



Scale, Scope, Functions, Performance Measures and Circular Food Systems

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Circular@WUR – Webinar on Theme I: Biosphere

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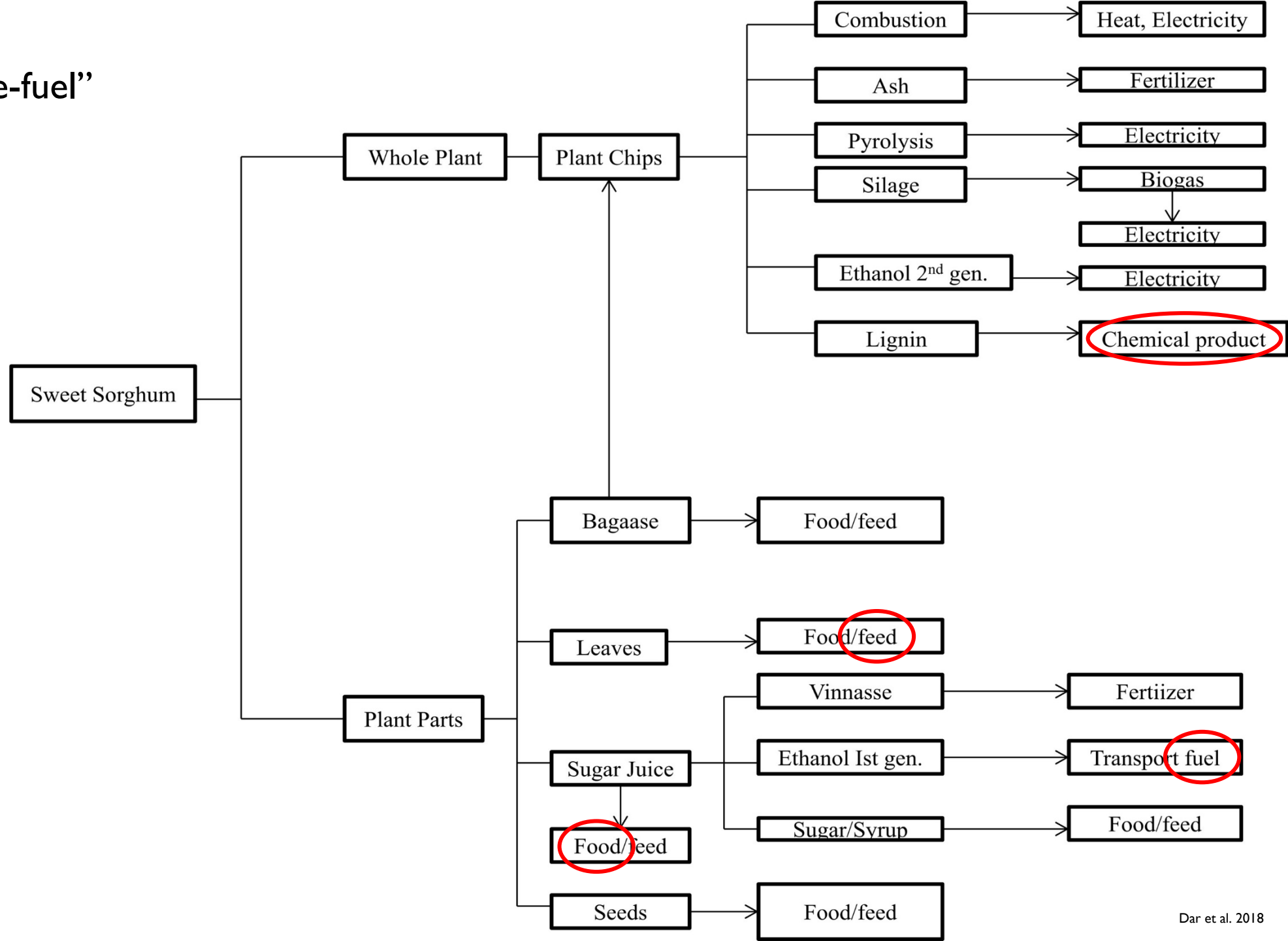
Scale

plot-farm-landscape-nation-global



Scope

“food-feed-fibre-fuel”



