



# **ISEE 2012**

SESSION 54 /15:15-16:45

MADRID VI

## **Modeling Sustainable Development Paths**

The difficult realization of sustainable development: new insights from a cross-cutting combination between the Critical Natural Capital theory and the Sen's capability approach.

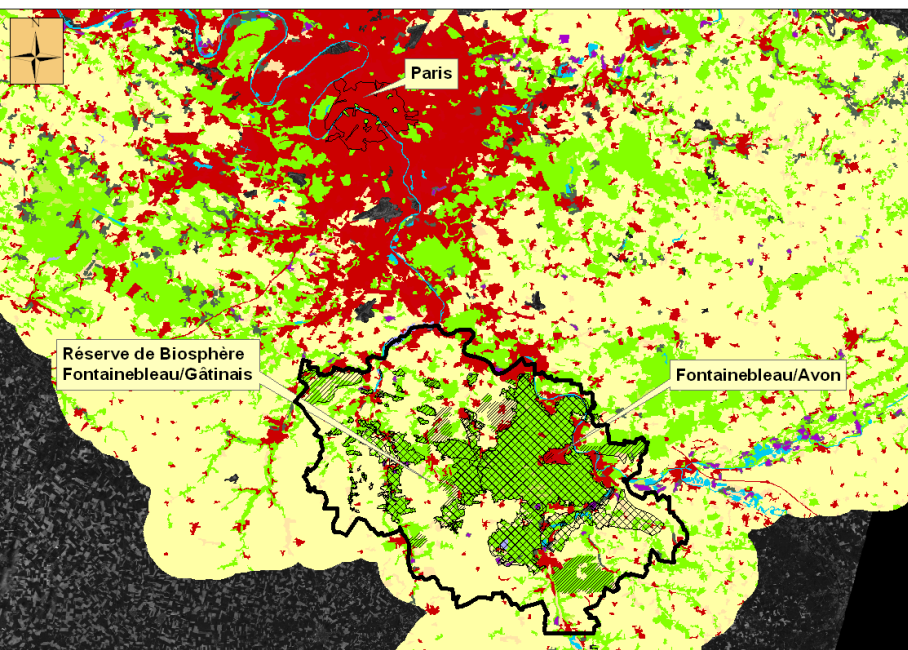
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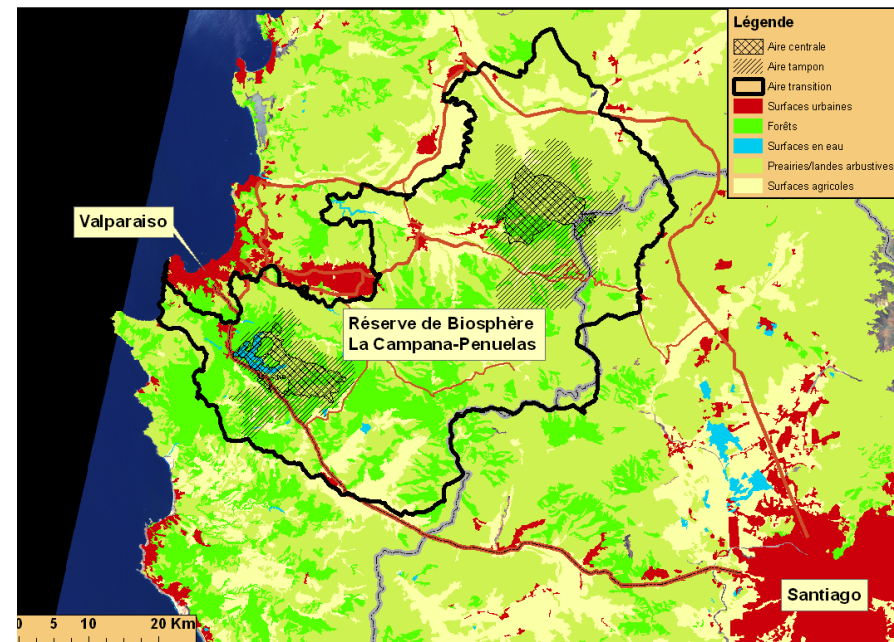
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## RB de Fontainebleau et du Gâtinais



