

A large, multi-story glass and metal structure, likely a greenhouse or a modern building, set against a clear blue sky. The structure is surrounded by lush greenery, including tall evergreen trees and various flowering plants in the foreground.

Mgr. Lenka Suchá, Ph.D.

An Introduction to Social Dimensions of Global Environmental Change: Why is GEC a social issue

14/3/2024



Why should we care about global environmental change?

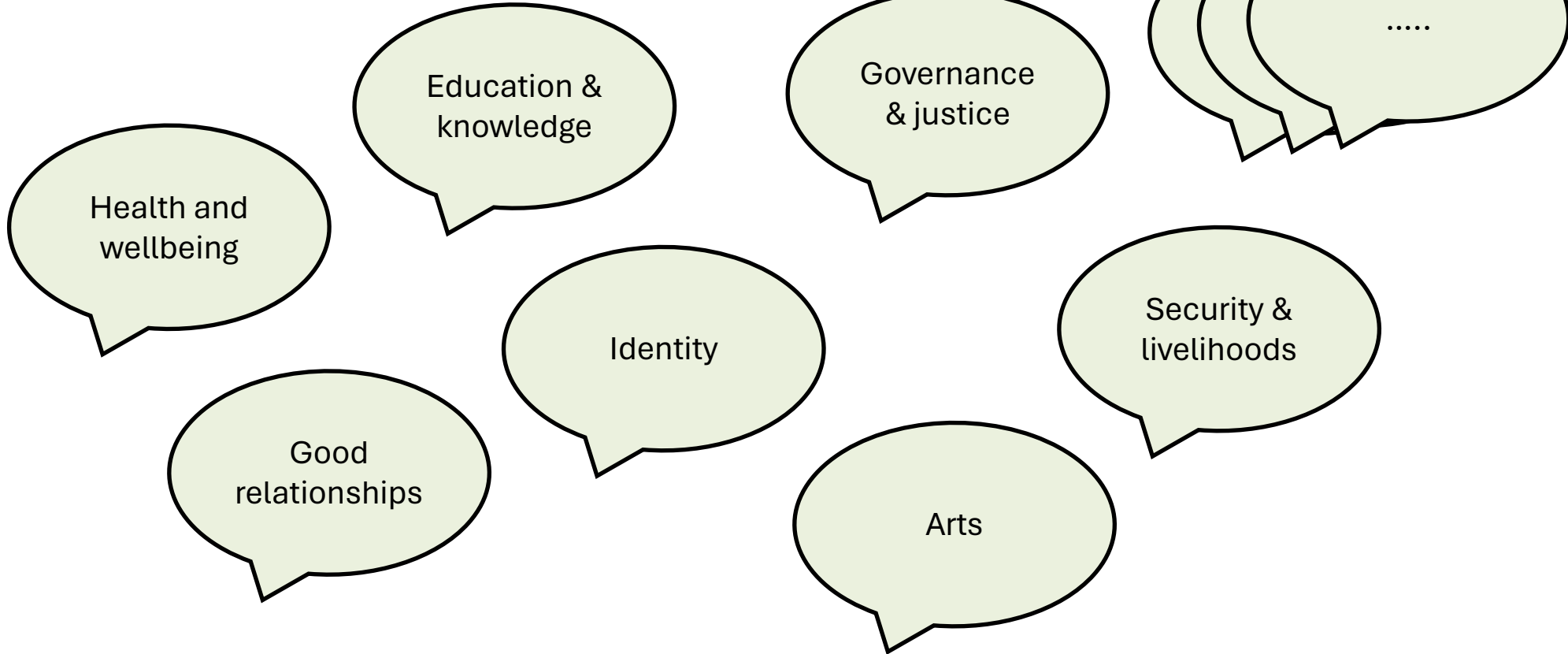


What are the major forces of global environmental change?

A large, modern glass and metal structure, possibly a greenhouse or a research facility, set against a clear blue sky. The building is surrounded by lush greenery, including ferns and purple flowers in the foreground. The image is partially obscured by a semi-transparent green overlay on the right side.

Good quality of life and the role of the
nature

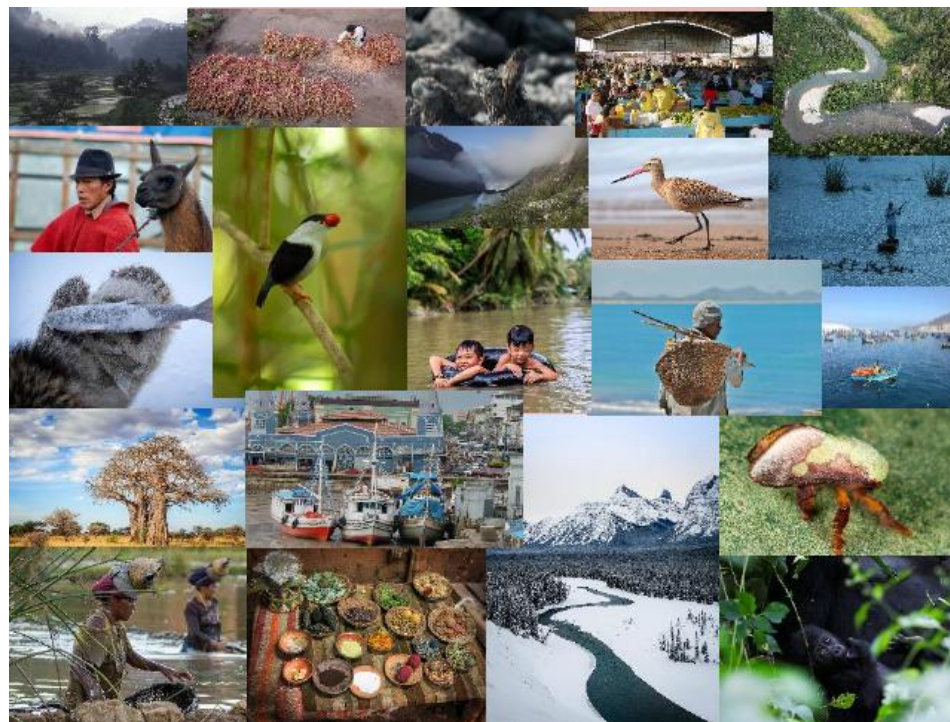
Good quality of life



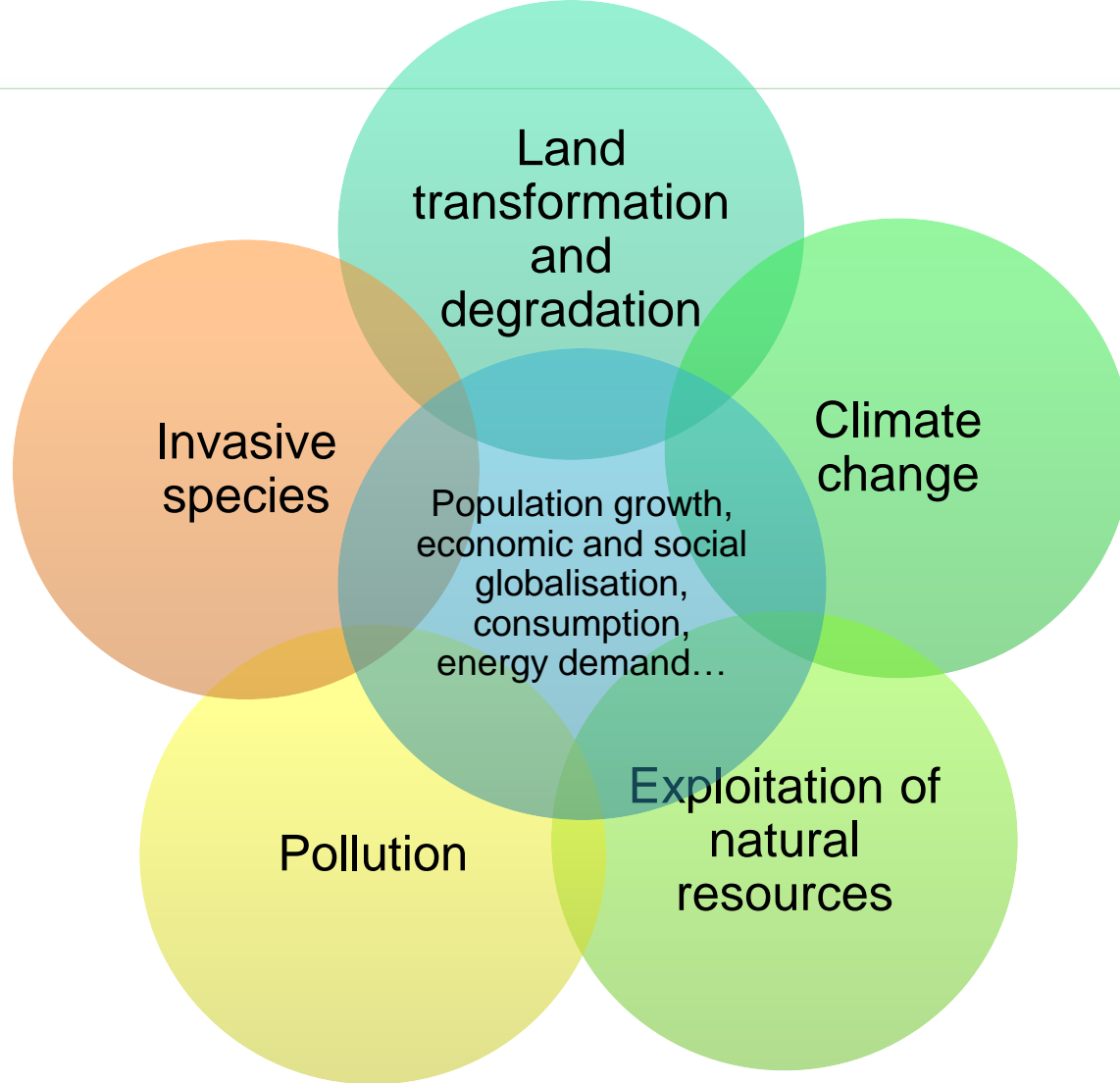
Role of environment? Nature's contribution to people



