Food Systems in the World - Current Status and Challenges

Keynote for the forum 'Food System Transformation in Ukraine', Rome, 15 October 2024

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Overview

- Introduction
- Context
- Food systems challenges
- Longer term planning
- Example
- Conclusion

Short CV

Catharien Terwisscha van Scheltinga

- Senior Researcher, Water & Food, Wageningen Environmental Research, 2000-present
- Lead, Strategic Research Team Deltas
- Lead, WUR Project Office Dhaka
- Chair Netwerk Land & Water, platform of Dutch land and water professionals
- Work experience: over 24 years @WUR - applied research, capacity development, training, in adaptive water management related to agriculture and rural development, food systems transformation
- MSc Irrigation and Soil and Water Conservation, Wageningen University
- Catharien.Terwisscha@wur.nl
- www.wur.eu/food-in-deltas
- *https://weblog.wur.eu/fnh-ri/combined-insights-stimulate-sustainable-food-production-in-deltas-under-pressure/*

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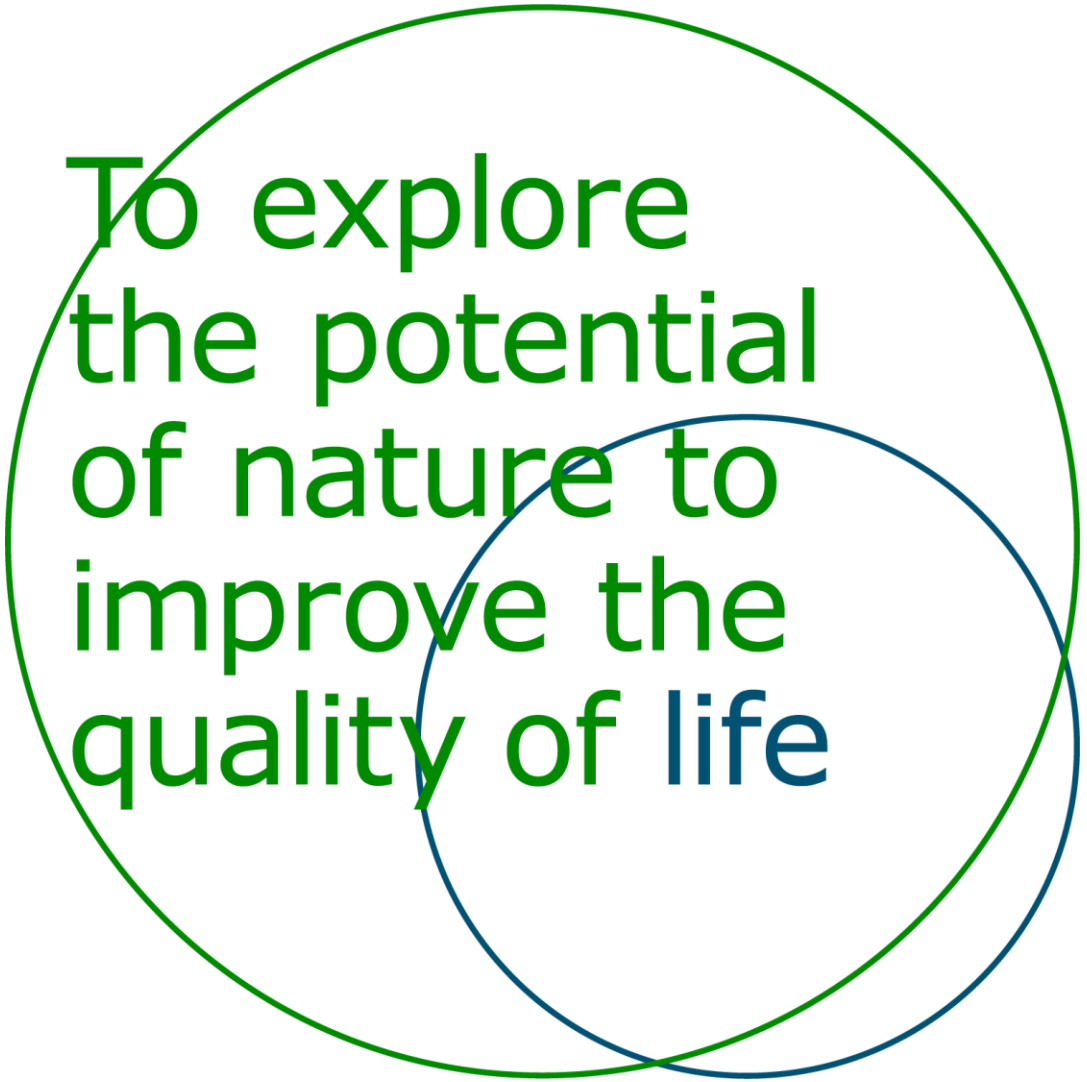
Wageningen mission



