

Filling the gap between academic research and business decision making: the case of the Corporate Ecosystem Valuation

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Fondazione Eni Enrico Mattei
Milano, 14 Luglio 2011

The Corporate Ecosystem Valuation

The Corporate Ecosystem Valuation (CEV) can be defined as a process to evaluate the impacts of business decision making on ecosystem services (ES).

World Business Council for Sustainable Development (WBCSD)

Ecosystem Valuation Initiative Project

Partnership

Many international partners worked together to elaborate this valuation procedure:

- Eskom
- Hithaci
- Rio Tinto
- Syngenta
- Veolia
- others

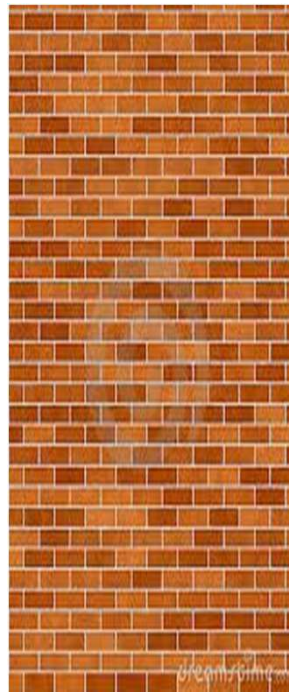


The gap

Academic
research



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Business decision
making



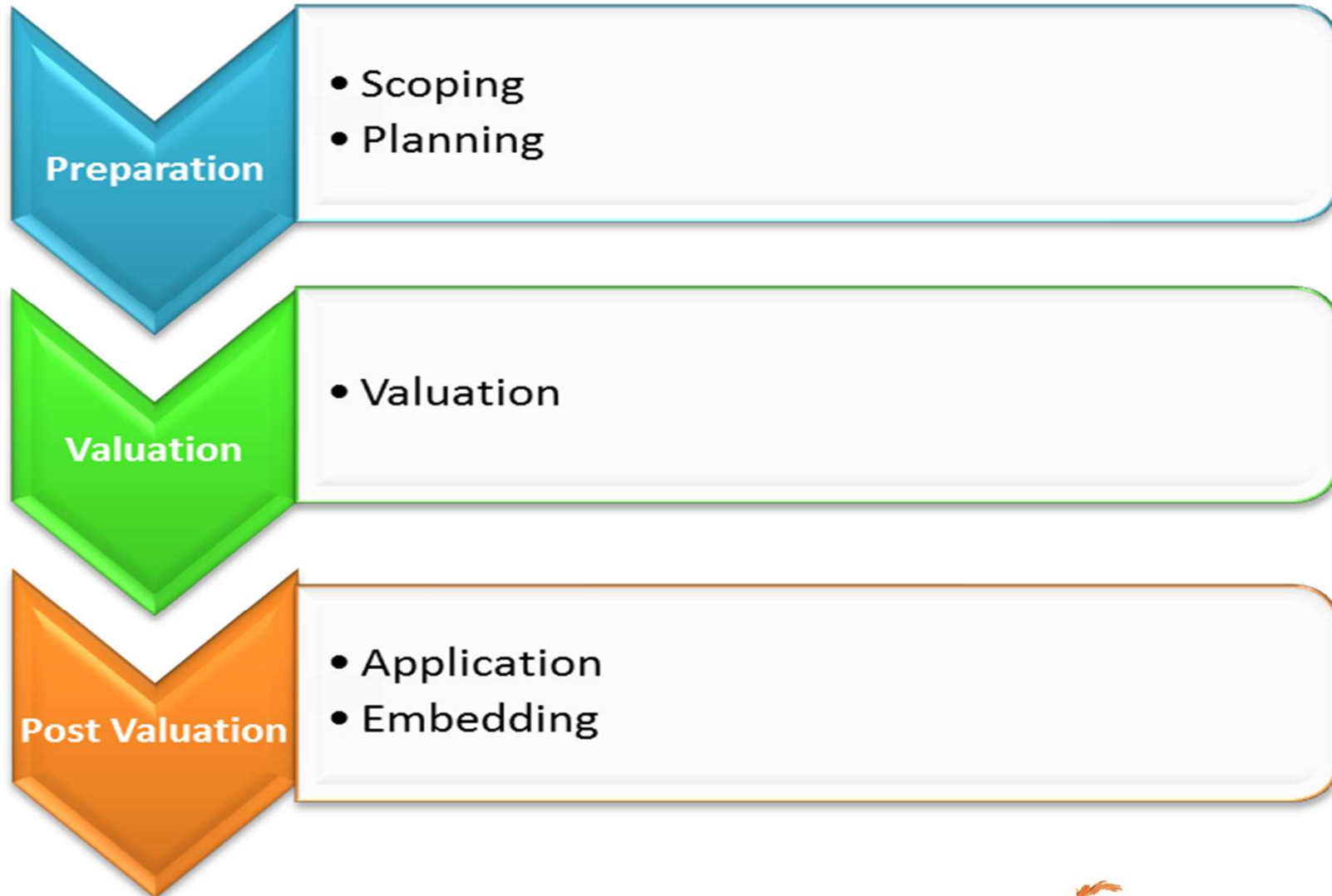
The CEV: An opportunity for the business!