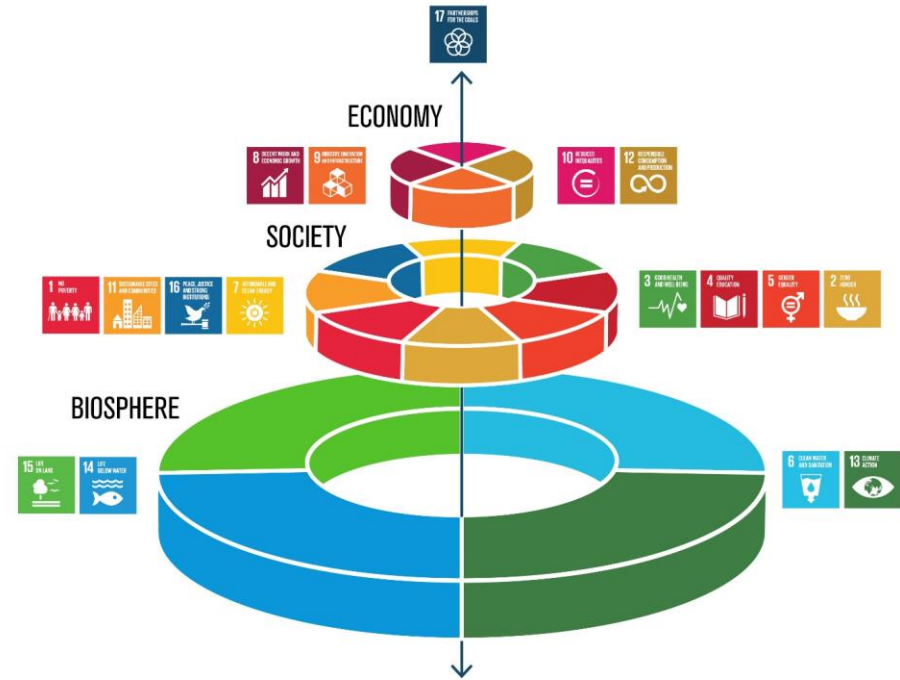
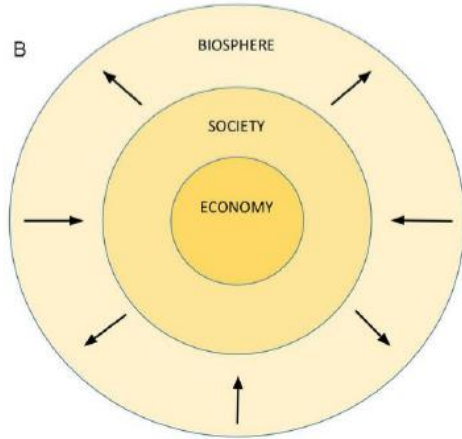
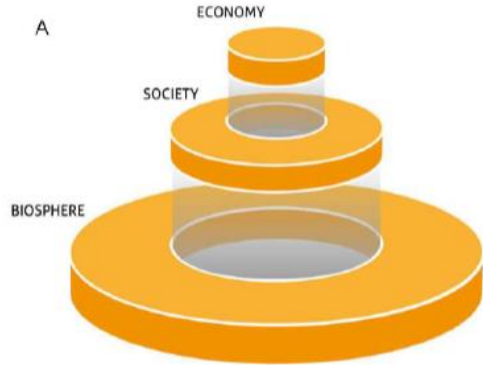
Preconditions? Functioning ecosystems, biodiversity



BUT...



Good quality of life depends on nature



Graphics by Jelen Libertová/Křivá

Folke et al. 2016 Ecology and Society

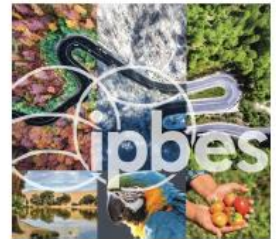
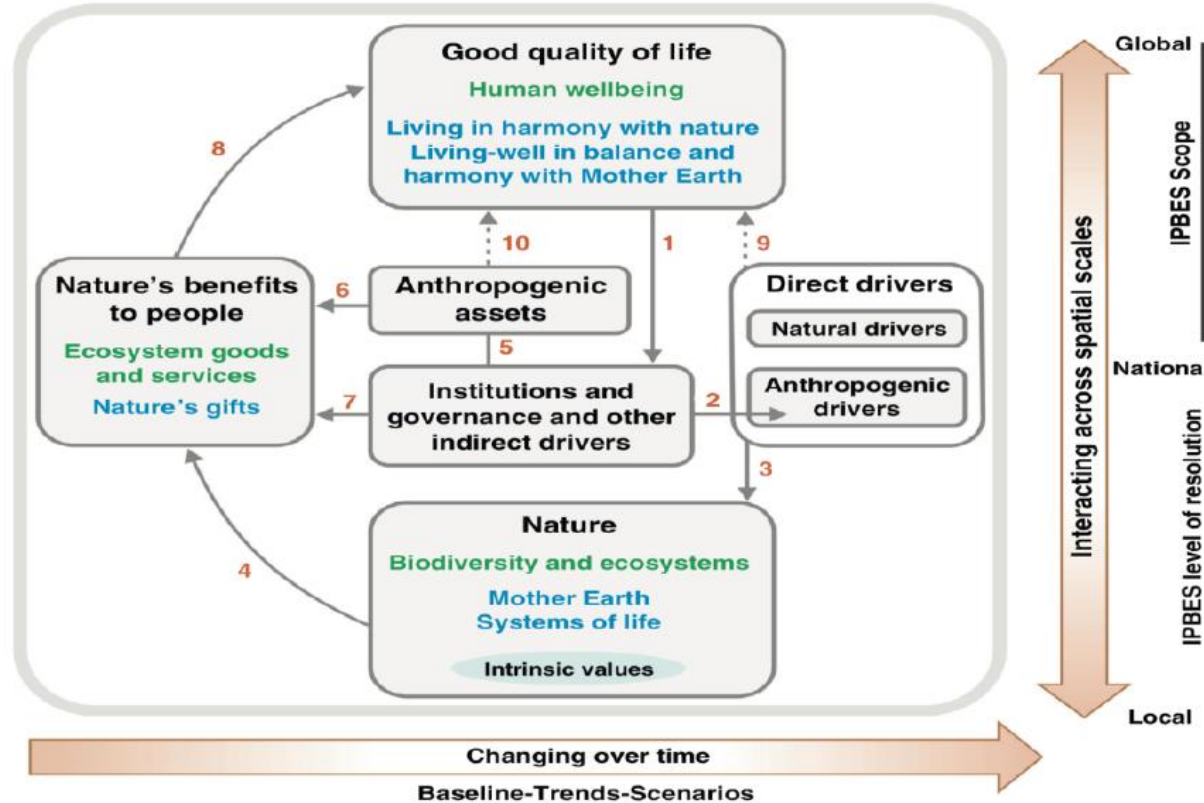
Good quality of life depends on nature

