Biodiversity's ecological and resilience value

Dialogue Seminar
SCALING UP BIODIVERSITY FINANCE
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Resilience of social-ecological systems

- The capacity to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure and identity (Folke et al. 2010).
- Focuses on the capacity of actors to adapt and reorganise
- Is a precision to sustainable development

In short: Resilience is the capacity to handle change, to develop in spite of "disturbances"

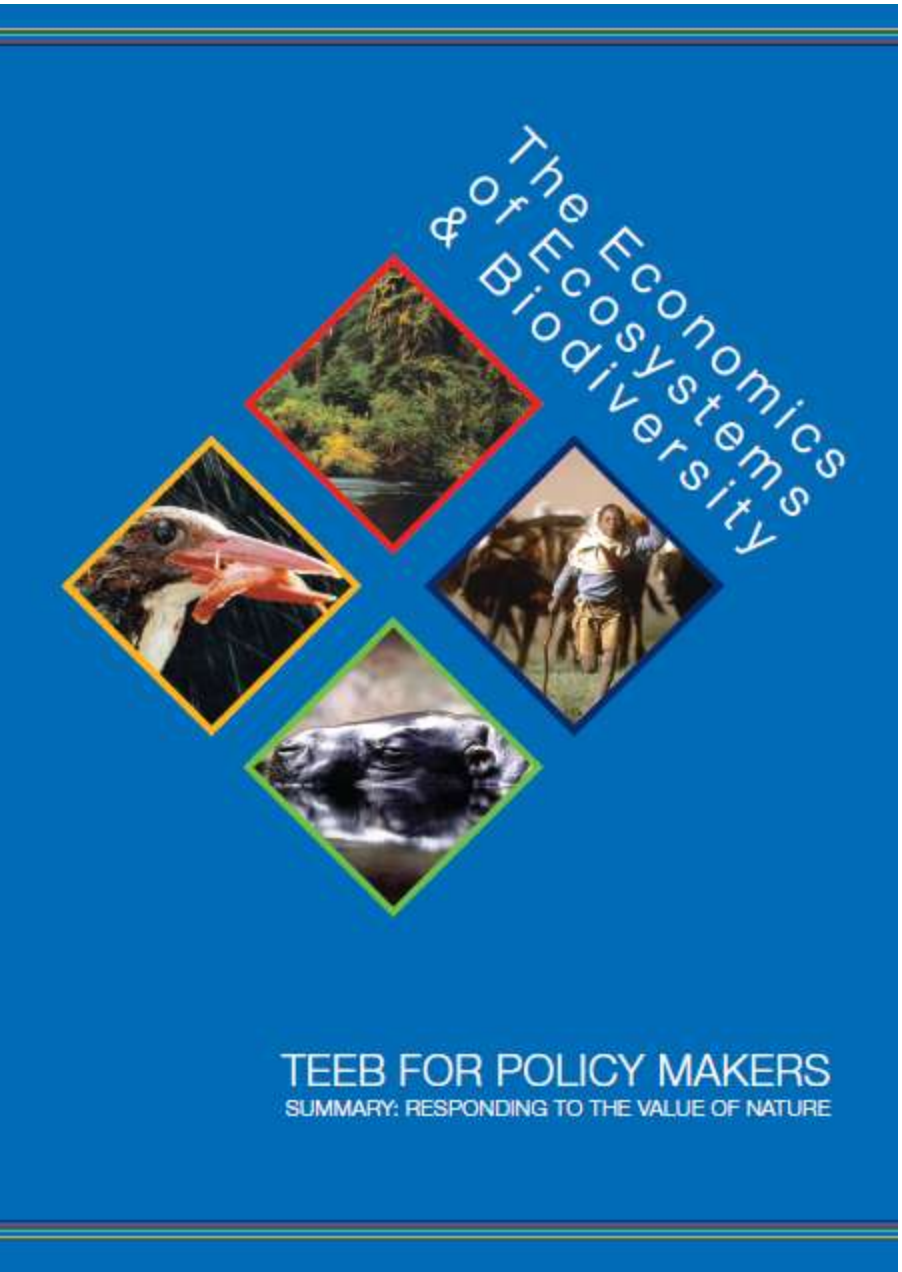
Resilience of social-ecological systems

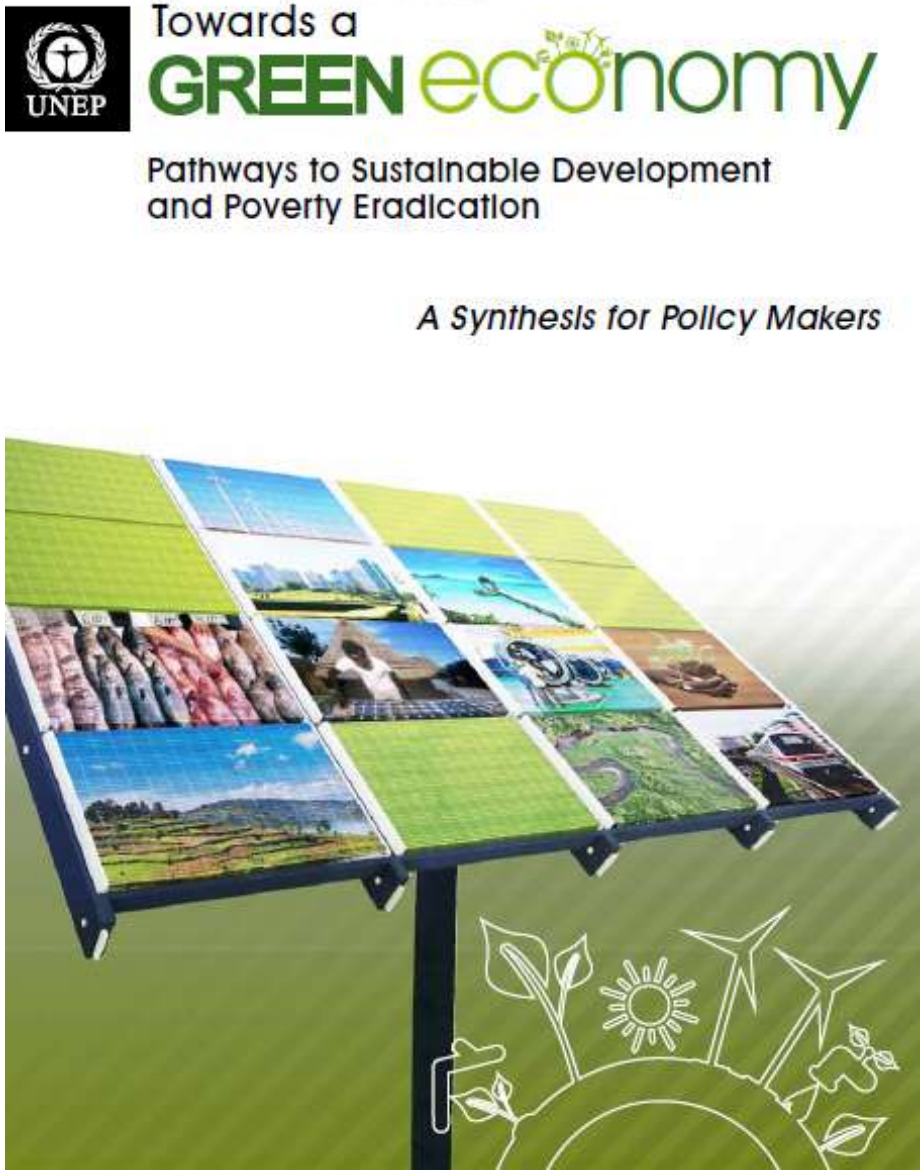
is a “human-in-nature” framework. It’s determined by:

- PERSISTENCE in the face of change, buffer capacity, ability to withstand shocks
- ADAPTABILITY = the capacity of people in a social-ecological system to learn about ecosystem dynamics and organize (develop networks, policies, institutions) and implement changes that enhance the resilience of the system *in an informed manner* (Folke 2006)

Transformability, on the other hand, is the capacity of people to *reduce* resilience (or path dependency) of the present system and create a transition to a more *desirable* trajectory (“regime shift”)

Focus on Economics: TEEB 2009 and GE 2011





Green Economy is (or should be)

- About using economics as a tool for (social and ecological) sustainable development
- Get the institutions right (prices will follow…)
- Reduce subsidies to fossil fuels (US$ 650 billion annually) and replace by Feed-in tarriffs on solar and wind
- Green tax reform
- Regulating the market (protected areas, standards etc.)
- Technology transfer, etc

Better than ”Brown” Economy but…

Green Economy – some worries from South

1. Will North impose ”carbon tariffs” or ”border adjustment taxes” on products imported from developing countries with little emission control?

   - If so, will the net revenue be transferred to the government which, according to North, should have imposed the tax in the first place? (a ”return tariff”)

2. Will rural subsistence farmers in South be transformed to producers of global ecosystem services?

   - If so, how can issues like identity, access rights (sustainable use) and food sovereignty be secured?

3. How can taxes and subsidies be reformed *within* a developing country without regressive effects on income distribution?

