

From production and protection paradigms to a landscape approach

opportunities for cooperation between Protected Areas and large conventional agricultural enterprises



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Internship Analysis

- Internship Research (WUR & EUROPARC)
- 6 months
- Interviews and survey
- Personal perspective

Protected Areas and agriculture

- Together they make up 85% of EU land
- Cooperation usually focusses on sustainable agriculture
- More conventional agriculture, more impact
- Zero sum game or system of mutual benefits?

Research goal: Explore opportunities for cooperation between PAs and Conventional agriculture

"can nature be facilitated at the expense of agriculture or the other way around?" (Aarts et al., 2015)

Research Questions

- 1 How are PAs **influenced by** conventional agriculture and how do they **work with** large conventional farms?
- 2 What are the prevailing **paradigms** of PAs towards conventional agriculture?
- 3 What **opportunities** can be found to cooperate with conventional agriculture?

Scope

- 6 months
- Definition conventional agriculture
- Germany, the Netherlands and Luxembourg

Conventional agriculture refers to farming systems which include the use of synthetic chemical fertilizers, pesticides, herbicides and other continual inputs, genetically modified organisms, concentrated animal feeding operations, heavy irrigations, intensive tillage or concentrated monoculture production. ***This type of agriculture is typically highly resource and energy intensive, but also highly productive.***

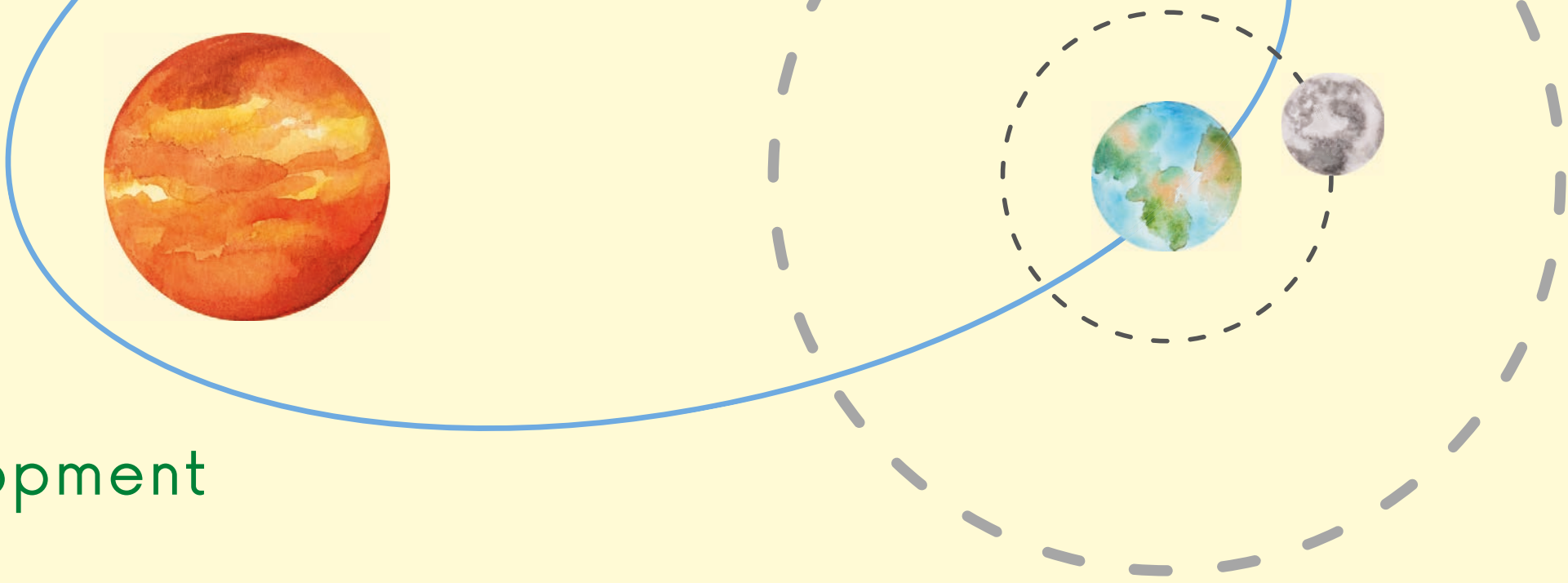


Paradigms

- 'Scientific truth'
- Used to map scientific development
- Paradigm shift

For Agriculture and Protected Areas:

- After WWII: food safety & production paradigm
- Now: ecological limits to production
- Landscape Approach



The diagram illustrates a paradigm shift using a heliocentric model of the universe. A large orange sun is at the top. A solid blue line represents the current paradigm, showing the Earth orbiting the sun. A dashed grey line represents a previous paradigm, showing the moon orbiting the Earth. The transition from the dashed to the solid line represents a paradigm shift.