Ecosystem Services



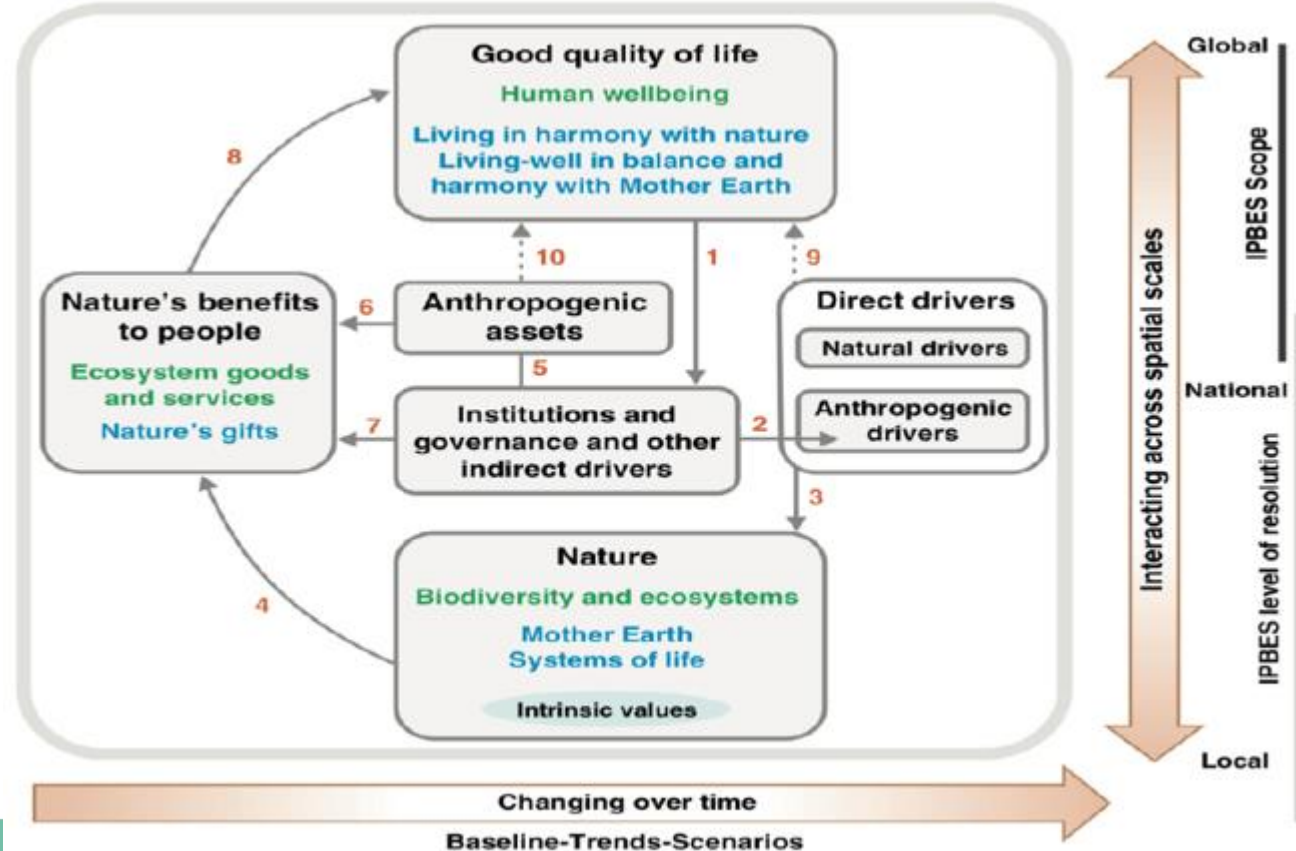
Good quality of life depends on nature

Nature's contribution to people



Good quality of life depends on nature

Holistic understanding → capturing the diversity of worldviews, knowledge systems and stakeholders



Good quality of life depends on nature

SUSTAINABLE DEVELOPMENT GOALS



A large, multi-story glass and metal structure, likely a greenhouse or a modern building, set against a clear blue sky. The structure is surrounded by lush green vegetation, including ferns and purple flowers in the foreground.

Researching global environmental
change – the role of social sciences

Social-ecological system and global environmental change (SES & GEC)

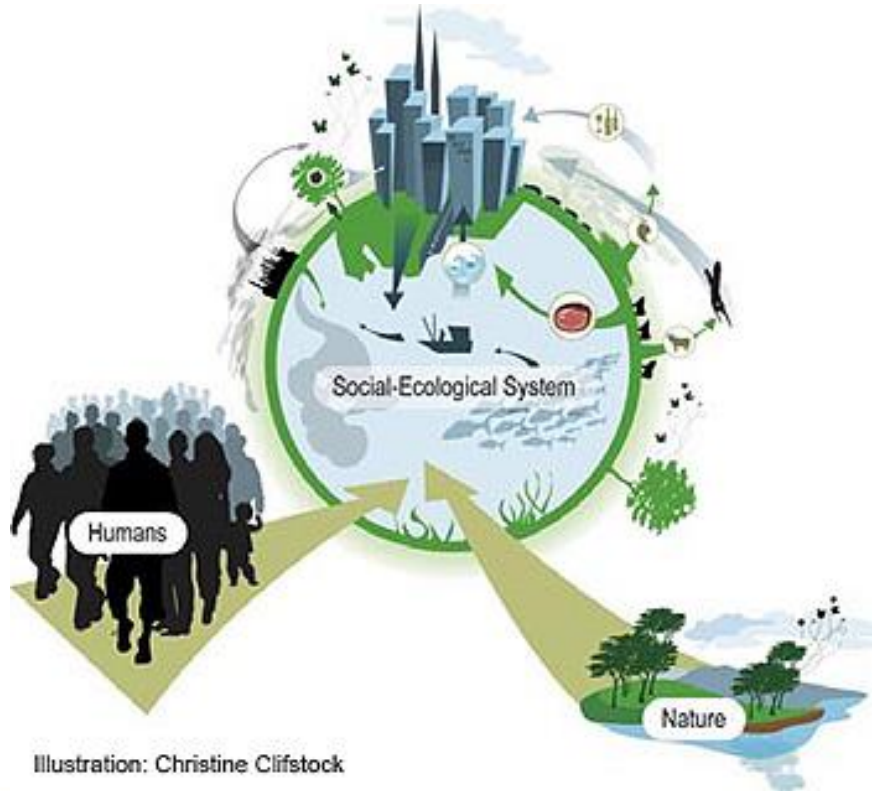
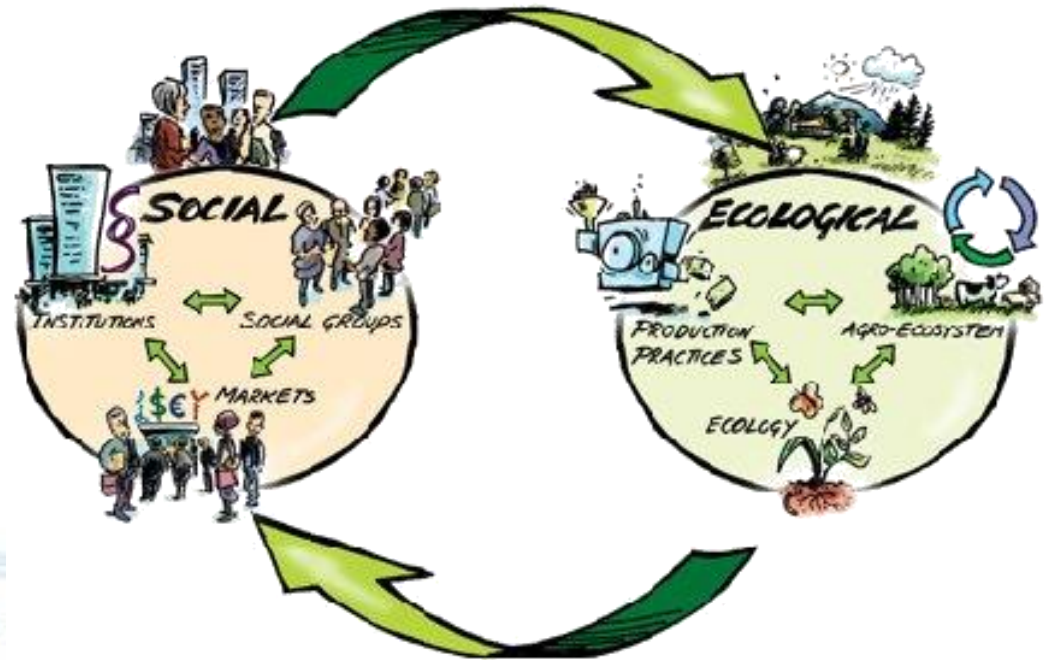


