



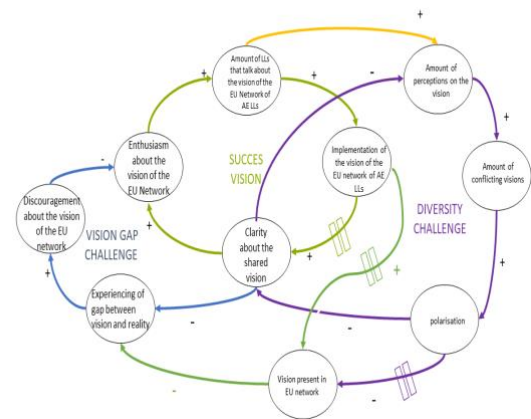
Policy brief

Systems thinking: an important competency for agroecology transition

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Key messages

- Systems Thinking is an indispensable competency for actors engaged in Agroecology Transition. It enables a profound understanding of the underlying issues and consequences associated with context-specific agroecological innovations, effectively supporting their development and implementation.
- Training on systems thinking is essential for agroecology initiatives and also needs to be tailored to competencies for policymakers, funders as well as scientists to provide sound policy advice.
- Policy interventions aimed at strengthening the skills and competencies of actors in agroecology initiatives should include provisions for systems thinking training.



Source: ALL-Ready Project

Competencies for Agroecology transition

Agroecology transition is increasingly acknowledged as a potential pathway to address the complex environmental and socio-economic challenges confronting our current agrifood systems. Agroecology is based on an integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of food and agricultural systems. Translating these concepts and principles into place-specific solutions requires a clear understanding of the

agricultural, socio-economic and cultural context of the region or local area. Because of this context specificity, innovations to foster agroecological transition require many different types of knowledge and creativity. Agroecology Living Labs are instruments to bring stakeholders with these different types of knowledge together to co-create innovations inspired by the principles of agroecology. However, to successfully manage these co-creation processes, particular skills and

attitudes are needed. The combination of knowledge, skills and attitudes, we call competencies (Spencer and Spencer, 1993). In the ALL-Ready project, we identified, together with many stakeholder groups involved in agroecology transition, 5 core competencies that need to be represented in the agroecology Living Labs. Besides having a clear understanding of the concept of agroecology and competencies to translate agroecology principles into the field, also skills for managing co-creation processes in Living Labs and knowledge on agroecology research were perceived as important competencies. Systems thinking was picked out as a key competency.

Systems thinking: Grasping complexity and integrating realities

The complex challenges of our European agrifood systems, urge for a collective understanding of these systems as well as understanding their impact at different levels (farm, regional, global) and thematic domains. Multiple actors, all with specific experiences, resources, perspectives and challenges are affected. The capacity to understand and embrace this diversity in perspectives is important to move towards a shared understanding of the problem. Besides gaining insight into all stakeholders involved, also the role actors can play in the transition towards agroecology, as well as the power relations that can impact the transition, need to be clear. Systems thinking is needed to fully grasp path dependencies and lock-ins, and to assess both short and long term consequences. Only by fully grasping these underlying issues and consequences, and being able to frame the problem, collective development of context-specific agroecological innovations that are tailored to the needs and conditions of different places and communities, is possible. Systems thinking is needed to design policy interventions aimed at supporting agroecology transitions by revealing potential unintended consequences of certain actions and interventions, and by enabling us to create desirable impacts through identifying the main levers in dealing with complex challenges. Systems thinking: another way of thinking Systems thinking requires some effort to step away from reducing a system to its components. It is about cyclical thinking and understanding systems as the dynamics and

relationships between the components that make up a greater whole. If one element is broken or moved, then it will affect the whole system. A major goal of systems thinking is to understand the flows, the relationships and behavior of parts within a system in order to enable the potential for change. Systems can work on multiple scales. Every action, at every scale, has an impact on the systems that it interacts with, both large and small, via feedback loops. Systems are also in a dynamic state—they may appear to be in equilibrium but sooner or later, their state will change, producing new outcomes as they evolve. To apply systems thinking in dealing with particular challenges, there are many different tools, among which soft systems and hard systems methodologies. Systems thinking tools can have different objectives, ranging from mere communication on complex issues to jointly identifying leverage points to act on them. Tools often have a visual component to gain structure in complex systems. Each tool can be used alone, but often a combination of tools is needed to achieve a full understanding of dynamic behavior. The tools aren't always easy to apply and therefore, some training about systems thinking tools might be useful.

Training on systems thinking

While mapping training materials for the development of a capacity-building program, it became evident that there is a shortage of training opportunities and materials related to systems thinking within the context of Agroecology. Therefore, ILVO developed an introductory training, which was tested with the ALL-Ready pilot network of Agroecology Living Labs and Research Infrastructures across Europe. Some of the Systems Thinking tools were introduced and exercises were conducted based on the specific challenges and context of the Living Labs and Research Infrastructures involved. The participating actors found a general understanding of systems thinking highly relevant for Living Labs, Research Infrastructures and the agroecology innovation actors involved. Sufficient time should be provided to apply the tools in practice. In this way, the participants immediately experience how the tools can provide insight into their own context and Living Lab specific challenges. Participants mentioned it's important to learn about how to use the tools in different contexts, with different stakeholder groups, at different scales, etc.

Policy recommendations to facilitate systems thinking

- Systems thinking is important to develop agroecology innovation, including policies that support agroecology transition.
- Promote training on systems thinking in Agroecology initiatives such as Living Labs and Research Infrastructures, in research, innovation programmes and related funding.
- Target training modules to competencies for policymakers and funders supporting Living Labs and scientists in policy advice.
- Include support for training on systems thinking in Common Agricultural Policy interventions aimed at enhancing skills and competencies of actors in agriculture and rural development.



References

Spencer, L. and Spencer, S., 1993. Competency at work: model for superior performance. John Wiley & Sons, New York.

About ALL-Ready: ALL-Ready is a Coordination and Support Action (CSA) funded by the European Commission (EC) with the aim of preparing a framework for a future European network of Living Labs (LL) and Research Infrastructures (IR) that will enable the transition towards agroecology throughout Europe. Based on the premise that agroecology can strengthen the sustainability and resilience of farming systems, the project will contribute to addressing the multiple challenges that they are facing today including climate change, loss of biodiversity, dwindling resources, degradation of soil and water quality.

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