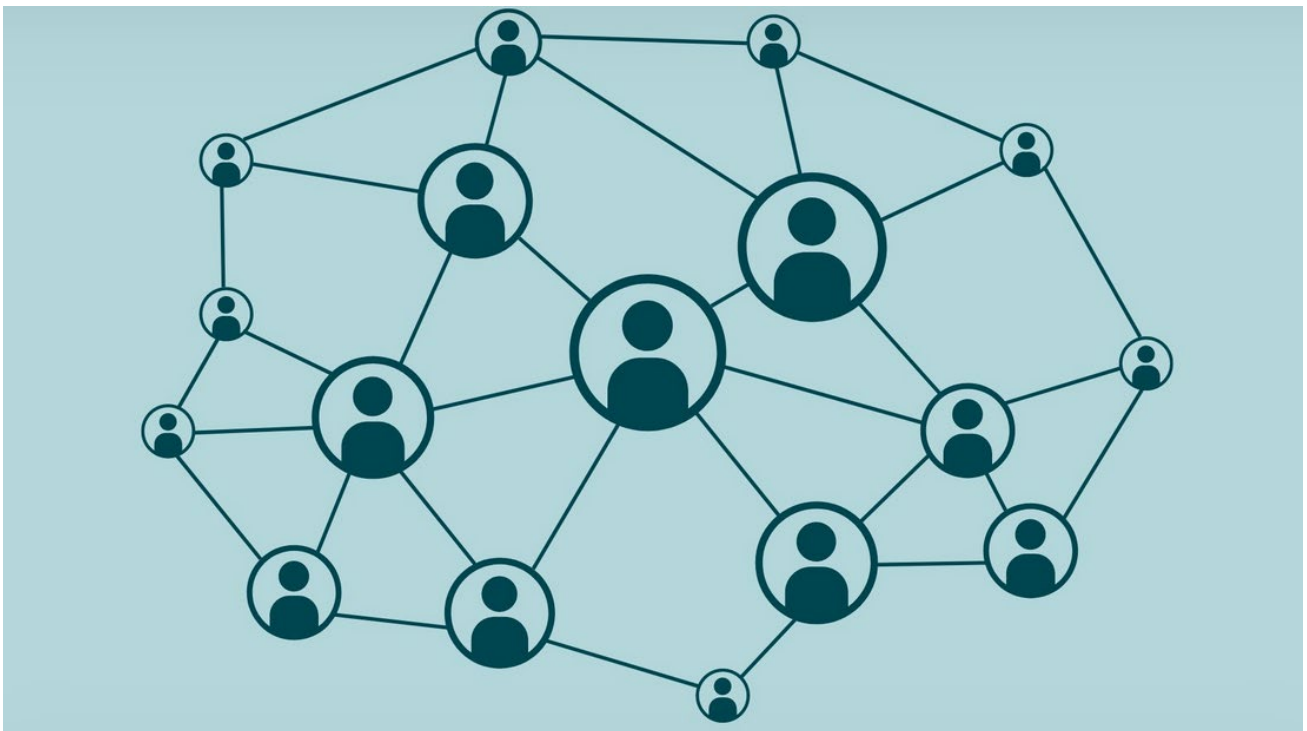


Agricultural Knowledge and Innovation Systems: Connecting Organic Farmers, Advisors and Researchers

A well-functioning AKIS is key to achieving EU organic targets – 25% of agricultural land under organic farming and a significant increase in organic aquaculture by 2030.

Based on research carried out in OrganicTargets4EU project, this article summarises the assessment of the knowledge and innovation systems in organic agriculture, aquaculture, and value chain actors.



Access to information, proactive knowledge exchange and continuous knowledge updating are fundamental in all socio-economic systems. In the context of today's food production and mounting environmental challenges, it is critically important to have a well-established science-practice-policy dialogue known as Agricultural Knowledge and Innovation System (AKIS). A well-functioning AKIS is indeed pivotal to achieve the European Union's (EU) ambitious targets outlined in EU's Farm-to-Fork (F2F), and Biodiversity Strategies in the frame of the European Green Deal. The strategies aim to reach at least 25% of EU agricultural land under organic farming by 2030 and to significantly increase organic aquaculture (organic F2F targets). Increasing the share of organic farming up to 25% is an important target to enhance the sustainability of the agri-food sector in Europe. This would mean a tripling of the current share of organic farming in the EU in only a few years. The new CAP Strategic Plans 2021-2027 of the EU Member States often reflect on the particular importance of AKIS for

achieving the organic F2F targets. Yet, how to achieve the targets and the specific implementation path remain unclear.