Resilience of social-ecological systems

- This theory prescribes resilience of *desirable* ecosystem management systems and transformation of undesirable systems
- Democratic social learning process determines what is desirable.
- Emphasizing learning and different knowledge systems (scientific, local and indigenous) is a strategy to somehow overcome existing power structure
- In subsistence farming systems, food sovereignty is a top social objective. How to enhance resilience and adaptive capacity?

  - secure property rights

  - education, health, etc.

- How can these values be integrated in Green Economy?

TEEB addresses ecosystem complexity …

- Ecosystem resilience provides a ‘natural insurance’ against potential shocks and losses of ecosystem services.
- Although difficult to measure, the insurance value of well-functioning ecosystems should be regarded as integral part of their Total Economic Value. (TEEB Synthesis Report p. 25)
- Resilience and insurance values are difficult to measure, justifying a precautionary approach to ecosystem and biodiversity conservation.
  (TEEB Policy Report p. 8)

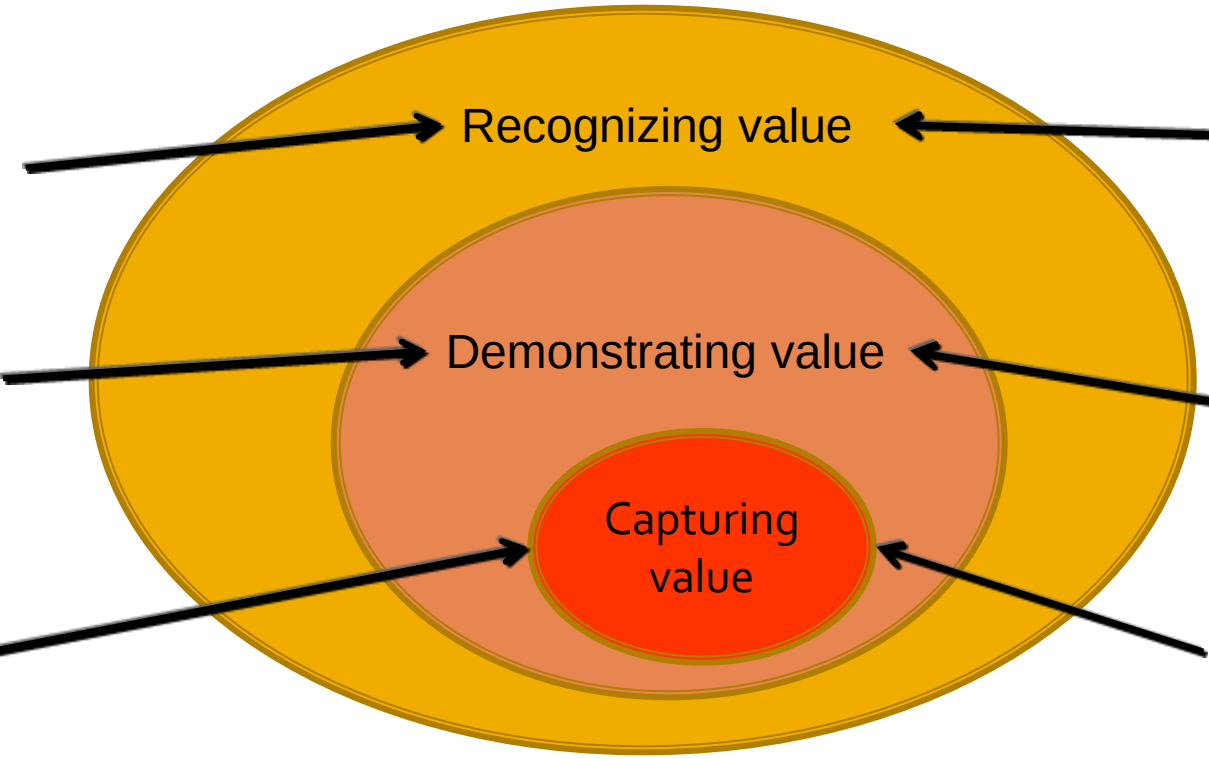
… = limits to monetary valuation

- In situations where cultural consensus on the value of ecosystem services is strong and the science is clear, it may be relatively straightforward to demonstrate values in monetary terms and capture them in markets. …
- On the other hand, in more complex situations involving multiple ecosystems and services, and/or plurality of ethical or cultural convictions (intrinsic values), monetary valuations and trade [“commodification” of ecosystem services] may be less reliable or unsuitable.
- In such cases, simple recognition of value may be more appropriate. (TEEB Synthesis Report p. 12)

Equitable access and food sovereignty can be recognised as part of the Total Economic Value, just like the insurance value of biodiversity + resilience. Such complex values are not suitable for market allocations. The precautionary principle is justified.

Green Economy?