"though the world does not change with a change of paradigm, the scientist afterward works in a different world. " (Kuhn, 2012)

Q methodology

- Qualitative and quantitative research
- Systematic study of participant's viewpoints or paradigms by having participants rank statements (Brown & Rhoades, 2019)

Interviews (N=5)

- Best practices and lessons learned
- Statements collected for ranking

Online Survey (N=16)

- General information on cooperation with conventional agriculture
- Ranking statements on a 7 point scale

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Case I: Biodiverse Farming on Schiermonnikoog (NL)

THE CASE

- nitrogen deposition -> cattle reduction
- Circular and biodiverse
- Farmers as initiators
- Local cheese factory and branding

LESSONS LEARNED

- Natural demarcation of landscape
- Tourism and markets
- Inspiration for larger companies -> changes in system thinking



Case II: Paradigm shifts for farmers in Luxembourg

THE CASE

- Dissertation by Kristina Hondrila
- Farmer paradigm shifts
- Quality assurance (soil & water)
- Farmers remain market producers at their core

LESSONS LEARNED

- Open mind towards others
- Cooperation must be practical
- Flexibility for farmers
- Find (sustainable) markets for farmers



Case III: Insect conservation project in Germany

THE CASE

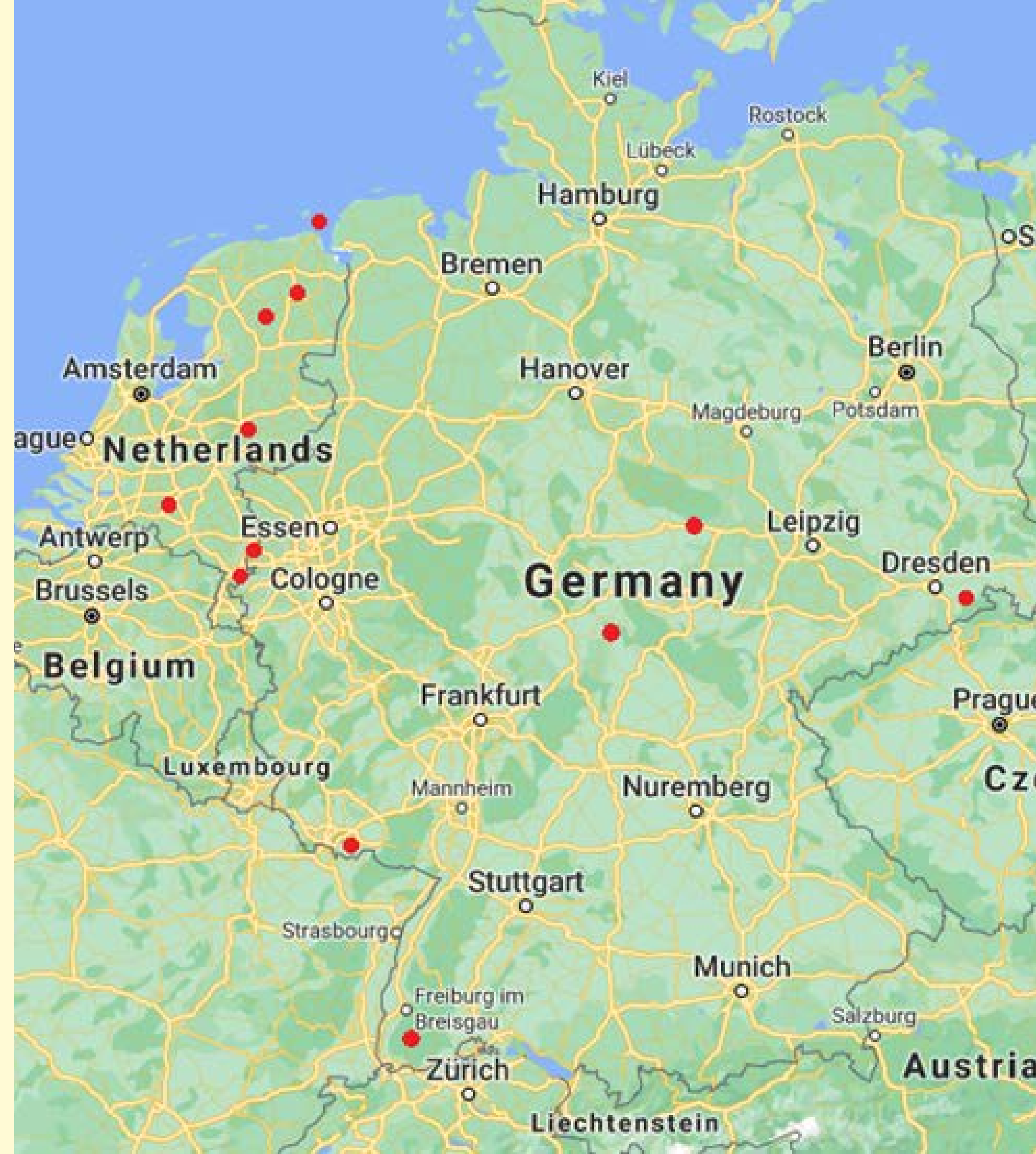
- Five diverse biosphere reserves
- Insect conservation measures (new & old)
- Interview farmers in areas on perspective
- Looking forward to results!