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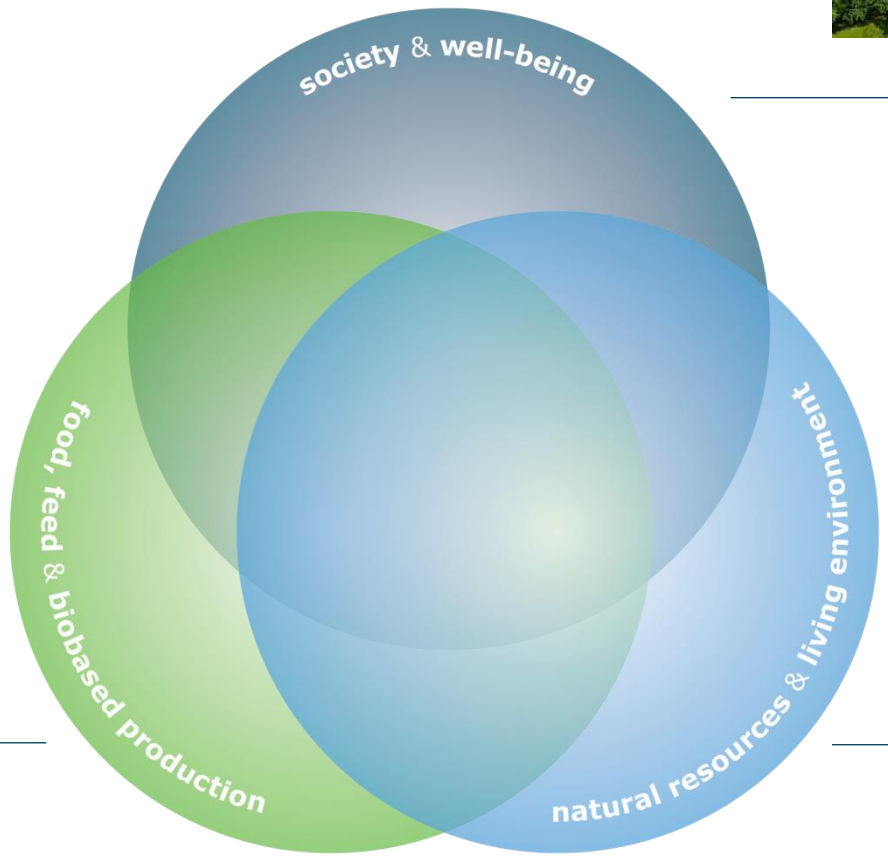
Wageningen's domain: Food and Living Environment



- Food and Living environment
- Lifestyle
- Perceptions
- Governance
- Market and chains
- Social innovations

- Sustainable production and food processing
- Animal feed and biobased products
- International food chains and networks
- Food security and food health aspects

- Nature and landscape
- Land use
- Water, sea and natural resource management
- Biodiversity

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www.wur.nl

100years

WUR

Wageningen University

- 13,057 BSc/MSc-students from > 100 countries
- 2,440 PhD candidates
- 3,794 staff (3,588 fte)
- Revenue in 2023: € 495 million
- WUR-ranking in Higher Education Selection Guide in full-time university education 2024: 1 (19 years running)

Wageningen Research

- 3,974 staff (3,456 fte)
- Revenue in 2023: 419 million

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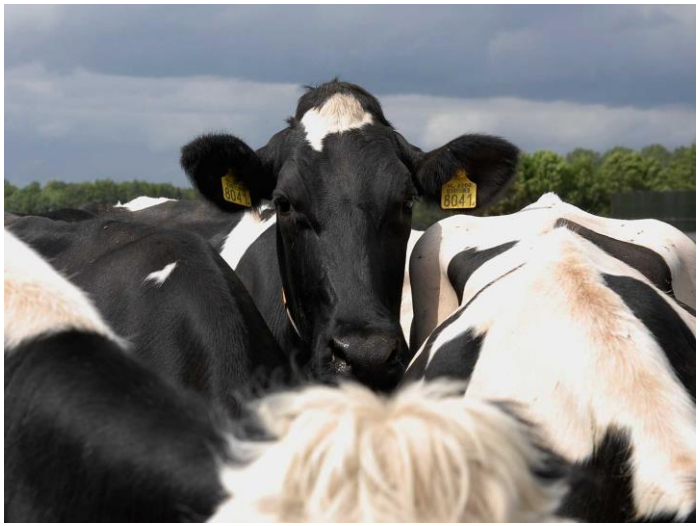
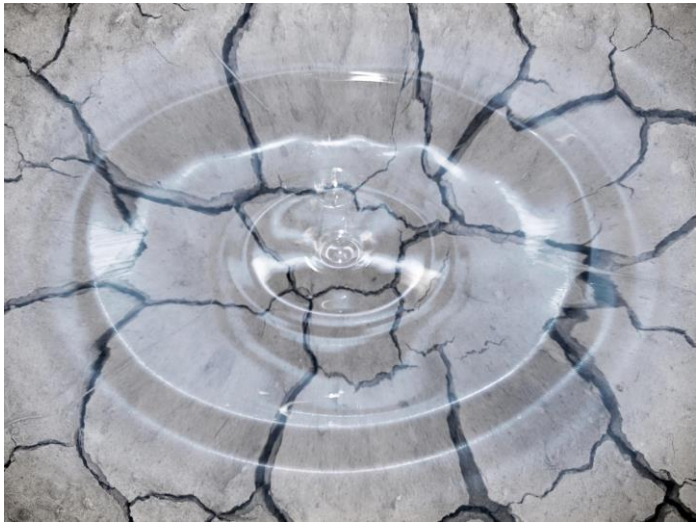
Something wrong with food & agriculture?