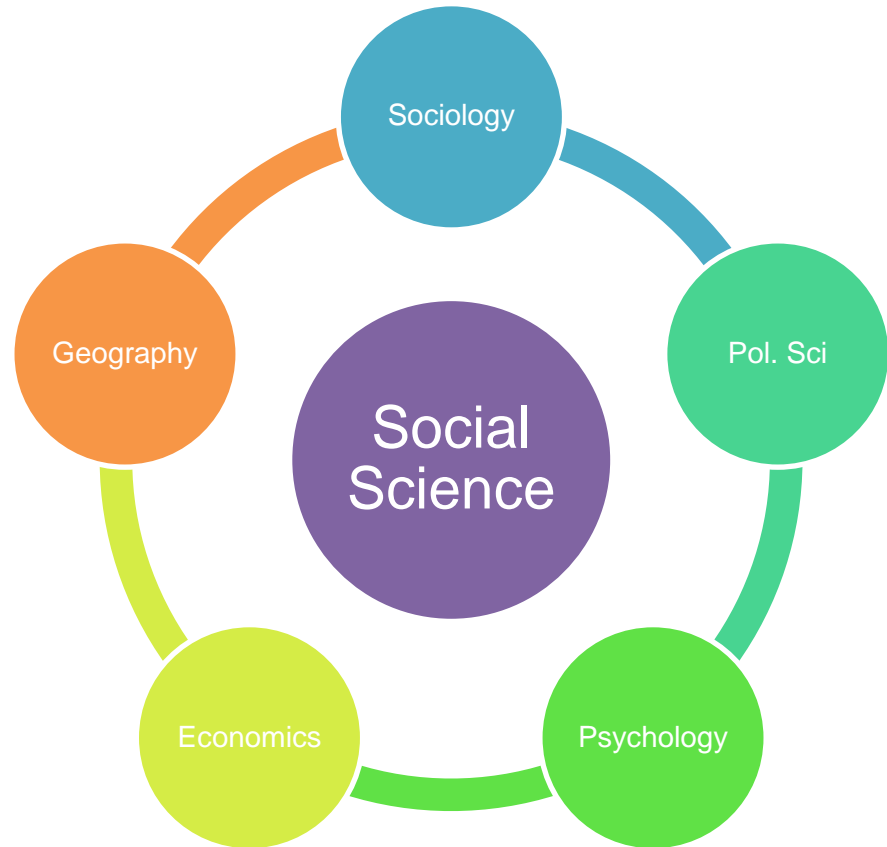
Illustration: Christine Clifstock



Folke et al., 2016

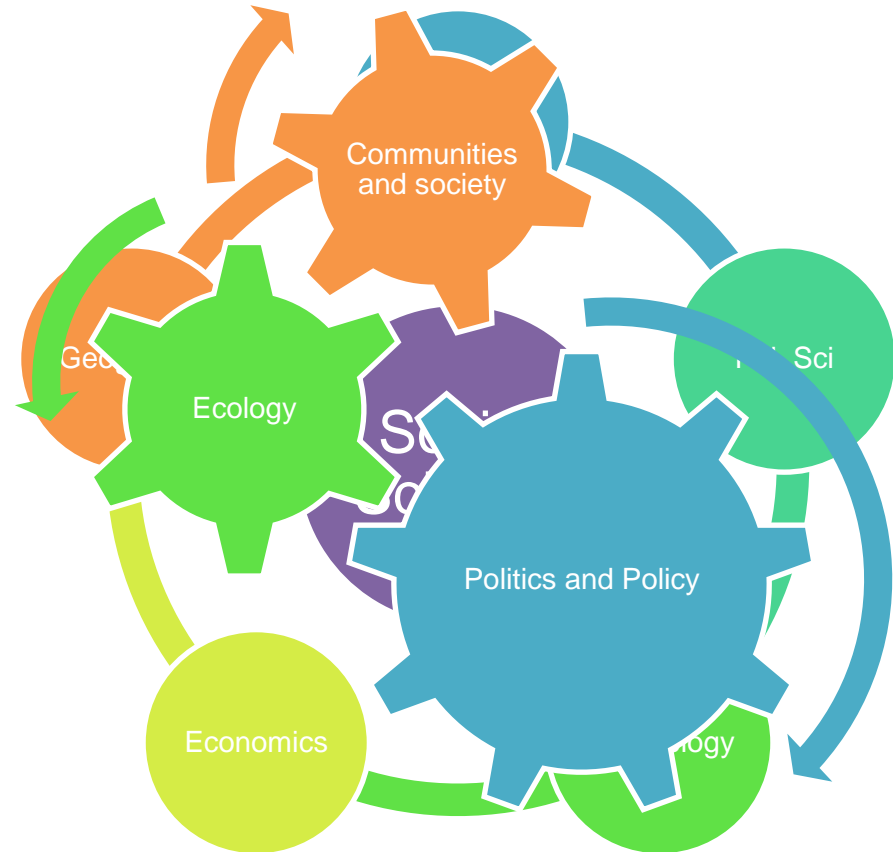
How to research SES & GEC?

- Environment in the core but society as the most influential factor:
 - ??? How people create and perceive global environmental change???



How to research SES & GEC?

- Searching for understanding the relationship between people and environment, the influencing factors, and the impact of the relationship itself



Answer: sustainability science

- Combines applied and basic research → understanding of the SES & GEC
- Core topics: climate change, biodiversity loss, environmental degradation and pollution (land, water), natural resources exploitation, invasive species
- Cross-cutting discipline – qualitative and quantitative approaches, participation, transdisciplinarity
- Emphasis on stakeholder engagement, knowledge co-production, bringing together diverse knowledge systems → bridging scientists, policy-makers, politicians, civil society, non-governmental organisation...

