



multifunctional **F**arming for the sustainability
of **E**uropean **A**gricultural **L**andscapes

Project N°: 2016- 1- SK01- KA202- 022502



TECHNICAL UNIVERSITY IN ZVOLEN

THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL

An agricultural landscape – an opportunity for diversification of farming activities



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THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



Description of the module

Overview: This module explains how a knowledge on landscape values of European agricultural landscapes (EALs) might open new horizons for the establishment of a farm performing different non-agricultural activities thus, realizing multifunctional agriculture. Awareness of the landscape quality by farmers and stakeholders aims to tackle challenges of the European Landscape Convention (CoE, 2000).

- Learning objectives

Knowledge

- ✓ *Understanding typology of EALs and attributes making EALs multifunctional.*
- ✓ *Know-how to apply multifunctional activities within different EALs.*

Skills

- ✓ *Recognizing a landscape type – EAL and values of different EALs and their landscape character.*
- ✓ *Practisizing multifunctional farming in coincidence with characteristics of a particular EAL*
- ✓ *Providing adequate maintenance to EALs, preserving EALs values and improving their quality.*

Attitudes

- ✓ *The awareness to improve EALs quality and maintenance in a sustanaible way regarding traditional land uses based on deep ancestral knowledge of the environment preserving the landscape character.*

The training module is linked with [Summary report - Case studies - E-atlas.](#)



THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



Index

- International context of EALs presented in case studies
- EALs presented in case studies
- National context of EALs presented in case studies
- Advanced multifunctional entrepreneurship based on EALs values
- Attractive landscape as a result of multifunctional and sustainable farming and as an asset for the further entrepreneurship development
- Maintenance and preservation of EALs values
- Sharing and distribution knowledge on EALs values



THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



International context of EALs presented in case studies

Why a farmer needs knowledge on different EALs?

Expected knowledge

- Finding inspirational ideas in case studies accross Europe within the same EAL
- Know the landscape potential for the establishment of particular non-agricultural activities on farms
- Dealing with natural conditions and constraints using traditional agricultural techniques making the landscape more fertile and agriculture sustainable as well as maintaining cultural and historical heritage.



Targeted improvement of the landscape quality

International context allows international knowledge exchange



Advanced multifunctional entrepreneurship



Sustainable agricultural systems based on inherited knowledge transformation to modern agricultural systems

EALs of higher quality mediate more opportunities for bussines expansion and diversification of entrepreneurship in the countryside.



THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



International context of EALs presented in case studies

Why a farmer needs knowledge on different EALs?

Understanding of EAL attributes

Typical features = similarity

A farm takes care about typical attributes of the EAL and this similarity allows comparison of multifunctional activities with other farms in the same EAL accross Europe.



Distinctive features = differences

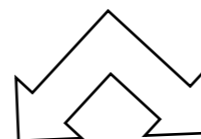
They rise from specific farming activities related to natural, cultural and historical heritage and/or landscape identity making the EAL valuable at regional, national or international level.

A farm performs multifunctional activities comparable at international level within the same EAL

A farm is a unique entity making individual multifunctional activities which can be interesting for other farms.

Example of EAL: Pasture

Less fertile land not suitable for crops cultivations or haymaking
Grazing grasslands by cattle
Horse breeding
Challets



Transhumance pastoral systems in mountains
Extensive grazing NATURA 2000 habitats and other protected sites
Grazing grasslands on alluvial flats with watterlogged soils
Grazing orchards



THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



EALs presented in case studies

Dehesa

*M^a Jesús
Gualda (ES)*



Delta landscapes

*Jesús Villena
(ES)*



Heathland and huertas

*Francisca
Ruiz Requena
(ES)*



Highlands

*Emiliano
Brandimarte
Az. Agr.
(Sibillini
Ranch)
(IT)*



[Go to E-Atlas to read the EALs definitions!](#) [Check detailed characteristics of EAL in case studies!](#)



THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



EALs presented in case studies

Farmland

Graditz Stud Farm (DE)