LESSONS LEARNED

- Centralise bottom-up initiatives to find best practices and learn lessons
- (diverse) funding sources are needed for these types of initiatives.

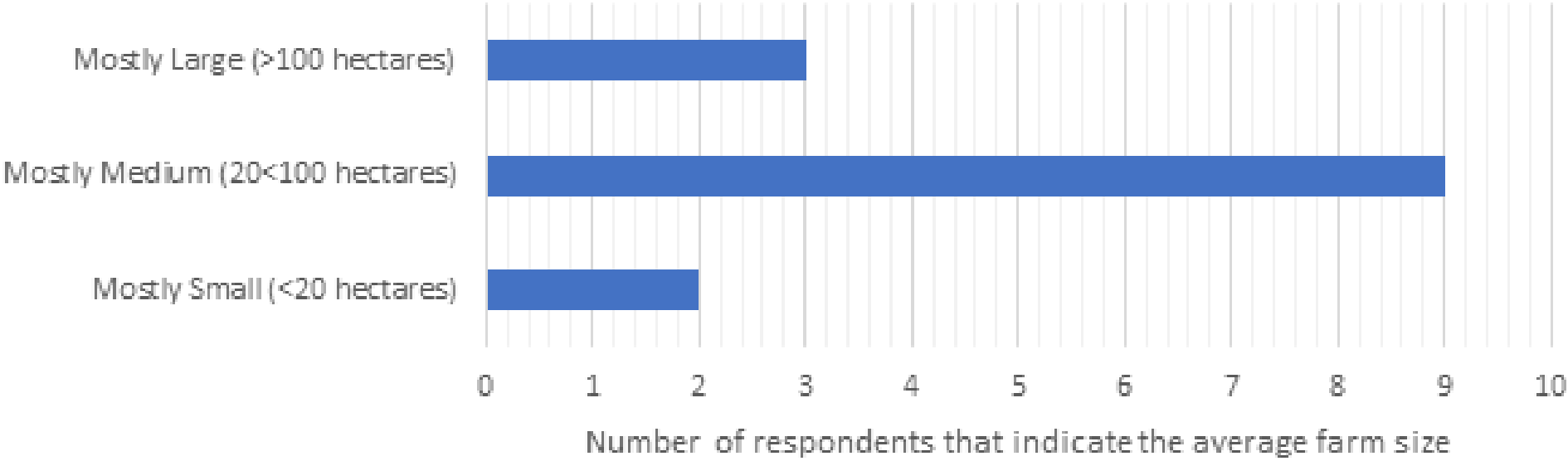
Survey results

- 16 respondents
- Netherlands and Germany
- 2 'double' responses
- 2 respondents from multiple areas