TEEB



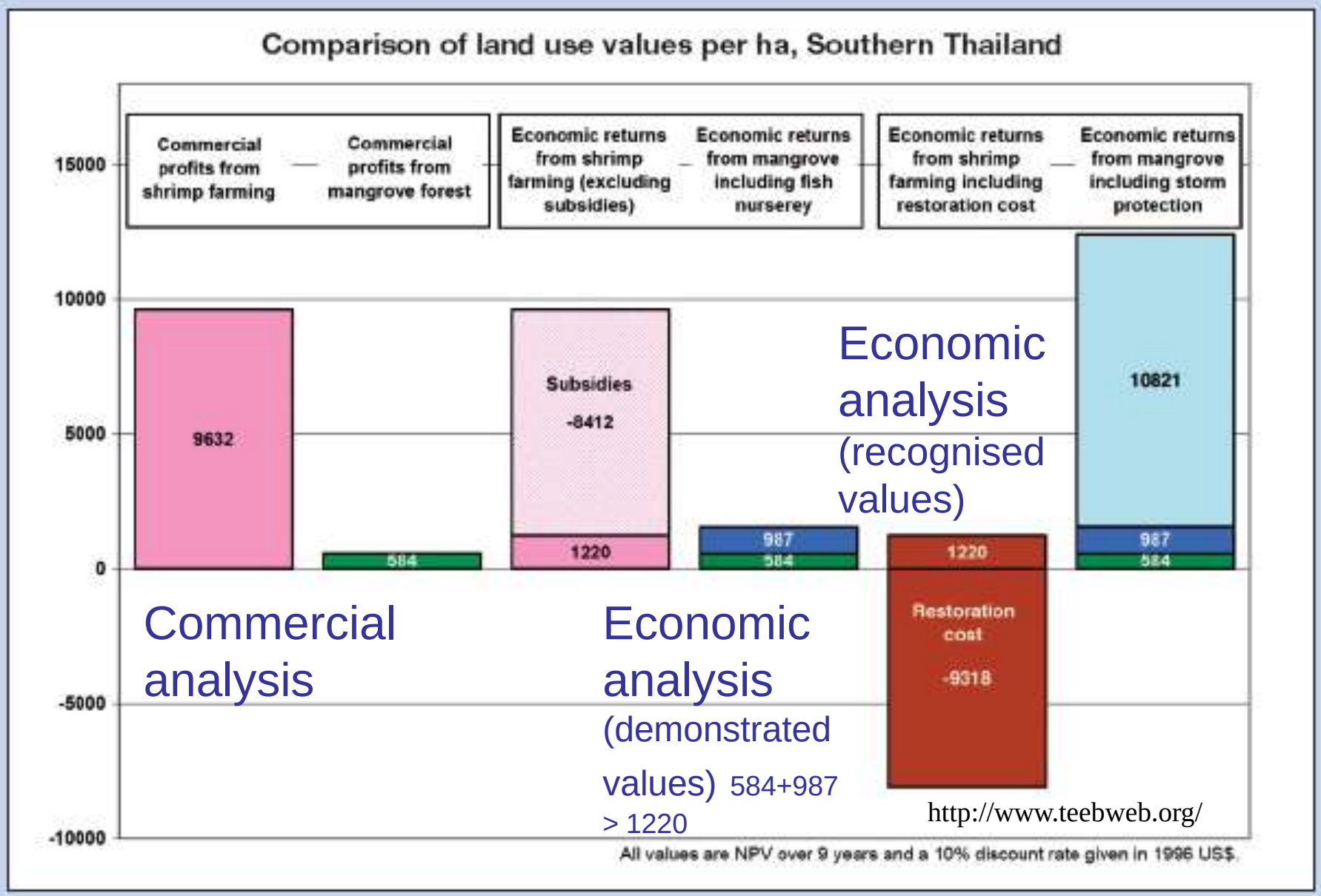
Economics and rights

- The time has come to liberate the concept of “efficiency” from its present narrow meaning of Pareto optimality (Sen 1987:29).
- Consequences may be described and evaluated in different dimensions – rights, freedom, monetary pay-off, equity, resilience, and so on
- Rights-based consequentialism (Sen 1987, p. 75).
- TEEB: Intrinsic values are culturally embedded moral truths. They can be taken into account by choosing the appropriate institutions which allow their articulation in addition to utilitarian values. (TEEB Chapter 4 Key message)

Conclusions

- TEEB focused on ecosystems; Green Economy is about using economics as a tool for social and ecological sustainability
- Inspired by resilience theory and TEEB, Green Economy can value intrinsic and non-utilitarian issues like equitable access to nature and food sovereignty
- These values can be explicitly recognized and expressed by proper institutions, rather than by market prices

Economic value of mangrove forests in Thailand



Source: Hanley and Barbier 2009