- Identify operational risks: the business is dependent from natural resources
- Identify legal risks: the business needs to adapt to more and more restrictive environmental obligations
- Identify reputation risks: stakeholders are more and more sensitive about environmental issue
- Identify market risks: consumer preferences for green products

When is it worth to apply the CEV?

- New Projects
- Extension of old projects
- Planning of compensation, adaptation and/or mitigation strategies
- The public overestimates the negative impacts generated by the business activities (Slovic, 1987)

The Steps of the CEV



Scoping and Planning

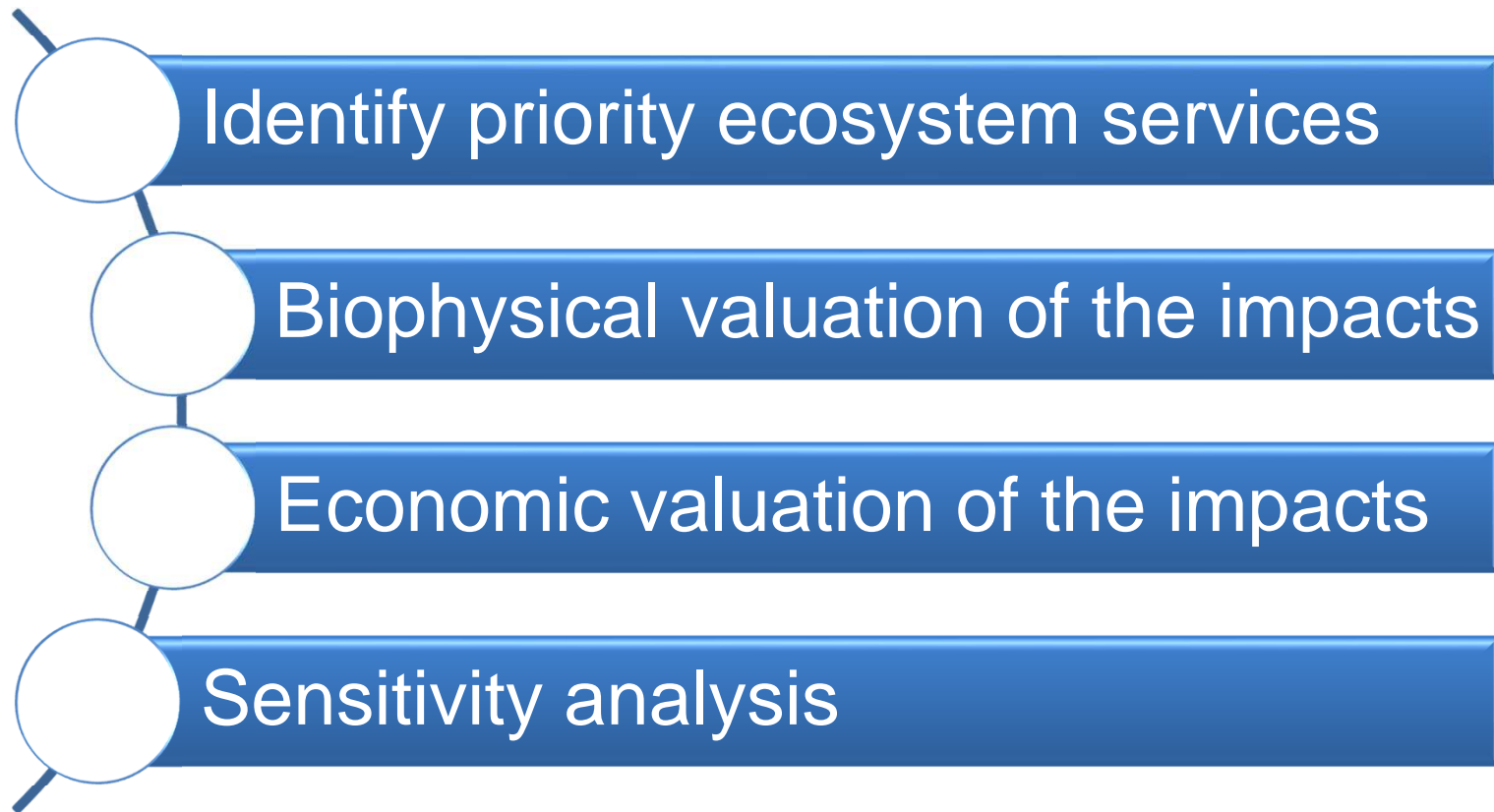
Scoping

- ✓ Motivation
- ✓ Risks and opportunities
- ✓ Case Study
- ✓ Feasibility

Planning

- ✓ Research Team
- ✓ Timing
- ✓ Budget

Valuation



Priority Ecosystem Services

Goal: Identify the ES that are sensitive to the business activity

Methodology: Ecosystem Services Review (ESR)



World Business Council for Sustainable Development



Meridian Institute
Connecting People to Solve Problems



WORLD
RESOURCES
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The ESR

Sample: local stakeholders and experts

Interview:

- qualitative assessment of the negative and positive **impacts** generated by the business on ES
- qualitative assessment of the business and local stakeholders' **dependence** on ES