The European Horizon project OrganicTargets4EU analyses the current state of the AKIS for organic in eight focus countries (Austria, Denmark, Germany, Italy, France, Hungary, Romania and Greece). Based on the identification of key lock-ins, the analysis highlights country- and sector-specific measures for the development of the AKIS for organic needed to support and upscale organic farming, aquaculture, as well as processing and retail.

A clear picture of the current situation as basis for improvement of AKIS for organic

OrganicTargets4EU analyses knowledge and innovation systems through expert interviews, online surveys, and mapping of AKIS stakeholders in the 8 focus countries. The assessment covers the organisational characteristics of the AKIS in each country, focussing on policy background, advisory services, education, as well as research and innovation. Based on identified constraints and opportunities, recommendations are drawn for the further development of the AKIS for organic. For organic processors and retailers, the report covers an analysis of the support they get, as well as the knowledge and information needs.

Lack of institutionalised funding and lack of knowledge transfer, exchange and education are key barriers

In **organic agriculture**, the current state of the AKIS for organic reveals different development levels among the focus countries. Countries with larger organic sectors have more national policy support and collaboration in well-established networks of actors. Yet, a well-functioning organic AKIS is dependent on conventional AKIS actors and their willingness to support organic farming. EU programmes, such as EIP-AGRI play a crucial role in AKIS development, especially in countries with limited public initiatives. In countries with a less developed AKIS for organic, private market actors often take over AKIS functions. Overall, local ties and networks are important knowledge hubs, but also compensate for the deficiencies of the organic provisions in AKIS.

The AKIS for organic is characterised by a lack of institutionalised funding, by deficiencies in knowledge transfer and exchange, as well as by a lack of institutionalised educational programmes for farmers and advisors focusing on organic. Topics on organic in AKIS are mainly related to production and technical issues, which covers only one part of the learning spectrum of the organic knowledge system.

In **organic aquaculture**, the analysis reveals a small yet dedicated sector with partly functional networks. Despite close collaboration among actors, the knowledge and innovation system (AKIS) for organic aquaculture is not yet sufficiently established to provide farmers with adequate support. Key lock-ins include the absence of political strategies to support AKIS and a lack of concrete goals in EU strategies to support the sector's growth.

The evaluation of AKIS in **organic processing and retail** reveals differences in support structures. Some countries exhibit well-established systems with collaboration among key actors, although priority should continue to be given to practice-oriented research, education and training. In contrast, countries with less-established support systems rely on a limited number of actors and are marked by a low availability and access to knowledge and information, training and education. Overall, AKIS



in organic processing and retail is challenged by a lack of overview of available knowledge and relevant knowledge brokers, as well as a lack of organic content in advisory services, education and training.

Comprehensive policy frameworks, targeted funding and capacity building along the value chain are key for advancing the AKIS for organic

For **organic agriculture**, it is essential to foster a coherent policy framework at national level that provides support and institutionalised funding for a collaborative AKIS for organic. This policy framework should prioritise research capacities and facilitate knowledge exchange within the food supply chain. Moreover, a strategic focus on the long-term vision of research in organic farming and the integration of comprehensive organic curriculums into education and training programmes are also imperative steps. Overall, the further development of organic farming requires an increased exchange and cooperation between independent researchers, advisors and farmers, in which practice-oriented knowledge is developed and exchanged in a participatory approach.

As for **organic aquaculture**, an institutional start-up mechanism is needed, supported by a clear vision for the sector that involves all actors in the value chain and serves as a basis for sectoral strategies, action plans and funding systems. For market development, it is necessary to integrate organic aquaculture into advisory systems and education and to implement a consumer-oriented communication strategy.

As for **organic processing and retailing**, there's a need for independent, qualified, and affordable advisory support to drive successful organic market development. This encompasses access to existing knowledge, engaging public policy institutions and closer collaboration among key organisations and actors. Specific support for innovation as well as integrated organic curricula in the education for processors, retailers, and consumers are also essential – especially in countries with less-established supporting systems.

Conclusion

The EU has formulated a clear objective to promote the organic sector with its societal, economic and environmental benefits. Organic agriculture is a knowledge-intensive farming system. The establishment and promotion of a collaborative AKIS is thus key to support farmers, advisors and scientists in organic farming, aquaculture and the value chain. The analysis shows that for the further development of the organic sector, stronger political and institutional efforts are needed to establish a sound and sustainable organic knowledge system among organic actors.

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