A lot is right: food, jobs



exceeding the limits: we need 2 planet earth

A not sustainable food system

Overfishing, over use of sea

Erosion, over use of land

Hidden costs (8-27% of GDP, FAO,2023)

Not healthy eating (WHO, 2019:
1.9 billion overweight; 462 million underweight.
Children <5: 52 million low weight for height (wasting)

Not healthy food

Distribution problems

Food loss and waste

Read more:
https://openknowledge.fao.org/ite
https://www.wur.nl/en/research-re
systems.htm
https://www.futureoffood.ox.ac.uk/h

Note: a changing focus

- Food production
- Food security – nutrition security (1996 onwards)
- Food systems
- Food systems transformation

1. Focus on production alone is not enough
2. Need for a balanced approach: food systems perspective
3. Need for true pricing
4. Need to deal with uncertainty and complexity

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Working on solutions

https://www.unfoodsystemshub.org/en

regenerative farming

sustainable diets

in transforming global food systems

ensuring lasting sustainability

for human, animal, and planetary well-being.

Open access book: Regenerative Farming and Sustainable Diets - https://www.unfoodsystemshub.org/latest-updates/news/detail/new-open-access-book-explores-the-role-of-regenerative-farming-and-sustainable-diets/en

WORLD FOOD FORUM 2022

YEAR-END REPORT

WORLD FOOD FORUM

POWERED BY GLOBAL YOUTH

HEALTHY DIETS. HEALTHY PLANET.

“Good food for all, for today and tomorrow”

World Food Forum 2024

https://www.world-food-forum.org/

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Working on solutions – IFAD on FS

Food systems are made up of all the activities that feed people, from growing and processing, to packaging and marketing food. They include diets, cultural practices, prices and other factors that shape the demand for and consumption of food.

Food systems encompass all the elements that underlie how food gets from the field to our plates: people, processes, infrastructures, institutions, and the natural environment.

Transforming on a global scale

In 2021, the United Nations Secretary-General convened the **Food Systems Summit** in collaboration with the Rome-based UN agencies (FAO, IFAD, WFP), the UN Food Systems Coordination Hub and the wider UN system. This brought together key players in every sector to develop solutions for more sustainable, equitable, healthy and inclusive food systems. The 2023 **Stocktake** was an opportunity to review commitments and assess progress since the summit.

As part of this global movement, we are:

Shaping a sustainable transformation

As the only international financial institution with a mandate to invest in rural people, IFAD plays a unique role in food systems transformation.

We are committed to assembling the finance needed to transform food systems. We bring together governments, development partners and the private sector and rural people deliver greater, more sustainable impacts for small-scale farmers and others doing crucial work in our food systems.

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Current situation: FAO, State of Food and Agriculture, 2023

CORE MESSAGES

https://www.fao.org/publications/home/fao-flagship-publications/the-state-of-food-and-agriculture/en

1 The value of agrifood systems is not in doubt. They provide nourishment, sustain economies and shape cultural identities. However, one must also consider the environmental, social and health hidden costs associated with these systems.

2 True cost accounting allows the estimation of the hidden costs generated by market, institutional and policy failures. It provides decision-makers with the evidence needed to correct these failures and transform agrifood systems for the better.

3 True cost accounting for decision-making builds on a long tradition of economic valuation; however, a lack of availability of high-quality data, on both hidden costs and the costs of taking action, often limits its application.

4 This report proposes a two-phase assessment process, relying first on national-level true cost accounting assessments to raise awareness (presented in this report) and then moving towards

amount to 10 trillion dollars or more at 2020 purchasing power parity (PPP), revealing the urgent need to factor these costs into decision-making to transform agrifood systems.

