



Why map ecosystem services AND ecosystem disservices – factors increasing and decreasing human wellbeing?

Jörg Priess and Benjamin Burkhard

IALE-D, Bonn, October 2015

Why map ES and EDS?

Environmental dis-services (EDS) are known for all major ES categories:

Provisioning: lower crop yields (pest, disease, erosion)

Regulating: erosion, low water quality (vegetation, microorganisms)

Cultural: threatening site; excrements (veg. height/density, animals)

Others, not well covered in current classification systems:

Health issues (death): disease vectors; poisonous plants/animals; pollen

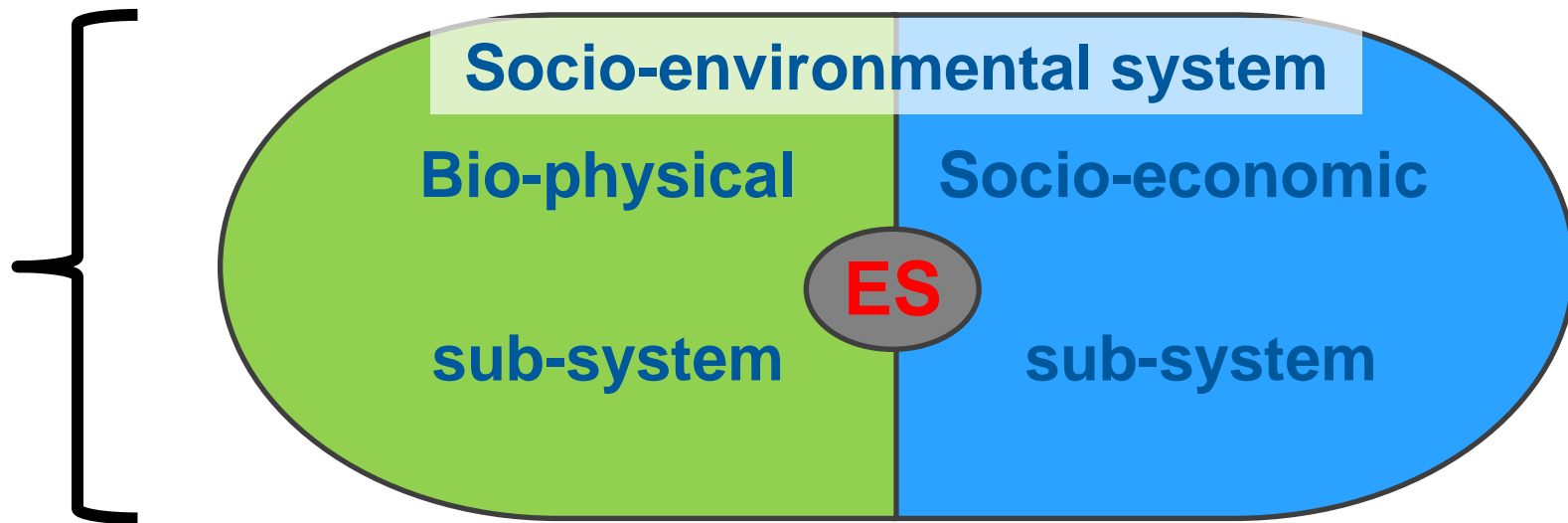
Aesthetic EDS: unsightly landscape; damaged vegetation;

Considerable negative impacts on human wellbeing & on the economy.

Ignoring EDS (impacts) may introduce flaws in trade-off analyses → inadequate policies & decision-making

The ES concept: ES only approach

The ES-concept seems to be holistic, linking the bio-physical and the socio-economic realms

