



Sub-regional workshop for Sub-Saharan West Africa on Biodiversity Valuation and Incentive Measures impacting Biodiversity
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Ecosystems and Biodiversity services Valuation : Valuation Methods and Outcomes

The economic value of the Sourou Valley : A preliminary assessment

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What is the ecosystems and biodiversity services valuation?



Photo : Medecinals products from the Sourou Valley (Ouadba Jean Marie)

- Ecosystems and biodiversity services valuation = give value to ecosystems and biodiversity.
- Which value are we talking about ?
 - Exchange value? : Price of goods or services on economic market (= market price)
 - Utility value ? : Value of use of goods and services that can be really different from their market prices
 - Importance value ? : Emotionnal value given to certains goods and services



What is the ecosystems and biodiversity services valuation?

- **Valuation** = assessment = Process to express the value of a specific good or service, in a monetary form or a form that can be counted, but also through methods and measures used by other disciplines (sociology, ecology, etc..)
- From the point of view of an individual, valuing ecosystem services is defined as:
 - Incomes from a property (natural specialized asset);
 - Payment for a service that supports an ecosystem function;
 - In both cases, an assessment is required

Why value the ecosystems and biodiversity services ?



Photo: River transport in the Sourou Valley (Ouabda, J.M.)

- In fact, humans have always taken advantage of final ecosystem and biodiversity services
- However, they are rarely concerned about the production process of the final services, for example, of the ecological functions that allow the ecosystems to provide the services in question;
- Consequently, when the quantity and quality of those final services decrease, we do not have the reflex to look at what is happening in the ecological functions



Rationale for the case study of the Sourou Valley, Burkina Faso

- **Regional context**
 - The Sourou Valley is located in the region of the Boucle of Mouhoun in the Northwest of Burkina Faso
 - The Boucle of Mouhoun covers approximately 12% of the national territory (~34 497 km²) with 1 494 043 habitants (11,23% of country population) (estimates from INSD 2005).
 - The levels of poverty of the region changed from 1994, 1998 and 2003 to 48.8% to 49.3% and 60.4%;



Rationale for the case study of the Sourou Valley, Burkina Faso

- **Regional context (...)**
 - The populations predominantly depend on natural resources ;
 - But there is a continuous degradation of natural ecosystems in the Sourou Valley;
 - Results :continued impoverishment of the populations. Is there a relationship between poverty and degradation of natural ecosystems in the Sourou Valley?
 - In other words, what are the relationships between the services provided by ecosystems and biodiversity Sourou Valley and the local populations well-being?



Rationale for the case study of the Sourou Valley, Burkina Faso

- Several questions arise in an anthropic ecosystem as the Sourou Valley:
 - How to separate the functions of the ecosystem and the manager?
Should they be separate?
- In the current thinking on ecosystem services, such dissociation is frequently removed:
 - For a private owner thinking about valuating of its profit from the benefits of ecosystem services, the dissociation can be difficult.
- But taking a step back on the interaction ecosystem-manager, two positions emerged for the owner-manager :
 - Expert in environmental engineering
 - natural annuitant asset