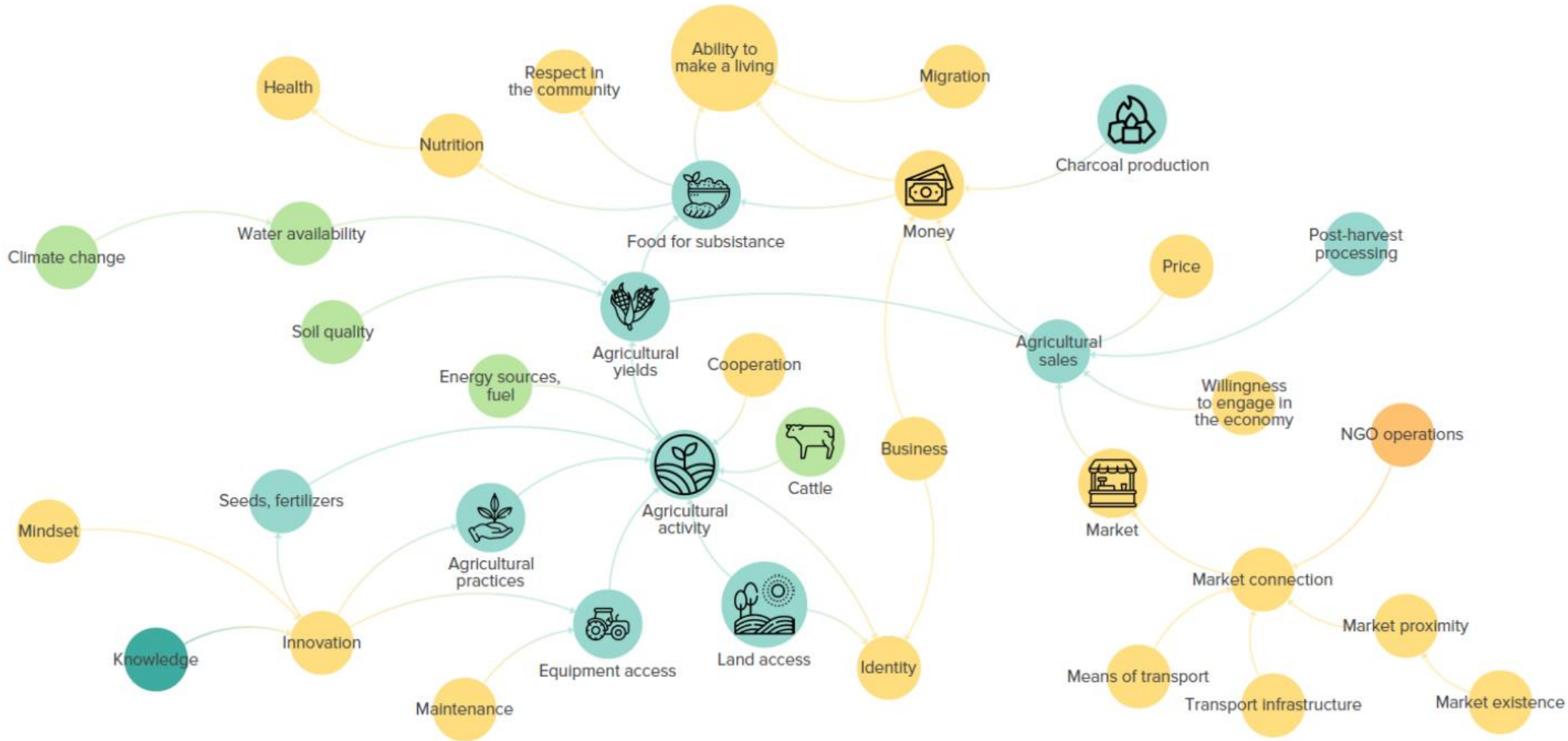
A large, multi-story glass greenhouse with a complex metal frame, situated in a lush green environment with trees and flowering plants. The structure is made of aluminum and glass, with some panels slightly ajar. The background shows a clear blue sky and dense green foliage.

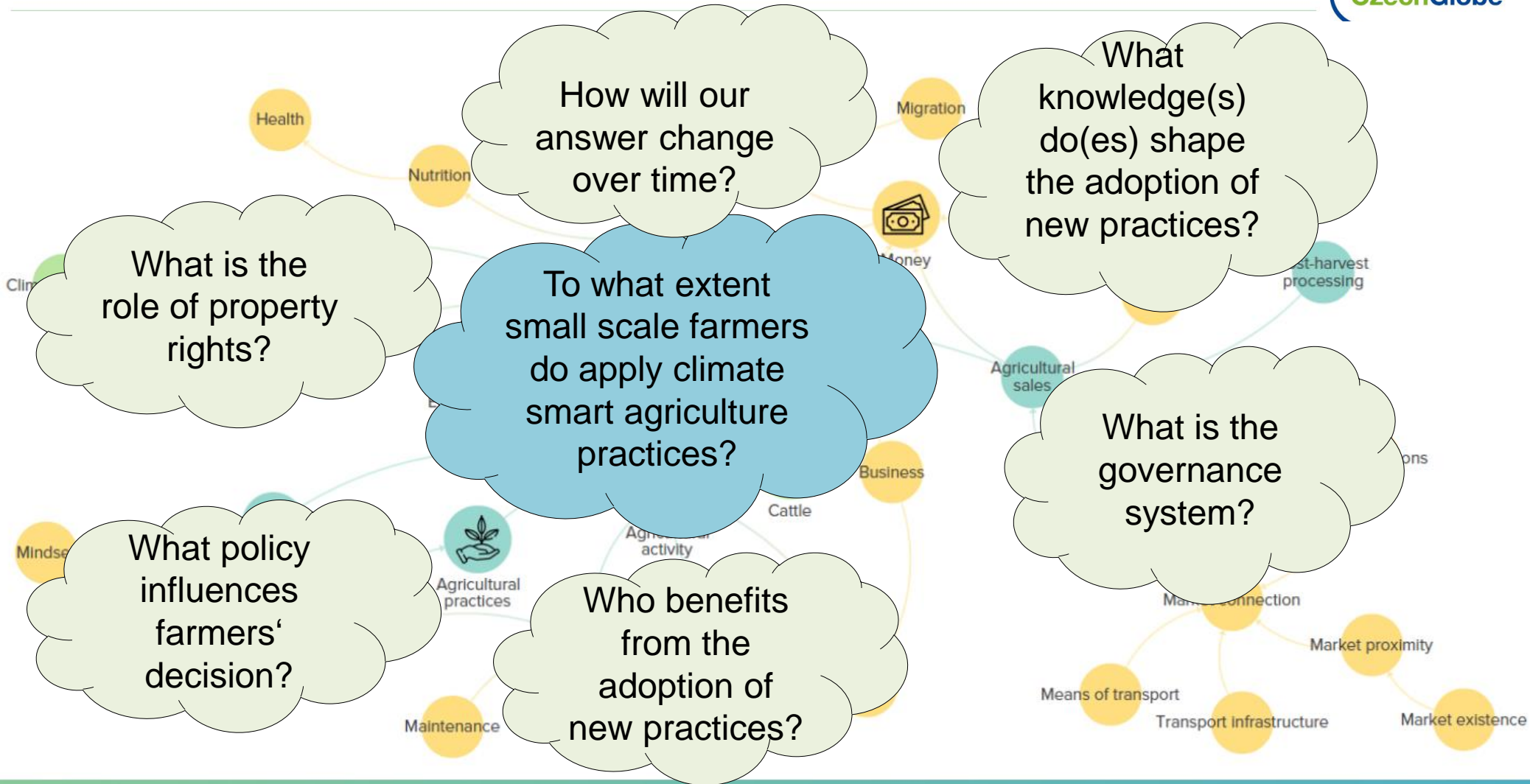
Example: social-ecological mapping
in Western province of Zambia

Example? Western province of Zambia

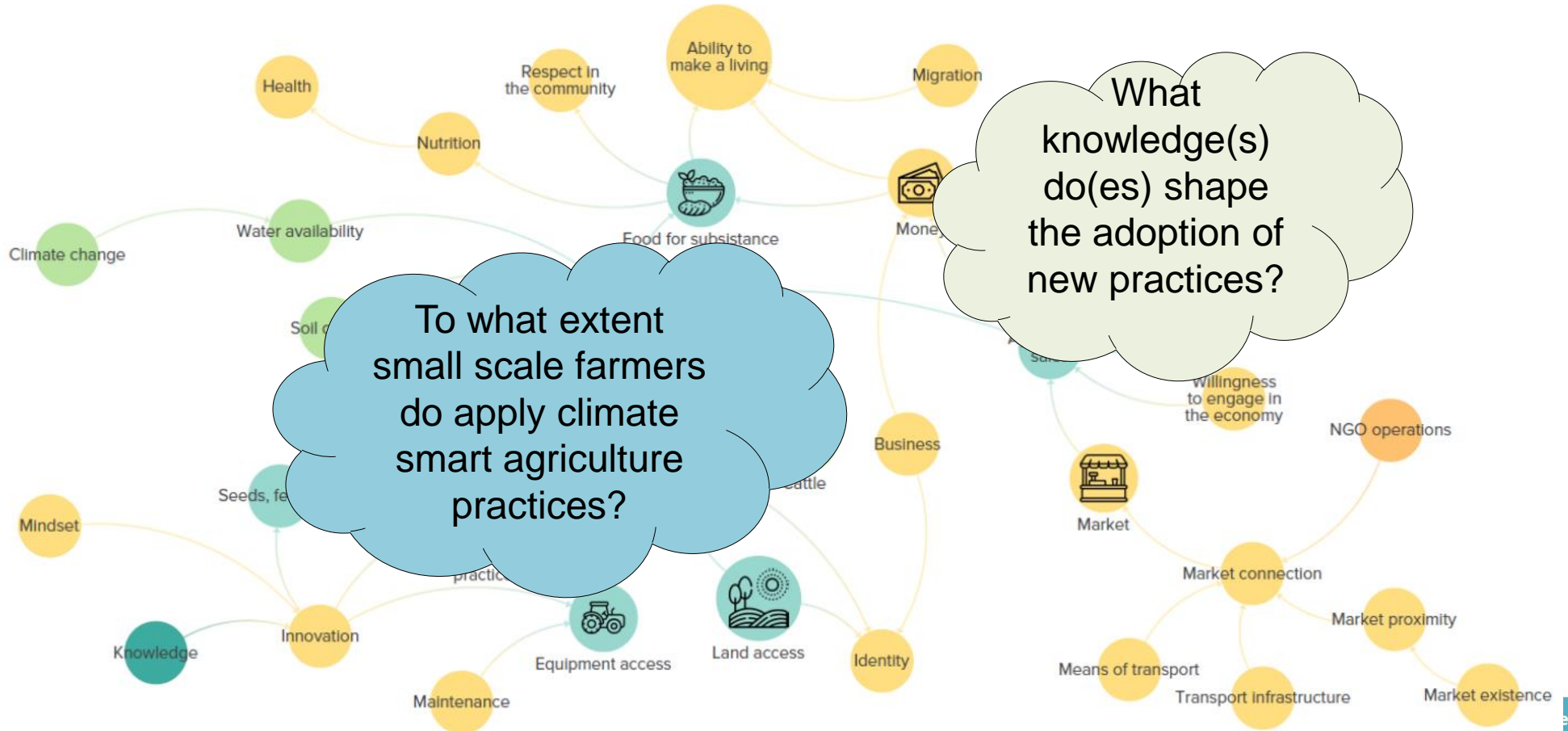
- Aim: understanding farming practices in the light of climate change
- Cross-cutting framework:
 - Nature's contribution to people
- Methodologies:
 - Social-ecological system mapping, interviews, participatory workshops, survey...
 - Transdisciplinarity & knowledge co-creation







