Knowledge gaps as barriers in agroecological transitions:

Lessons learnt from UNISECO

Alexandra Smyrniotopoulou
George Vlahos
Alex Koutsouris
Agricultural University of Athens, Greece

Gerald Schwartz
Thuenen Institute of Farm Economics, Germany

Session 3: Transforming education and extension services: from top-down knowledge transfer to more horizontal farmer-to-farmer approaches

#AEEUFforum2023
UNISECO was a European research project aiming to develop innovative approaches to enhance the understanding of socio-economic and policy drivers and barriers for further development and implementation of agro-ecological practices in EU farming systems.

Transdisciplinary process

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 773901.
Transdisciplinarity in UNISECO

Multi-Actor Approach within a transdisciplinary framework

• Integration of the knowledge of the partners from their different scientific backgrounds with the experiences of relevant actor groups.

• Consortium composition

• Setting-up of networking and knowledge sharing platforms

• Inclusion of participatory methods in all project phases
Knowledge gaps as barriers

• Analysis of barriers and drivers hindering or facilitating the implementation of agro-ecological practices
• We used the SES framework in order to
  i) take in account the specific local context of each farming system
  ii) have an improved understanding of the processes
• Our focus was on socio-economic and policy factors especially
  i) a lack of knowledge and social capital;
  ii) the lack of added value, processing and market access;
  iii) ineffective policy design.

Knowledge needed to implement agro-ecological practices and understand gaps and constraints (e.g. lack of agro-ecological practice-specific knowledge and/or know-how).
<table>
<thead>
<tr>
<th>Barriers</th>
<th>Main Category of Actors</th>
<th>CS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of knowledge on specific agro-ecological practices and their sustainability benefits</td>
<td>Farmers</td>
<td>12</td>
</tr>
<tr>
<td>Lack of knowledge and awareness of economic and market opportunities of agro-ecological farming</td>
<td>Farmers</td>
<td>13</td>
</tr>
<tr>
<td>Lack of access to advisory services for agro-ecological practices and need for specialised knowledge in advisory services and agricultural education</td>
<td>Farmers, and science, innovation, advisory, capacity building</td>
<td>5</td>
</tr>
<tr>
<td>Limited AKIS coordination and lack of knowledge networks and practice-relevant research</td>
<td>Science, innovation, advisory, capacity building</td>
<td>7</td>
</tr>
<tr>
<td>Attitudes and beliefs towards environmental concerns and agro-ecological farming</td>
<td>Farmers, and science, innovation, advisory, capacity building</td>
<td>4</td>
</tr>
<tr>
<td>Strong tradition of conventional farming practices and of specific production systems (e.g. meat and dairy)</td>
<td>Farmers</td>
<td>6</td>
</tr>
<tr>
<td>Low capacity and willingness to cooperate due to weak social structure and individualism and rivalry</td>
<td>Farmers</td>
<td>7</td>
</tr>
<tr>
<td>Lack of trust and confidence between actors</td>
<td>Farmers</td>
<td>5</td>
</tr>
<tr>
<td>Fatigue, fear, isolation or loneliness and lack of long term prospects or visions of farming</td>
<td>Farmers</td>
<td>3</td>
</tr>
</tbody>
</table>
### The Greek case study

4 interviews (2 farmers, 2 advisors) followed by a workshop with 6 MAP members

<table>
<thead>
<tr>
<th>Type of Barrier / Driver</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Social – normative / cognitive</td>
<td>• Lack of trust and confidence between the actors</td>
</tr>
<tr>
<td>Social - institutional</td>
<td>• Lack of social structure and organisation that hinder the collaboration, mutual support and joint efforts between local actors</td>
</tr>
<tr>
<td>Knowledge</td>
<td>• Knowledge gap in agro-ecological practices and sustainable farming in general and a lack of empirical data on innovation</td>
</tr>
<tr>
<td>Economic</td>
<td>• Inadequate information on market conditions</td>
</tr>
<tr>
<td></td>
<td>• Lack of market incentives and economic support measures</td>
</tr>
<tr>
<td></td>
<td>• Increasing demand for food safety and quality by regulations and global market traders (driver)</td>
</tr>
<tr>
<td>Policy-related</td>
<td>• Emphasis given to individual farm modernisation plans may hinder collective schemes</td>
</tr>
</tbody>
</table>
How to address knowledge gaps

- Inadequate information on market conditions
- Lack of market incentives and economic support measures
- Increasing demand for food safety and quality by regulations and global market traders (driver)

Conventional advisory
Engage value chain actors
Peers – share experiences
Consumer awareness
Empower farmers
Transdisciplinarity

- Lack of trust and confidence between the actors
- Lack of social structure and organisation that hinder the collaboration, mutual support and joint efforts between local actors
How to address knowledge gaps

Knowledge gap in agro-ecological practices and sustainable farming in general and a lack of empirical data on innovation

• Directed towards problem solving
• Local knowledge
• Research- Experimentation - Demonstration
• Peer to peer
• Employ Nature based solutions on Landscape level
The role of Green Infrastructure and collaboration

Nature based Solutions demand investment on infrastructure especially
• Protection from floods
• Combat erosion
• Plant protection

As well as collaborative implementation
Knowledge Management System

Creation of a knowledge base
Supported – Maintained through policy/collective investment
Governance system in order to ensure
• Transparency
• Reliability
• Accessibility
• Operational
Targeting at farmers, practitioners (advisors) Research