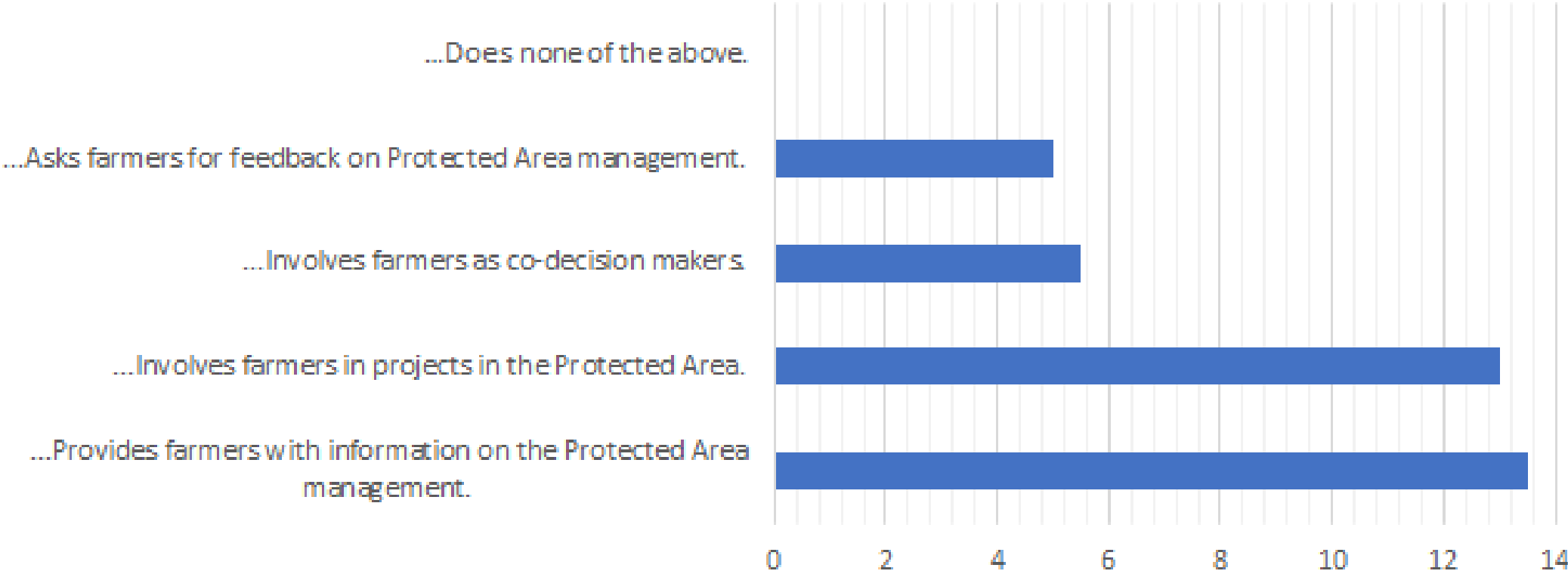


What is the average size of farms in and around* your protected area?

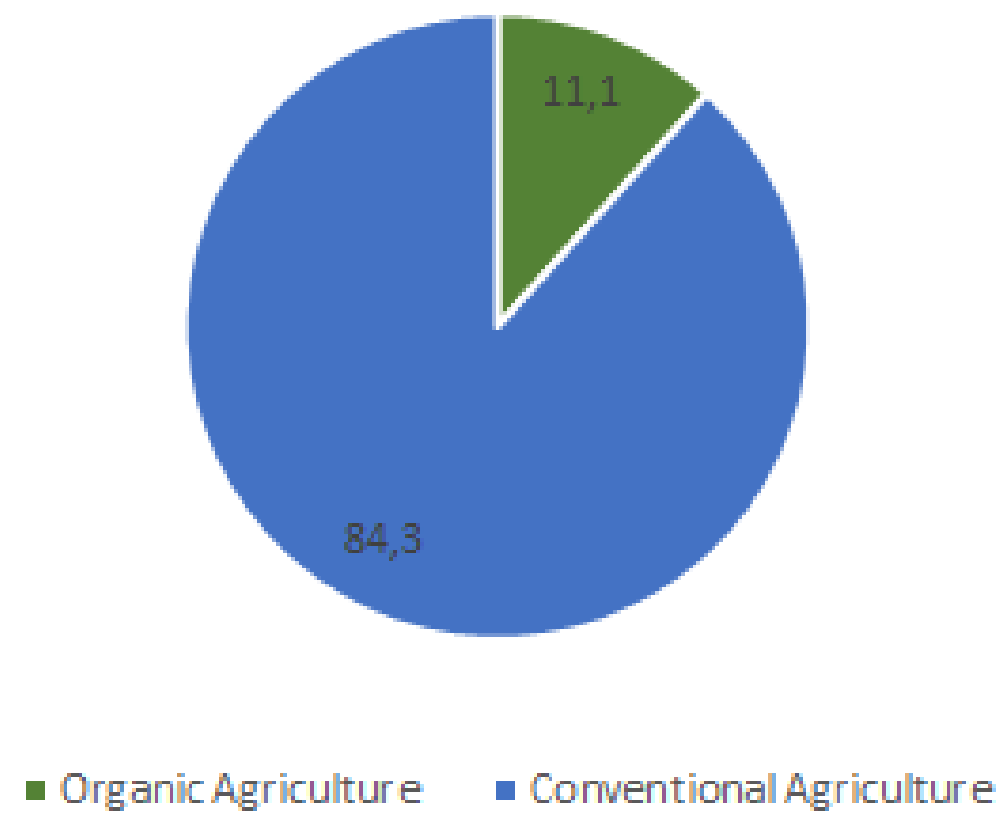
*Around the protected area is defined as the farms that still expected to connect to the protected area through e.g. groundwater.



