

The potential of nature-based solutions in agriculture in constructing a biodiversity-friendly food system

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Introduction

- ▶ Farmers have a central role in managing the biodiversity of agroecosystems
- ▶ Nature-based solutions in agriculture aim at both protecting biodiversity and producing food
- ▶ Farmers who have adopted nature-based solutions can be seen as constructing a niche that could accelerate food system transformations - learning from their experiences can help to scale nature-based business models
- ▶ Theoretical framework(s): social-ecological and socio-technical transformations, Schwartz's value theory, sustainable business models, institutional logics

Development trends of agricultural biodiversity in Finland

Farmland bird indicator



- From the Red List of species in Finland, 24% dwell in (agri)cultural habitats - second largest share after forest species
- Largest fraction of disappeared species in (agri) cultural habitats (39%)

Luonnonti

Farmland butterfly indicator



Major drivers of agricultural biodiversity loss in Finland

- Intensification, specialisation and regional concentration of agricultural production
- Decrease in the management of seminatural agricultural environments and grazing



Maintaining
the genetic
biodiversity

Agroforestry



Managing
traditional
rural
biotopes

Grazing

Nature-based
solutions in
agriculture

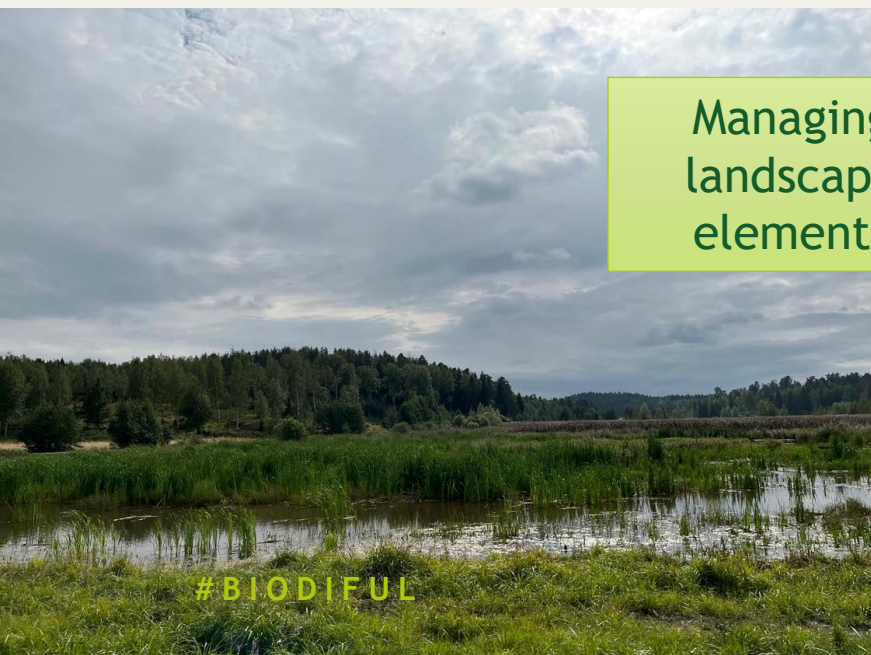
Crop
diversification

Feeding
the soil
biota

Managing
landscape
elements

Organic
farming

Regenerative
farming



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Pics: Irene Kuhmonen & Anne Rintamäki

Data and methods

▸ Interviews:

- 18 farmers, different parts of Finland chosen because of their biodiversity-friendly farming practices
- 6 experts working with food system's biodiversity questions (administration, advisory services, research)
- Interviews conducted between November 2023 - April 2024

▸ Interviewees:

- 7 crop production, 4 sheep farming, 3 dairy farming, 2 beef farmers, 2 landscape management
- Selling to processing industry and directly to consumers

▸ Thematic analysis:

- Agency, business models, institutional logics, tensions, vision

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Agency

- ▶ Values and meaningfulness: universalism, motivations related to nurturing nature
- ▶ Humans as part of nature (socio-ecology)
- ▶ Intergenerationality
- ▶ Observing balancing feedback loops → Co-creation?

