

Extended abstract

The study deals with the topic of private financing programmes of wildflower strips (WFSs) as an example of agri-environmental schemes (AESs) in Germany. WFSs provide herbaceous vegetation in agricultural landscapes and are sown annually or perennially. It is widely acknowledged that WFSs are one of the most effective and applied measures to improve ecosystem services to crops and enhancement of biodiversity. It is indisputable that biological diversity is severely threatened and that anthropogenic influence is the main driver for this change. One core factor is **intensive agriculture that causes monocultures, use of pesticides, herbicides and fertiliser, which lead to a loss of diverse landscape elements and habitats and thus to insect decline.**

Farmers are incentivised to establish WFSs, whether through AES payment or private sector financing programmes, especially WFS sponsorships. In comparison, private WFS financing programmes are relatively new and unexplored. Literature provides insights into the ecological effects of WFSs and public schemes. However, there is a research gap regarding an overview of different schemes in private sector financing, involved stakeholders, their interests, programme implementation, and related variances in the quality of WFS, and finally, their impact on biodiversity and ecosystem services.

Thus, this study aims to investigate private WFS financing programmes and the sector. The overarching research question can be formulated as follows: What types of private financing schemes for WFS exist in Germany, what are core success criteria of this measure for biodiversity conservation and do private sector financing programmes fulfil them?

The research objective is to a) map and analyse the different actors involved and their interests, b) provide an overview of different private WFS financing programmes in Germany, c) determine core success criteria for private sector WFS financing programmes, and d) check if private sector financing programmes fulfil these criteria.

The study's methodological approach is qualitative, consisting of a mixture of different qualitative methods. A literature-based stakeholder analysis is complemented by ten expert interviews that are evaluated by applying qualitative content analysis. The interviews include three experts on ecology and seven stakeholders of private WFSs financing programmes, representing different involved stakeholder groups. The analytical focus is put on three representative federal states, namely Baden-Württemberg, Bavaria, and Lower Saxony.

Based on grey literature and interview insights, the core results of the study are a stakeholder map including internal and external stakeholder groups, a classification of four private WFS financing programmes, and a list of 16 criteria that build an evaluation framework for private WFS financing programmes.

The identified internal stakeholders are farmers, private individuals, companies, registered societies, farmers' associations, media, beekeepers, and research institutions. Depending on different actor constellations, programme characteristics, financial structures, programme requirements, four types can be defined namely, direct sponsorship, facilitated direct sponsorship, advanced facilitation, and corporate initiative. The list of criteria consists of

ecological (E.1-6), economic (EM.1-EM.5), social (S.1-S.4), and general criteria (G.1). While the majority are core criteria, four criteria are defined as additional criteria that are a nice-to-have addition. However, the compliance is not absolutely necessary for a sustainable measure. Furthermore, three criteria are excluded from the evaluation framework for potential sponsors as the information is usually not provided publicly on the web page. However, all 16 criteria are relevant for farmers and facilitators as a guideline for providing a sustainable measure beyond ecological aspects.

Overall, the results highlight the heterogeneity of private WFS financing programmes. Furthermore, the results have practical implications. The defined criteria serve, on the one hand, as an evaluation framework for sponsors, and on the other hand, as an orientation for farmers and programme providers. Thus overall, the criteria support sustainable programme implementation and transparent communication about it. Transparency is crucial in a heterogeneous sector. Together with the stakeholder map and classification of programme types, the criteria allow for more structure and overview of the sector of private WFS financing. Furthermore, the study overall highlights the difference between AESs as PES and private WFS financing. Despite being based on the same core incentive to support nature conservation and the provision of ecosystem services, the implementation enormously varies. While AESs are more constant due to defined requirements subject to monitoring and controls, private WFS financing programmes are more flexible. Additionally, they have a social function as a direct connector between farmers and the private sector and society.

The question of whether private sector programmes fulfil the core criteria cannot be answered sufficiently based on the current study. A brief framework application on two exemplary private programmes emphasises that some criteria are fulfilled while deficits concerning ecological criteria exist. The comparison between the two cases again indicates the heterogeneity of different private programmes, not only between programme types but also within.

Overall, the defined core success criteria are a basis for further development and research on private financing of agri-environmental measures, implementation of ecologically, economically, and socially sustainable private WFS financing programmes and transparent communication about it.