



University of Natural Resources
and Life Sciences, Vienna
Department of Economics and Social Sciences



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Provisioning systems, services and the SFS nexus

Group 2

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Expert Workshop

Conceptualizing services and the stock-
flow-service nexus

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Outline

1. Context & aim
2. Concepts of provisioning systems
3. How are services conceptualized?
4. What does this imply for our understanding of the stock-flow-service nexus?



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1. Context & aim

- Provisioning systems provide goods and services to fulfill peoples needs and are linked to biophysical conditions.

→ better understanding of provisioning systems and how they can be used to analyze the stock-flow-service nexus and its transformation

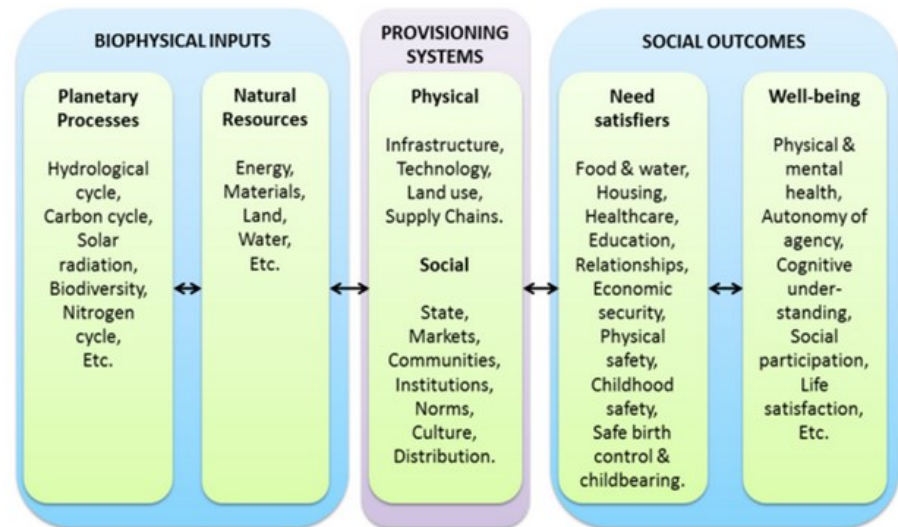


2. Concepts of provisioning systems

(A) “Living well within limits”

- “provisioning systems’ is the broad term used to describe the chain linking the production, distribution and consumption of the goods and services through which human needs are met” (LiLi 2018)
- PS are physical and social
- re-structuring and improvement of provisioning systems important to achieve a good life for all (O’Neill et al. 2018)

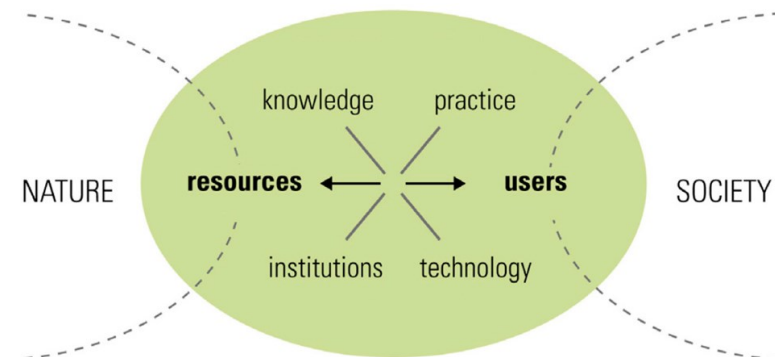
Research framework



J. Steinberger, D. O’Neill & W. Lamb

(B) Frankfurt School of Social Ecology

- Heuristic model for conceptualizing and studying **social-ecological systems**
- **Provisioning:** „any *benefit* societies draw from natural resources“ (Hummel et al. 2017: 20)
- **Provisioning systems** “developed by societies to provide *goods and services* such as *food, water, or energy*; they are based on ecosystems and their geophysical environments and they impact biodiversity, for example, via land-use or water-extraction. Supply systems are regulated by societies, and at the same time they depend on natural conditions and are affected by their viability” (Hummel et al. 2011: 9).
- Scale independent but best suited for meso-scale studies



(Hummel et al. 2017)



