COOPERATIVE LANDSCAPE MANAGEMENT:

A STAKEHOLDER PARTICIPATION APPROACH IN NATURE CONSERVATION IN GERMANY

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COOPERATIVE LANDSCAPE MANAGEMENT

- Current status and trend
- Problem statement
- Research question
- Landscape management system
- Research Methods

CURRENT STATUS AND TREND
NATURA 2000 REPORT

Region	habitat - condition	year	
		2007	2013
N – W Germany	good	18	11
	insufficient	16	22
	bad	28	31
E – S Germany	good	21	15
	insufficient	42	42
	bad	18	25

- 13 habitats out of 92 deteriorated from 2007 to 2013
- 6 of the 13 habitats are dependent on sustainable use of grassland or habitat management (e.g. meadows, heaths)

Source: BfN 2014

CURRENT STATUS AND TREND
EUROPEAN BIODIVERSITY STRATEGY & HNV FARMLAND INDICATOR

European Biodiversity Strategy

Aim for 2020:
100 % more habitat and 50 % mores species show a stable or improved condition

High nature value farmland indicator – Germany

Proportion of relatively extensively used and species rich agricultural land in the total agricultural area

2009: 13,2 % 2011: 12,1 % 2013: 11,8 %

→ 2003 – 2012 absolute loss of permanent Grassland ~ 250 000 acres (5%)

Source: BfN; ec.europa.eu

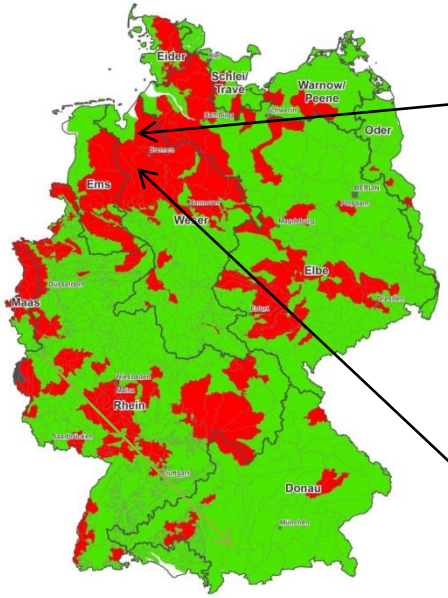
CURRENT STATUS AND TREND
STRUCTURAL CHANGE IN AGRICULTURE

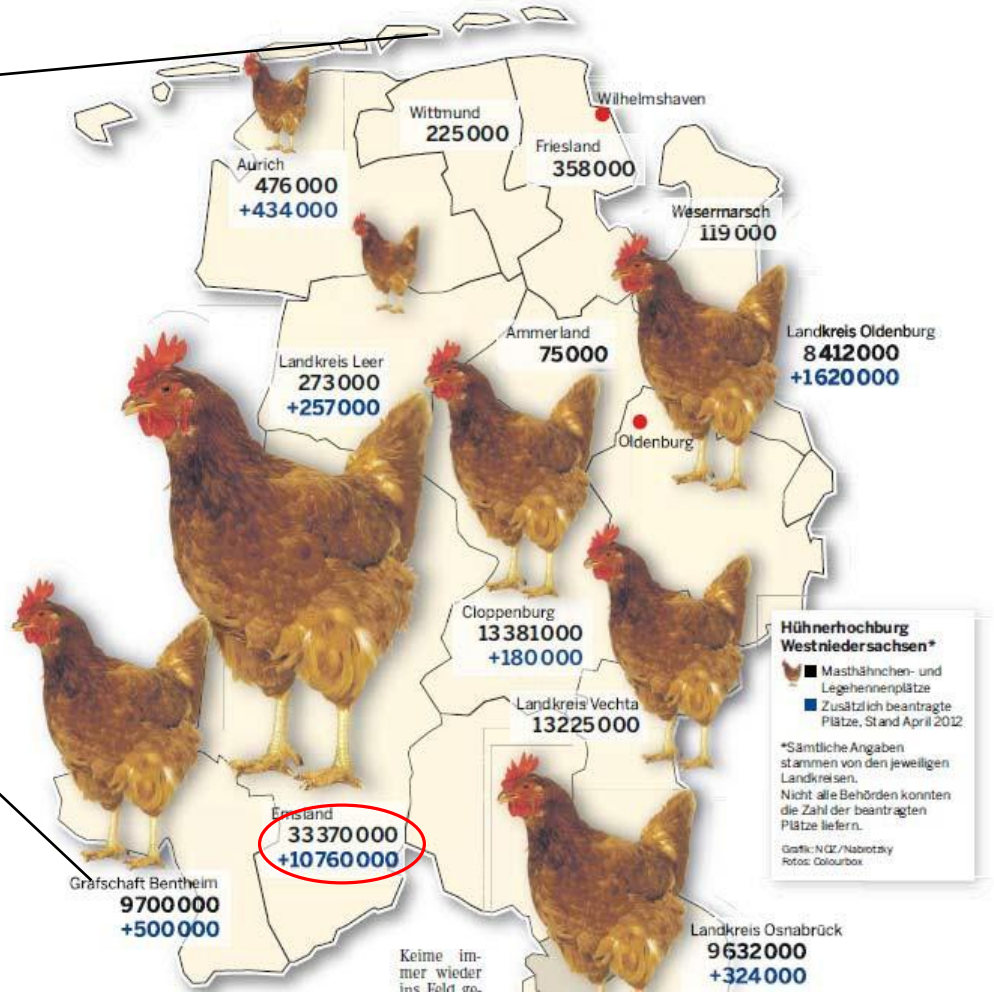
Landwirtschaftlich genutzte Fläche (LF)	2005		2007		2010	
	Anzahl Betriebe	LF in ha	Anzahl Betriebe	LF in ha	Anzahl Betriebe	LF in ha
unter 5 ha	94 345	238 522	85 881	223 767	27 400	54 000
5 ha bis unter 10 ha	56 245	408 407	52 685	382 280	47 300	343 900
10 ha bis unter 20 ha	72 954	1 088 369	67 848	1 013 242	63 200	945 800
20 ha bis unter 50 ha	88 334	2 923 056	82 822	2 749 113	76 100	2 535 000
50 ha bis unter 100 ha	54 406	3 803 403	53 399	3 740 602	51 600	3 628 400
mehr als 100 ha	30 297	8 562 203	31 879	8 845 325	33 600	9 196 900
davon mehr als 1 000 ha	–	–	–	–	1 500	2 551 100
Gesamt	396 581	17 023 959	374 514	16 954 329	299 100	16 704 000