Scope

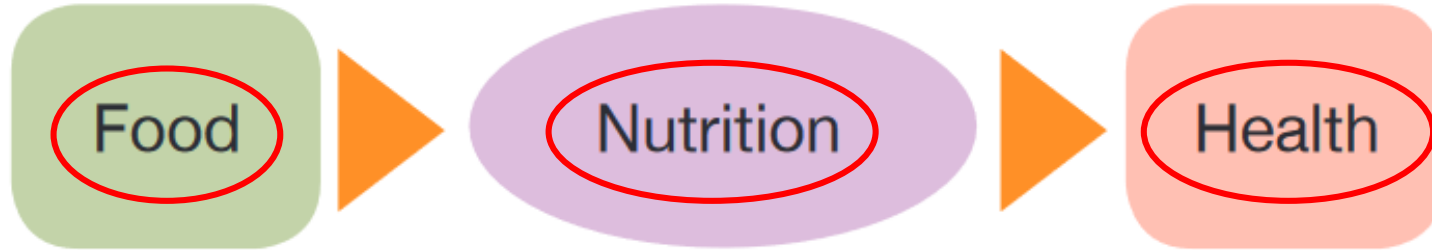
- annual crops
- perennial crops
- grasslands
- livestock
- fish
- insects
- artificial meat,
- vertical farming
- ...



Scope

Continuum from Agriculture to Health

- Agriculture
- Food supply
- Food Service



- Promotion
- Protection
- Treatment
- Restore

- Food production
- Nutrition orientation for healthy diet
- Food, feed and fuel and bio-products
- Climate changes

- Food quality
- Food safety (Consumer and Trade)