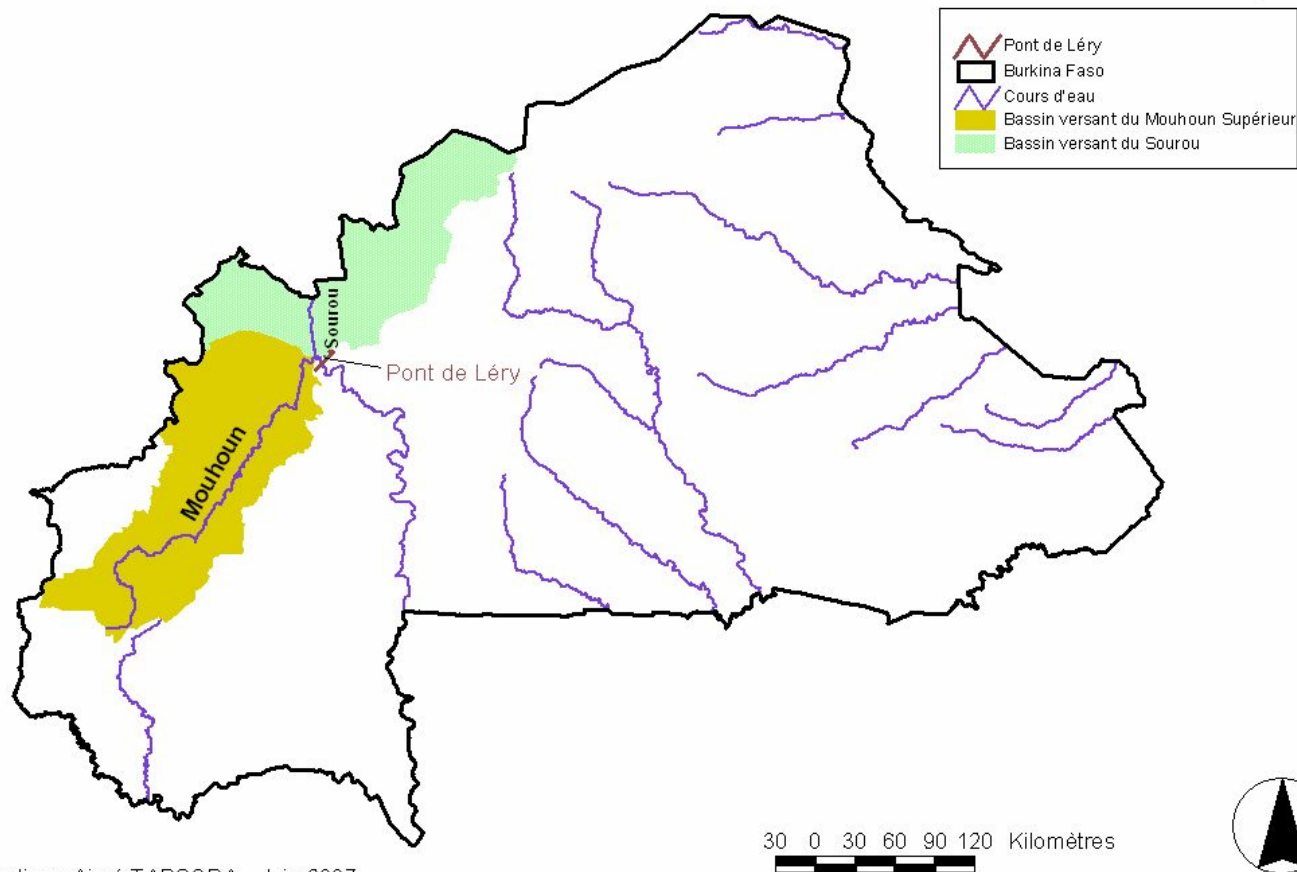


Rationale for the case study of the Sourou Valley, Burkina Faso

- In an environment marked by the deterioration of the banks and water resources associated with the Sourou, « *The ecological productivity now depends on political choices including on choices on investment, trade, subsidies, taxes and regulations.* " (EEM, 2000).
- Economic valuation of services provided by the Sourou Valley as an ecosystem of wetlands can provide insights into the political choices for the development of the area as well as other similar areas in Burkina Faso and in West and Central Africa.
- IUCN, with support from SIDA decided to experiment the economic valuation and to contribute to discussions on the sustainable management of the environment and the fight against poverty