## RB de La Campana-Peñuelas

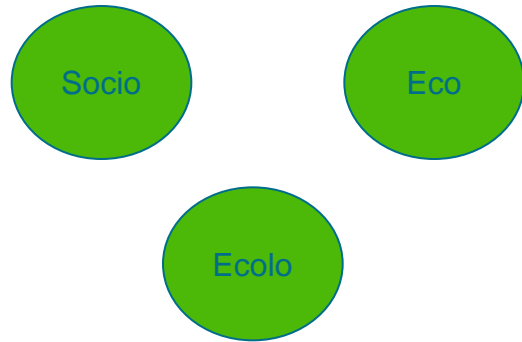


# Material and methods

- Four categories of stakeholders who deal with ecosystem services have been met.
- A sociological survey was conducted and four workshops (4 France / 4 Chile) with the different categories of stakeholders were organized in the two biosphere reserves during the 2009-2011 period.
- The interview was structured in three steps: (i) identification and assessment of the state of conservation of the ecosystem services valued by the respondent (ii) aspirations of the respondent regarding the development of his activity and identification of the barriers his facing in order to have sustainable use of ecosystem services (iii) nature of the relationships of the respondent with others stakeholders regarding ecosystem services management and more broadly sustainable development.

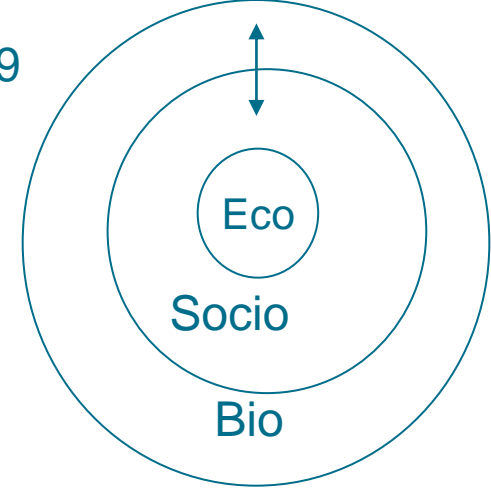


Rio Conference 1992



Passet 1979

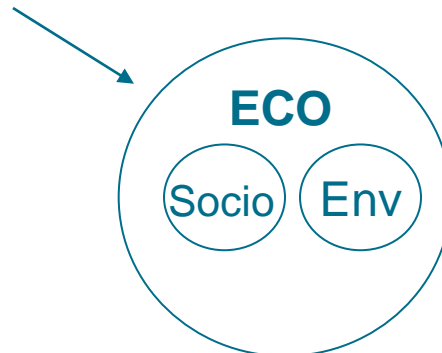
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**Problem:** - Separation of disciplines and hegemony of neo-classical economics

-Neo-classical economics does not take into account neither Nature, nor Justice, nor Time (Faber, 2008)

-Well-being assessment is only based on income, goods accumulation, utility and GDP  
→ Impossibility to effectively think sustainability



## Sen 1979-2009

Brings back people at the heart of development: the patient becomes an agent of his life



Well-being assessment through people's capabilities



A move towards integration between economics and social



**Limitation:** a lack of concern about the environment and ecological changes (Neumayer 2010 Sneddon 2005)



## CNC 1992-2003

Embeds the economics in Nature

- Substitutability is not possible
- Embedment : Strong sustainability
- Other means of valuation are necessary



Definition of Critical Natural Capital through (non substitutable) ecosystem services



Critical thresholds set up through social and political consensus



A move towards the integration between the economics, the biosphere and even the social