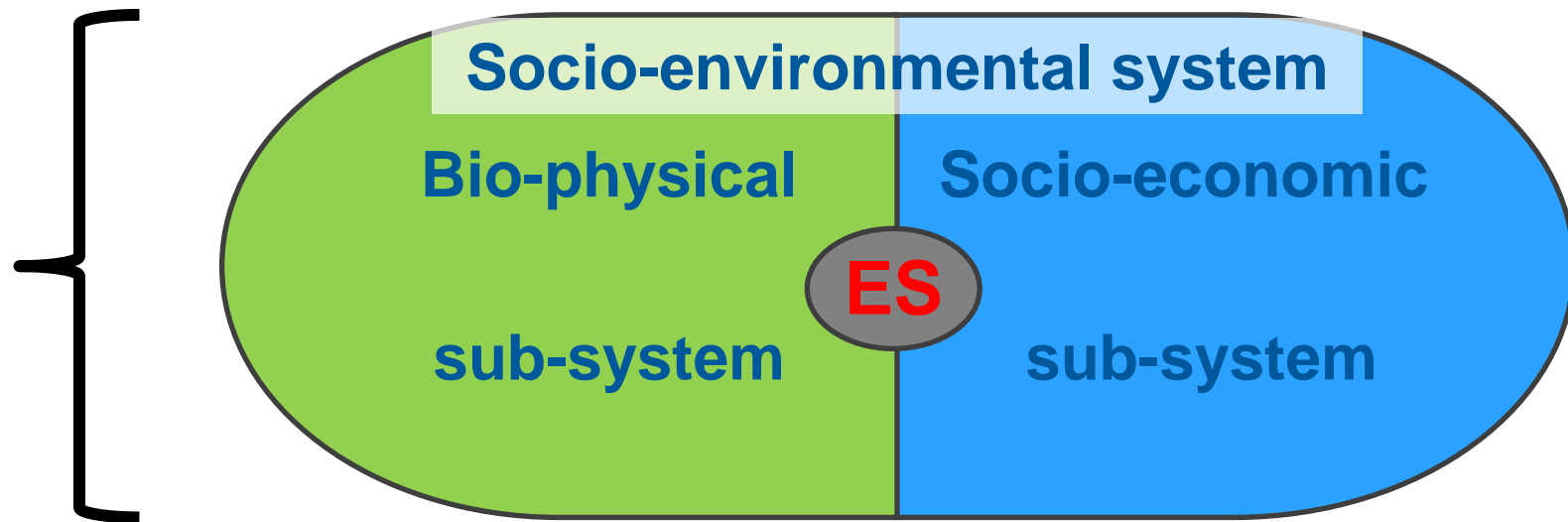


The ES concept: ES only approach

The ES-concept seems to be holistic, linking the bio-physical and the socio-economic realms

Current practice:

Addressing only positive impacts on wellbeing

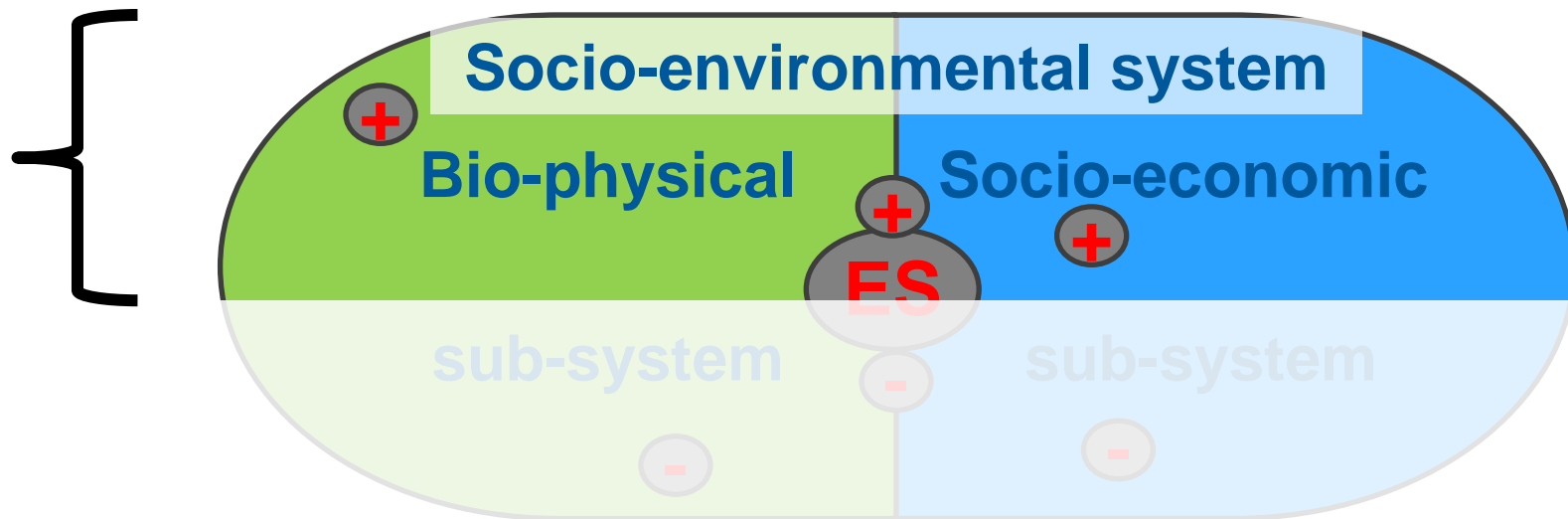


The ES concept: ES only approach

The ES-concept seems to be holistic, linking the bio-physical and the socio-economic realms

