

Simulations of policy to supports farmers in shaping more diverse landscapes

1. Background

- Over 50% of Germany's surface area is covered by agriculturally managed land (DESTATIS, 2021)
- **Habitat area needs to be increased and better connected** in agricultural landscapes to halt farmland species decline
- Farmers need incentives to create and connect habitats through policy such as the **Common Agricultural Policy of the European Union (CAP)**
- **Barriers to farmers' uptake** of existing payment schemes need to be overcome
- New **collective payment schemes** aim to improve coordination among farmers and thus connectivity of habitats

2. Questions

- How to reach a better uptake of payment schemes and overcome barriers for farmers?
- Can collective payment schemes achieve better results for biodiversity?

3. Methods

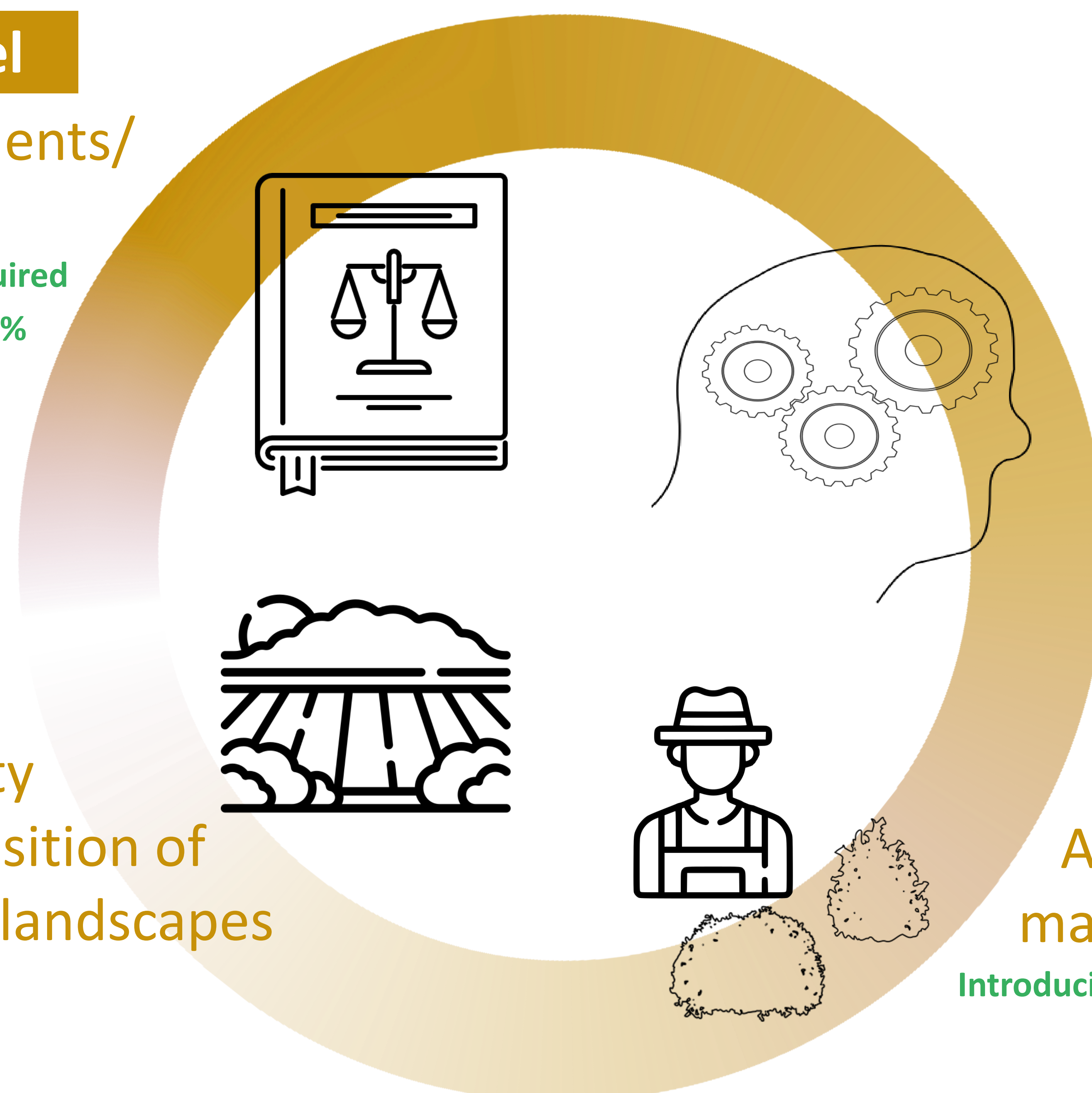
- Economic-ecological model
- **Agent-based** centering on farm businesses
- **Current stage is conceptual model on introducing and maintaining hedges**
- Developed in project CAP4GI together with ecological model

4. Conceptual Model

Policy: CAP & payments/ regulations beyond

- **4% non-productive area required**
- **Top-Up payments for up to 6%**
- **Agri-Environmental and Climate Schemes**
- **Nature Conservation Law**

Connectivity and composition of habitats in landscapes



Farmers' decisions
Homo economicus

Agricultural management
Introducing and maintaining hedges

5. Outlook

- Discuss with farmers in six regions in Thuringia and Baden-Wuerttemberg
- Test collective payment schemes by incorporating interviews and Discrete-Choice-Experiments on farmers' preferences by University of Rostock
- Introduce complex farmer behaviour
- Coupling with ecological model to assess policy impact on biodiversity in the model **Persefone.jl** (with Daniel Vedder)
- Derive recommendations for CAP reform in 2028

