



Governance approaches to address scale issues in biodiversity management – current situation and ways forward

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Protecting biodiversity and enhancing the provision of ecosystem services are key challenges for managing European agricultural landscapes. However, current approaches as implemented in the Common Agricultural Policy (CAP) of the European Union (EU) have been limited in their effectiveness to deliver positive biodiversity outcomes. To improve this situation, it is important to consider not only individual measures but also the broader governance system in order to identify alternative ways of managing agricultural landscapes for biodiversity. The research in MULTAGRI assessed existing challenges in the current governance system and sought to identify viable alternatives.

Current challenges in managing agriculture for multiple benefits to society

Agriculture is inextricably linked to ecosystem functions and benefits from a number of ecosystem services that directly contribute to crop production, such as water regulation or crop pollination. Moreover, the provision of ecosystem services is connected to a certain level of biodiversity in agricultural landscapes. On the other hand, agriculture also contributes to the generation of ecosystem services that benefit society in a broader sense, such as carbon sequestration for climate regulation, or the creation of beautiful landscapes to satisfy aesthetic needs. Therefore, agriculture which protects biodiversity and supports the generation of ecosystem services has multiple benefits to society.

One existing approach to improve the provision of ecosystem services and positive biodiversity outcomes is to compensate farmers for carrying out certain management actions. This so-called action-based approach has been implemented, for example, through agri-environment schemes as part of pillar 2 of the CAP. However, action-based payments have so far proved insufficient. This is because participation is relatively high in simpler schemes with limited benefits for biodiversity and ecosystem services and lower for more complex and more effective management actions.

The CAP's ineffectiveness in protecting biodiversity

The CAP is the key regulatory framework for agricultural development and biodiversity conservation in agriculture. It addresses biodiversity issues through cross-compliance and greening under pillar 1 and through agri-environment schemes under pillar 2. However, the extent of benefits of these policy instruments services is questionable and has been heavily debated. One reason for the varying effectiveness of the policy measures is that biodiversity and ecosystem services are affected by agricultural management and landscape structure at scales considerably larger than the individual farm, which may make conservation actions at the landscape scale necessary. In some cases, it is more effective to implement various conservation efforts in one single location within a landscape (so-called 'aggregation') and in other instances single conservation efforts need to be implemented in different places, spread all over a landscape (so-called 'dispersion'). The coordination of such aggregated or dispersed conservation

efforts may require the collaboration of farmers and other stakeholders.

Uncovering a blind spot: stakeholder fragmentation under the CAP

To understand if and how the CAP fosters or prevents collaborative biodiversity management in European farmland, we conducted workshops in Germany (one in Lower Saxony, another one in Saxony) and Sweden (one in Scania) with actors from administration, agriculture and conservation.

In all three locations we found very limited collaboration of actors for biodiversity management. Also, participation in voluntary agri-environment schemes was generally low in our case study regions, which are marked by intensive agricultural production.

We identified three ways in which the CAP hinders collaboration:

- (1) Measures and payments offered under CAP usually target the individual farmer.
- (2) There are many consultancy organisations, that could potentially act as facilitators for collaboration between farms. However, as CAP targets individual farmers, advising organisations mostly focus on individual farms, further reinforcing individualism among farmers instead of providing opportunities for collaboration.
- (3) The CAP fails to address existing barriers to collaboration, such as issues arising from the duration of tenure agreements in relation to the contract periods entered by farmers for the voluntary measures within CAP.



One of the most important actors when it comes to biodiversity conservation and the provision of ecosystem services in agricultural landscapes: a farmer. Photo: Pixabay

Local and regional stakeholders prefer decentralised management of biodiversity with top-down set goals

We explored alternative governance approaches to overcome the pitfalls and limitations of current approaches for biodiversity conservation. To this end, we developed four theoretical governance scenarios that describe different ways of how and by whom decisions about biodiversity management can be taken.

These governance scenarios were defined by two characteristics: by the decision-making mode (top-down, centralized vs. bottom-up, decentralized) and the way of delimiting the areas for which decisions are made (within traditional administrative borders vs. within ecologically defined borders). These scenarios describe theoretically possible extremes and are not directly applicable, but proved useful in that they helped reflect on plausible alternative governance approaches that may deliver different kinds of outcomes for biodiversity in the three study regions.

