

ROLE OF EVALUATION AND EIP-AGRI TO SUPPORT AND PROMOTE SUSTAINABLE AGRICULTURAL PRACTICES THAT ENHANCE ECOSYSTEM SERVICES AND CONSERVE AGRO-BIODIVERSITY

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CHALLENGES FOR AGRO-ECOLOGICAL FARMING

- **ACKNOWLEDGING OUR DIFFERENCES**
- **RECOGNISING THAT NATURE CAN WORK FOR FARMERS**
- **VALUING THE MONITORING AND EVALUATION**
- **RECOGNISING THE (ENVIRONMENTAL) CONTRIBUTION OF FARMERS**
- **RECOGNISING THE IMPORTANCE OF MULTI-ACTOR CO-OPERATION**

AGRO-ECOLOGICAL FARMING?

Low-input farming?

Socio-ecological farming systems?

Sustainable/
environmentally-
friendly farming?

**DO WE KNOW
ENOUGH?**

Mixed/
diversified
farming?

FAB?

High Nature Value
(HNV) farming?

Organic
farming?

Grassland
management?

.....?

ACKNOWLEDGING OUR DIFFERENCES

Nature hates calculators. Ralph Waldo Emerson



SEMI-NATURAL HABITATS – A TRADEMARK OF ESTONIA



Wooded meadow (6530)



Wooded pasture (9070)



Alkaline fens (7230)



Coastal meadow (1630)



Wooded meadow (6530)



Nordic alvars (6280)



Wooded pasture (9070)



Boreal heaths(4030)

~**120 000 ha** of potential semi-natural habitats (SNH)

~ **76 000 ha** covered by Natura 2000 (N2000)

~ **29 000 ha** of that N2000 SNH covered by special RDP AE support for management of SNH

SPECIES RICH WOODED MEADOWS (6530)

WERE NOT historically managed for nature conservation reasons but were and are by-products of traditional farming systems!



Appreciation of those farming systems and related values...by **SOCIETY** (Estonia/EU)?

AGRO-ECOLOGICAL FARMING VERS HNV FARMLAND/FARMING...



- **Type 1** - Farmland with high proportion of semi-natural vegetation
 - **Type 3** - Farmland supporting rare species or a high proportion of European or World populations
 - **Type 2** - Farmland with a mosaic of low intensity agriculture and natural and structural elements
- Known values „comfort zone“
- Complex challenge



Low farming intensity:

- animals
- N-use
- use of biocides etc.

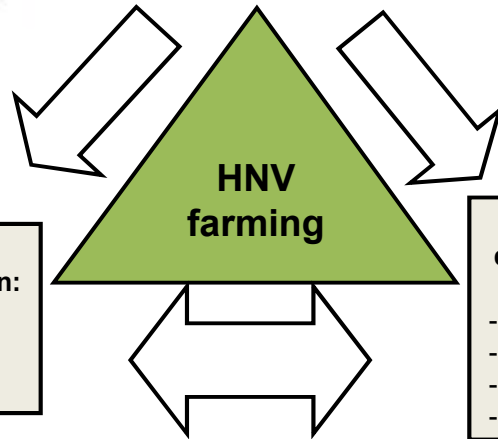
DEFINITION OF HIGH NATURE VALUE FARMLAND:

“Areas in Europe where agriculture is a major (usually the dominant) land use and where that **agriculture supports, or is associated with, either a high species and habitat diversity or the presence of species of European conservation concern, or both**”

(Andersen 2003)

High proportion of semi-natural vegetation:

- grassland
- trees, shrubs
- field edges etc.



High land cover diversity and landscape features:

- crops
- field size
- share of grasslands,
- landscape elements etc.

