

## Grassland restoration on ex-arable fields in the Netherlands

### Identification of the factors driving biodiversity restoration success

Department: Copernicus Institute of Sustainable Development

Research group: Environmental sciences (Land use and biodiversity)

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### Project description

The UN Decade of Restoration and the newly adopted EU Nature Restoration law offer a fantastic opportunity for the restoration of grasslands, which are biodiverse ecosystems of great ecological importance. However, the success of restoration efforts, particularly of species-rich, high-biodiversity grasslands on land that has been intensively managed for crop and hay production, is not guaranteed. If we are to maximize our chances of successfully restoring grasslands, we need to learn from what has already been done and exploit the information gained from long-term restoration efforts across the Netherlands to identify the factors that make grassland restoration successful.

This project aims to identify the biotic and abiotic factors that determine the long-term success or failure of grassland restoration efforts. To do so, we have collected soil, vegetation and hydrological data on ex-arable sites that have undergone different management practices (e.g. topsoil removal, mowing, hay transfer) to restore semi-natural grasslands. We have collected the same data for long-time grassland nature reserves as a reference. We will again collect vegetation and hydrological data in spring/summer 2025.

In this project, you will first support the analysis of the data collected in 2024 by helping to create a large database containing detailed data on all the sites included in our project. This database will include not only data collected by geoscience researchers from Utrecht University, but also data provided by stakeholders and research partners (B-WARE, Staatsbosbeheer, Natuurmonumenten). Your role will be to use (GIS) software tools to extract relevant spatial data for each site, extract biodiversity and species distribution data from national databases, and explore and analyze data collected for the project. When fieldwork starts in spring, you will join the field work campaign and visit restored and reference grassland sites to support the collection of additional vegetation data.

You will work in close collaboration with Inês Vicente, who is the doctoral researcher working on this project at the Copernicus institute of sustainable development, as well as her supervisors (Prof. Merel Soons and Dr Benjamin Delory). By working on this project, you will have the opportunity to make important contributions that will enable us to better understand the success factors of grassland restoration in the Netherlands and provide relevant recommendations to practitioners, which is of great interest in bending the curve of biodiversity loss. If your contribution to the project is substantial, you will become co-author of a publication.

### Job requirements

- Interested in analysis of ecological data and fieldwork (vegetation surveys)
- Interested in data collection, data management and GIS analyses, with basic R knowledge (basic GIS knowledge is an advantage)
- Basic knowledge of Dutch and a driving license are an advantage (but not mandatory)
- Excellent communication and teamwork skills
- Eye for detail and meticulousness in extracting and handling data