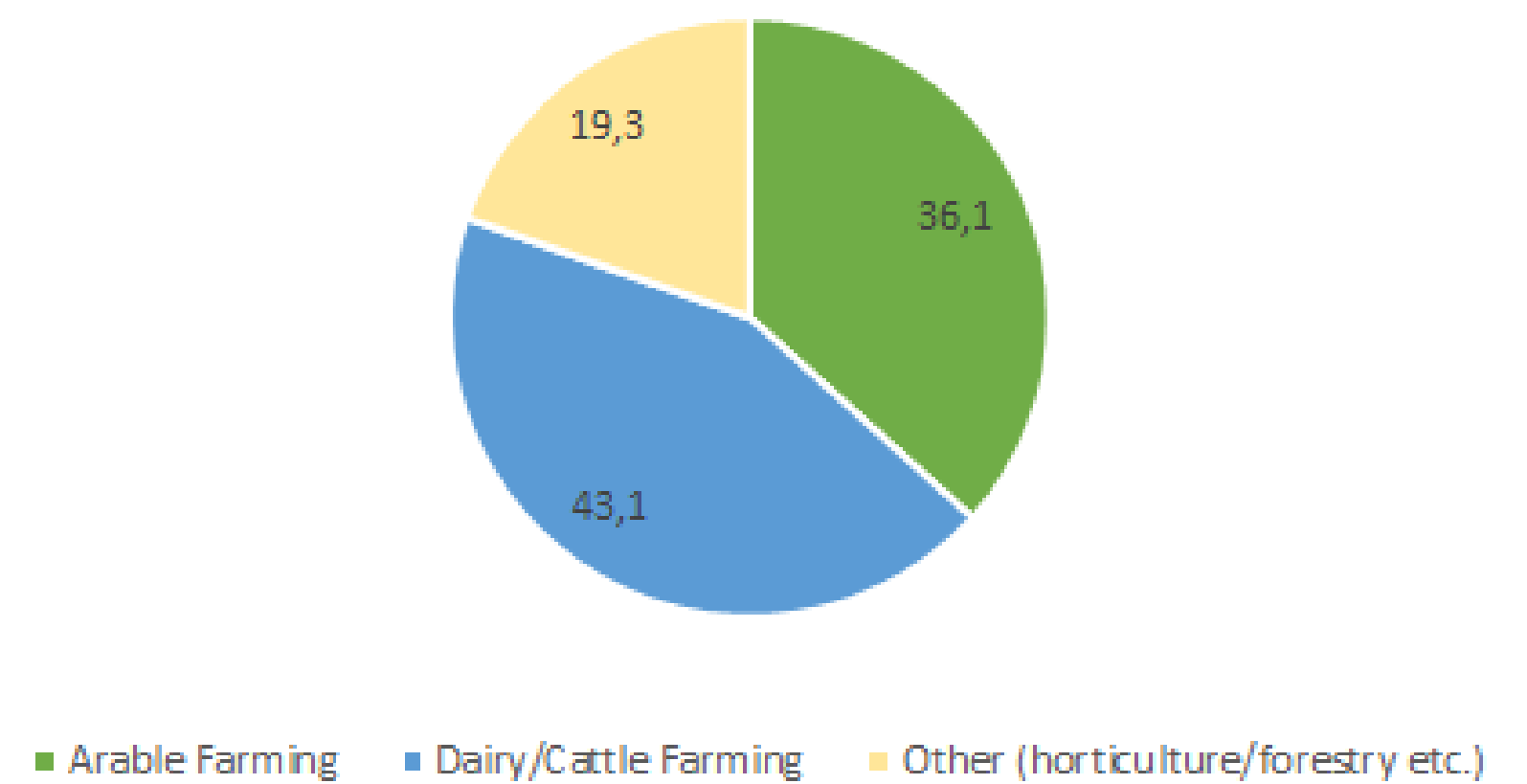
Number of PAs that... (N=14)