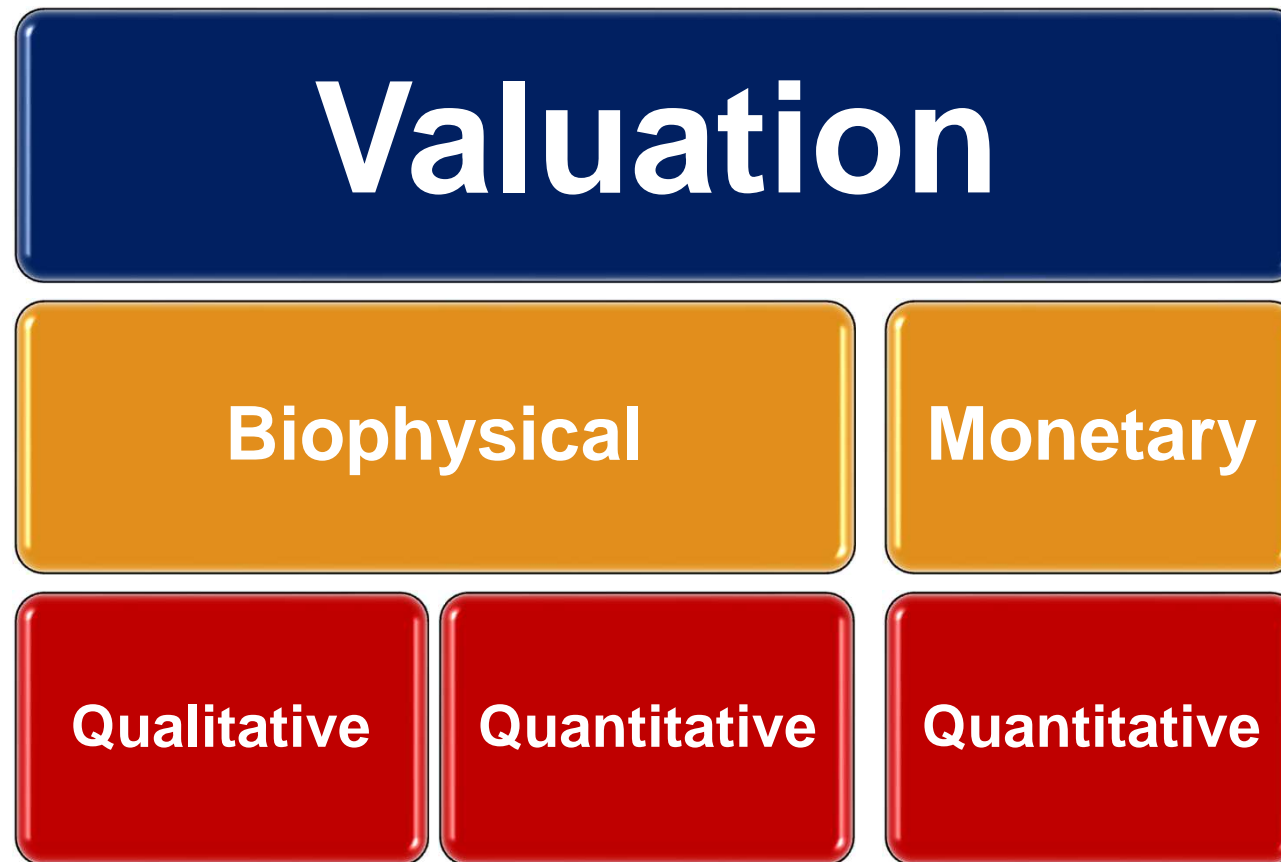
The ESR's Output

What are the ES to be biophysically and economically valued?

- the ES that are the most negatively impacted
- the ES that the business and the local stakeholders depend on

The Resource-Dependency Theory (Pfeffer and Salancik, 1978)

How deep should be the valuation?