- Nutrient needs
- Dietary intakes
- Nutritional wellbeing
- Nutrition literacy

- Safe from Hazards
- Good health
- Restore

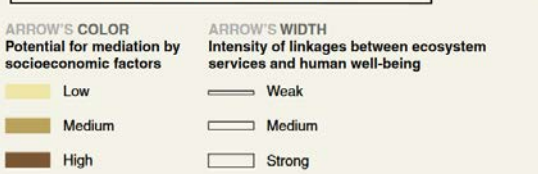
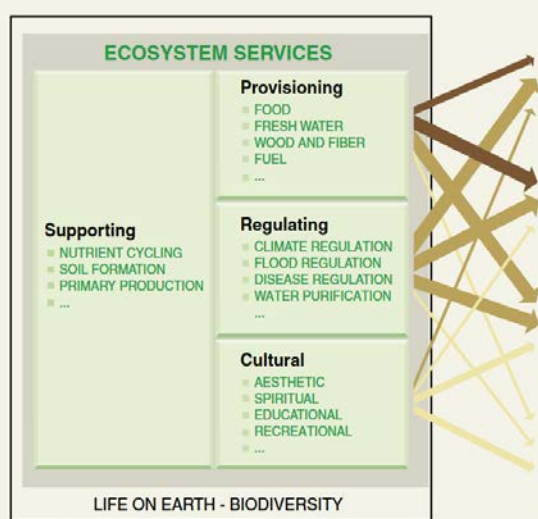
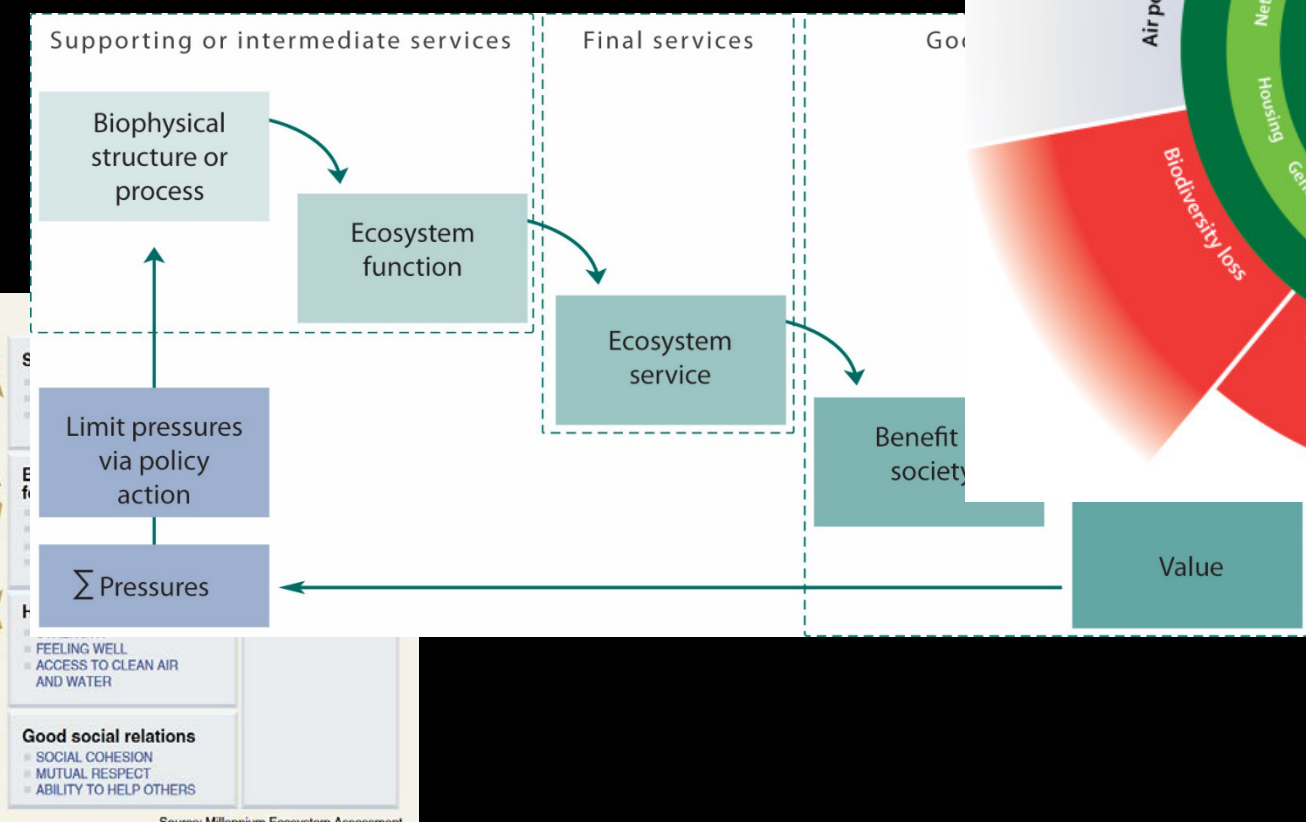
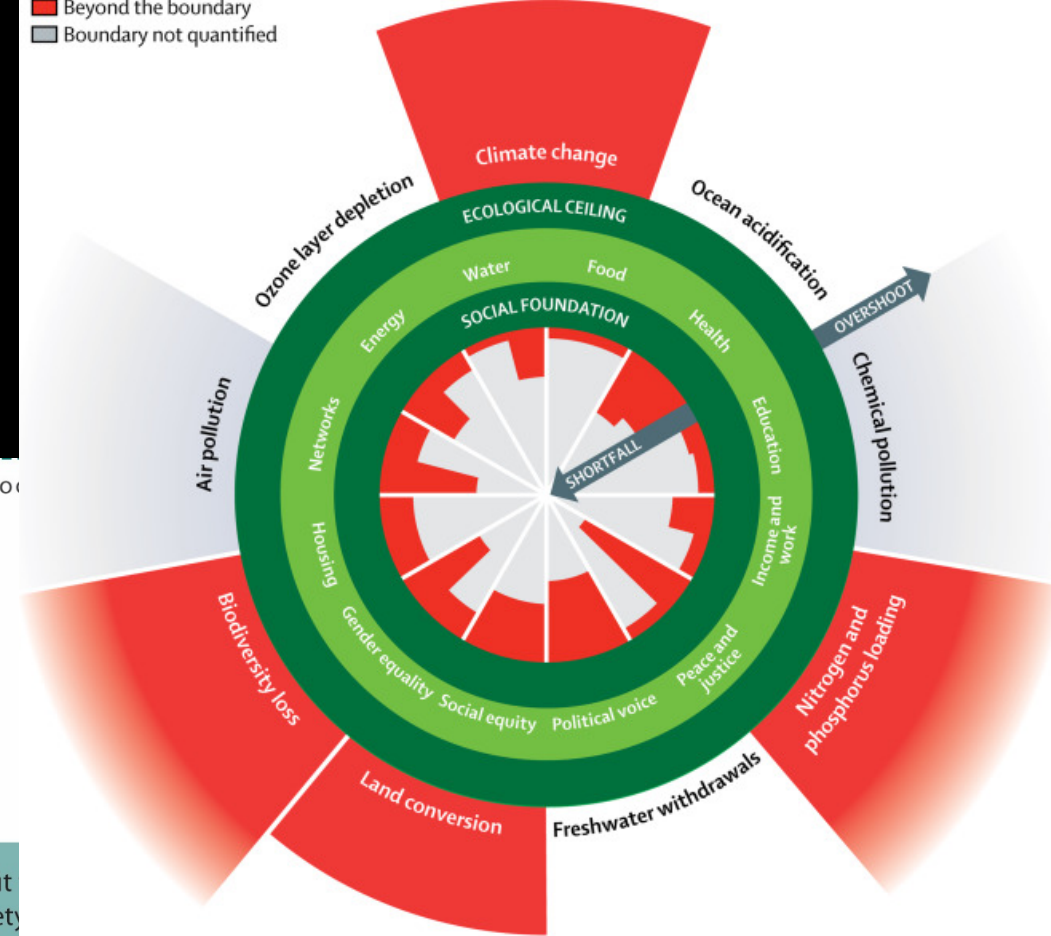
Food Security