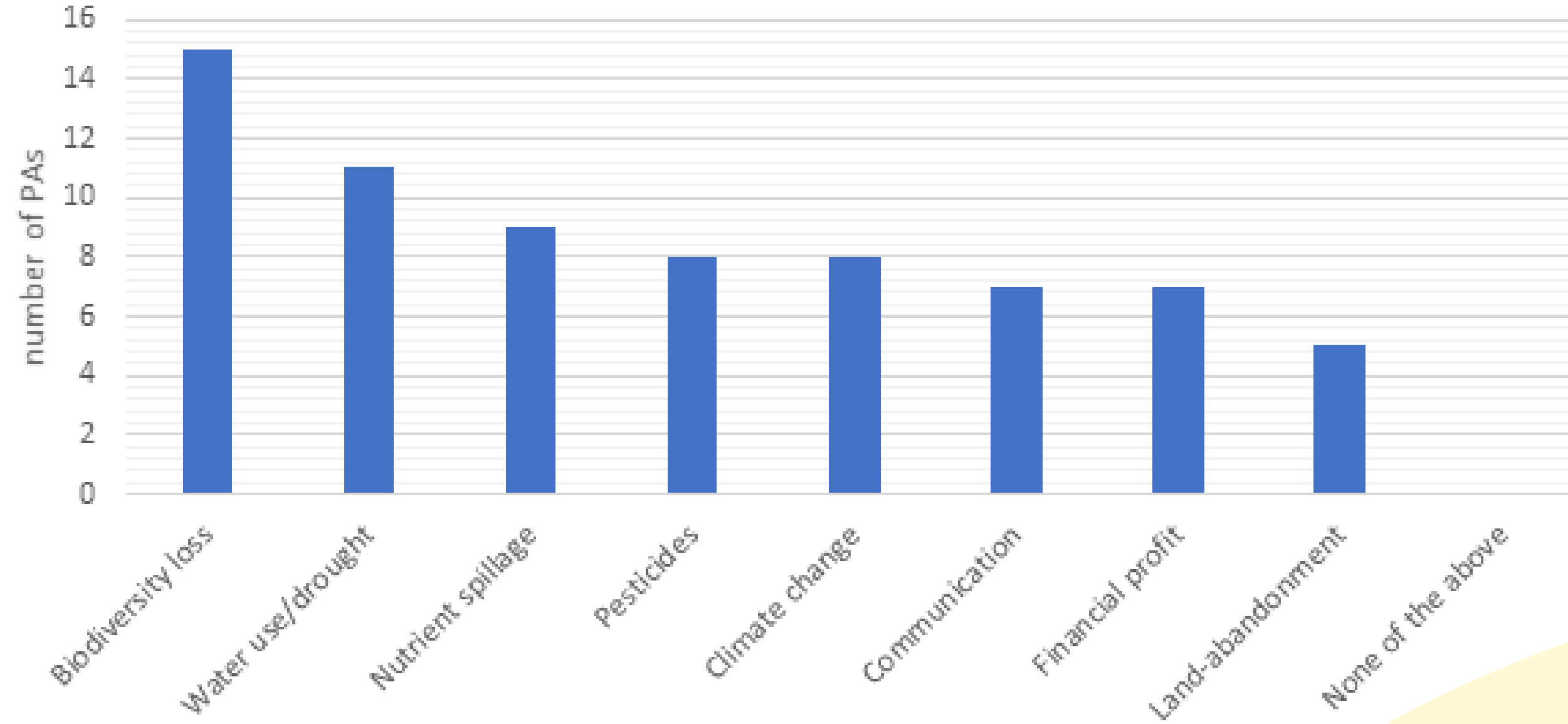
Division in organic and conventional agriculture



