

Sustainability transition in the Finnish food system

We make transition! 24.4.2025

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- Overview of the Finnish farming sector
- Sustainability challenges and their root causes
- Future directions





Where food is produced: Cultivated area in Finland







Ylivainio et al. 2015; Eurostat

Number and turnover of Finnish farms in 2017









Luonnonvarakeskus





- Extremely concentrated food consumer market; 92.4% of markets dominated by three chains
- Competitiveness is weak in agriculture but strong in retail and trade
- The share of primary production from food prices has decreased during the 2000s while that of trade and retail has grown
- Self-sufficiency in food products at about 80% but decreasing
- Agricultural metabolism strongly reliant on fossil/virgin inputs

Historical regimes





Sustainability problems

- Traditionally nutrient question has dominated the discussion about agriculture's sustainability impacts
- In the 2000s, climate change entered the discursive environment
- Biodiversity issues have been bubbling in the backround
- Agricultural sector is strongly reliant on animal production delegitimation & contestation
- Agroecology and organic farming vs. intensification and productivism
 - Can the sustainability problems be solved using the same institutional logics that gave rise to them?
 - Finnish food system is deeply integrated with fossil metabolism
 - Focus on technological innovations and decoupling OR on the negative impacts of agriculture however, agriculture CAN be the solution



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Figure 1. Sales of mineral P fertilizers to farms in Finland between 1920 and 2011 (Kekäläinen 1999, Information Centre of the Ministry of Agriculture and Forestry 2012) and production of manure P between 1990-2011 (Aakkula et al. 2010, Tapio Salo, personal communication). Development of average STP value, representing easily soluble P in the plough layer of cultivated soils, at intervals of five years during 1955-2010, is shown according to data of Viljavuuspalvelu Oy (Kurki 1963, Kurki 1972, Kurki 1982, Kähäri et al. 1987, Mäntylahti 2002, Tuloslaari 17.10.2012 http://www.tuloslaari.fi/index.php?id=41).



Ylivainio ym. 2015



Organic farming in Finland



- Share of organic farmland in 2023 is 14%
- Majority of organic farmland is grass (43% in 2018); the growth has come mainly from increasing grass acreage
- 5% of grain harvest is organic (2023)

(Pro Luomu 2024; Natural Resources Institute Finland 2024; Koivisto et al. 2020)

LUOMUN MYYNTI

PÄIVITTÄISTAVARAKAUPOISSA 2011-2023



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Biodiversity in agricultural environments

Bird indicator index



Butterfly indicator index



Root cause: concentration in agriculture

Development of farm size and farm income (2000-2018, in real terms; Natural Resources Institute Finland)







Based on Ylivainio et al. 2015

Modelling future scenarios for agriculture with less animal production

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Taulukko 7. Maataloustulon kokonaismäärän muutokset suuralueittain ja koko maassa eri skenaarioissa 2020–2050.

	Perusura	Ympäristö- Suomi	Terveys- Suomi	Kotieläin- Suomi
Etelä-Suomi	- 6 %	- 8 %	- 6 %	+92 %
Sisä-Suomi	- 8 %	- 28 %	- 26 %	+70 %
Pohjanmaa	- 5 %	- 19 %	+3 %	+68 %
Pohjois-Suomi	- 22 %	- 51 %	- 45 %	- 40 %
Koko maa	- 7 %	- 19 %	- 9 %	+70 %

Taulukko 8. Perusmaatalouden työ listen kokonaismäärän muutos (%) 2018–2050 suuralueittain ja koko maassa eri skenaarioissa.

Perusura	Ympäristö- Suomi	Terveys- Suomi	Kotieläin- Suomi
- 38 %	- 60 %	- 56 %	+ 15 %
- 22 %	- 55 %	- 47 %	+ 26 %
- 20 %	- 56 %	- 39 %	+ 7 %
- 24 %	- 39 %	- 57 %	- 50 %
- 27 %	- 57 %	- 48 %	+ 9 %
	Perusura - 38 % - 22 % - 20 % - 24 % - 27 %	Perusura Ympäristö- Suomi - 38 % - 60 % - 22 % - 55 % - 20 % - 56 % - 24 % - 39 % - 27 % - 57 %	Perusura Ympäristö- Suomi Terveys- Suomi - 38 % - 60 % - 56 % - 22 % - 60 % - 47 % - 20 % - 55 % - 47 % - 20 % - 56 % - 39 % - 24 % - 39 % - 57 % - 27 % - 57 % - 48 %

Lehtonen ym. 2023



Towards which kind of future?

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- High tech: efficient production methods, decoupling food production from land and agriculture, capital- and energy intensive, sparing nature
- Agroecology: nature-inclusive production methods, localisation and decentralisation, "agroecological symbioses", citizen inclusivity, sharing nature

