groups represented through different colors. an other time international institutions are central in particular WWF and IUCN but except FAO that appear quite peripheral in the intellectual basis.
The Anglo-Saxon influence is mainly provided by citations universities (Cape Town, California, British Columbia, Florida...) well connected with the IUCN and WWF core.
the germano-nordic influence is provide by BFN production and less cohesive collaborations from diverse European universities and agencies.
These groups constitutes different "epistemic communities" with some specific conceptions of EsA.

Epistemic Communities: Contrasted views of EsA

- **BFN:** application on very anthropized ecosystem (cf. forest)
- Lacks of theoretical foundation, logical consistency and value as a practical guide
- Lacks of guidance for balancing conservation and sustainable use.
- Nevertheless, EsA is perceived as a paradigm shift giving a good framework to think sustainable management of ecosystem.

For instance BFN thinks the ecosystem approach to be applied to very anthropogenic ecosystems, as those that we find in Europe. This agency has a very pragmatic view of ecosystem approach, taking it as a theoretical framework to manage nature rather than a management system itself.

Epistemic Communities: Contrasted views of EsA

- **IUCN-WWF**:
- EsA applied principally in Southern Countries, over little anthropized regions
- Main objective: to conserve biodiversity
- Very positive view of EsA, no critics over its applicability.
- Completely centered over action and applicability at the local level.

In the contrary, IUCN thinks the ecosystem approach as a management system perfect to be applied principally in southern countries over little anthropogenic regions. IUCN thinks the EsA as a concept of action to mainly conserve biodiversity reducing conflict with humans through discipline and participation.

Evolution of principles under policy-making process

EsA (USA,1995)	EsA (CBD, 2000)
The desired ecosystem condition is a societal choice	
Federal Agencies coordinate stakeholders	States transfer managerial responsibilities to the lowest local stakeholders level
Integrate the best science available	Consider all forms of relevant information, including scientific and indigenous and local knowledge, innovations and practices
Respect and ensure private property rights	Boundaries for management will be defined operationally by users, managers, scientists and indigenous and local peoples.
Sustaining or restoring natural systems and their functions and values.	Conservation of ecosystem structure and functioning, in order to maintain ecosystem services

From 1995 American version of the EsA to the CBD version we see two main changes. EsA passes from the State as being the coordinator of the application at the local level, to a vision were responsibilities of application are completely transferred to local stakeholders. As well, in 95 version, the knowledge used to define problems and solutions was mainly scientific knowledge, in CBD's version, any knowledge becomes important. From protection to private property in the American version, the CBD proposes to dilute institutional borders as they should be defined by ecologically functional criteria. And least, but not last from sustaining and restoring systems and functions, CBD' propose to conserve structure and function to maintain services.

Implication of the process:

- Political process leading to the establishment of the EsA is asymmetrically shaped. Is it really a democratic procedure?
- What are the conceptual implications of a process that universalized a concept (EsM to EsA) ? Are we loosing in substance?
- Using the functional ecosystem as the management unit challenges the conception of state sovereignty, the flexibility of institutions and our capacity to planed in a long term basis. Are we ready to take up the challenge?

As we just saw, the political process leading to the establishment of the EsA principles was asymmetrically shaped. EsA emerges as a boundary concepts highly generic, designed to create an agreement into international negotiations product of the interaction of epistemic communities trying to force into international political arenas their own vision of nature's management.

In the course of this process the concept loses a part of its scientific substance that later is considered missing by the same stakeholders in regard to its implementation in local situations

Even though the policy making process of the CBD gives equal opportunities for countries to take part into the final decisions; we note that the historical arrangement behind the construction of the EsA is actually asymmetric concerning the political, scientific, technical and economic resources that each party mobilizes. It might be of great concern as up to day, this asymmetries might reflect at the local level, which might imply a unequal distribution of power during the decision process to established the EsA.

The using of the ecosystem approach also raises question about how much freedom is to be accorded to people while defining the objectives for management.

As well, using functional criteria to define management units challenges the conception of state sovereignty in new ways.

The paradox of EsA

- EsA as a innovative way to tackle with complexity and inequity
- But is strongly based in liberal principles that undermined the capacity of people to participate:
  - Nature as a commodity? ecosystem services
  - Weakening of the state? involvement of civil society to undertake functions formerly provided by states

- Is complexity leading us towards a green neoliberalism?

Thank you!!

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