Bio-Saalberghof Berghaus (DE)



Farm Crone (DE)



Haetteli farm (DE)



Inmaculada Jiménez - a beekeeper (ES)

VčelíkRaj (SK)



Farma pod Melichovou skalou (SK)



Farma Etelka (SK)



[Go to E-Atlas to read the EALs definitions!](#) [Check detailed characteristics of EAL in case studies!](#)



THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



EALs presented in case studies

Meadow

Maridiana (IT)



Open fields



*Farm of Joseph
Lehmenkühler
(DE)*

Semi-bocage

Farm of Joseph Lehmenkühler (DE)



*Farma AFRA
Odorica
(SK)*



*Aboca
(IT)*

[Go to E-Atlas to read the EALs definitions!](#) [Check detailed characteristics of EAL in case studies!](#)



THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



EALs presented in case studies

Orchards

Haetteli Farm (DE)



Jesús Villena (ES)



Eredi Gradassi Andrea s.s. (IT)



Bodegas Nestares Rincón (ES)



Esteban Moya (ES)



[Go to E-Atlas to read the EALs definitions!](#) [Check detailed characteristics of EAL in case studies!](#)

EALs presented in case studies

Pasture



BioLiebert - organic farm of the Liebert family (DE)

Marekov Dvor (SK)



Maridiana (IT)

The Šenk Farm (SI)

Gregor Gomol (SI)



Go to E-Atlas to read the EALs definitions! Check detailed characteristics of EAL in case studies!



THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



EALs presented in case studies

Rural areas

Torre Colombaia (IT)



The Farm Vrhovc (SI)



Farm Crone (DE)



Marijan Bavcon (SI)



[Go to E-Atlas to read the EALs definitions!](#) [Check detailed characteristics of EAL in case studies!](#)



THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



EALs presented in case studies

Terraced landscapes

Esteban Moya (ES)



Eredi Gradassi Andrea s.s. (IT)



Farma AFRA Odorica (SK)



[Go to E-Atlas to read the EALs definitions!](#) [Check detailed characteristics of EAL in case studies!](#)



THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



EALs presented in case studies

Vineyards

Bodegas Nestares Rincón (ES)



Srečko Trbižan (SI)



Wooded grasslands

*Caprinatura
SL (ES)*



*Torre
Colombaia (IT)*



[Go to E-Atlas to read the EALs definitions!](#) [Check detailed characteristics of EAL in case studies!](#)