The biophysical valuation

Land use
changes

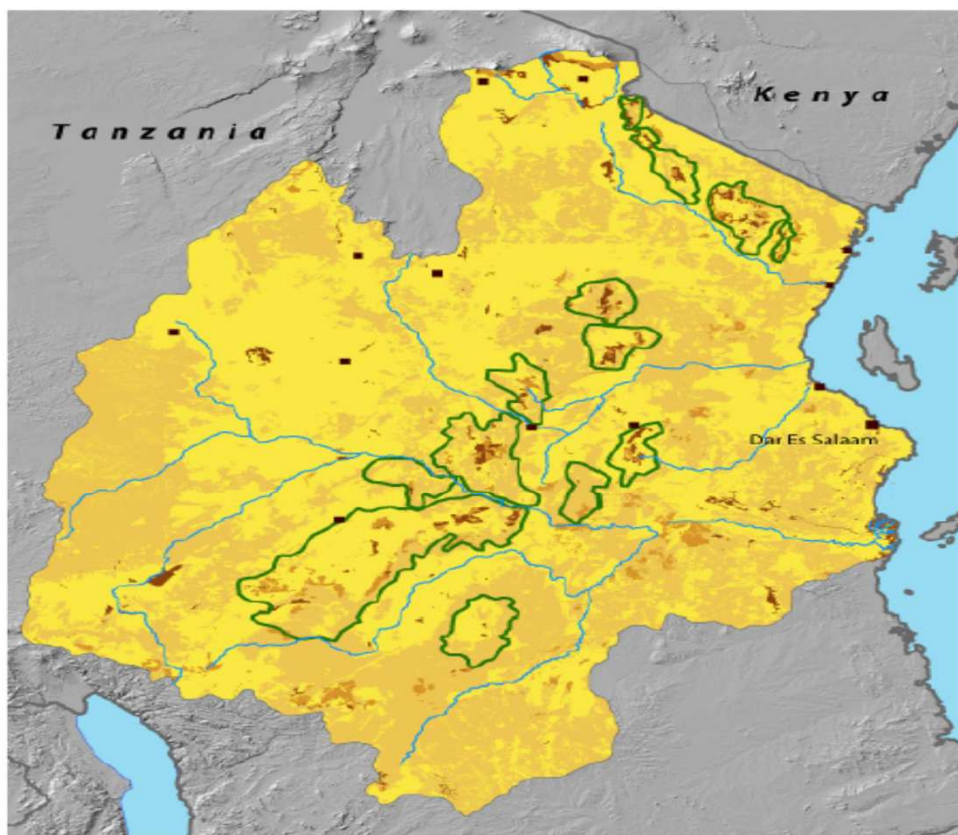


Changes in the
provision of ES

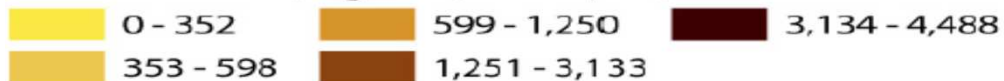
Not only land use is considered, but also
geographical, geological, climatic, etc.
parameters

Software: InVEST, ARIES, MIMES, etc.

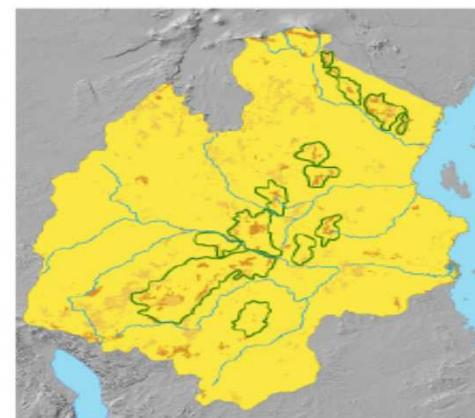
An example of the output



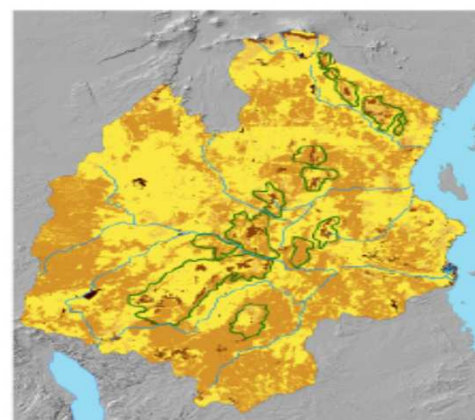
Carbon stock (Mg / 40,000 sq. m)



Fonte: InVEST user manual.



Lower bound



Upper bound

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The economic valuation

The valuation technique that is often used is the Benefit-Transfer (BT)

The benefit transfer method is used to estimate economic values for ecosystem services by transferring available information from studies already completed in another location and/or context.

Pros and Cons of the BT

Pros: the BT can be used when:

- there are not site specific data
- there is too little time available to conduct an original valuation study
- it is very cheap compared to other methodologies

Cons: accuracy of the results

What kind of BT?