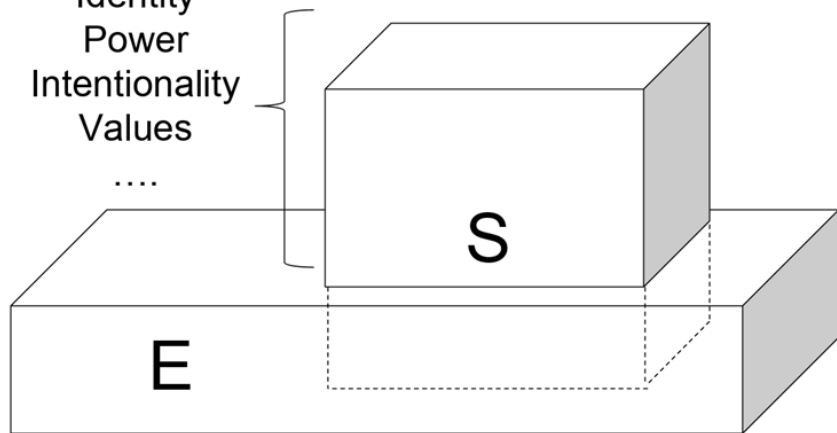
The role of knowledge in SES & GEC



The role of knowledge in SES & GEC

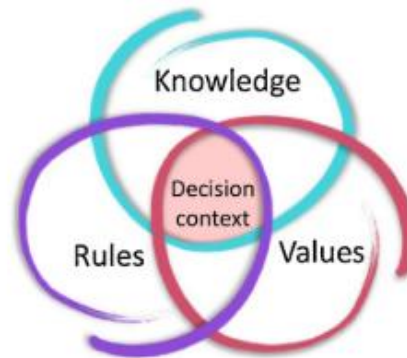
Thought processes

Mental Models
Identity
Power
Intentionality
Values
....

