



BIODIVERSITY AND LANDSCAPE FEATURES

MAP Position Paper



RURAL POLICIES TO PROTECT AND ENHANCE BIODIVERSITY THROUGH THE PRESERVATION, CREATION AND MANAGEMENT OF LANDSCAPE FEATURES

EMILIA ROMAGNA MAP

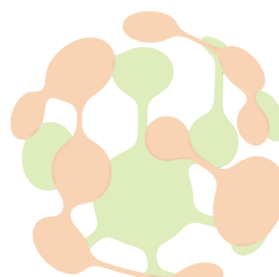
Topic and headline messages

Enhancing the synergies between agricultural production and biodiversity conservation is one of the specific objectives of the next CAP. Hence, the Emilia Romagna MAP provided a good opportunity to discuss the main trade-offs and potential synergies between biodiversity and agricultural production in the region.

Agri-food sector in Emilia Romagna generates significant benefits for regional economy but is also causing a high territorial fragmentation, land use change and intensification that negatively affect biodiversity. Given that, the greatest challenge for the regional agriculture is to improve the balance between biodiversity conservation, on one side, and maintaining a strong and competitive agri-food industry, on the other.

The MAP identified several areas where interventions by policy and research could ensure a better balance. Among them, a greater support to innovation, a better design of Agri-Environment Schemes (AES), providing more evidence of the long-term benefits of biodiversity conservation on farmers' income and consumers' health and enhancing farmers' education and communication to consumers.

Keywords: biodiversity conservation, agri-environment schemes, policy design, sustainable agriculture



Problem being addressed and key questions

Agri-food sector in Emilia Romagna is characterized by several registered geographical indications (PDOs), with relevant national and international markets, that generate significant benefits for regional economy and are entrenched in local culture. An outstanding example is represented by the production of Parmigiano Reggiano whose supply chain is characterized by a deep connection with the territory and environment (e.g. dairy farms use local forage produced in permanent meadows that, in turn, may have positive effects on local biodiversity).

However, especially in the plain area of the region, land-use competition and homogenization of agricultural landscape structure are causing a reduction in farmland biodiversity, a loss of cultural services and problems with air and water quality. At the same time, there is a growing concern of population towards environment and healthy food.

The CAP provides numerous mechanisms to improve the synergies between biodiversity conservation and agricultural production. Four main issues are relevant in the process of policy formulation:

1. How to measure the impact of CAP interventions on biodiversity conservation considering the current lack of data.
2. What targets are more effective to maintain biodiversity (e.g. minimum portion of agricultural area to be allocated to semi-natural habitats, habitat type, landscape structure).
3. How to raise farmers' awareness of the beneficial effects linked to biodiversity conservation.
4. Whether is appropriate to limit agricultural specialisation and to promote mixed and diversified farming systems.

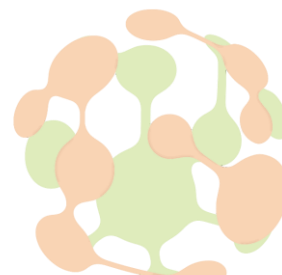
Based on these issues identified in the Discussion paper, the facilitator of the MAP encouraged the discussion around three topics:

1. What would be a policy target for Emilia-Romagna region?
2. What would be needed to deliver it?
3. How could the research summarized in this discussion paper help to support the development and implementation of suitable policies and measures?

Key scientific evidence

Land use change, climate change, unsustainable farming practices, poor management of landscapes and invasive species are among the main drivers of biodiversity loss and degradation of the agricultural landscapes. There are four main scientific evidences on the relationship between agriculture and biodiversity, that are: (i) biodiversity is strictly linked to the presence of habitats (both composition and structure); (ii) habitat fragmentation tends to have a negative effect on biodiversity; (iii) habitat loss has generally a more important impact than fragmentation; (iv) agricultural management in the areas adjacent to habitats can play a substantial role on biodiversity.

Moreover, research highlights that the diversification of landscapes and semi-natural habitats enhance pest control and pollination and can buffer negative effects of climate change. Benefits to biodiversity, pest control and pollination are greater in landscapes with smaller rather than larger fields, for the same area of habitat provided (i.e. smaller fields with more field margin habitats have more biodiversity). Finally, there are wide variations in the effectiveness in terms of biodiversity conservation of the different measures currently available. Agroforestry, buffer strips, landscape features and land lying fallow are generally more effective for biodiversity than measures such as cover crops and legumes.



Summary of position of the regional Multi-Actor Platform

The greatest challenge for regional agriculture is to improve the balance between biodiversity conservation, on one side, and maintaining a strong and competitive sector, on the other.

