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**How market influences
undermine traditional modes
of regulation.**

**Observations from Kenya,
Mongolia and the Philippines**

6th Annual International ESP Conference 2013 Making Ecosystem Services Count!
Session 30 “Rice Ecosystem Services “
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The ESS Definition

“**Ecosystem Services** are the **benefits** that **humans recognise** as obtained from an ecosystem and that support, directly or indirectly, their survival and quality of life”.

No recognition, no service, no price.

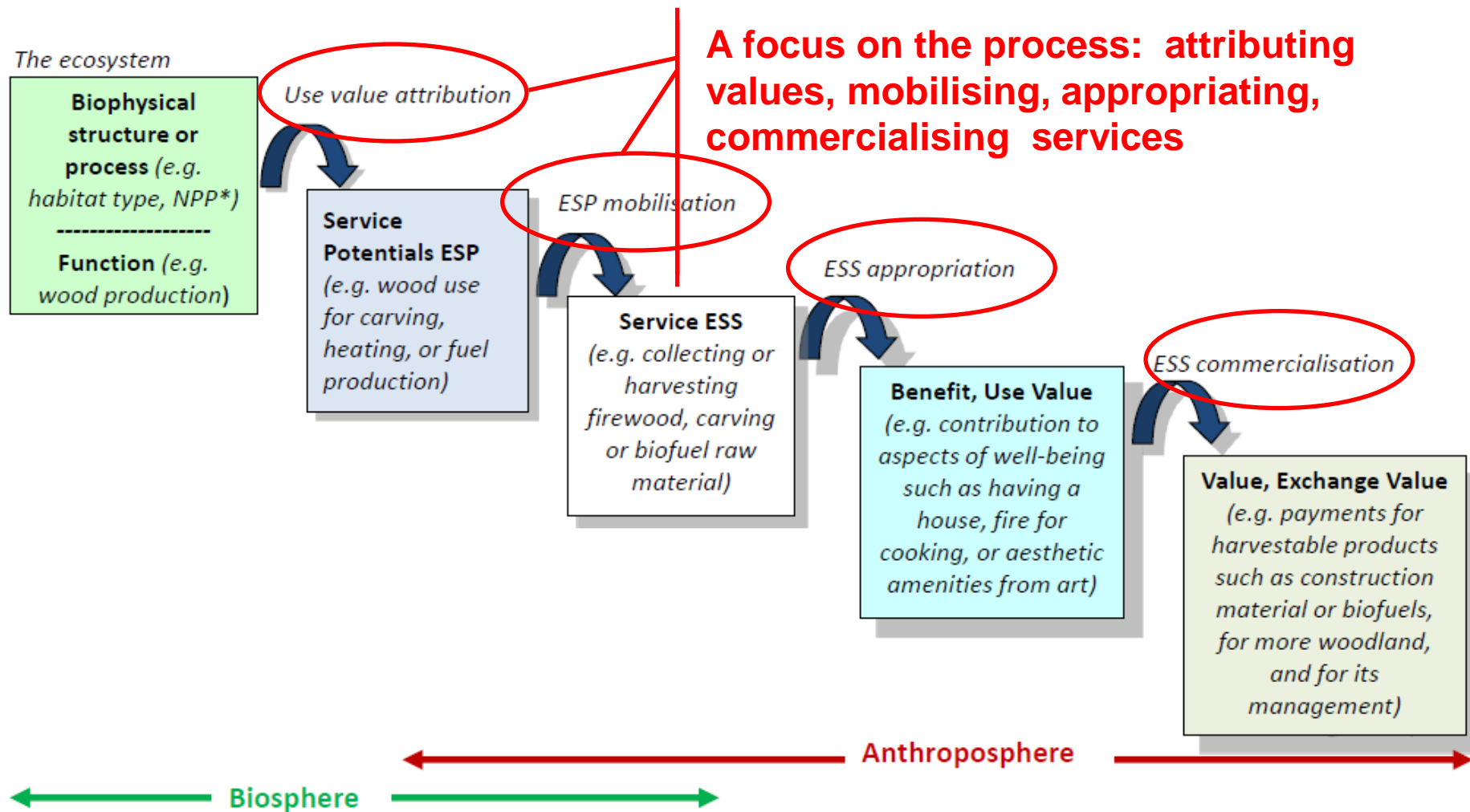
The chicken and the eggs

In the beginning, there was
an ecosystem function? an ecosystem
service? or what?