6 Globally, the dominant quantified hidden costs are those arising from dietary patterns which lead to diseases and lower labour productivity. These health-related costs exhibit considerable variation across countries, but are most prominent in high- and middle-income countries.

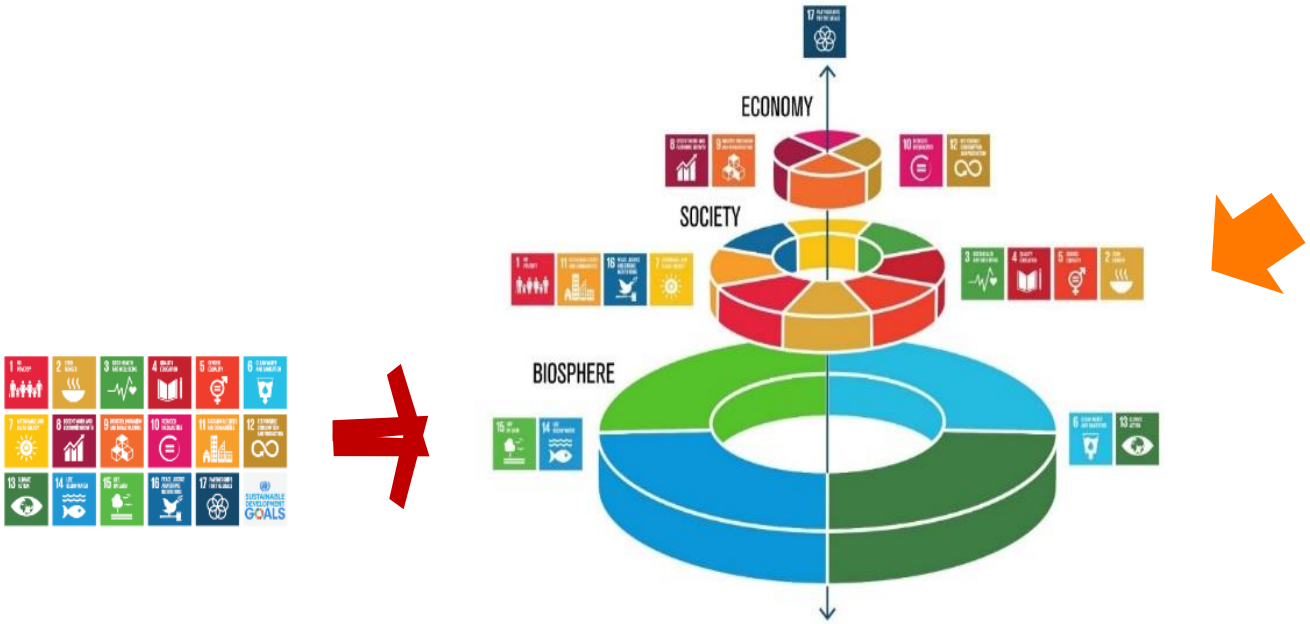
7 The environmental hidden costs, while not exhaustive, constitute over 20 percent of the quantified hidden costs and are equivalent to almost one-third of agricultural value added. They are mostly associated with greenhouse gas (GHG) and nitrogen emissions and are relevant across all country income groups.

8 Hidden costs appear to be a greater burden in low-income countries, where they are estimated

Zoom out: SDGs

SDGs = Sustainable development goals - https://sdgs.un.org

SDG 2 - Zero hunger
SDG 6 – Water
SDG 13 – Climate Change



Based on: Rockström, Stockholm Resilience Institute, 2018

Food system (von Braun et al, 2021)