Share of agricultural elements



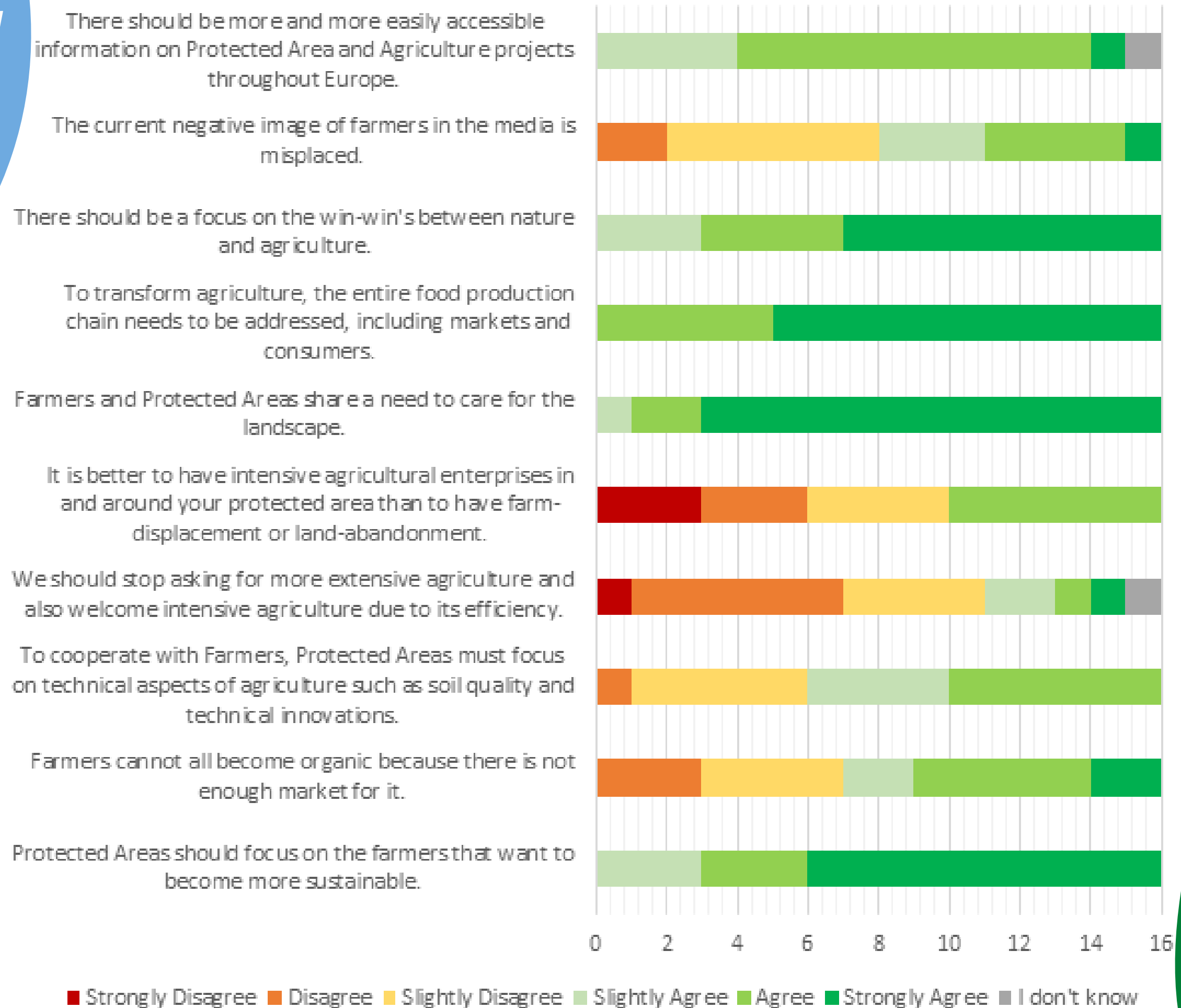
Number of PAs that identify main issues concerning PAs and large conventional agricultural enterprises (N=16)



"The products of farming are too cheap for consumers. The payment for ecological working farmers is too less and the consumers do not value the work of farmers for nature and ecology. So farmers often do not value ecology."