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Sustainable consumption

- **Socio-technical systems of provision (Ropke 2015)**
incl. infrastructure and rules & institutions
 - focus on technology
 - integrating practices
- **Systems of Provision Approach (Fine 2002, Bayliss et al., 2003)** examines consumption in terms of commodity-specific chains of provision
 - institutions, actors and power relations

3. How are services conceptualized?

(A) Services = social outcomes

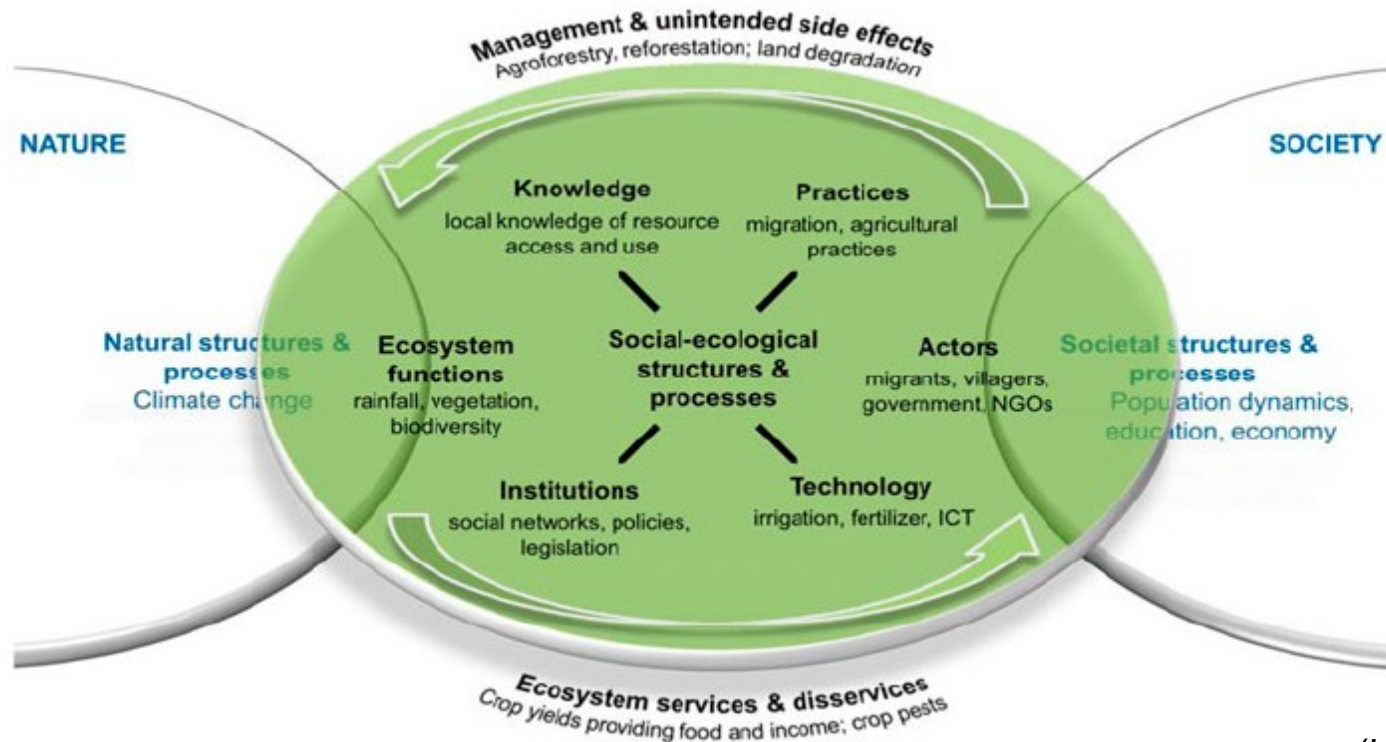
- shaped by biophysical resource use
- and provisioning systems (O' Neill et al. 2018)

(B) Provisioning systems provide services such as food, mobility, housing/shelter (=basal societal nature relations)

- problem based approach enables to study services “as they are” (incl. institutions, practices, knowledge, technology)
- historically variable and culturally defined
- need to be discussed in transdisciplinary context (Hummel et al. 2017)



- Services can transform into disservices which harm society (e.g. pests in agriculture)



(Hummel 2015)