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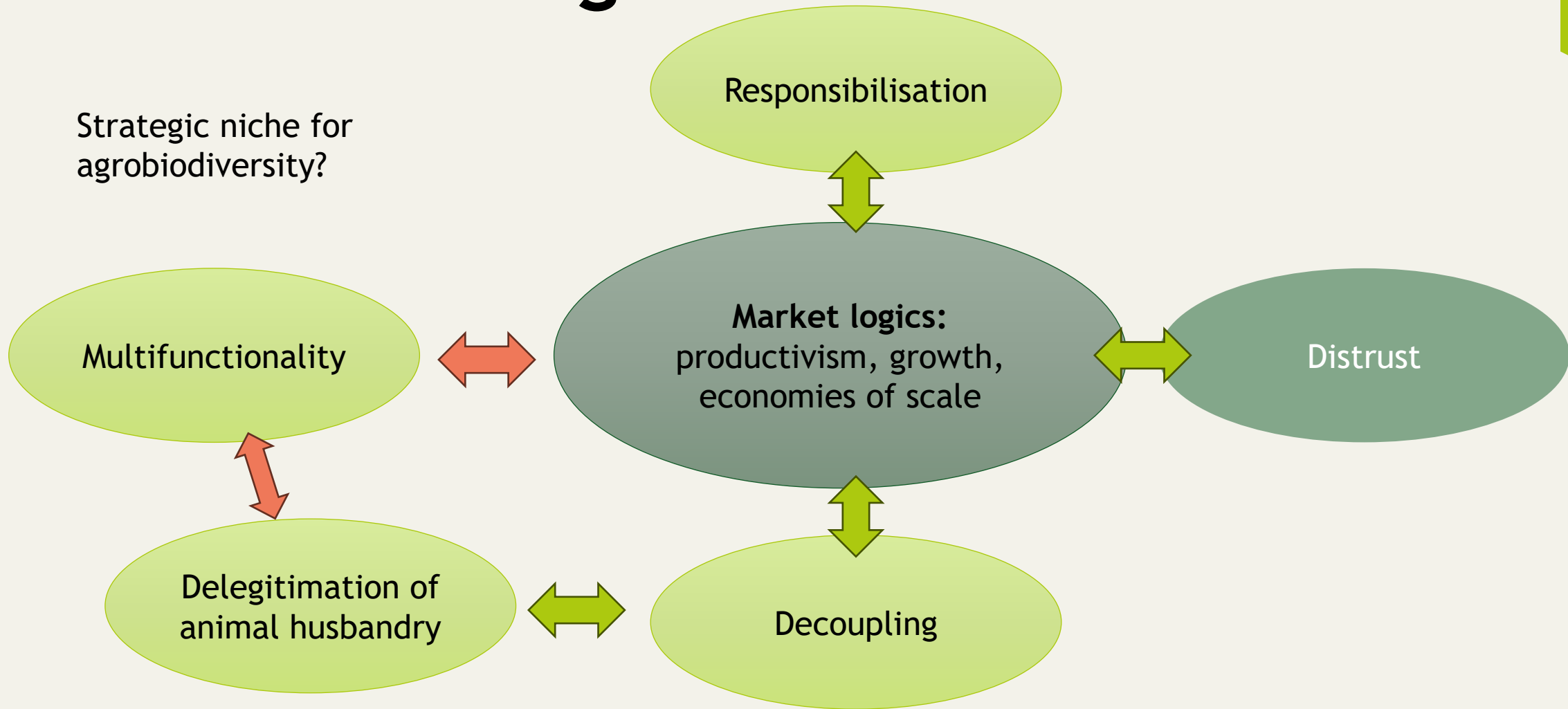
“When the grass first bloomed, a 10-hectare plot of white sweet clover. I went to stand there, and when I turned my head, I saw 20,000 butterflies. I still get chills now; there were as many as you could ever imagine. But that wasn’t even the main point. There were birds, they were eating them. They went like ‘tsii, tsii’. That’s when I thought, this really works, what I’m doing.”

Crop producer, Western Finland

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Institutional logics

Strategic niche for
agrobiodiversity?



Navigating the tensions

- Livelihoods:
 - Farming gets to be financed via other income streams such as salaried work of the farmer or the spouse, forestry, tourism etc.
- Social support:
 - Networks of like-minded farmers, local community, customers
- Legitimacy:
 - Problemacy of animal production a frequently mentioned source of distress
 - Participating in the interview gave many farmers the signal that they are doing the right thing

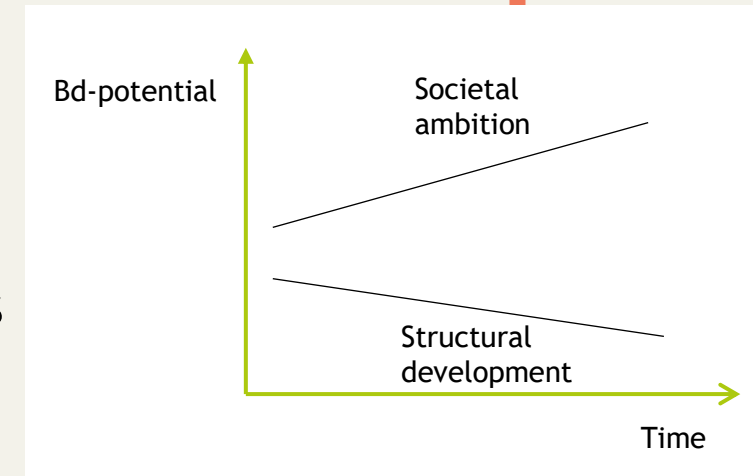
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"That there are these kinds of projects. It creates a sort of hopefulness that maybe there has been some sense in what I've been doing, and maybe it is worthy to continue doing it."

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Observations

- ▶ Generally, the societal values were perceived to have developed into a direction that supports biodiversity, but the structural developments in agriculture and agricultural policies were developing towards an opposite direction
- ▶ Nature-based business models are seen to support rural livelihoods and vitality - and vice versa
- ▶ Biodiversity-respectful farmers are strongly driven and motivated by their value base which keeps them going despite the hurdles - but how to motivate less committed farmers when the institutional environment is not favourable?
- ▶ Even more than money, the producers were hoping for humane treatment and encouragement





Thank you!
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