Quelle: Statistisches Bundesamt

- ongoing decline in farm numbers around 25 % in 5 years
- Less small scale farmers more large scale farmers

CURRENT STATUS AND TREND
INCREASE IN POULTRY PRODUCTION

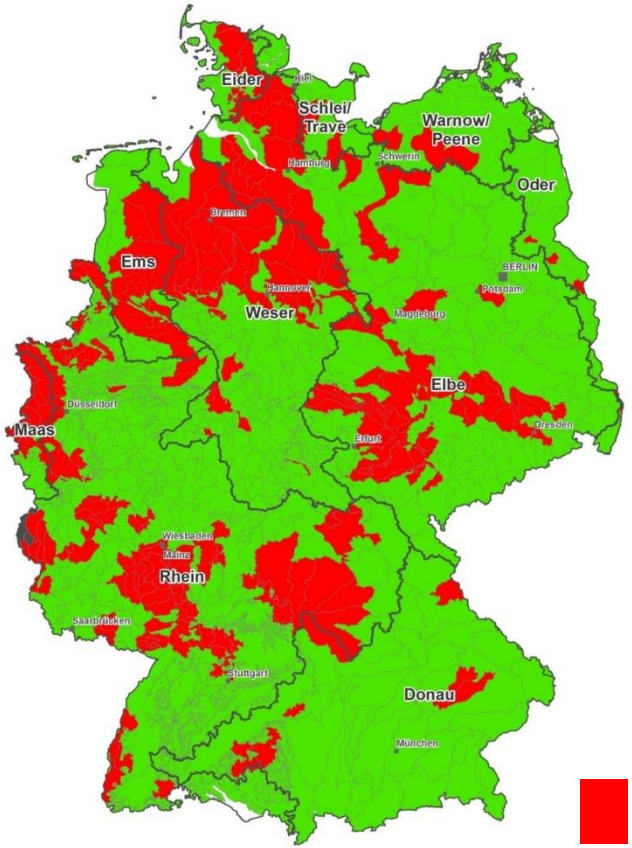




60 % of German poultry production located in Münsterland and Niederrhein region

Source: WasserBLICK/BFG 2010, www.noz.de

CURRENT STATUS AND TREND
NITRATE POLLUTION OF GROUND WATER



- 40 % of groundwater bodies are heavily loaded with nitrate
- Need for proper treatment before drinking water use is possible
- Excessive input of nutrients to agricultural land
- Manure surplus of intensive farms

endangered condition

good condition

Source: WasserBLICK/BFG 2010

PROBLEM STATEMENT

- The targets set are differing extremely from the observed developments.
- Agricultural production is a major cause for some monitored misbalances in the environment.

RESEARCH QUESTION

- How can the environmental responsibility be shared between all involved stakeholders ?
- Which groups are interested in the production of high-quality environmental goods ?