HNV farming is “where culture complements nature”

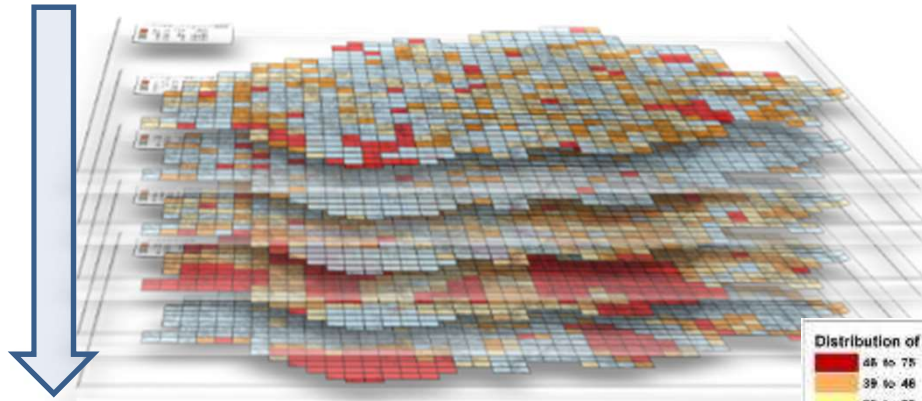
Gavin Saunders, HNV farming advisor, UK



HNV farming areas - ~30% of EU farmland?

PROCESS OF DEFINING HNVF AREAS FOR ESTONIA

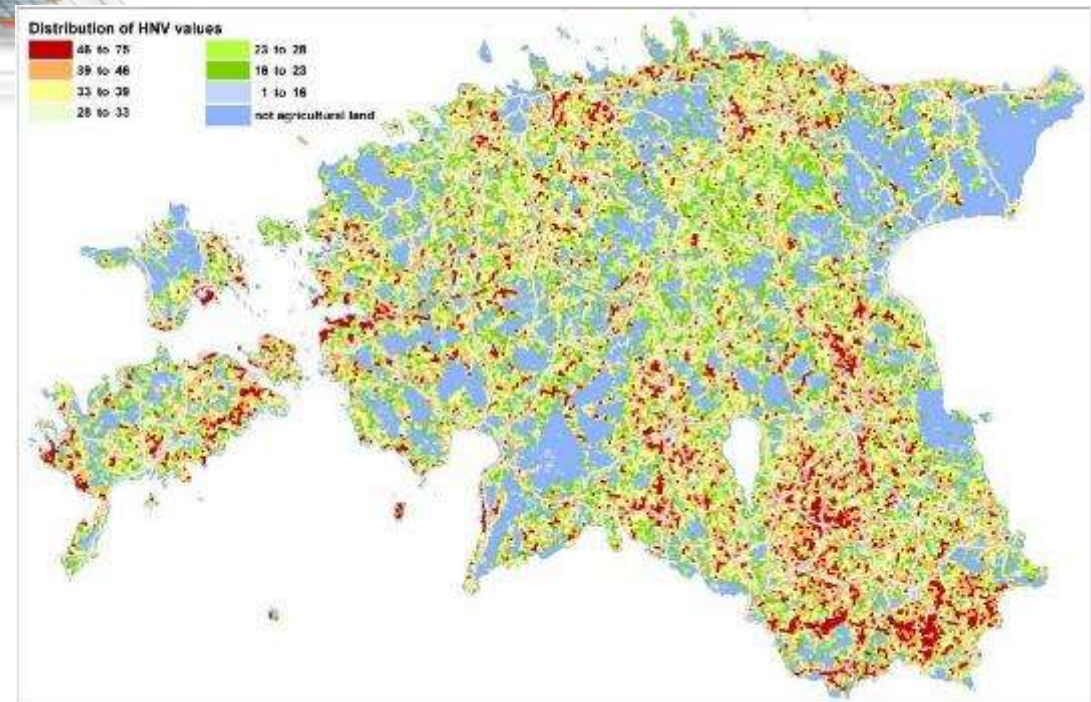
Grid mapping approach agreed - (1×1 km EEA grid)



Methodology worked out by ARC:
20 appropriate HNV farming indicator parameters were selected, which were each divided into classes to produce indicator values according to expert judgement.



GROUP I: LAND USE MANAGEMENT
GROUP II: NATURE CONSERVATION INDICATORS
GROUP III: LANDSCAPE DIVERSITY INDICATORS
GROUP IV: LANDSCAPE STRUCTURE



RECOGNISING THAT NATURE CAN WORK FOR FARMERS

No More Bees, No More Pollination, No More Men. Albert Einstein

UNDERSTANDING THE VALUE OF COMMON FARMLAND BIODIVERSITY?