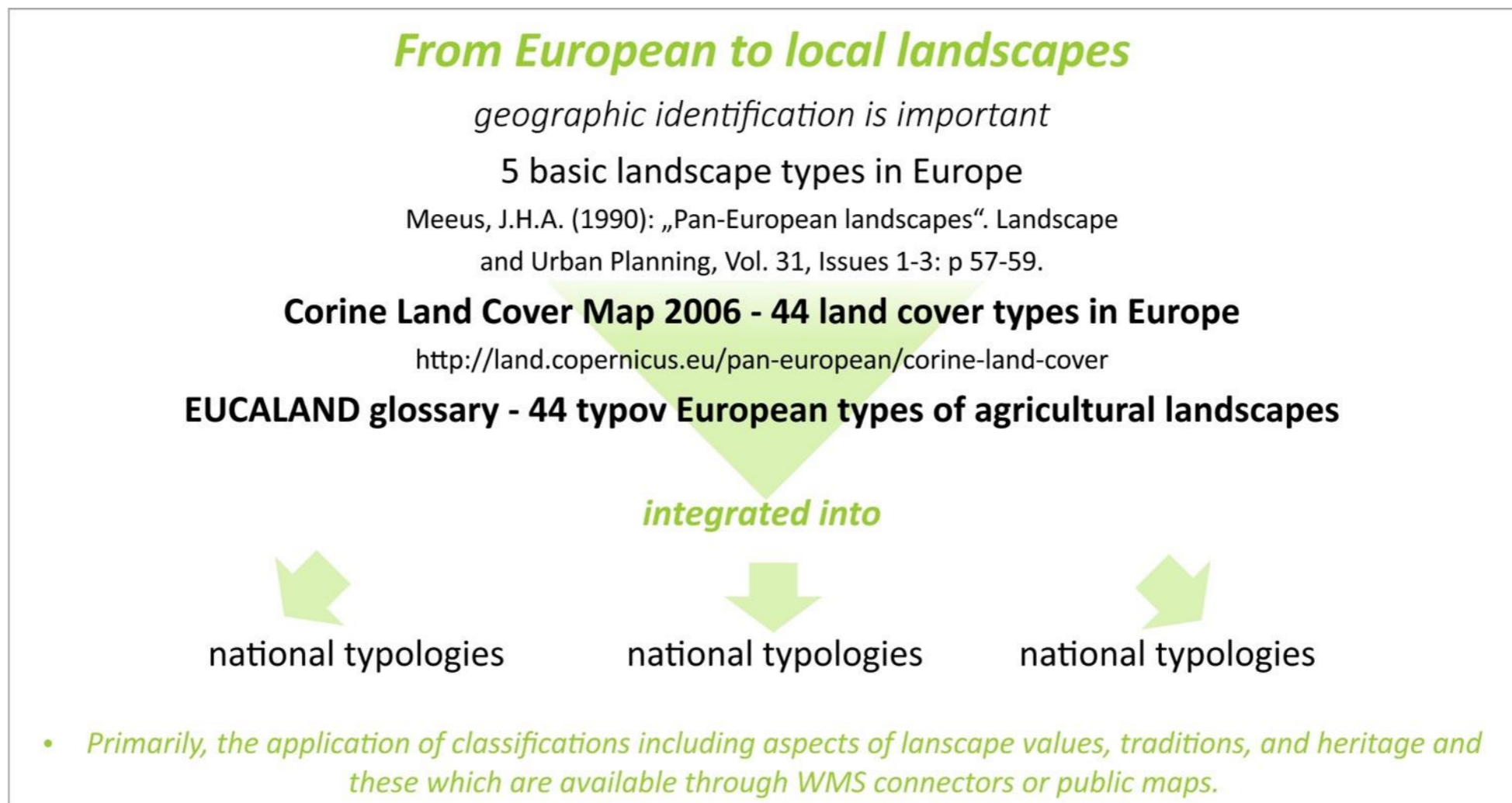


THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



National context of EALs presented in case studies

The database of EALs that was developed by the EUCALAND (Pungetti & Kruse, eds., 2010; Kruse et al., 2011) was consolidated with national types of agricultural landscapes.



[Read more about types of cultural landscapes in the Summary Report, p. 39-43!](#)



THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



National context of EALs presented in case studies

European and national landscape classifications are visualized in interactive pdfs developed particularly for each case study demonstrating a large variety of EALs and distinctive features of their landscape character.

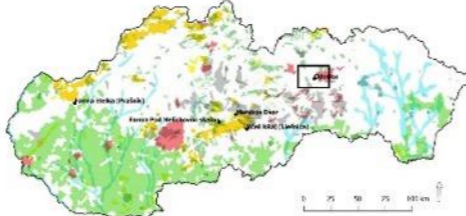
Slovakia

FEAL multifunctional Farming for the sustainability of European Agricultural Landscapes
Project N°: 2016-1-SK01-KA202-022502

FEAL CATALOGUE
The consolidation of national typologies with European agricultural landscapes

Slovakia
The „Landscape Atlas of the Slovak Republic“

Medvedie Vrchy Mts.
Farma AFRA Odorica
Case studies




E-atlas European agricultural landscapes
Open fields
Terraced landscapes


National landscape type:
Historical landscapes with technical monuments and folk architecture; Historical mining landscape; Traditional pastures and meadows

Land cover CLC 2012:
Non-irrigated arable land
Agricultural areas - pastures

Landscape character and the natural, cultural, and historical heritage



Funded by the Erasmus+ Programme of the European Union



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Germany

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FEAL CATALOGUE
The consolidation of national typologies with European agricultural landscapes