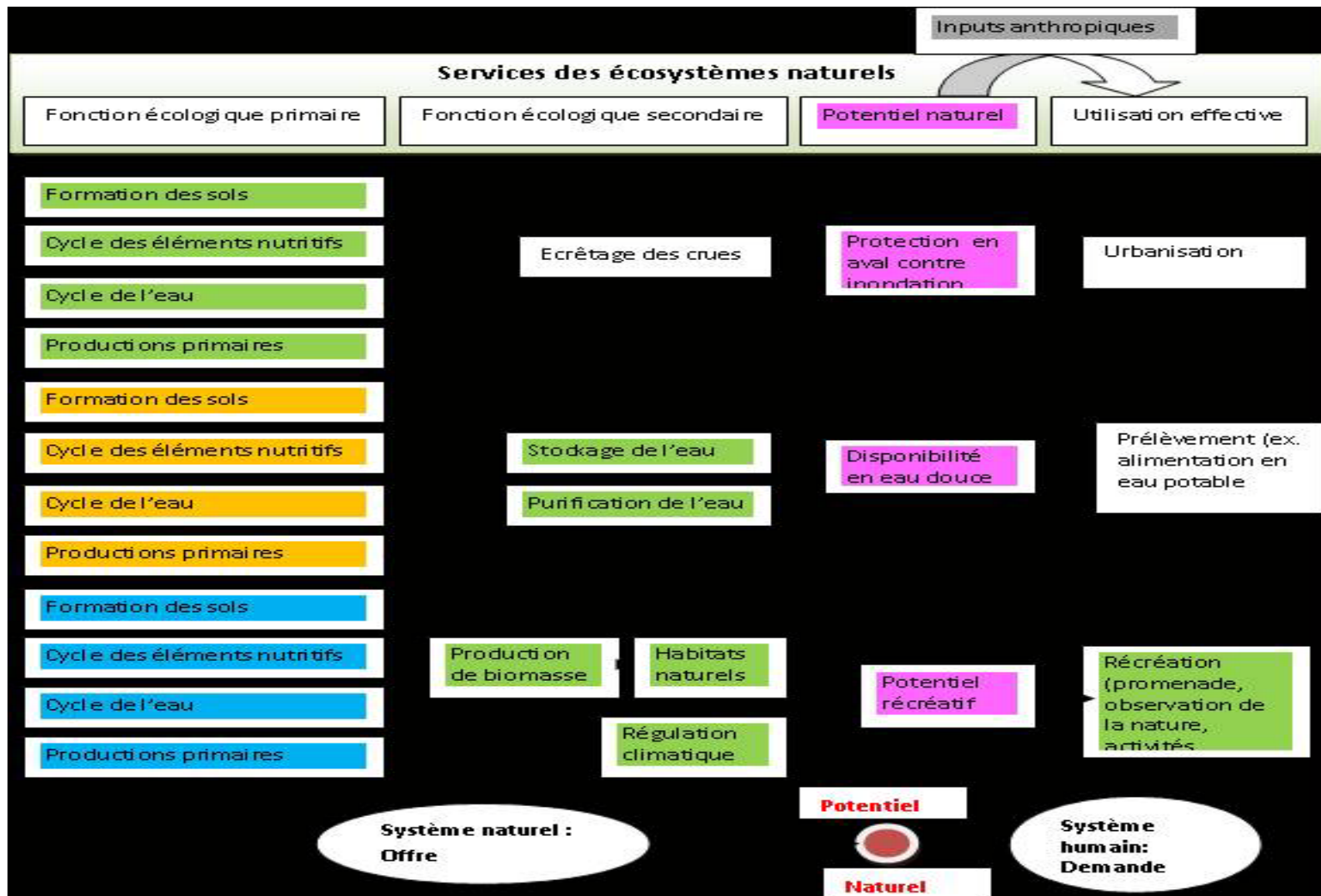
Methodological approaches et associated challenges : the site

Carte du Burkina Faso :
Localisation des bassins versants du Mouhoun, du Sourou et du Pont de Léry