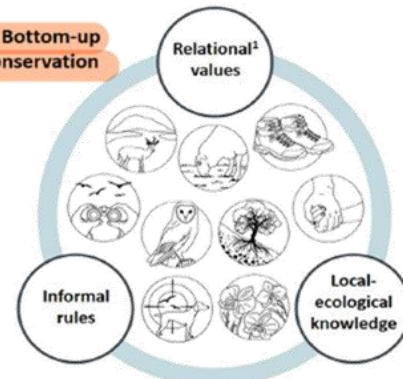


MATERIAL

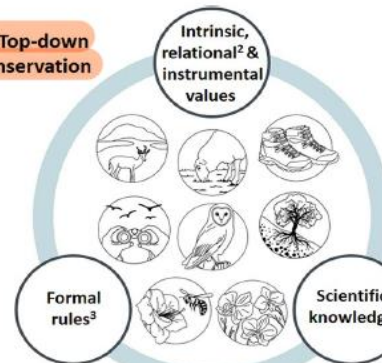
COGNITIVE



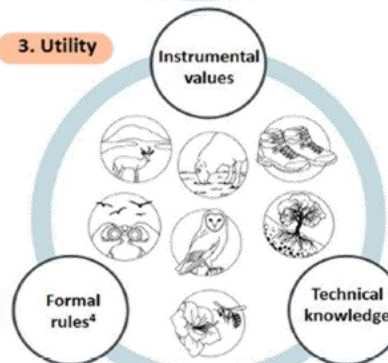
1. Bottom-up conservation



2. Top-down conservation



3. Utility



The role of knowledge

Local knowledge

Generalizable knowledge

Informal knowledge

Formal knowledge

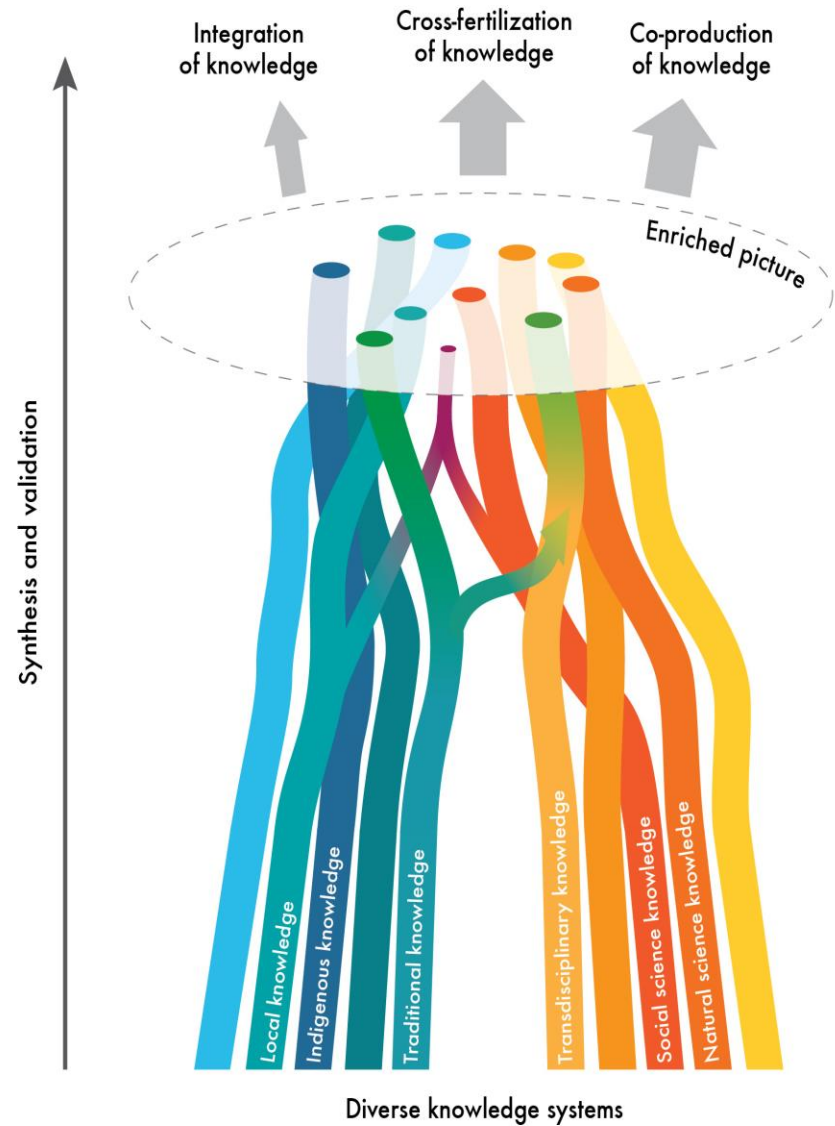
Novice knowledge

Expert knowledge

Traditional knowledge

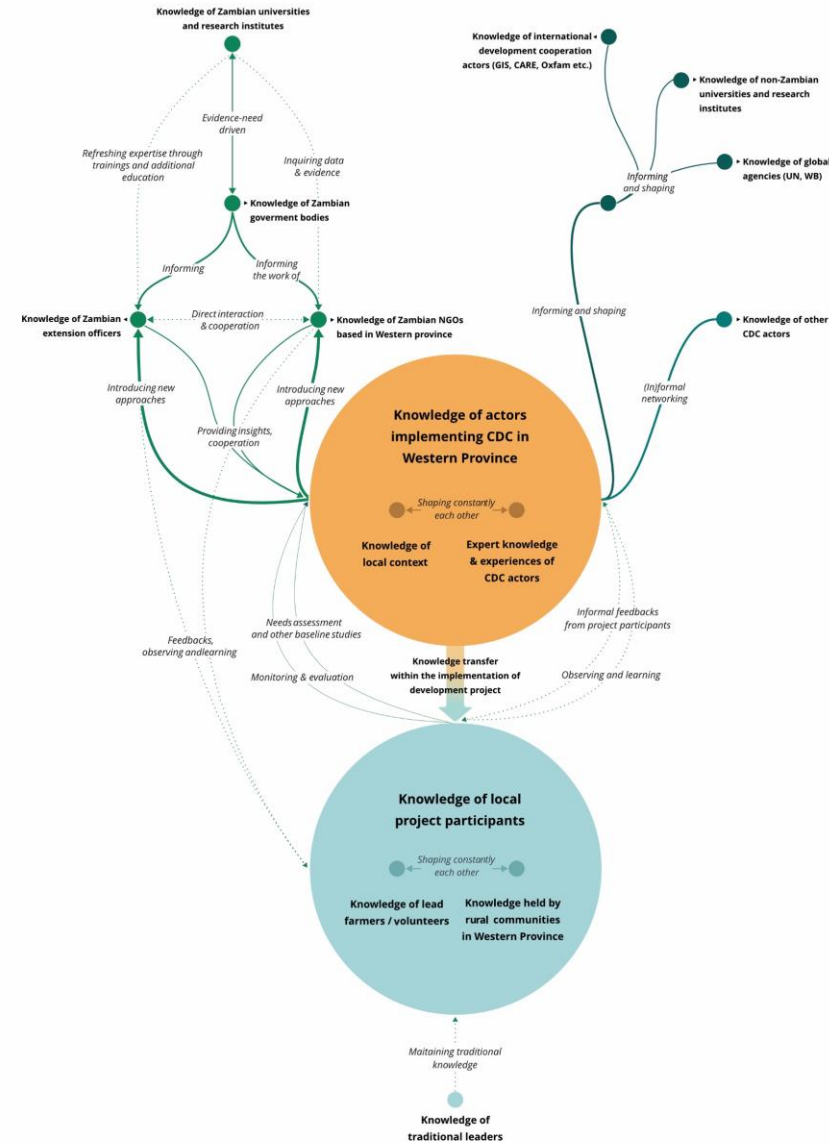
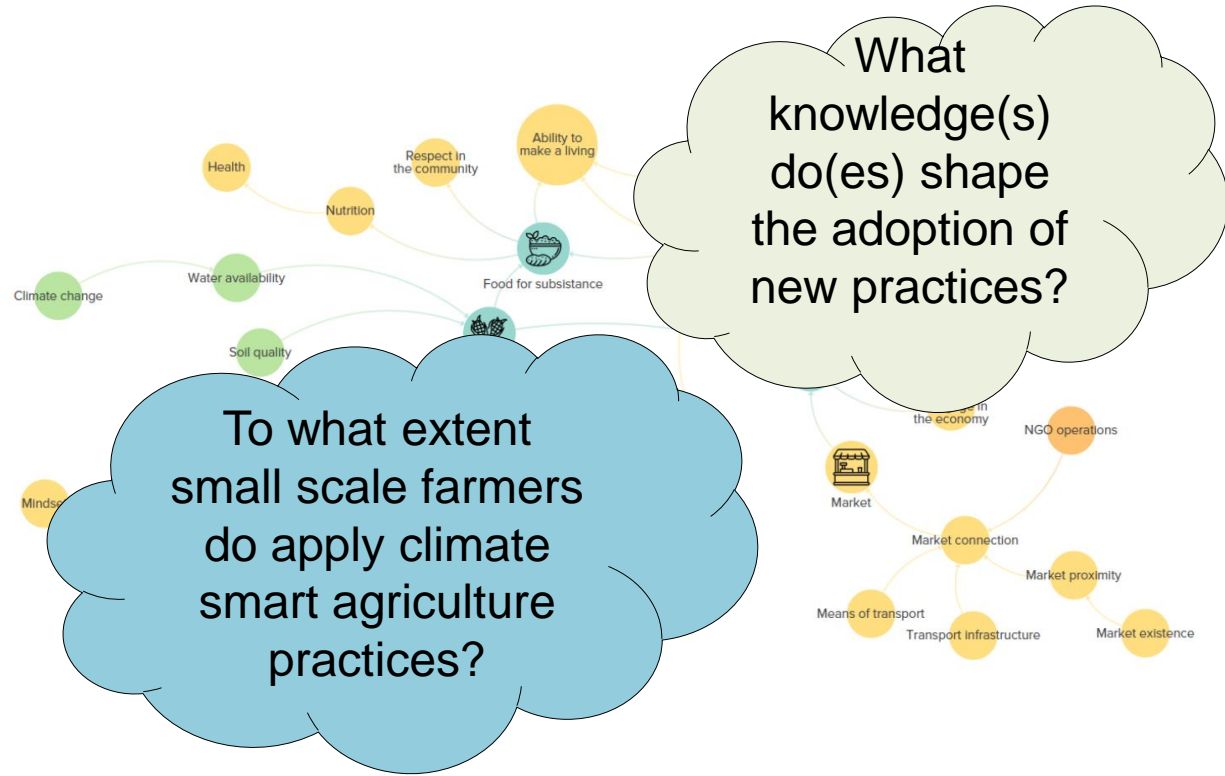
Scientific knowledge