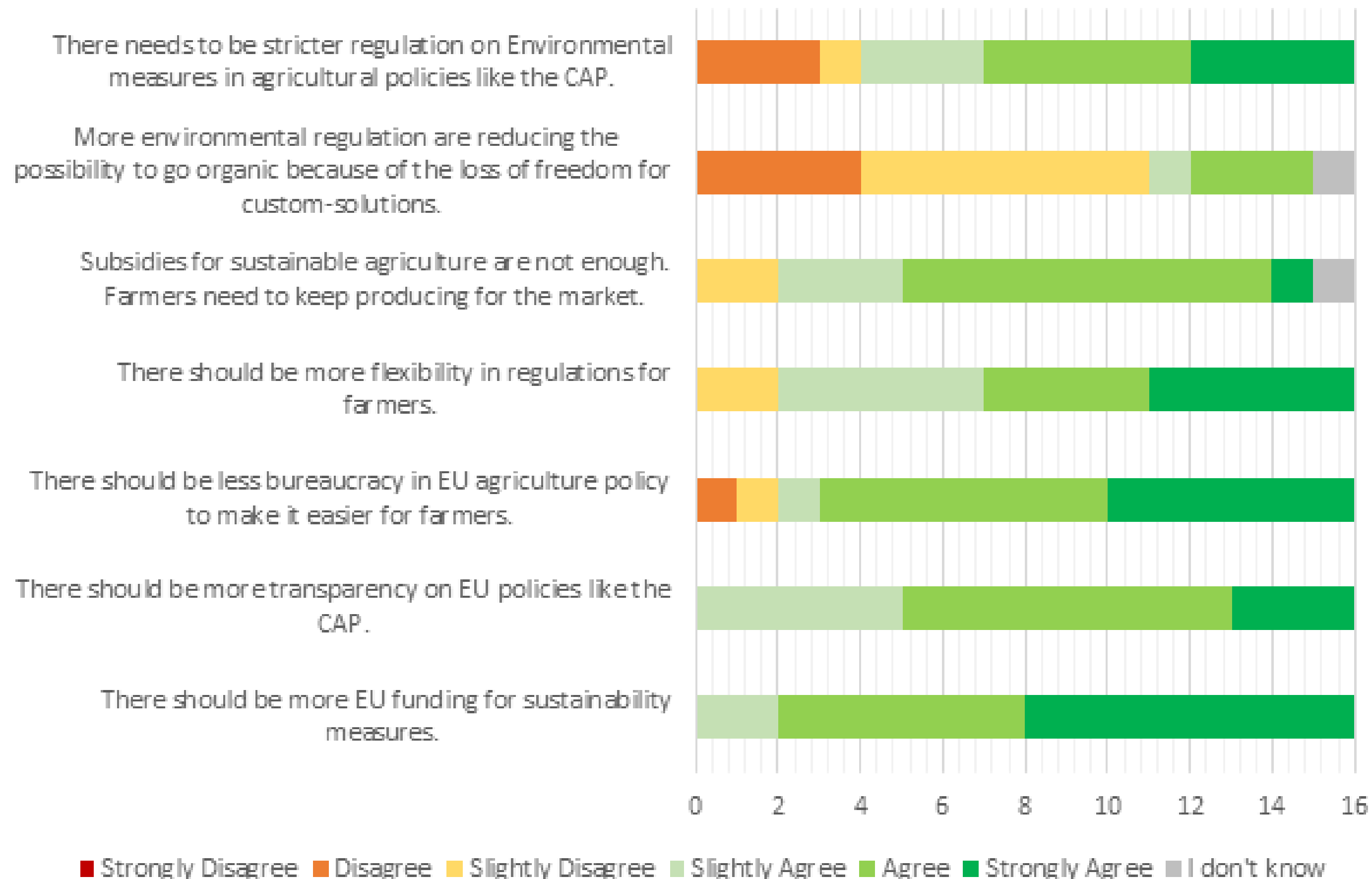
"In short: enhancing sustainable farming (in many ways) is a mutual interest of farmers and NPs."

Perceptions on conventional agriculture in PAs (N=16)



"Both [farmers and PAs] care for the landscape, but have often different opinions on what is meant by "good care" and how to care properly for a landscape."

Perceptions on environmental and agricultural regulation (N=16)



Conclusions

How are PAs influenced by conventional agriculture and how do they work with large conventional farms in Germany, the Netherlands and Luxembourg?

- A lot of conventional agriculture in and around PAs (Cattle/Arable)
- Information provision and projects popular inclusiveness projects

What are the prevailing paradigms of PAs towards conventional agriculture?

- Protection Paradigm
- Landscape Paradigm
- Market Paradigm

What opportunities can be found to cooperate with conventional agriculture?

- Technical solutions
- Market approach
- Inclusive governance structures

Recommendations

- Keep an **open mind** towards different values and paradigms.
- **Discuss how PAs differ** in their approach on conventional agriculture through the protection paradigm and landscape approach.
- Explore:
 - **technical solutions** for conventional agriculture.
 - Possible **markets and retail strategies** for agricultural products.
 - Governance structures that **involve farmers in PA management**.
- Keep **centralising best practices** and new ideas.
- Continue to advocate for **more money for sustainability, result based measures and more transparency** in EU agriculture policies like the CAP.

Do you agree? Additions?



Thank you!