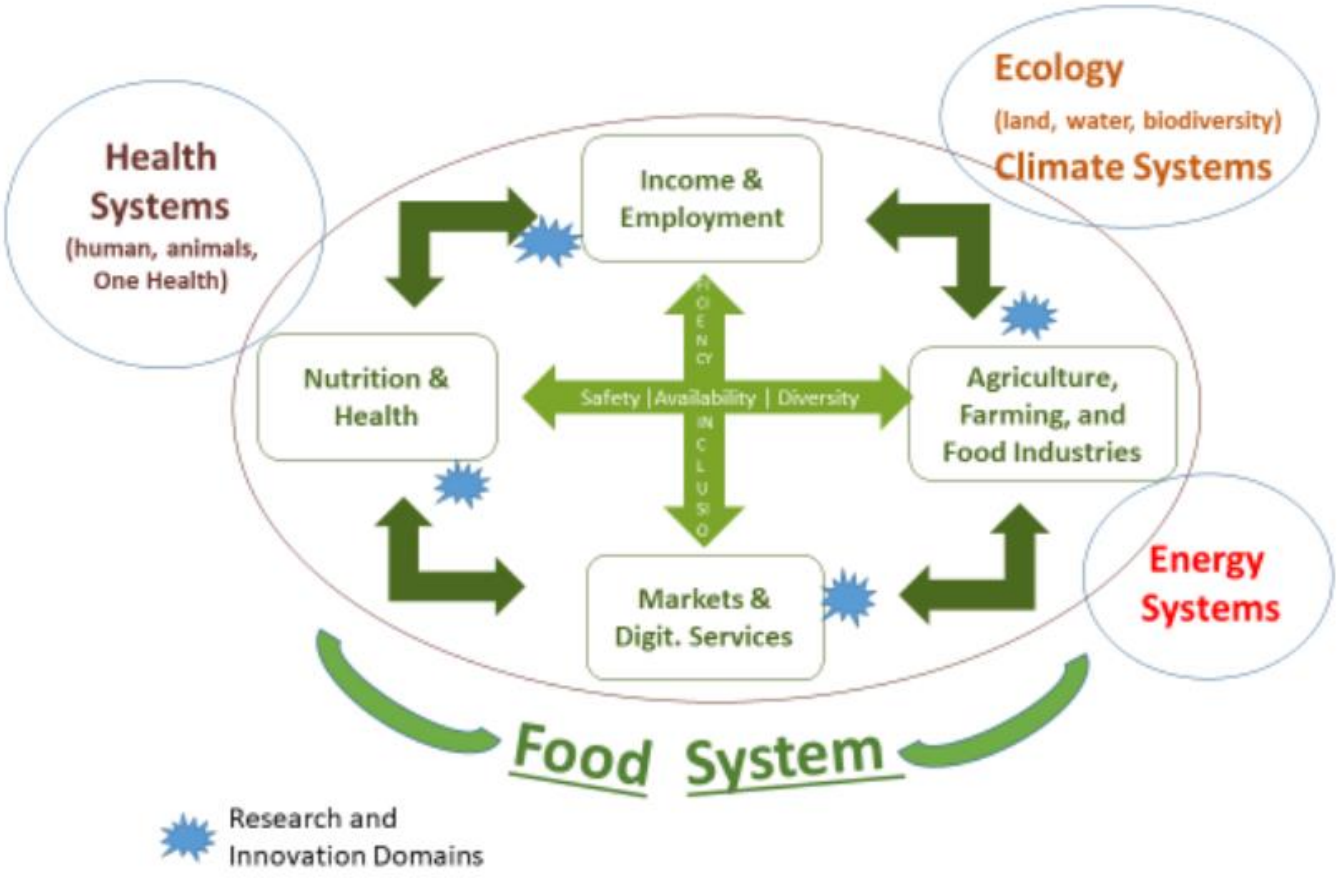
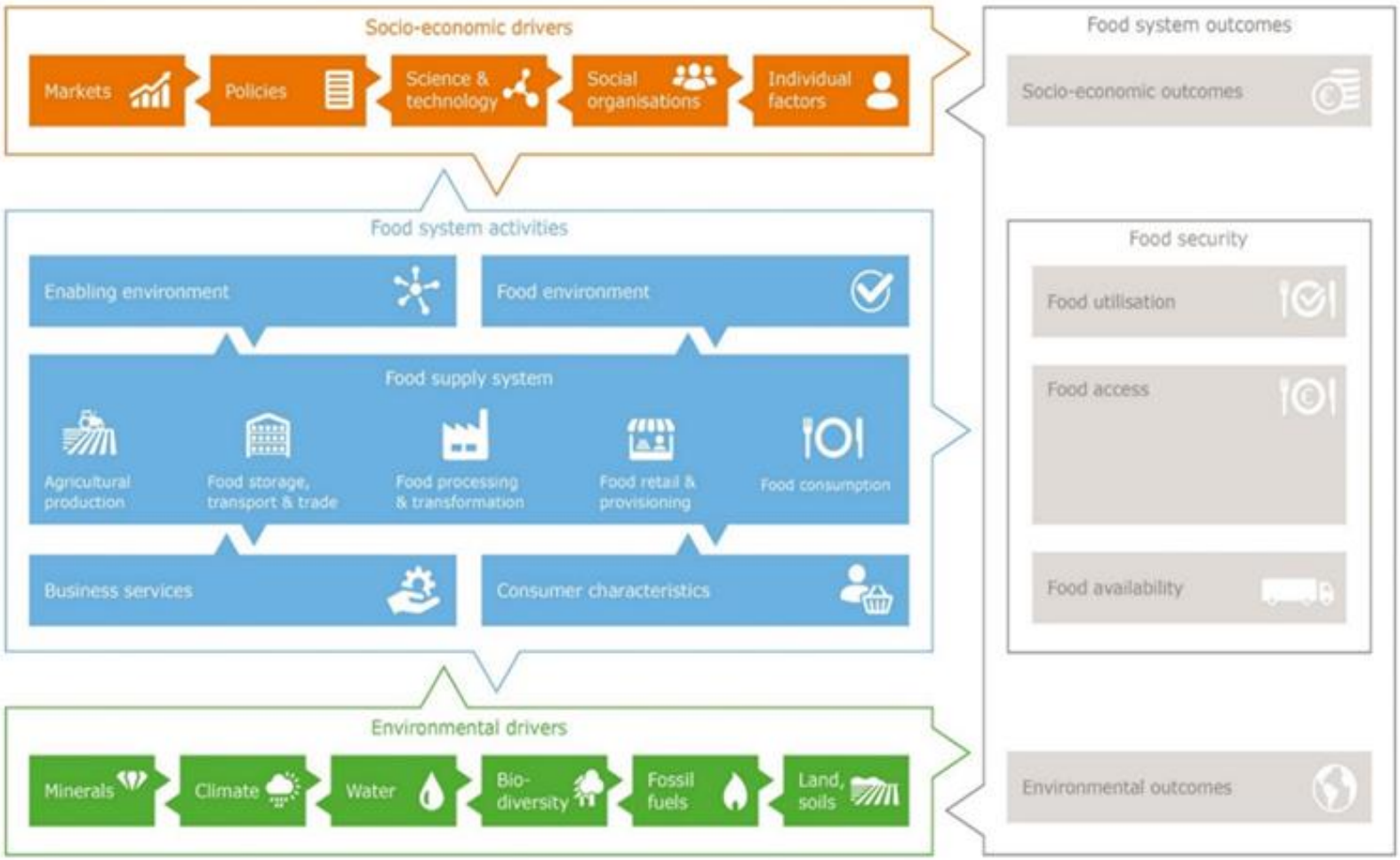