The current approach to biodiversity conservation through agricultural policy has shown numerous limitations. Administrative complexity has certainly hampered the adoption of AES by farmers. Moreover, the monitoring of the effects of AES is still focused on individual land management units rather than on greater scales and more comprehensive indicators. Furthermore, the real “advantages” related to sustainable agriculture are often unknown or not sufficiently communicated to farmers and consumers.

Given these weaknesses, the next programming period should be characterized by larger investments on innovation that is pivotal to strike the balance between competitiveness and sustainability. Besides that, there is the need to work on ethical and cultural aspects through farmers’ education and a greater capacity to communicate the benefits related to biodiversity conservation. Research should study cases in which investments on biodiversity conservation has produced benefits in terms of farmers’ income and consumers’ health to provide evidences both to policy-making and civil society as a whole.

Ultimately, this pilot was considered by MAP members as a good opportunity to discuss potential synergies and conflicts between regional rural development program and biodiversity conservation; however, the MAP was not able to discuss the full range of potential trade-offs that could occur with other areas of regional programming dealing with landscape and biodiversity.

Multi-Actor Platform recommendations

The MAP’s recommendations can be divided into three areas for improvements:

- **Improve the design of AES**
 - Design and monitoring of AES based on an integrated landscape approach in order to consider spatial and temporal variations in biophysical conditions;
 - Less administrative burden for farmers to adopt AES. There are, indeed, measures for which the administrative complexity has been reduced: e.g., to apply for measures regarding afforestation, farmers should refer to a single measure both for investments and management. However, this is not the case for the other AES where investments and management are usually separated.
- **Improve the balance between productivity and sustainability**
 - Greater support to innovations that is able to improve agricultural productivity while limiting environmental impacts;
 - Showcase the long-term benefits of biodiversity conservation on farmers’ income. Farmers still perceive conservation as a cost and AES as constraints. Research should provide more evidences regarding the link between biodiversity conservation and “advantages” for farmers (both as opportunities for cost reduction or higher revenues);
 - More research is needed to understand the positive effects of biodiversity conservation on consumers’ health;
 - Reduction of tax burden for farmers producing positive environmental externalities could be an important incentive to support sustainable farming practices.
- **Improve education and communication**
 - Enhance advisory services for farmers and encourage their uptake;
 - Raising farmers’ awareness on the long-term benefits of biodiversity conservation;

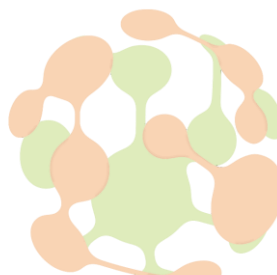


- More effective communication strategy to make sustainable agriculture more visible to consumers (e.g. effective logo).

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Annex 1: Key scientific evidence or activities cited by the Multi-Actor Platform

The discussion of the MAP was based on the SHERPA discussion paper. Moreover, a number of activities (see annex 2) related to biodiversity conservation in the region were cited during the discussion.

Other references:

Pe'er G. et al. 2014 EU agricultural reform fails on biodiversity. Science vol 344 issue 6188

EEA 2018 <https://www.eea.europa.eu/airs/2018/natural-capital/common-birds-and-butterflies>

Leather, S.R. 2018. "Ecological Armageddon" – more evidence for the drastic decline in insect numbers. Annals of Applied Biology, 172(1), pp.1-3.

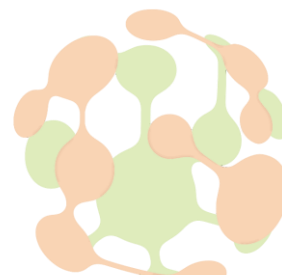
Eigenbrod, F. 2016. "Redefining Landscape Structure for Ecosystem Services." Current Landscape Ecology Reports, 80–86. <https://doi.org/10.1007/s40823-016-0010-0>.

EU FP7 BioBio Project "Indicators for biodiversity in organic and low-input farming systems"