ECOSYSTEM SERVICES



Recreational and aesthetic value



Pollination



Maintenance of good soil structure; nutrient cycling



Biological pest and weed control

VALUING THE MONITORING AND EVALUATION

Everything that can be counted does not necessarily count; everything that counts cannot necessarily be counted. Albert Einstein

No clear, single, comprehensive picture exists regarding what is actually happening on the ground with agricultural land and all of its values... **EVERYWHERE**....



MAIN AE INDICATORS IN ESTONIA 2004-2019

- **SOIL**

- Soil organic matter
- Soil fertility (pH, K, P)
- Soil nutrient dynamics

- **WATER**

- Nutrient balance
- Pesticide use
- Water quality

Agricultural Research Centre
as the on-going evaluator of
Estonian RDP since 2004
Main funding: RDP Technical
Assistance measure

- **BIODIVERSITY**

- Farmland birds
- Bumblebees
- Earthworms, soil microbes
- Vascular plants

- **LANDSCAPE**

- Change in the landscape structure in terms of point, linear and area elements
- General upkeep (visual appearance) of the farm

- **SOCIO-ECONOMICS**

- Family farm income
- Share of organic products sold as “organic”
- Environmental awareness, etc.

- **COMPLEX STUDY AT ARC KUUSIKU TESTING CENTRE**



AECM in RDP 2014-2020

- Agri-environment-climate :
 - Support for environmentally friendly management (**EFM**)
 - Regional water protection support (from 2017)
 - Regional soil protection support
 - Support for environmentally friendly horticulture
 - Support for growing plants of local varieties
 - Support for keeping animals of local endangered breeds
 - Support for the maintenance of semi-natural habitats
- Organic farming (**OF**)

AES in RDP 2007-2014

- Agri-environment scheme:
 - Support for environmentally friendly management (**EFM**)
 - × Basic+additional
 - × Basic
 - Organic farming (**OF**)
 - Support for growing plants of local varieties
 - Support for keeping animals of local endangered breeds
 - Support for maintenance of semi-natural habitats