Food and Nutrition Education

Food Culture

Functions and demand

What does the food system deliver and what do we need from it?



Source: Millennium Ecosystem Assessment

Performance

Biomass yields per ha and year



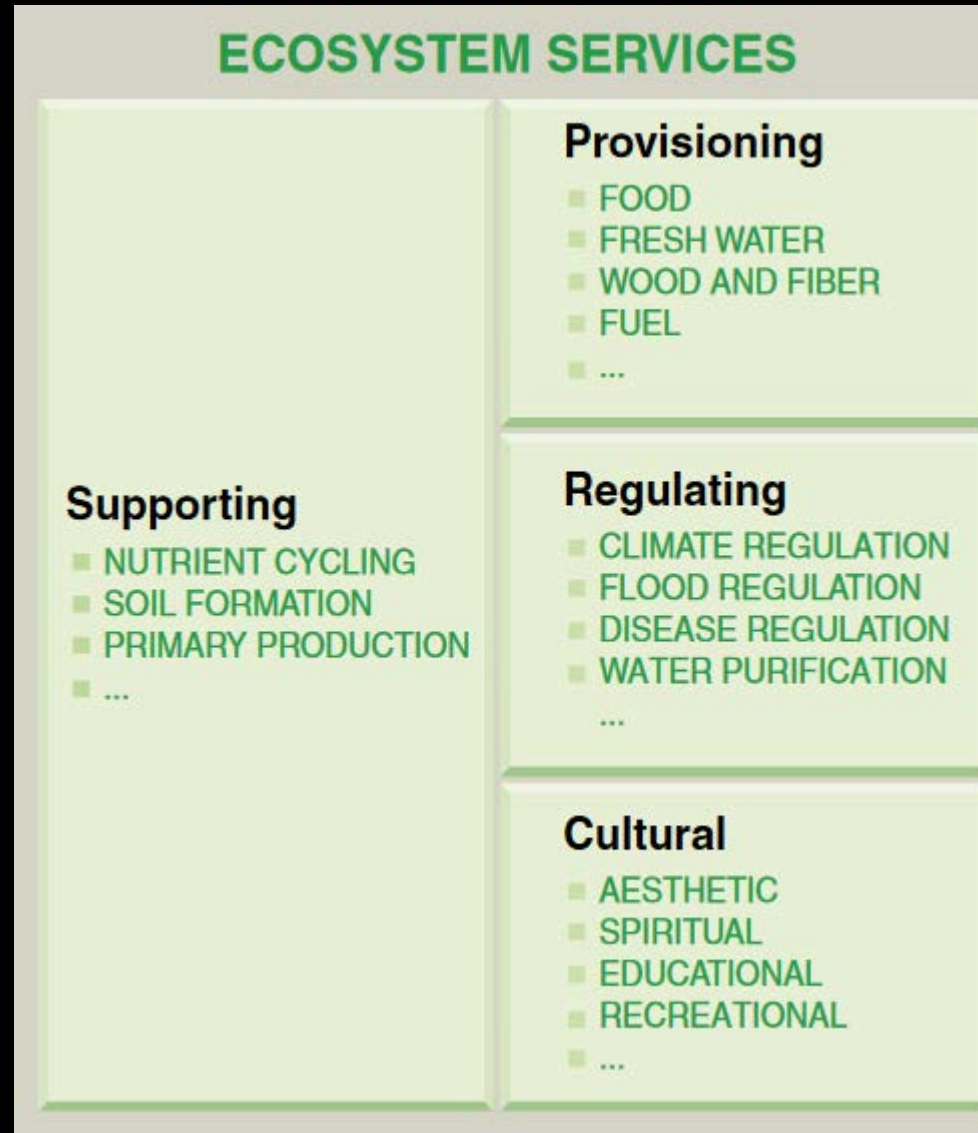
vs.