Current practice:

Addressing only positive impacts on wellbeing, ignore many bio-physical and socio-economic processes and components.



The real world vs. ES-concept

EDS are NOT real world problems in terms of concept, knowledge or awareness:

- Farmers deal with EDS for millennia
- People living in health risk areas are aware of the problems
- People avoid areas with aesthetic issues / threats if they can

However: EDS ARE a real world problem in terms of impacts on wellbeing and the economy.

Socio-environmental systems

Different perspectives:

Recognizing & analysing only sub-systems has led to

- inadequate policies and decisions causing
- severe environmental and economic problems and damages including climate change

Current applications of the ES concept

- Mostly focus on the sub-system perspective ignoring EDS,
- risking to repeat the errors & negative impacts which they are trying to correct by using the “holistic” ES approach.

Potential ways forward - integrating EDS

- ES concept: adapt definition including increases AND decreases of human wellbeing caused by ecosystem (environmental) services AND dis-services.
- Conceptual models: rethink / extend terminology and system components e.g. in the CASCADE or the MAES butterfly.
- Classification: rethink / extend current schemes such as CICES, TEEB to address EDS more adequately.
- Valuation: rethink and redefine valuation scales (positive, negative)

Recent examples of ES research integrating EDS

Dunn 2010: case study; Global Mapping of EDS;

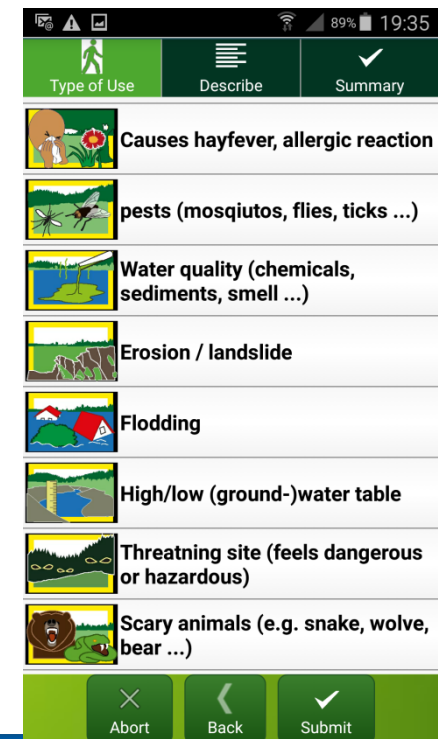
Plieninger et al. 2013: case study, mapping cultural E(D)S;


MAES report 2014: EDS (p. 42); strong preference for ES (C-alloc vs GHG);

vonDöhren & Haase 2015: review: urban EDS (103 papers);

Priess, Barton, Burkhard, Hauck et al.: MapNat – E(D)S mapping App

1	Provisioning				
2	Regulation				
3	Cultural				
4	Environmental Problems / Impacts (Dis-services)	4.1	Aesthetic	40001	Unightly landscape (vegetation, waste, buildings, weeds)
				40002	Damaged vegetation (pest, storm, fire ...)
			4.2	Health risks	41003
		41004			Causes hayfever, allergic reaction
		41005			pests (mosquitos, flies, ticks ...)
		41006			Water quality (chemicals, sediments, smell ...)
		4.3	Other risks (weather, land use,	40007	Erosion / landslide
				40008	Flodding
				40009	High/low (Ground-)Water table
		4.4	Fears	40010	Theatening site (feels dangerous or hazardous)
				40011	Scary animals (e.g. snake, wolve, bear)
		4.5	Other problems	40015	Other problems (bird excrements; intruding animals/plants ...)



A vibrant rainbow arches across a blue sky filled with soft, white clouds. Below the sky, a golden field stretches to the horizon, with a small cluster of trees in the distance. The overall scene is bright and cheerful.

**Thank You
for your attention**