There are two main approaches to benefit transfer:

- Unit Value Transfer

- ✓ Simple unit value transfer – the most used
- ✓ Unit value transfer with adjustment for income differences



- Function Transfer

- ✓ Benefit function transfer
- ✓ Meta Analysis



Application e Embedding

Application

Internal and external communication of the results.

Embedding

These results should be used to create business strategies

The Pilot Study

Motivation:

eni wants to study the reputation risks related to the oil&gas business

Case Study:

oil storage center and pipelines

- Business-as-usual scenario.
- New scenario: enlargement of the oil storage center and pipelines

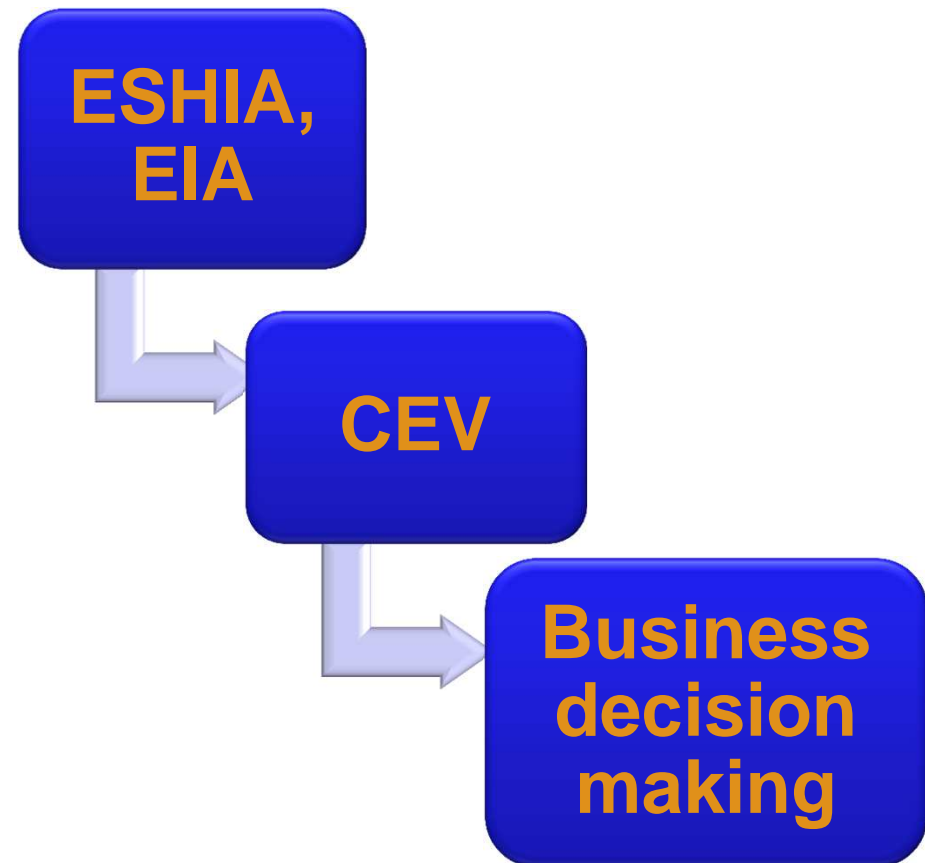
Methodology

- **Prioritize ES: ESR**
- **Biophysical valuation: Land use approach**
 - InVEST and ARIES
- **Economic valuation: more sophisticated BT**

Thank you!!!