Total human edible protein
from a larger area
averaged over crop rotations/several years

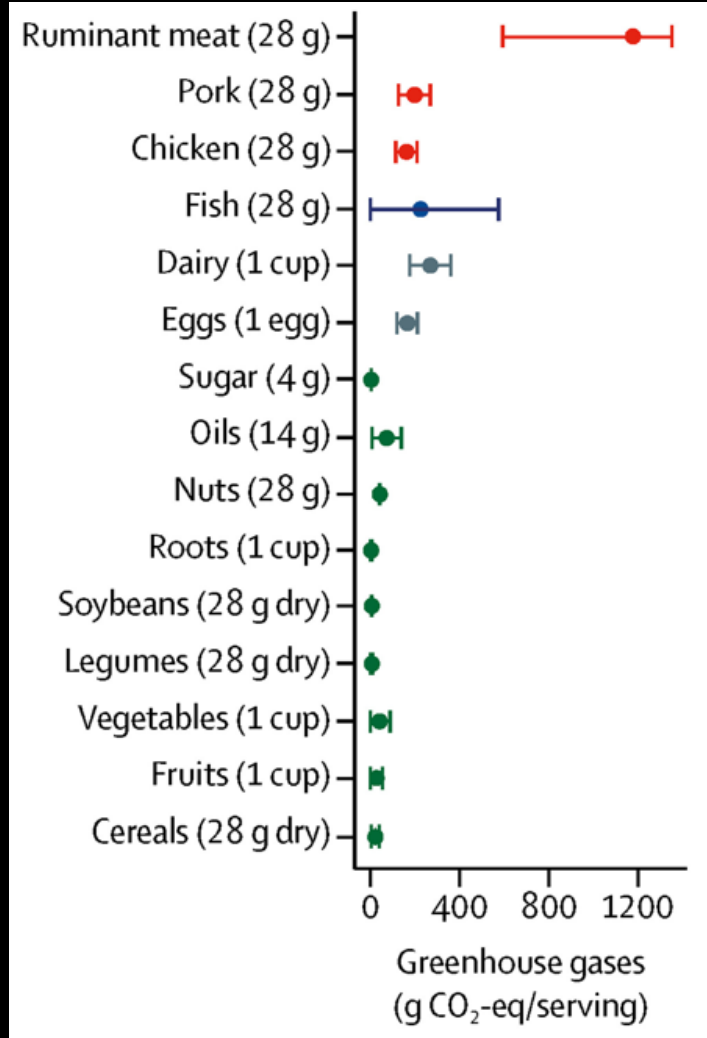
Performance

Various ecosystem services:
trade-offs and synergies

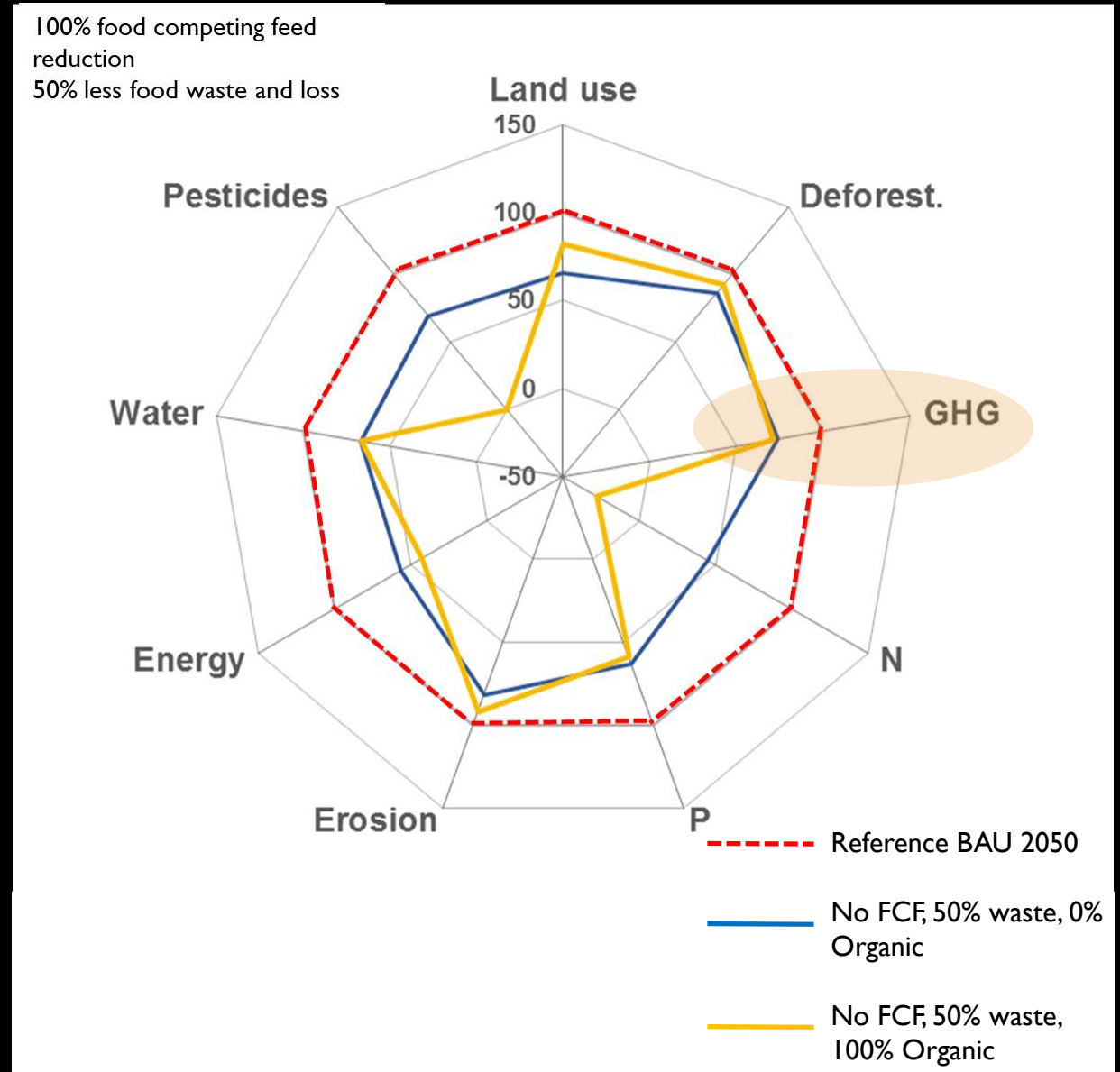


Performance

GHG emissions per kg



vs.



Total GHG emissions

Recap

- Scale
- Scope
- Functions
- Performance

Suggestions for sessions

- Scale
- Aspects of scope and providing different functions and services: trade-offs and synergies
- Metrics for circular food systems