Figure 1: The food system in the context of other systems (positive systems concept)

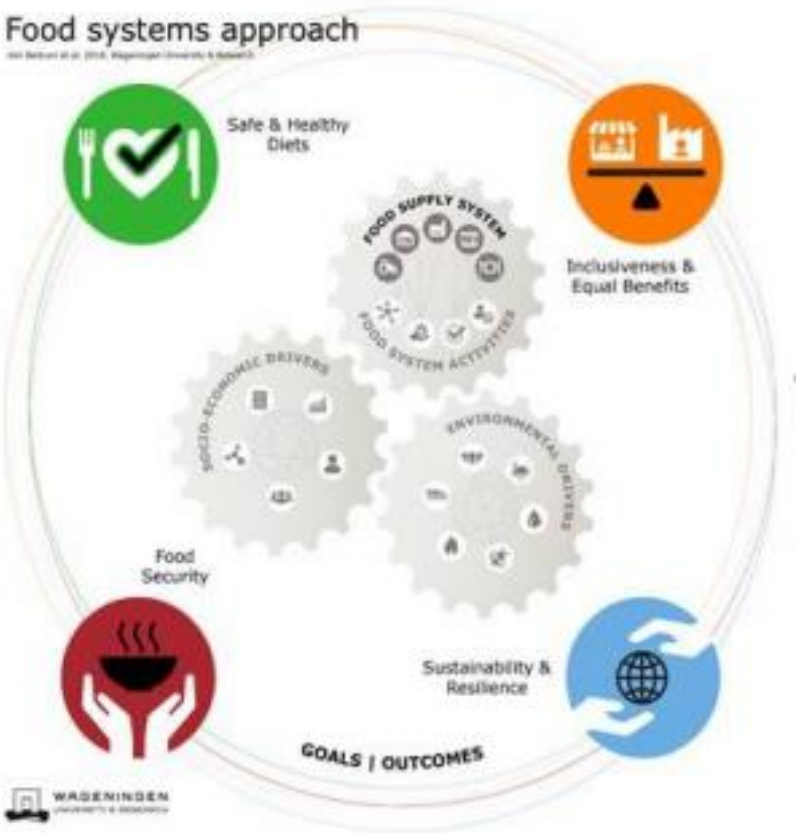
https://www.un.org/sites/un2.un.org/files/2020/12/food_systems_paper-draft_oct-25.pdf

Food system approach



(Van Berkum et al, 2018)

Goals of the food system



1. Enough food (production)
2. Safe, nutritious and healthy food
3. Inclusiveness and equal benefits (livelihoods)
4. Sustainability and resilience (including biodiversity and climate change)