Germany
Bundesamt fuer Naturschutz: Schutz-Lebendige Landschaften in Deutschland

Elbe river flat
Graditz Stud Farm
Case studies


National landscape type:
Elbe-Elster lowland, arable, open cultural landscape, arable, open cultural landscape

Land cover CLC 2012:
Agricultural areas - pastures




E-atlas European agricultural landscapes
Farmland

Landscape character and the natural, cultural, and historical heritage



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[Learn more how to use interactive pdfs in E-Atlas!](#)



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Spain

multifunctional Farming for the sustainability of European Agricultural Landscapes
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FEAL CATALOGUE
The consolidation of national typologies with European agricultural landscapes

Spain
The Sierra Mágina Natural Park
Esteban Moya
Case studies

European agricultural landscapes
E-atlas Orchards
E-atlas Terraced landscapes

National landscape type: Mountainous massifs and high ranges of Subbetic-Prebetic Mountains, mountain ranges of the Betic Mountains

Land cover CLC 2012:
• Olive groves

Landscape character and the natural, cultural, and historical heritage



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Italy

multifunctional Farming for the sustainability of European Agricultural Landscapes
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FEAL CATALOGUE
The consolidation of national typologies with European agricultural landscapes

Italy
The plateau of Castelluccio di Norcia
Emiliano Brandimarte Az. Agr. (Sibillini Ranch)
Case studies

European agricultural landscapes
E-atlas Highlands [EN]
E-atlas Meadow [EN]

Administrative unit: Region: Umbria; Province: Perugia; Municipality: Norcia
Land cover CLC 2012:
• Agricultural areas - non-irrigated arable land;
• Forest and semi natural areas - scrub and/or herbaceous vegetation associations, natural grasslands;
• Agricultural areas - pastures

Landscape character and the natural, cultural, and historical heritage



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[Learn more how to use interactive pdfs in E-Atlas!](#)




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Slovenia




multifunctional Farming for the sustainability of European Agricultural Landscapes
Project N°: 2016-1-SK01-KA202-022502

FEAL CATALOGUE
The consolidation of national typologies with European agricultural landscapes

- Slovenia
- Kamnik Savinja Alps
- The Senk Farm
- Case studies

Landscape types in Slovenia



Base map: <http://nclt.rgo.gov.si/eng/Map/Map.aspx>

European agricultural landscapes


- E-atlas Rural areas
- E-atlas Pasture

National landscape type:
Alpine mountains; Secluded mountain farms


Land cover CLC 2012:
Agricultural areas - pastures



Landscape character and the natural, cultural, and historical heritage



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[*Learn more how to use interactive pdfs in E-Atlas!*](#)



THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



Advanced multifunctional entrepreneurship based on EALs values

Why a farmer shall recognize natural, cultural and historical characteristics of EALs?

Natural environment

- Basic constraints and advantages

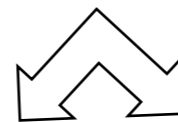
Historical land uses and cultural traditions

- Traditionality and landscape identity



Knowledge system on landscape inherited from generations of ancestors is very important for the current management. Historical landscape was multifunctional and farming methods were usually nature friendly and sustainable.

Example of EAL: Terraced landscape



Soil looses and erosion prevention

Increasing insulations for cultivated plants

Stone terraces built with different techniques

Seasonal dwellings on terraces

[You can read more about very interesting historical genesis of EALs in the Summary Report p. 8-10!](#)