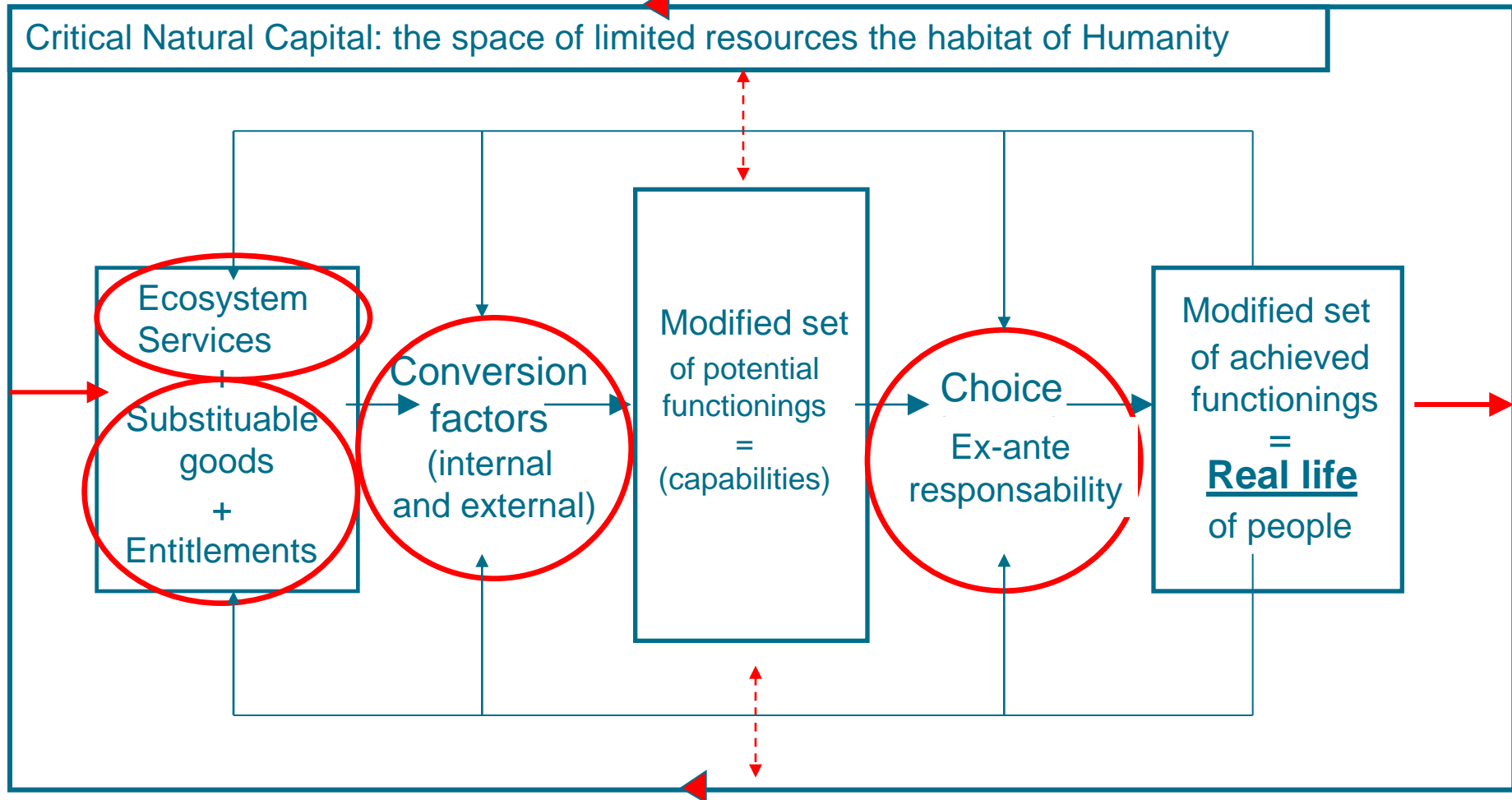


**Limitation:** lack of tools to assess well being obtained from ecosystem services (MEA 2005, TEEB 2008)



**We suggest an integrative process of both approaches for Sustainable Human Development**

# Integrated framework for assessing sustainable human development



1-CNC provides those ecosystem services which are essential for people's functionings

2-Throught the achievement of their functionings people have an impact on the CNC i.e. Habitat

3-CA and HD can help to better delineate for "whom" and "what" Natural Capital could be critical

4-Introducing the collective agency and capability to manage and conserve the habitat

# Results

- This method enabled us to reach the following results: (i) identification of the set of critical ecosystem services which constitute the CNC of the two sites. The stakeholder surveys by questionnaire also shed light on the undervalued ecosystem services which could be a source development if they would be used sustainably; (ii) identification of the barriers interviewed stakeholders (including those working for institution) are facing to have sustainable functionings in terms capabilities; (iii) to shed light on the social situation of actors and socio-ecological inequalities. Notably innovative actors feel isolated and discriminated, if there is not a lot of declared conflicts between the different stakeholders there are plenty of latent conflicts; (iv) the work done brought relevant insights to characterise the tensions people are experiencing when the value represented by sustainable development conflicts with other values that underpin their daily life practices; (vi) finally, this sociological survey allowed us to set up several categories of stakeholders according to their degree of freedom to be sustainable.





# Discussion

- Although, several stakeholders recognize the critical state of the ecosystem services they rely on, the model of development they value remains the one which is the cause of this ecological degradation. According to them, it is because there is no other real alternative of development possible. This should be the goal of the biosphere reserve to foster the existence of real alternative of sustainable development for people.
- As far as, innovative actors are inventing tomorrow lifestyles they practices do not fit established institutional frameworks. Some of them choose to stay out the system to do not see their freedom reduced and to be able to maintain their sustainable lifestyle. Others want to integrate the system to make recognize their innovation but there is no space designed for it.
- Given the rapid socio-environmental changes, one can ask if the inertia which characterizes institutional frameworks will not be too strong to allow on time societal adaptations. In this respect the comparison between two countries one developed with strong institutional framework (France) and another one which is an emerging country largely unregulated (Chile) brings interesting insights to discuss this issue.





# Conclusion

Integrated analysis of sustainable human development :

- the person,
  - the social interactions (collective agency and capability),
  - the habitat
- ➔ Capability as the hybrid result of Nature and Society

Thank you very much