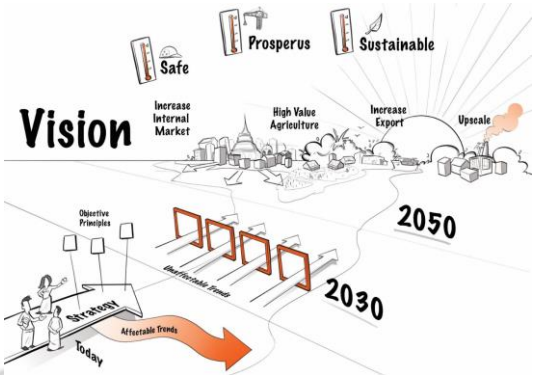
(Van Berkum et al, 2018)

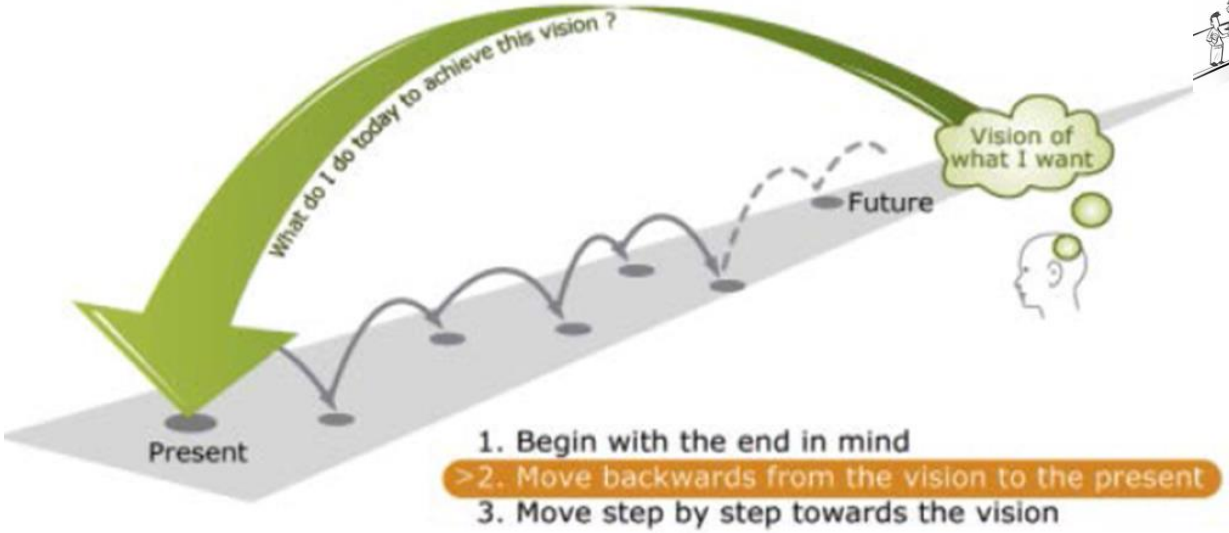
Food System Transition Pathways

Dealing with complexity & uncertainty:

different changes happening at the same time

Tools for longer term planning: Back casting





Note: In 2019, this knowledge was available in the water domain – but not yet applied in the food system domain -> we can learn from each other!

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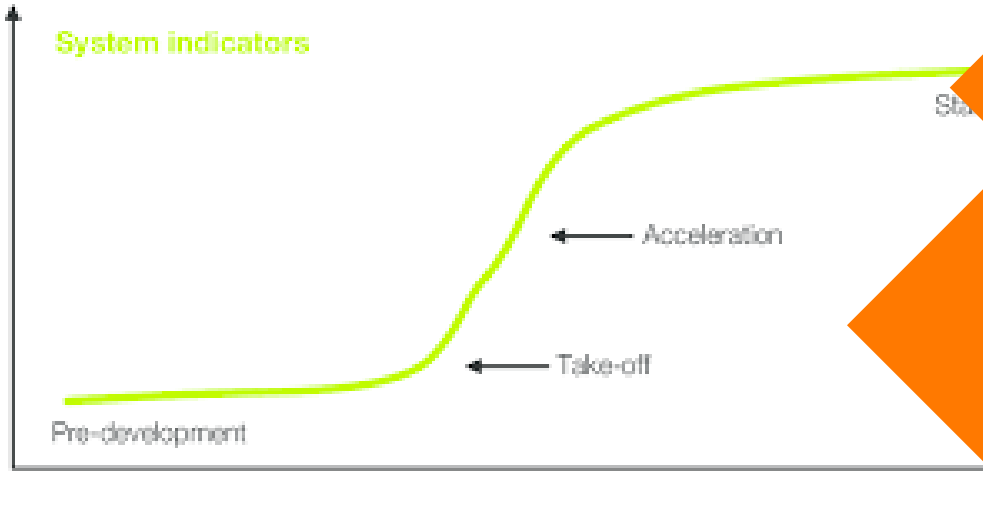
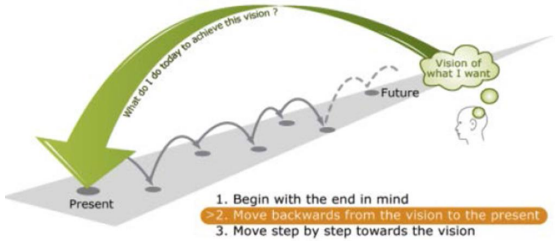
Transition in agriculture – change process



Where does this lead to? Vision? Resilience? Profitable?

