

# Design for multifunctional agriculture

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## Which functions do we see for rural areas?

Many simultaneously; multifunctionality:

- Generating agricultural income
- Production of food
- Recreation
- Space for wild plants and animals
- Readable landscapes
- Steward of cultural heritage

## Research question:

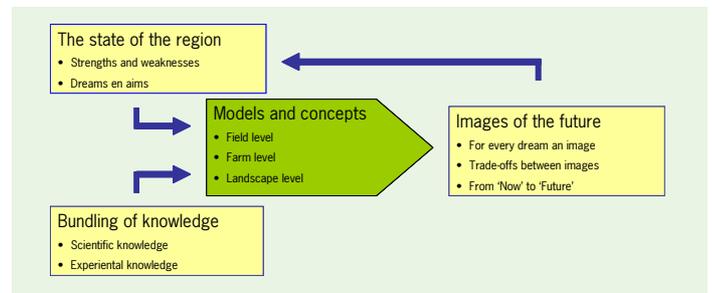
To which degree can agriculture play a multifunctional role and which trade-offs between objectives are required?

## Approach in the research project

Multifunctionality requires synergy among economically viable farm management, prevalence and survival of species, and a readable landscape. Insight in opportunities and constraints of various alternative land use options at field, farm and regional scales inform the public debate on regional development.

## Methods in the research project

- Design:** integrate disciplinary knowledge in alternative options
- Prototyping:** evaluate rough designs with regional stakeholders
- Iterative:** repeat steps with increasing detail
- Interactive:** do research together with stakeholders in the regions



## Case study areas

- Noordelijke Friese Wouden (NL) (dairy farming)
- Kennislandgoed Flevoland (NL) (arable farming)
- Vendée (F) (dairy farming)
- Eure et Loire (F) (arable farming)

### Landscape identity

*Does the landscape reflect the bio-physical environment and the inhabitants?*



Recognizable cultural landscape

### Farming styles

*Objectives of farmers and their on-farm implementation*



Profitable farming



Species richness

### Agronomic design

*Novel arable and livestock farming systems*

### Institutional innovation

*Dynamics of institutions in response to rural developments*

### Landscape ecology

*Presence of species in relation to the landscape configuration*

### Food webs

*Feeding relations between species in an agro-ecosystem*