PRODUCE TOGETHER WITH THE NATURE! – AGROFORESTRY AS A NEW OUTBREAKING POSSIBILITY IN HUNGARY

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Agroforestry (AF) systems are complex agricultural systems that can combine multiple land use in time and space. It has implemented multiple uses of the area.

**Main principle:**

*exploiting synergic ecological and economic interactions*

- Climate change adaptation
- Climate change mitigation
- Enhancing biodiversity
- Economic advantages

*a promising tool to establish sustainable (small-scale) farming systems*
AF-related CAP-measures in Hungary (2007-2013)

• Most important AF promoting CAP-measures budgeted in Hungary between 2007 and 2013 (-2015*):
  • Measure 221: First afforestation of agricultural land
  • **Measure 222: First establishment of AF systems on agricultural land**

• Very low implementation ratio:
  • Measure 221: 58% of the allocated budget has been payed to farmers
  • **Measure 222: 26% of the allocated budget has been payed to farmers**

• Future policy challenges (Mosquera-Losada et al, 2017):
  • CAP should promote AF through payments to enhance AF practices
  • European AF Strategy should be designed to foster AF in Europe
The main drivers of AF-adoption (a literature review)

<table>
<thead>
<tr>
<th>Factor categories</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural resources and ecological factors</td>
<td>Reisner et al. (2007), den Herder et al. (2016)</td>
</tr>
<tr>
<td>Agricultural demography and resources</td>
<td>Neupane et al. (2002), Kant and Lehrer (2004), Zerihun et al. (2014)</td>
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<tr>
<td>Markets, institutions and policies</td>
<td>Cooper and Denning (2000), Neupane et al. (2002), Kant and Lehrer (2004), Zerihun et al. (2014)</td>
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<tr>
<td>Networks and partnerships</td>
<td>Cooper and Denning (2000), Neupane et al. (2002), Louah et al. (2017)</td>
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<td>Expectations and technological knowledge</td>
<td>Sereke et al. (2016)</td>
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<td>Path dependency and cognitive lock-in</td>
<td>Louah et al. (2017)</td>
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<td>Agglomeration effects</td>
<td>Nyblom et al. (2003), Schmidtnet al. (2012), Allaire et al. (2015)</td>
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A research cooperation between three Transdanubien Universities:

- University of Sopron
- Kaposvár University
- University of Dunaújváros
The specific objectives at Kaposvár University

1. Provide a simulation based analysis of agroforestry systems to support decisions
   - process engineering, farm business management tools

2. Identify spatial driving demand for AF-related supports and spatial AF-potential in Hungary at settlement level
   - econometrics and spatial informatics

3. Develop a technology- and product marketing model for experts and decision makers to motivate farmers to adopt AF practice
   - qualitative and semi-quantitative market research
A new focus: explore the high-value-agroforestry

**Case 1: crop rotation with trees & bees**

- 5.1 ha shelterbelt system with organic farming;
- 26 tree and shrub species (75% Quercus robur) in 8 rows, with 3 m spacing (designed for an extended flowering period for the continuous nectar production);
- combined with crop rotation system (durum wheat, sweet corn, pumpkin);
- control area for the crop rotation system with the same management.
A new focus: explore the high-value-agroforestry

Case 2: game meat from silvopasture system
A new focus: explore the high-value-agroforestry

Case 3: Beef production at Lake Balaton
Thank you for your attention!