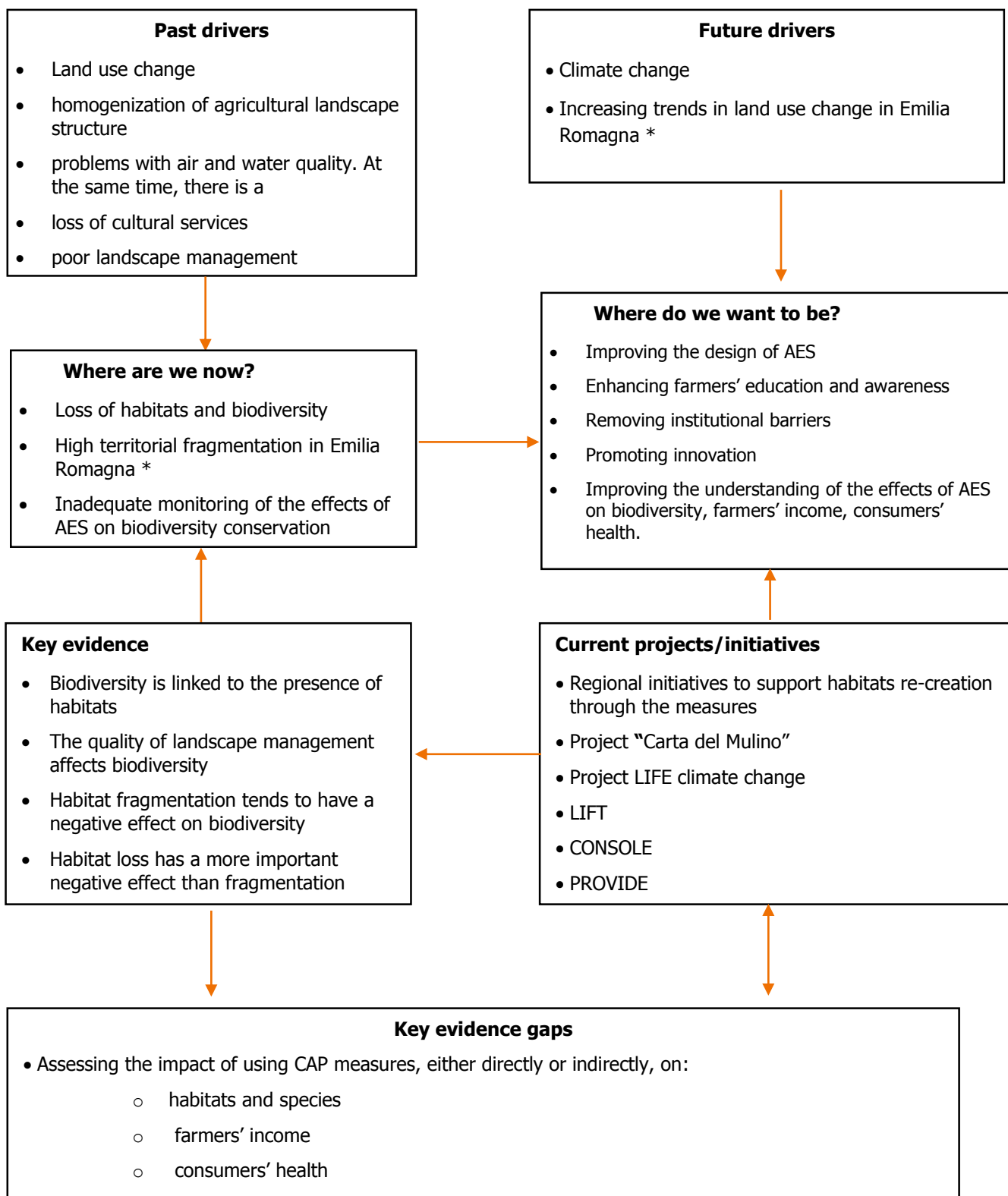
Annex 2: Key scientific evidence or activities provided by the Multi-Actor Platform

Min projects mentioned by the MAP:

- Regional agri-environment office promoted the adaption of measures linked to habitat re-creation. Habitats increased thanks to the uptake of AES and these habitats were included in the Natura 2000 network.
- Project called "Carta del Mulino" conducted in collaboration among BARILLA, UNIBO and WWF. It aimed to allocate 3% of wheat-cultivated areas to flowers' plantation for pollinators.
- LIFE ClimatechangER: performed a cost-benefit analysis in agri-environment schemes.
- LIFT: the objective of the project is to identify the potential benefits of the adoption of ecological farming in the European Union and to understand how socio-economic and policy factors impact the adoption, performance and sustainability of ecological farming at various scales, from the level of the single farm to that of a territory.
- CONSOLE: the objective of the project is to boost innovation in the lasting delivery of agri-environmental-climate public goods by EU agriculture and forestry.
- PROVIDE: the objective of the project is to provide a conceptual basis, evidence, tools and improved incentive and policy options to support the "smart" provision of public goods by the EU agriculture and forestry ecosystems using a transdisciplinary approach.



Annex 3: Graphical representation of the overview of the position paper



* Source: L'Italia e la Pac post 2020 - Policy Brief 6

http://www.pianetapsr.it/flex/downloads/policy_brief/Policy%20Brief_RRN_PB_6.pdf