LANDSCAPE MANAGEMENT

- Society looks for optimal allocation of agricultural land
  e.g. natural goods, food

- Joint management of nature and farming system
  e.g. integration of nature conservation in agriculture

- Lack of incentives to conserve nature e.g. education

→ Agro-environmental schemes at the landscape level are needed

→ Landcare providing units to implement landmanagement concepts

LANDCARE PROVIDING UNIT (LCPU)

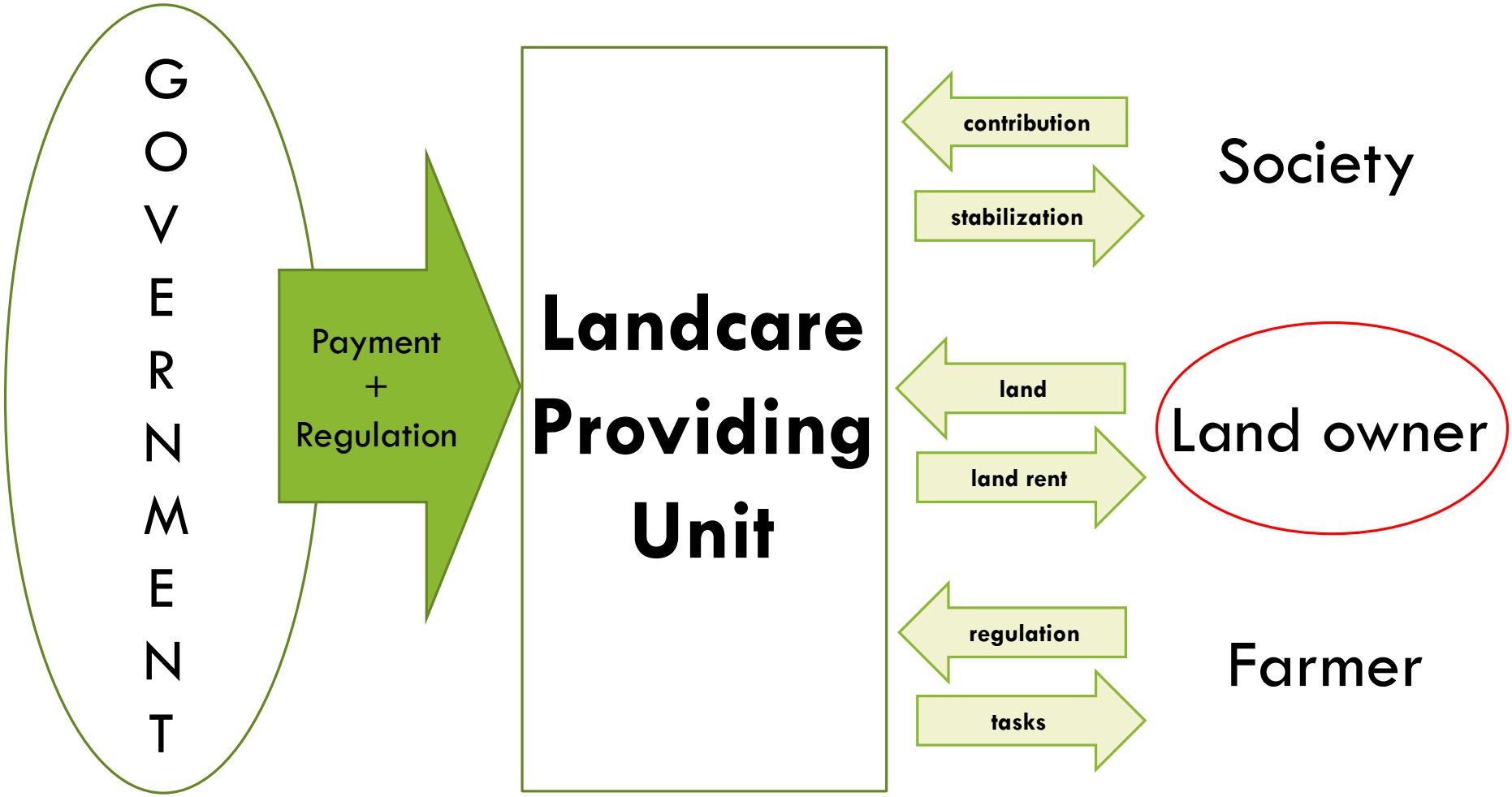
Members

- Municipality agents
- Farmers
- Agricultural administration
- Land owners
- Land planning institutions
- Society
- Non governmental organisations
- Schools
- Farmers unions
- Volunteers

Task

- sustainable land use
- long term planning horizon
- maintains ecological structure
- environmental education

LANDSCAPE MANAGEMENT SYSTEM



LAND OWNER INTERESTS

- economic
  - high rents
  - secured payments
  - long term contracts
- social
  - neighbours & friends
  - trust
- ecologic
  - sustainable land use
  - environmental friendly production

METHODS

1. Land owner - questioning
2. Costs and benefits analyses of a LCPU
3. Agent based model - socio economic analyses
4. Discussion of the results with Experts

THANK YOU

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QUESTIONS

What is the goal of landscape design?