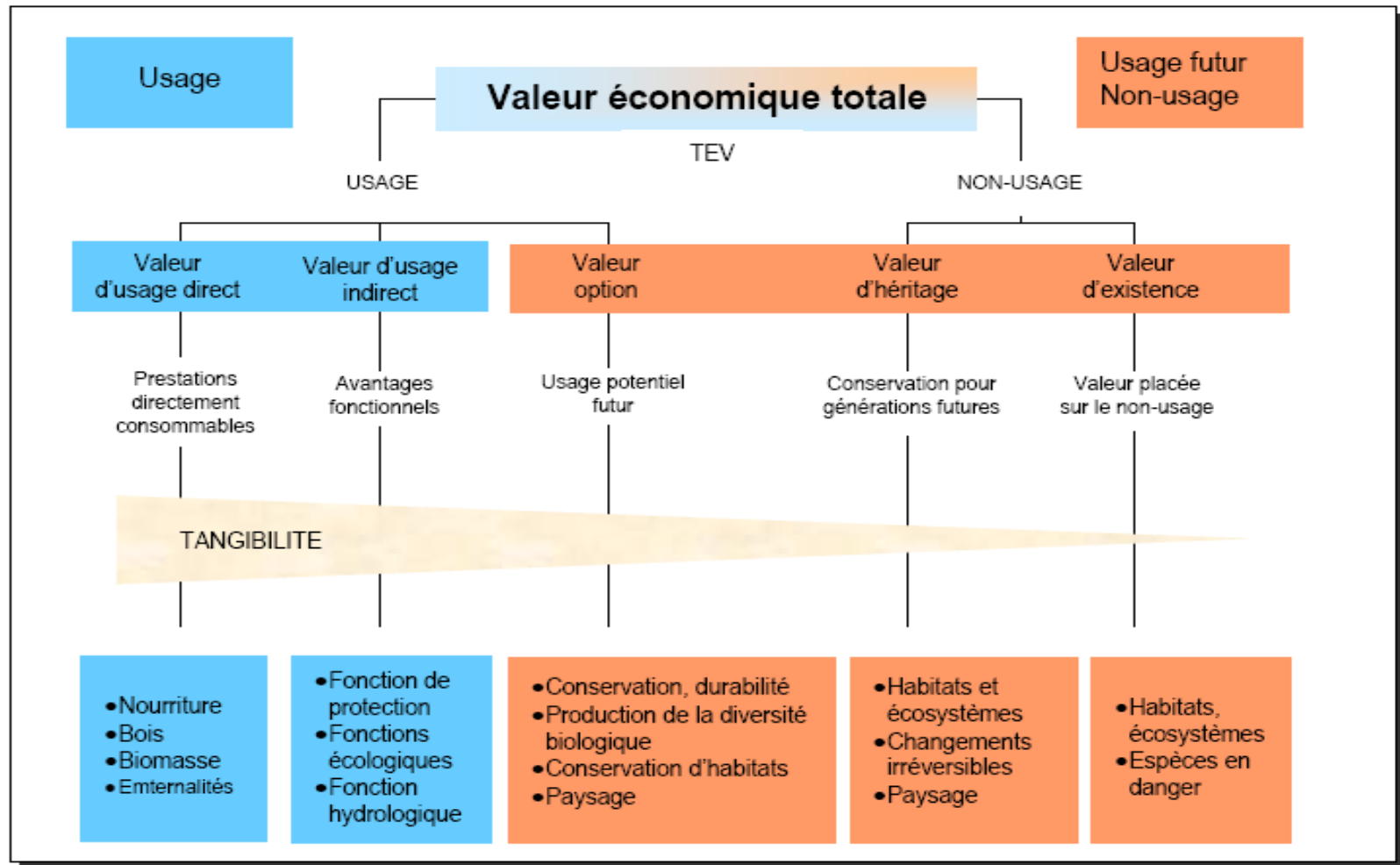


Réalisation : Aimé TAPSOBA - Juin 2007

Methodological approaches and associated challenges : Separate the value of the ecosystem from the one of the manager



Methodological approaches et associated challenges : the economic conceptual framework



Methodological approaches and associated challenges : samples and data collecting techniques

Ecosystems services users	Total	Di		Lanfiéra		Kassou m	
		H	F	H	F	H	F
Agropastoralists	150	50	0	50	0	50	0
Consumers of forest products	50	0	18	0	16	0	16
Pastor	30	10	0	10	0	10	0
NTFP Transformers	30	0	10	0	10	0	10
Fish Transformers	50	0	26	0	24	0	0
Total	310	60	54	60	50	60	26

- Data and secondary data collection in the literature (gray and scientific literature)
- Primary data collected by individual investigations (men and women) and through groups and experts interviews (vegetable production services, animal production services, health services, forests products and services, socio-professional organizations)
- Data : Quantity and prices, accounts and stories



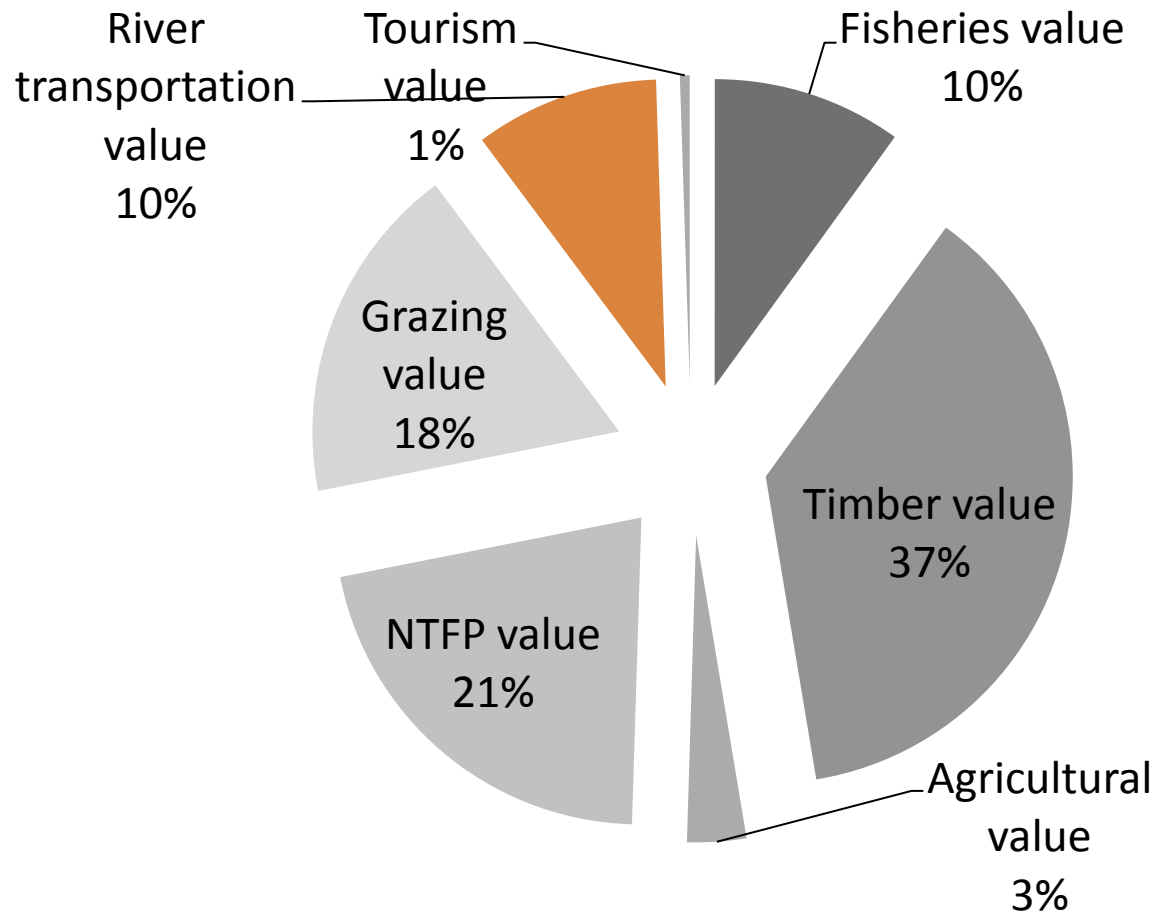
UICN: Methodological methods and associated challenges : Data analysis methods