The CEV and the other valuation tool

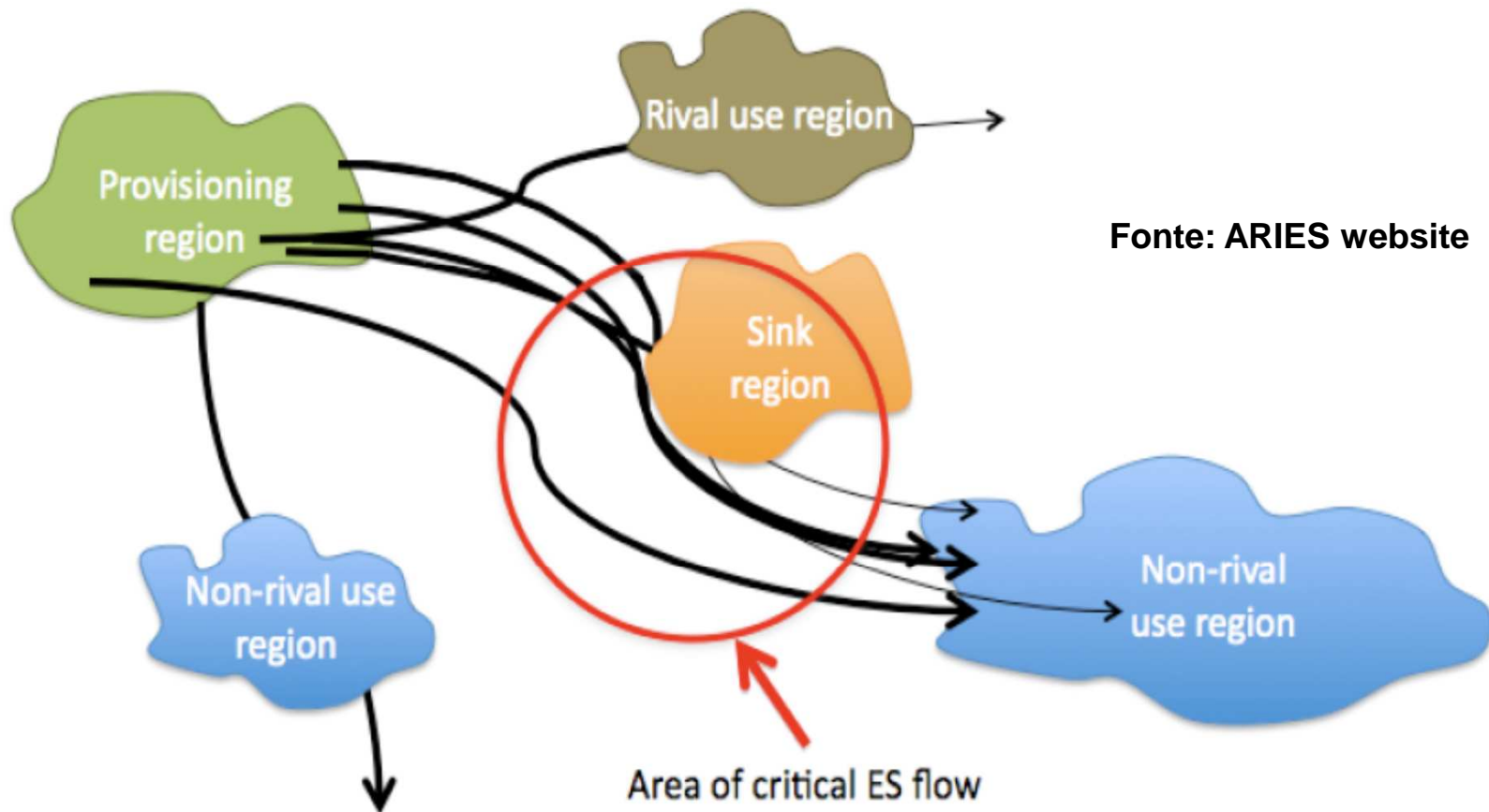
The CEV is not an alternative to other valuation tool (EIA, ESHIA, etc.) but it is complementary to them.



The CEV and the other valuation tool

- The CEV investigates the potential effects of negative impacts on ES on local stakeholders.
- It investigates not only impacts, but also dependency
- It takes into account stakeholders' perceptions
- It can provide the quantitative assessment of the impacts
- It helps to plan an efficient allocation of resources
- Very effective results (numbers and maps)

ARIES



Fonte: ARIES website