Indigenous Knowledge



Diverse knowledge systems

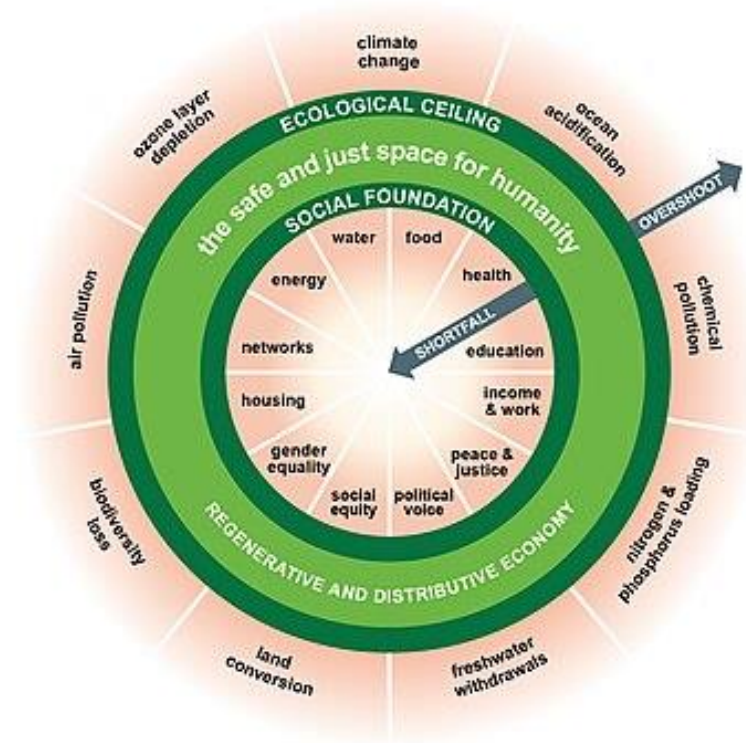
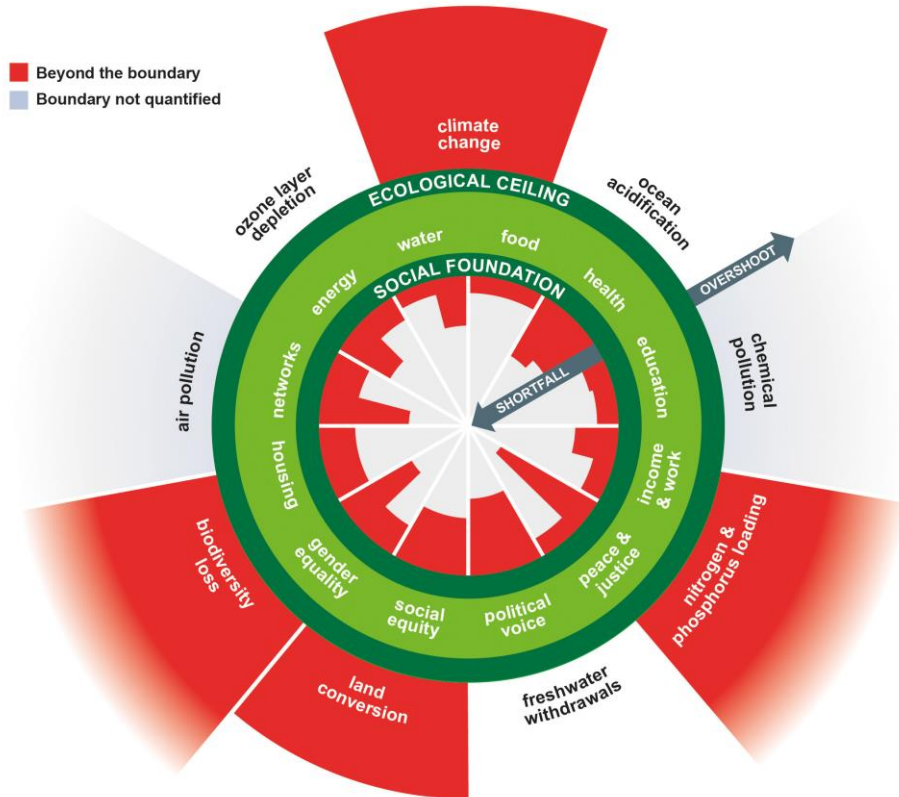
The role of knowledge in



A large, modern greenhouse with a complex metal frame and glass panels, situated in a lush green environment with trees and flowering plants. The structure is partially obscured by a semi-transparent green overlay on the right side.

Solution is social

Safe and just operating spaces

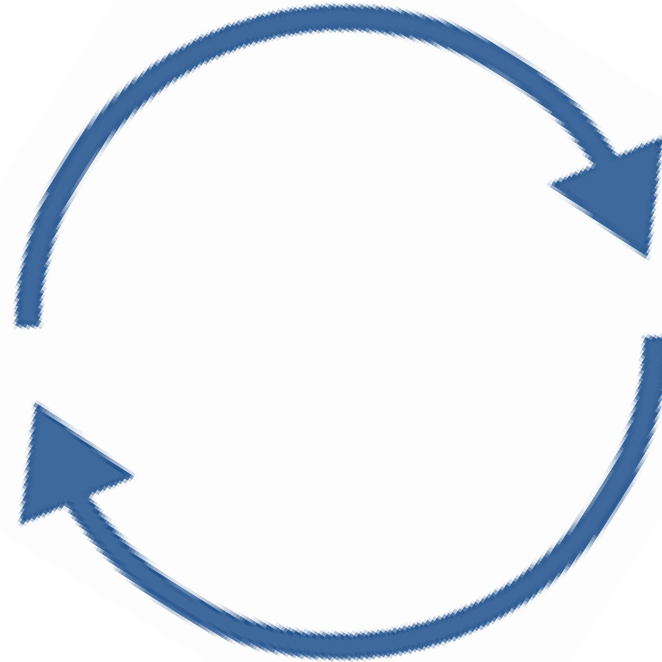


Raworth 2017

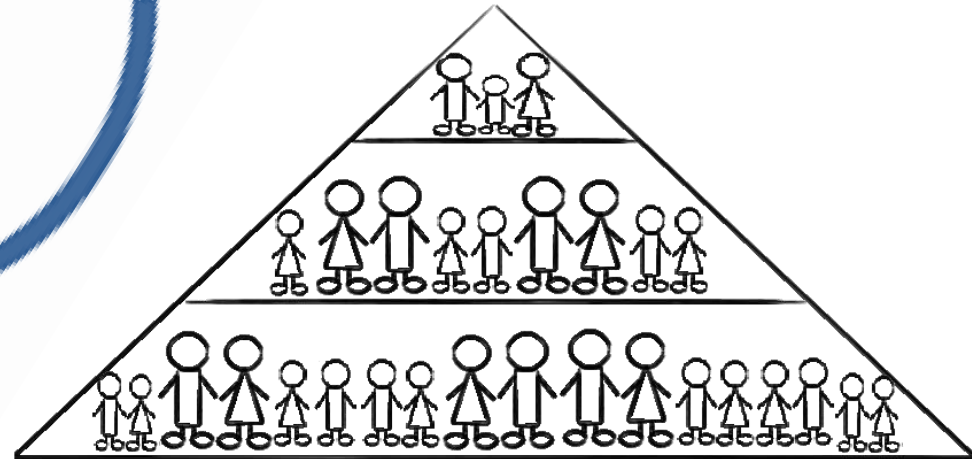
Individual VS system solutions?



Individuals



Society/system

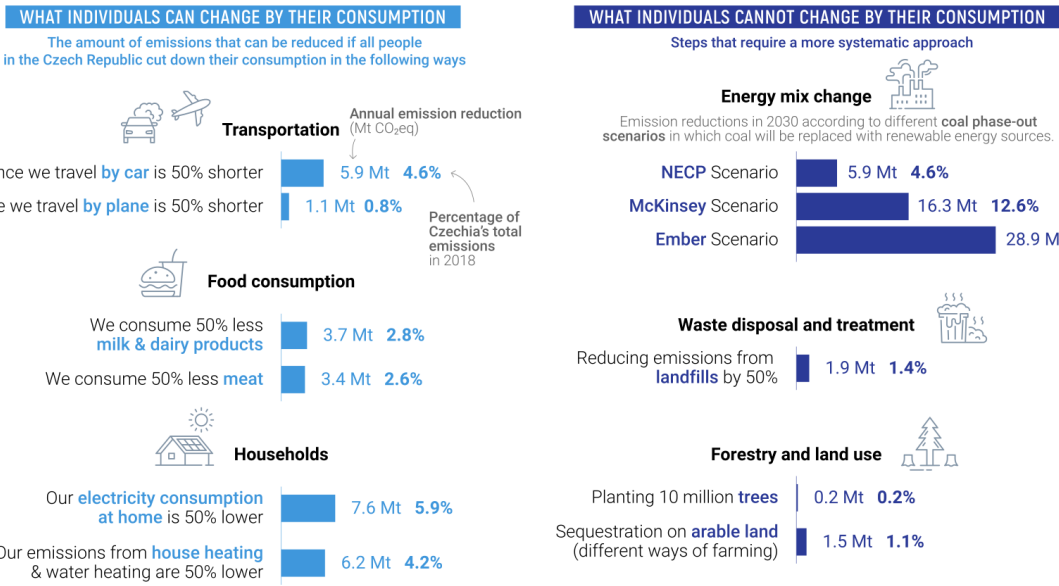


Individual VS system solutions?

POTENTIAL OF EMISSION REDUCTION PATHWAYS: CZECHIA

This is a **general comparison of the potential** of different pathways that can reduce the country's annual emissions.

We focus primarily on widely discussed emission reduction pathways, and compare their potential for 2030. We have chosen pathways that are already available, ignoring technologies which are not scalable yet. The numbers 50% (consumption) or 10 million (trees planted) are symbolic; the level of difficulty for achieving these two goals is incomparable.



Conclusions and learning points

- Social sciences and humanities are essential for researching and tackling GEC
- We need to fully understand social-ecological interactions and how they are shaping GEC
- We cannot underestimate diverse values, rules and knowledges
- Solution to GEC lies in society and in systemic change

Thank you for your attention!

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<https://sustainablecz.org>