Broad and shallow scheme



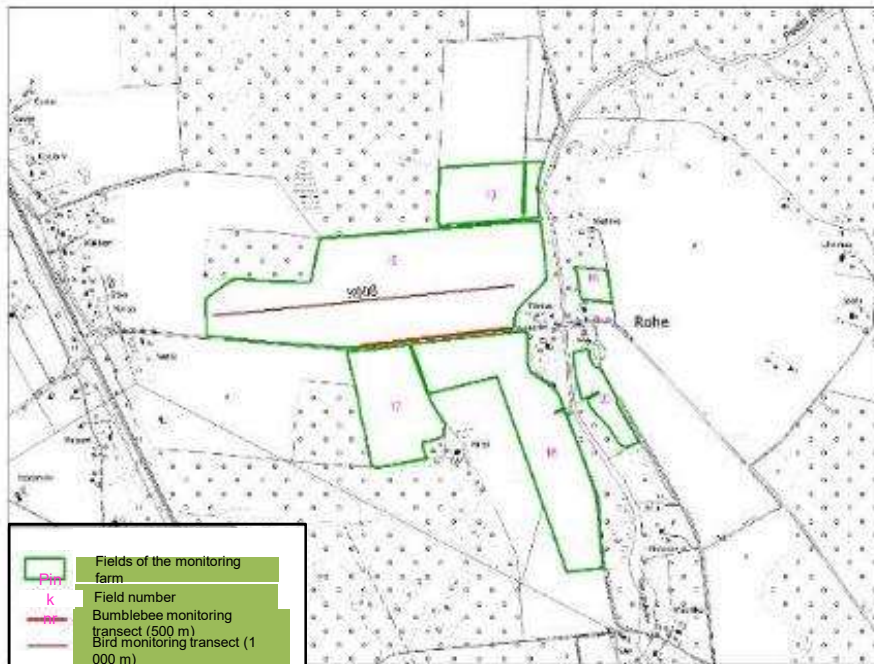
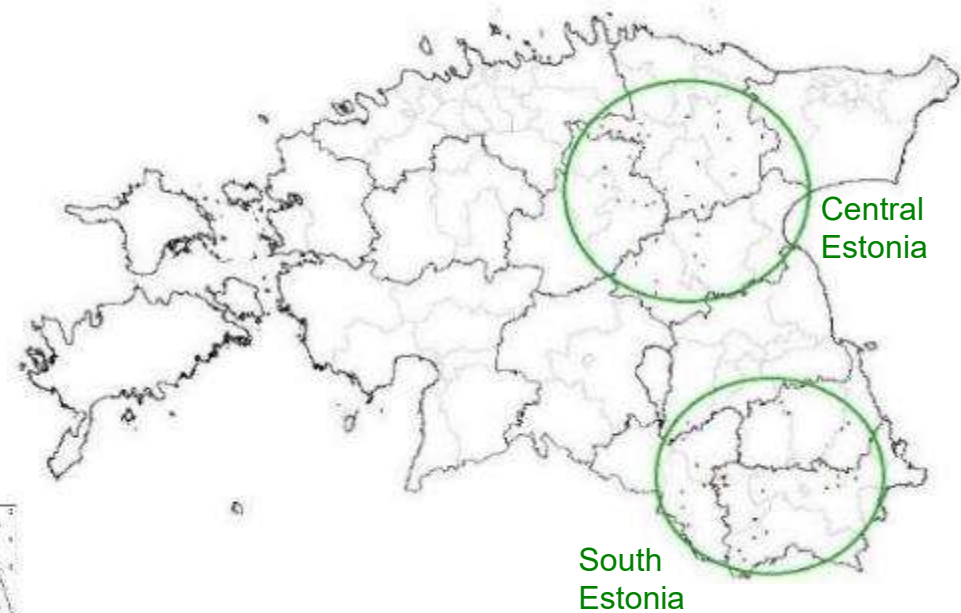
BUMBLEBEES AND FARMLAND BIRDS MONITORING AREAS 2009/2010-...

66 farms in monitoring scheme

2 regions, 33 farms in both:

- 11 organic farms (OF)
- 11 environmentally friendly management farms (EFM)
- 11 single area payment scheme (SAPS) farms

Monitoring is carried out on arable fields and arable field edges



- Bumblebee/bird monitoring started 2006
- 66 monitoring farms each year
- BB: Transect method (3 x June-August), transect width 2 m and length 500 m (400 m on field edges +100 m on a field with entomophilous culture), bumblebee abundance, species and flower density are noted down
- Birds: Transect method (3 x April-June), transect width 100 m and length 1 km, breeding bird species and their abundance are noted down

**Bumblebees and farmland birds indicators
show different results!**

EU COMMON MONITORING AND EVALUATION SYSTEM - EXPERIENCE IN ESTONIA

- M&E needed for MS itself and **NOT** for EU reporting obligation only!
- Data series from the beginning of the RDP programme
- Counterfactual (SAPS) included
- Different regions included
- Evaluation of different taxonomic groups included – may react differently
- Interpretation of the results + recommendations
- Annual on-going evaluation reports are good **WORKING TOOLS** for MoA/MoE for adopting policies!
- Improved collaboration and monitoring of **FARMLAND!**



MONITORING AND EVALUATION SYSTEM OF ESTONIAN AE – CHALLENGES TO BE FURTHER INVESTIGATED

- Broad and shallow scheme – even longer data series needed than five years to identify changes!
- Changes of ownership, support types, arable land may change into permanent grassland
- Expenses every year
- How to differentiate impact of measures from other confounding factors?
 - Landscape context
 - Activities on monitoring fields
 - Activities and support type of adjacent fields
 - High variability between farms within the same support type
 - Farmers attitude
 - Weather conditions
 - Impact of other RDP measures

Problems with taking into account confounding factors:

- Problems with getting all necessary data
- Trade-off of including too many factors
- Uninsufficient knowledge in statistics