We chose a stepwise order, starting with ecosystem functions. They are defined as traits of ecosystems which exist independent of human action, but can be modified by human intervention.

The ESS Cascade

(Potschin & Haines-Young, modified)



* NPP: Net Primary Production

Case 1: Massai Mara, Kenya



Massai life



Attracting herbivores...



**...which attracts
carnivores, and
they attract
tourists.**



Case	Ecosystem Function	UVA	Ecosystem Service Potential	Mobilisation	Ecosystem Service	Exploitation	Welfare Gain
1 Kenya former	Diverse savannah landscape, high biodiversity	→	Grazable grass, Edible fruits and game, Stems for construction	Herding, Gathering and hunting, Logging	Cattle feed, Fruit & meat Construction material	Herd management, Cooking Construction	Milk, blood Other food Housing
1 Kenya current	Landscape increasingly grassland character	→	Grazable grass, game tourists pay to see	Burning the savannah	Increased number of grazing animals and their predators	Tourism marketing	Cash income from tourism



Nakuru National Park, Kenya



Case 2: Mongolia



Vulnerable ecosystems sustainably used



Modernising or abandoning traditional life?

Case	Ecosystem Function	UVA	Ecosystem Service Potential	Mobilisation	Ecosystem Service	Exploitation
2 Mongolia former	Vulnerable grassland Temporary water scarcity	→	Nurturing herds, in particular horses representing wealth	Herding mainly horses	Herds of many horses	Milking Socio-cultural valuation
2 Mongolia current	Vulnerable grassland, eroding. Temporary and local water scarcity	→	Nurturing goats for Kashmir production	Stocking up on goats in herds	Grazing many goats	Shearing the goats

What is the future of herding?



(Uranium and rare earth mining is a separate issue)

Case 3: Ifugao, Philippines

2000 years of Banaue Rice Terraces



Regulating services: mountain forest safeguards freshwater supply



A photograph of a tree trunk with two white signs attached. The top sign reads "NO TO FOREST FIRE" and the bottom sign reads "PLANT TREES FOR WATER". The background shows a lush green forest and a mountain range under a clear sky.

NO TO
FOREST
FIRE

PLANT TREES
FOR
WATER

Benefits are recognised

Case	Ecosystem Function	UVA	Ecosystem Service Potential	Mobilisation	Ecosystem Service	Exploitation	Welfare Gain
3 Philip-pines former	Rice terraces Sweet potato fields Woodlots and forests	→	Suitable for producing rice and sweet potatoes Water regulation and supply for rice fields	Sustaining terraces for rice planting. Protecting forest against overuse	Rice and sweet potato production mostly sufficient water supply	Drying rice, storing it in the houses hand thres before use	Basis of subsistence existence Preparing aromatic rice dishes
3 Philip-pines current	Rice terraces Rich cultural heritage Increasing erosion	→	Attracting tourists ready to spend money Source of wood	Logging and carving souvenirs	Tourists demanding souvenirs, willing to pay	Selling craft work	Cash income

Strong traditions: souvenir carving's cultural basis



Conclusion



Ecosystem services: no free gifts of nature but a human view on nature's riches





**Diverging preferences
of different social
groups lead to
different service
potentials attributed to
the same functions.**

**Environmental
conflicts begin right
here.**

**It's a socio- cultural
and political balancing
act.**

***"We have become far too clever
to survive without wisdom"***
E. F. Schumacher

***Thank you for
your attention.
For the extended
presentation and
other papers see***

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