Innovation! Who? Opportunities? Barriers? Push-pull factors



Timmermans, 2006, after Rotmans, 2000 and others
In: Terwisscha van Scheltinga and Timmerman, 2020
https://www.wur.nl/en/Publication-details.htm?publicationId=publication-way-353831383537

Guideline for agriculture system change in deltas

1. Analyse
2. Understand
3. Prioritise
4. Develop pathways for transition
5. Strategic action
6. Implement
7. Monitor, adapt and learn (cross-cutting)

Please scan to get the DUP Guidelines

(Verhagen et al, 2022)

Example: food systems in deltas

WUR research on food systems in deltas:

www.wur.eu/food-in-deltas

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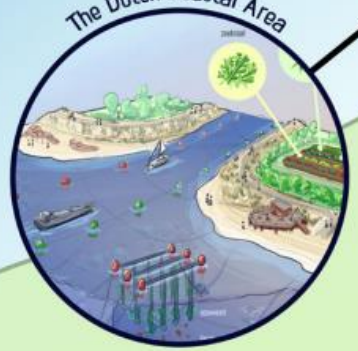
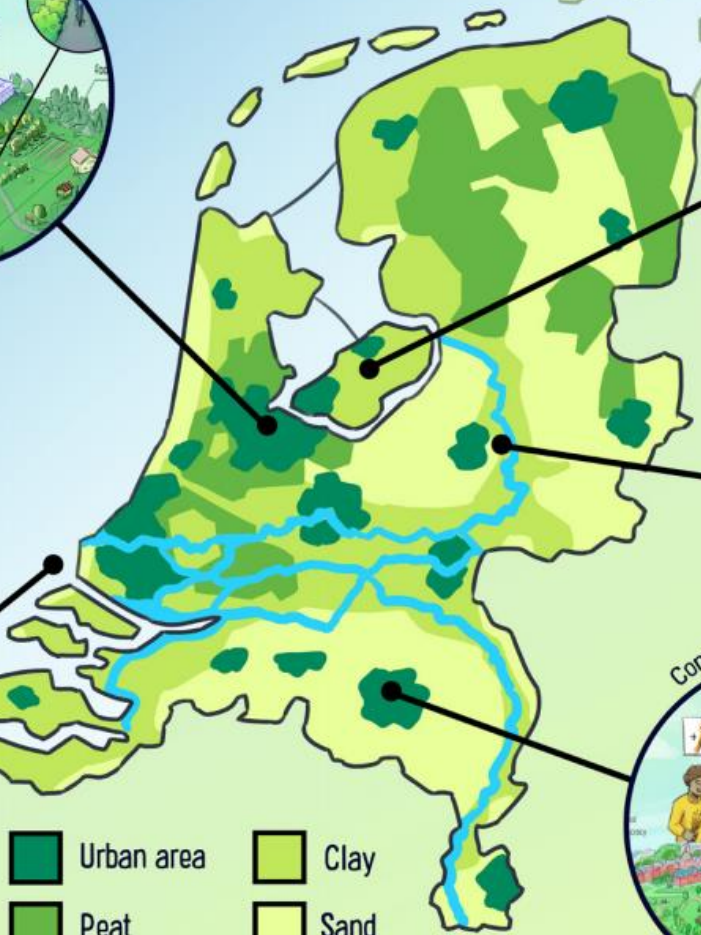
Re-rooting the Dutch food system
from more to better





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Re-rooting the Dutch food system
De Boer & de Olde et al., 2020

Flatland visual thinking agency

Food systems in the world: current status and challenges

Different changes at the same time!

- Food habit change
- Climate change
- Income change

We need to address all at the same time (complexity)

While not knowing the future (uncertainty)

Balancing different goals

No simple solutions

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Food systems in the world: current status and challenges

Food system – change – transition – navigating complexity – balancing goals – no single solutions

- Integrated: global, national and local level
- Integrated: agricultural sector and other sectors (water)
- Integrated: now and the future

- Need for involvement of stakeholders
- Need for information
- Need for true pricing

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Thank you!

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