European Evaluation Helpdesk for Rural Development
<http://enrd.ec.europa.eu/evaluation/>

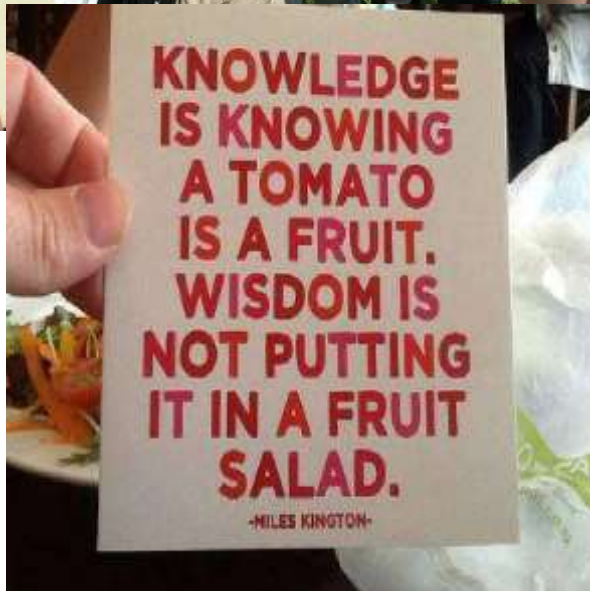
RECOGNISING THE (ENVIRONMENTAL) CONTRIBUTION OF FARMERS

Price is what you pay. Value is what you get. Warren Buffett

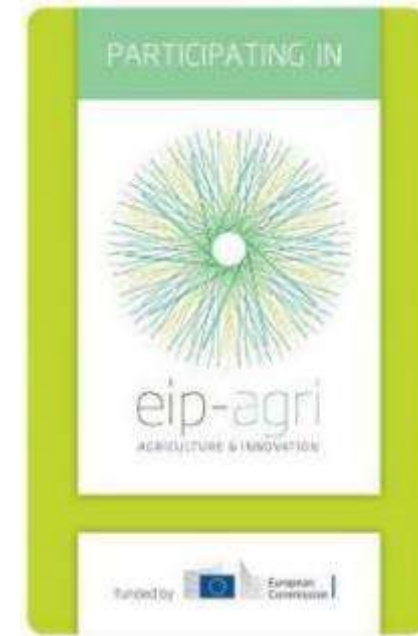


- Training as a compulsory element of (AE) schemes!
- Annual feedback about farmers' actions and use of „language“ they understand!
- Using farmers themselves to engage others!

THE IMPORTANCE OF **MULTI-ACTOR CO-OPERATION**



European Innovation Partnership 'Agricultural Productivity and Sustainability'



Innovation itself can be considered simply as "an idea put into practice with success", and; may be technological, non-technological, or social, and may be based on new or traditional practices

EIP-AGRI IN A NUTSHELL

www.eip-agri.eu



Aim: EU initiative to foster a competitive and sustainable agriculture and forestry sector that "achieves more from less"

Approach: Closing the innovation gap between research and practice by:

- using the interactive innovation model
- linking actors via the EIP-AGRI Network

Main means to implement the EIP-AGRI:

Horizon 2020 (EU Research Policy)

- Multi-actor research projects involving the agricultural community
- Thematic networks, unlocking and exchanging knowledge across the EU