Can cooperative behavior in agriculture promote agro biodiversity?

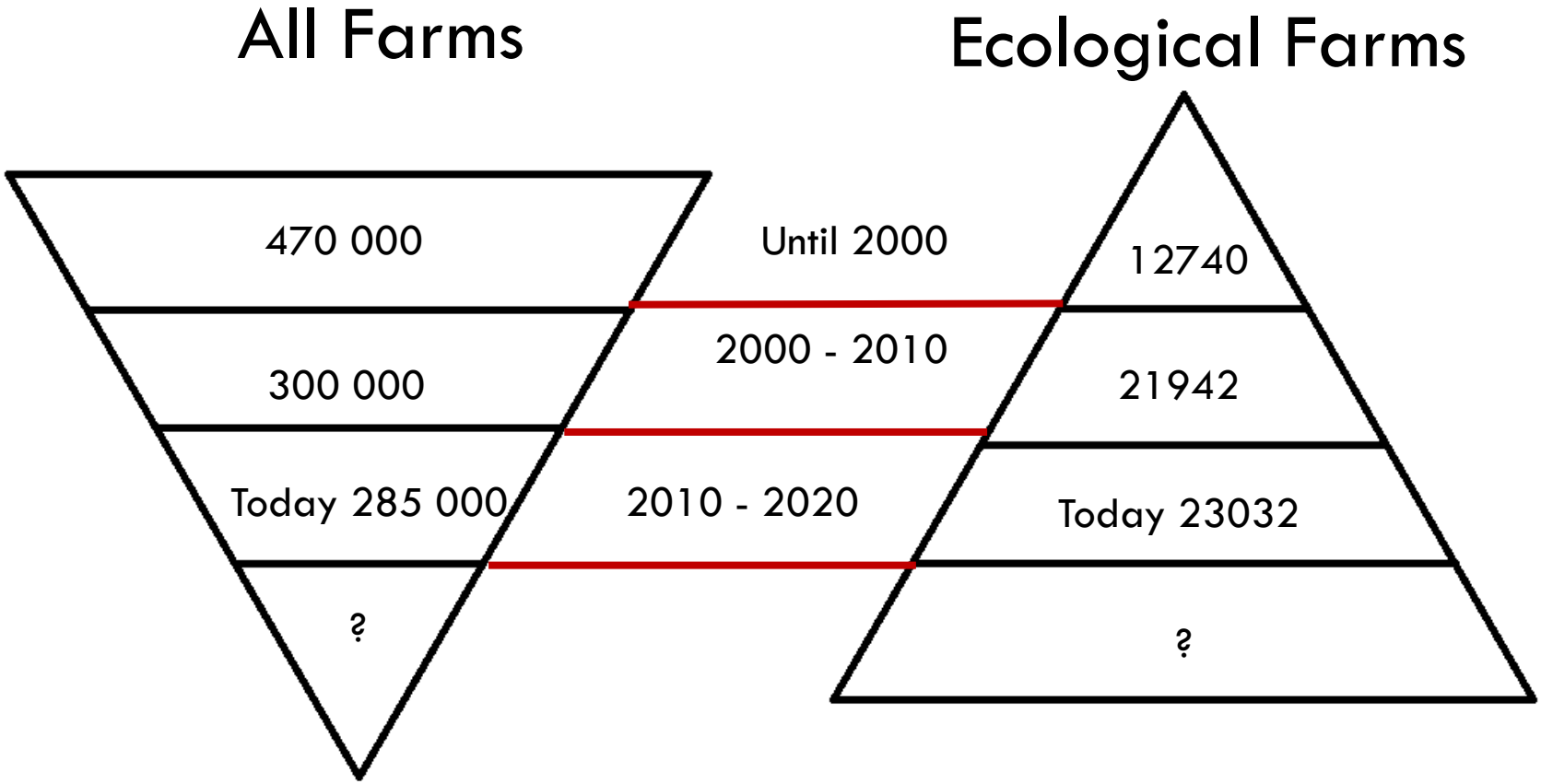
Can the ecosystem functions in the agricultural landscape stabilized or expanded through cooperative behavior of farmers?

Can cooperation in farming systems be an alternative to manage an upcoming lack in biodiversity?

How can an increase in the willingness to cooperate among farmers contribute to a rise in the care taking for ecosystem functions?

Which groups are interested in the production of high-quality environmental goods?

CHANGES IN GERMANY



Source: BMELV-Statistik

CONNECTING THROUGH COOPERATION