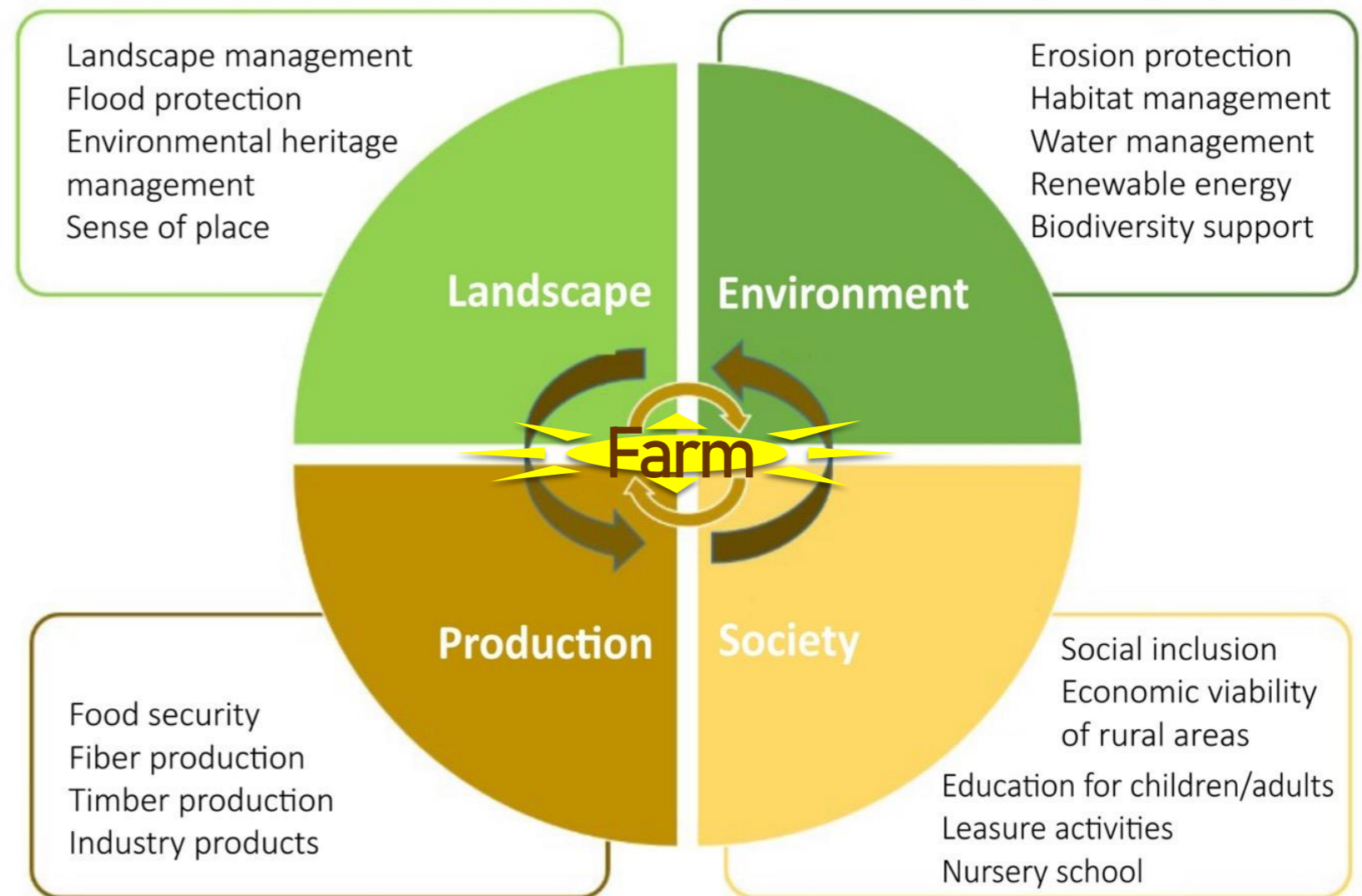


THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



Advanced multifunctional entrepreneurship based on EALs values A framework of interfaces between a farm and a landscape.