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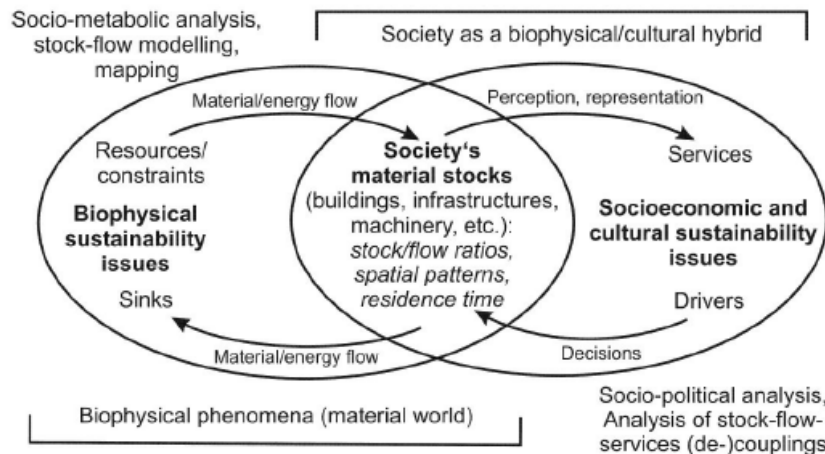
4. Analyzing provisioning systems in the Stock-Flow-Service Nexus

- problem-based analysis including
- actors, institutions and power relations,
- practices,
- commodity chains,
- forms of knowledge
- historically and culturally specific

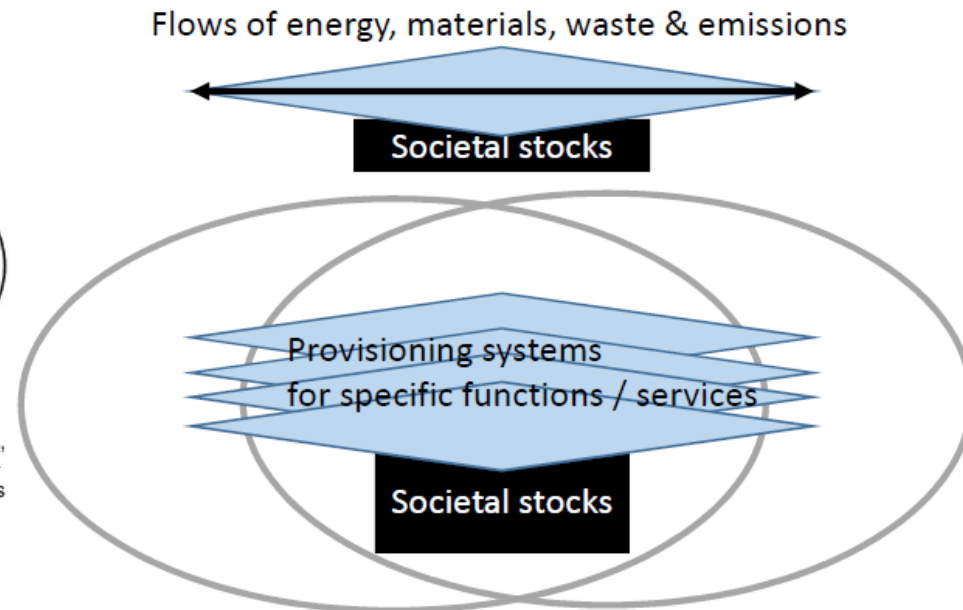
→ allows examining how the stock-flow-service nexus could transform

Stock-Flow-Service Nexus

Provisioning systems relate to specific societal functions or services, e.g. nutrition, water supply or health care. Including stocks into provisioning systems can help analyzing the biophysical stocks and flows related to the provisioning of defined functions or services.



Modified after Fischer-Kowalski & Weisz, 1999,
Advances in Human Ecology 8, 215-251





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Discussion

How can the qualitative dimension, i.e. the role of actors and institutions, be integrated in the stock-flow-service nexus?

What quantitative indicators (of stocks) do we need for the analysis of provisioning systems?

How can we make use of provisioning systems to analyze barriers and leverage points for transforming the stock-flow-service nexus?

On what scale can we analyze the stock-flow-service nexus?

How can questions of distribution be (better) addressed within provisioning systems?

Transdisciplinary process: Who is involved? Do the actors involved see the necessity for self-limitation?



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THANK YOU!

Literature

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