Rural Development Programmes

- Operational Groups
- Project funding
- Innovation Support Services

EIP-AGRI Network

- Facilitated by EIP-AGRI Service Point

EIP-AGRI Focus Group: Sustainability of HNV Farming



Horizon 2020 Thematic Network: HNV-LINK

<http://www.hnmlink.eu/>

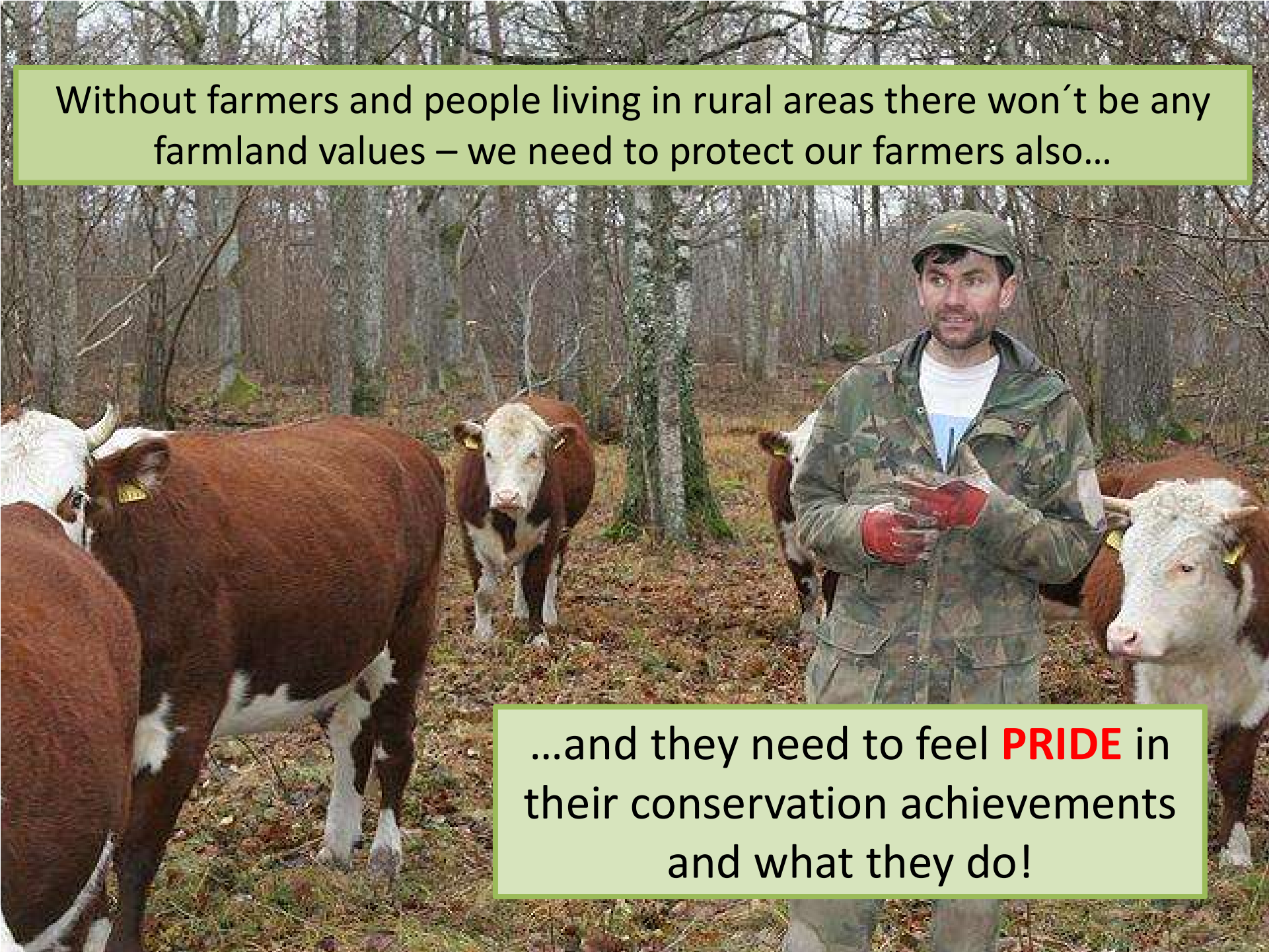
> 150 innovation examples!



Welcome to HNV-Link

Developing and sharing of innovations that support farming systems in areas of exceptional natural values across Europe through a multi-actor approach. This is a motivation behind an international HNV-Link network supported under the European Union's Horizon 2020 Programme.

Without farmers and people living in rural areas there won't be any farmland values – we need to protect our farmers also...



...and they need to feel **PRIDE** in their conservation achievements and what they do!


An aerial photograph of a rural landscape. The foreground shows a large green field with a winding dirt road. In the middle ground, there is a small farm building and a pond. The background features rolling hills, more fields, and a dense forest. The sky is clear and blue.

Photo: A. Ader

Thank you!

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