- *Multifunctionality implies the diversification of sources of farm income, allowing farmers to reduce the business risk relying on alternative sources of revenue.*
- *Multifunctionality is directly related both to the sustainability of farms and to the production of services for society - ecosystem services.*



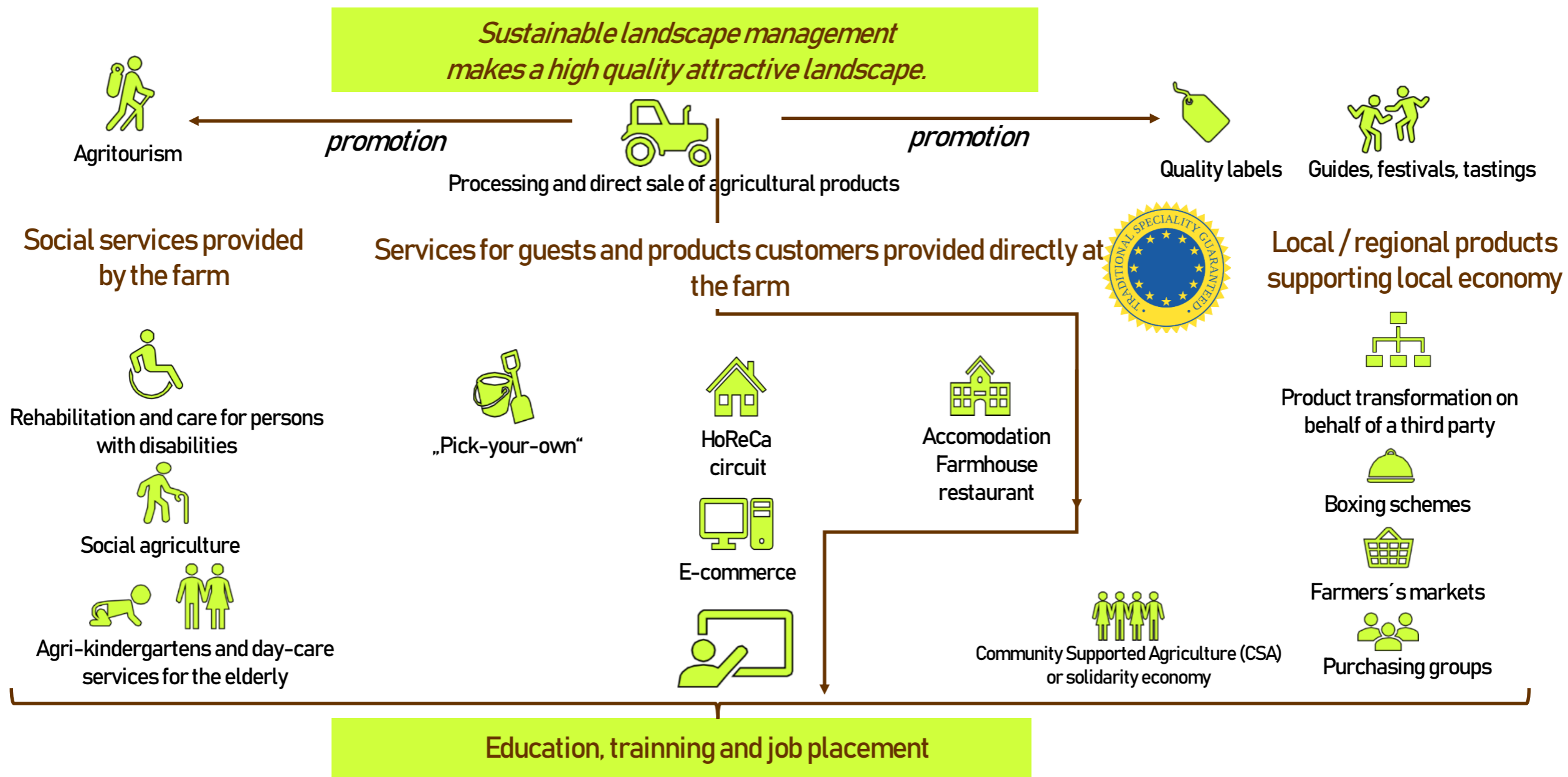
[You can read more about interactions of farms and their environment in the Summary Report, p. 21-22; 28!](#)



THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



Advanced multifunctional entrepreneurship based on EALs values



Find more information about challenges of multifunctional agriculture in the Summary Report, p. 24-27!



THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



Attractive landscape as a result of multifunctional and sustainable farming and as an asset for the further entrepreneurship development

Priorities of values maintenance in different EALs

- *Preservation of natural heritage and biodiversity*
- *Traditional extensive pastures*
 - *Challets and haymaking structures*

Highlands
Mountain landscapes
Meadows
Pasture
Heathland
Wooded grasslands
Dehesa

- *Landscape diversity*
- *Historical vegetation forms*
- *Historical irrigation systems*
 - *Folk architecture*

Rural landscapes
Farmland
Semi-bocage
Huertas
Terraced landscapes

- *Genopool diversity and heritage*

Delta landscapes
Open fields
Orchards
Vineyards

Preserved rural landscapes help maintain the quality of life for rural residents by providing viable communities and economies and the positive values associated such landscapes (Agnoletti, 2014). The landscape's image or identical landscape features are used as trademarks of products originating in a certain territory for product marketing strategies. A regional trademark strategy related with local products can be applied in daily food marketing in shops, during festivals, or used for the regional promotion in tourism activities (Summary Report, p. 54).

[*Find more information about challenges of multifunctional agriculture in the Summary Report, p.24-27!*](#)



THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



Maintenance and preservation of EALs values

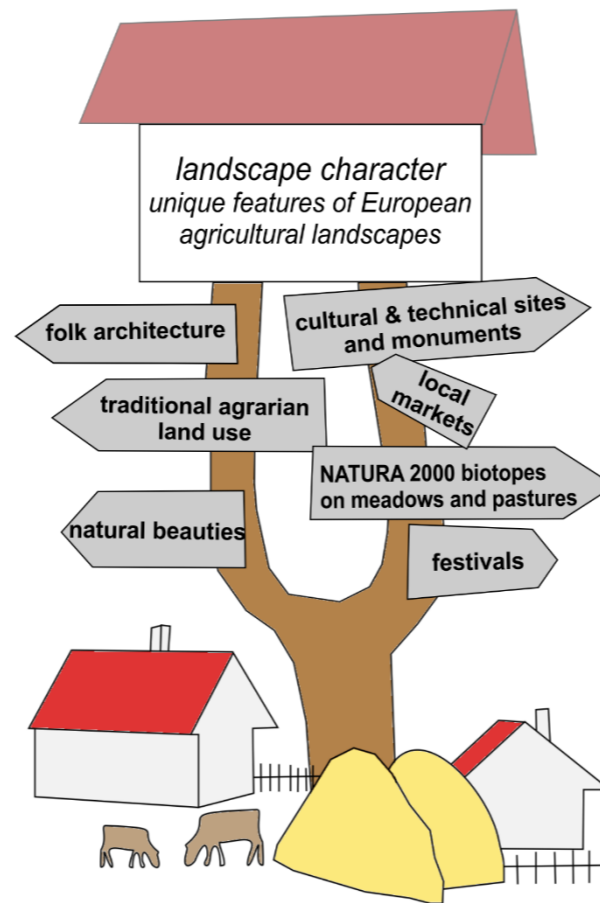
Which attributes of EALs shall be preserved?

nice and attractive

Original tasty

relaxing

inspirative



What can a farm do?

- Maintain traditional land uses.
- Preserve natural, cultural and historical heritage and the landscape character.

- Organic farming.
- Cultivating local / regional plants and breeding animals (genopool heritage preservation).

- Extensive, soft tourism activities and family friendly programs on the farm for visitors.

- The implementaiton of knowledge about farm eco-functions and traditions into eco-musem conceptions.
- The implementaiton of high-tech and eco-friendly agri-technologies into modern landscape design conceptions.

[Find more information about challenges of multifunctional agriculture in the Sumary Report, p. 52-54!](#)



THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



Maintenance and preservation of EALs values by farms

A key task is setting up a farm as a hotspot of business and touristic infrastructure in the countryside.