Workshop participants in all case study areas preferred a mix of the ideal-typical scenarios: They preferred top-down agenda-setting for overall conservation goals, but ideally applied to ecologically defined areas – not administrative boundaries. This way, they argued, conservation goals would be coherent for meaningful ecological units, while actors with sufficient expertise and a broad overview would define the conservation goals.

Regarding implementation, however, stakeholders preferred more autonomy for the local levels to be able to design locally appropriate measures.

Here, stakeholders also preferred taking action within traditional administrative borders, which they perceived to be more practicable than collaboration across administrative borders.

Generally, participants favoured scenarios with a higher degree of collaboration and coordination among actors as well as more local decisions and active participation in decision-making. However, participants also considered the difficulties related to collaboration (e.g. if actors are unmotivated or solely pursue their own interests).



Sown flower strips can benefit pollinators in agricultural landscapes, but their effectiveness could be increased by coordinating implementation over larger scales than single farms.

Photo: Lovisa Nilsson

IMPLICATIONS AND RECOMMENDATIONS

Fundamentally rethink the CAP system

Promoting collaborative efforts of farmers at the landscape scale will require a more substantial change of the CAP, going beyond changing the details of single policies and addressing the above-mentioned barriers to collaboration.

Combine different approaches in designing a new governance system

Our findings suggest that a mix of different decision-making modes (top-down vs. bottom-up, centralized vs. decentralized) and ways of defining units for decision-making (administrative borders vs. ecologically defined borders) would be most appropriate to account for the complexity of ecological processes and the interactions among ecosystem services. Yet, the exact design of such a mixed approach would have to be adapted to the respective governance context.

Make alternative approaches acceptable by addressing issues considered important by stakeholders

Actors consider a great number and diversity of aspects when judging the acceptability of alternative governance approaches. These aspects range from characteristics of the decision-making process and the implementability of decisions to the innovation potential fostered by the governance system.

Ensure collaboration between researchers, decision-makers, and land-use planners

The aim of this collaboration would be to jointly produce policy-relevant empirical evidence at multiple scales with the purpose of filling existing knowledge gaps in biodiversity and ecosystem services management. Such an approach would also have to take into account the multiple levels that exist in governance systems in the EU. This would imply that decisions on conservation interventions would have to be taken at multiple levels with some match between ecological scales and governance levels.

Read more

Ekroos J, Leventon J, Fischer J, Newig J, Smith HG (in press) Embedding Evidence on Conservation Interventions Within a Context of Multilevel Governance. *Conservation Letters* (available online) [Link](#)

Leventon J, Schaal T, Velten S, Dänhardt J, Fischer J, Abson D, Newig J (under review) Collaboration or Fragmentation? Biodiversity management through the Common Agricultural Policy

Pe'er G, Dicks LV, Visconti P, Arlettaz R, Báldi A, Benton TG, et al. (2014) EU agricultural reform fails on biodiversity. *Science* 344 (6188): 1090–1092 [Link](#)

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About the project

This policy brief is a result of the work done within the ERA-NET project [MULTAGRI](#), a collaboration between Lund University (coordinator), Animal Ecology Team Alterra, Kalaidos University, Leibnitz Institute of Agricultural Development in Transition Economies (IAMO), Leuphana University Lüneburg, Institut National de la Recherche Agronomique (UMR SAVE, UMR IGEP) and the Swedish University of Agricultural Sciences (SLU).

MULTAGRI investigates how governance of agricultural landscapes can promote rural development by harnessing landscape and biological diversity as assets that synergistically promote the production of public goods and sustained intensive agricultural production. MULTAGRI uses a strong interdisciplinary approach combining empirical field work, synthesis studies, and ecological-economic modelling and governance analysis at the regional level. Involved scientists come from a variety of fields including ecology, economics, agronomy and social sciences. MULTAGRI aims to contribute to the development of European policies to promote multifunctional agricultural landscapes and rural development.

Results from our work are summarized in the following three independent policy briefs covering ecological, economical and governance aspects of the project, respectively:

"Ecological interventions in agricultural landscapes – scale matters!"

"Impacts of the CAP's environmental policy instruments on farm structures, agricultural incomes and public goods"

"Governance approaches to address scale issues in biodiversity management – current situation and ways forward"