- ***Market prices methods***
- ***Effect on production methods*** : agriculture;
 - => Assessment of direct use values
- ***Contingent valuation methods*** ;
- Content analysis of the semi-structured interviews
 - => Valuation of direct and indirect use values
 - This technique have later been abandoned by the team because of the low willingness to pay reported by respondents compared to the direct use values obtained.

Valuation of Sourou Valley ecosystems: multifonctionnal charactics of a wetland

- Services provided with tangible , market or quasi-market values:
 - Provision services ensured by the valley ecosystems include: food, timber, non-woody biomass, water, etc
 - The absence of data did not allow the estimate of monetary value of the services provided with tangible, market or quasi-market values
- Services provided with non-tangible, non-market and not easily identifiable or visible values :
 - Regulation, protection, aestheticism, leisure services, etc
 - The lack of data and methodological limitations did not allow the estimate monetary values for these non-tangible services

Valuation of Sourou Valley ecosystems: estimated to be ~ 10 billion FCFA in 2009



Valuation of Sourou Valley ecosystems: Other values not estimated

- Medicinal services (~ 438 000 FCFA/Traditional-therapeutic)
- The refilling of the water table (no assessment attempt)
- Biological diversity wealth (no assessment attempt);
 - » The estimated monetary values are necessarily imperfect,
 - » but are no more imperfect than the monetary values of traditional economic services on which are based the local, national and global politics until the advent of the economics of ecosystems.



Valuation of Sourou Valley ecosystems : How should we understand the estimated monetary values ?

- Taking in account the three dimensions of the « **value** », the monetary flow estimated only represent relative and not absolute values;
- As relative value, they necessarily represent one of the indicators of the value of ecosystems and biodiversity;
- As indicators, the monetary values can be used to compare many ecosystems and valuation politics;
 - Development of scenario for prospective analysis;
 - Politics adjustment to mitigate the negative impacts of the current politics;
 - Effective promotion of integrated management of natural resources

Valuation of Sourou Valley ecosystems : What should not be confused

- The economic value of ecosystems and biodiversity is not equal to the economic value of the effective use when:
 - The natural potential is improved by potential naturel est améliorée by some anthropogenic inputs prior to the effective use
- The economic value of ecosystems and biodiversity is equal to the economic value of the effective use when :
 - The natural potential is directly exploited for effective use

Valuation of Sourou Valley ecosystems : How to integrate these values into policies?

- The importance of the ability to create economic value in some sectors now deserve a special attention in the valuation of the Sourou Valley: Forest resources (timber and non-timber), animal, fish and river transport
 - Valuating an ecosystem service without damaging other has the potential to create more wealth and to promote fairness in the development of those precious resources.
 - This can be achieved through the design of relevant development and management plans that integrate various economic sectors;
 - However, to do so, we first need to identify the values that can be simultaneously promoted



Thank you for your attention