- **Natural heritage** preservation requires extensive and eco-friendly agricultural activities (organic farming, apiculture etc.).
- **Traditional extensive pastoral systems** are maintained by continuous non-intensive grazing of ecologically vulnerable grasslands by different kinds of animals, removing shrubs and successive woody plants.
- **Biodiversity and landscape diversity:** a farm provides daily maintenance on land cover. For instance, for meadows it is expected two or four times yearly a grass cutting and haymaking.
- **Genopool heritage and diversity of cultivated plants** is performed by a farm preferring biological prevention against pests and diseases and producing local eco-products.
- **Historical elements of vegetation** require maintaining their primary form and functions by removing successive plants or planting / cultivating new ones.
- **Historical irrigation structures** require active usage, cooperation of land-owners in preserving their continuity among land parcels, grass cutting, removing woody plants and reconstruction of channels.
- **Historical artificial terraces** on slopes require removing successive woody plants and reconstruction.
- **Traditional challets, haymaking structures and folk architecture** require active usage and reconstruction regarding their cultural and historical features and in some cases also adoption to a new function.

Find links among different EALs and variety of business models in case studies!



THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



Sharing and distribution knowledge on EALs values

Customers, visitors and their activities



Hiking to the countryside

- Attractive visual landscape
- Protected natural habitats
- Preserved biodiversity



Buying local products on the farm

- Healthy food, original products of high quality
- Support of the local economy (employment)



Finding relaxing place

- Clean environment
- Calm atmosphere in family and small farms



Searching for practice based education

- Designing EALs like:
- Eco-museums with natural sites and traditional land-uses;
 - Modern landscapes with innovative eco-technologies

How a farm can share knowledge?

Feedback

A virtual guide as a mobile application linked with web hiking / touristic portals sharing hiking routes accros the countryside and farms and related touristic services.

E-commerce combined with tastings or small festivals on the farm

Seminars, workshops for target social groups.

Workshops, seminars, courses, online courses combined with work stages on the farms or Woofing programs.

Find links among different EALs and variety of bussines models in case studies!



THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



References / Links

- [Council of Europe \(CoE\). \(2000\). The European Landscape Convention, ETS No. 176. Retrieved from http://www.coe.int/t/dg4/cultureheritage/heritage/Landscape](http://www.coe.int/t/dg4/cultureheritage/heritage/Landscape)
- [Kruse, A., Centeri, C., Renes, H., Roth, M., Printsman, A., Palang, H., Jordá, L.B. Velarde, M.D. & Kruckenberg, H. \(2010\). Glossary on Agricultural Landscapes. Tájökológiai Lapok, Special Issue, 99-127.](#)
- [Pungetti, A. & Kruse A. \(Eds.\) \(2010\). European Culture Expressed in Agricultural Landscapes. Perspectives from Eucaland Project. Roma, Palombi Editori.](#)



THE PRINCIPLES OF MULTIFUNCTIONAL AGRICULTURE AND EAL



Conclusions

Landscape is being shaped by types of behaviour intimately connected with the culture of images. Landscapes are sculpted by habits, and never before have these been so strongly influenced by appearances.

*Prof. Arch. Juan Manuel Palerm Salazar
Universidad de Las Palmas, Gran Canaria, Spain
Essey „On Silence in the Landscape“*

The current state of the health of the agricultural landscape does not meet the criteria for optimal and ecological land use in many EU regions. This statement especially applies for traditionally farmed landscapes where the main problem is land abandonment. Waiting for the decisions brought about by legislation brings the irreplaceable loss of landscape values, and as a consequence, disturbances in ecological relations and eventually economic losses.

Therefore, the training module explains successful realizations of multifunctional agriculture on farms and brings inspirational ideas for other farms in similar landscape types from different European countries. It provides knowledge how farmers could be more independent from unpredictable natural conditions (disasters) and economic obstacles (for instance products trading that is influenced by global prices) as well as it brings ideas how a multifunctional farming can lead to win-win situations presented in case studies. Well-educated farmers are able to identify financial potential of EAL and to implement this knowledge into their successful business plans.