Understanding the conditions for living labs

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Introduction

The changing societal expectations and ever more clearly manifesting ecological challenges, encourage farmers to make the transition to more sustainable production and business models. Farm decision-making can no longer only be based on the farm, the family and the market, but should also answer the needs of the ecosystem and of society as a whole. Consequently the agricultural advisory landscape is in transformation, the roles of agricultural advisory and innovation support are evolving to respond to increasingly complex challenges that farmers must overcome. Advisors need to develop new knowledge, skills and competencies, but also need room to explore the new roles and practice new modes of collaborating with farmers and other actors.

Living labs (LL) as open innovation platforms have the potential to support the required change in advisory services by providing a space to develop and experiment with new advisory roles and practices (Cremers, 2015). A great diversity of living lab experiences have been documented (eg Hossain et al, 2019), and plenty of methodological guidance is available for running a living lab (eg Cremers, 2015; ENOLL, 2020). However, the understanding of the conditions in which living labs can and cannot flourish is still limited. This paper aims to enrich the understanding of living labs by providing an empirical answer to the question under what conditions living labs can be an effective approach to support the development of the advisory services for the realization of sustainable agriculture.

Methodology

This paper draws on monitoring and evaluation data on the functioning of six living labs that were established in the Horizon 2020 project Agrilink. The labs operated between 2018 and 2021 in Italy, Latvia, the Netherlands, Norway, Romania and Spain. In these living labs advisors, researchers and farmers worked together to develop improved innovation support services and explored new advisory roles and practices to support sustainable agriculture. In further operationalizing the Living Lab concept we have built on the EnoLL principles (EnoLL, 2021), principles of Design thinking (Buchanan, 1992), Systems thinking (Checkland and Scholes, 1990) and Reflexive monitoring (Ison and Blackmore, 2014). The six LLs have common elements but vary in context and challenge. Table 1 on the next page provides an overview of the 6 living labs, the topics and the sustainability and advisory challenge each focussed on.

Each living lab had a dedicated monitor and facilitator to support and systematically document the process. The combination of a robust methodological framework, transparent monitoring and evaluation procedures and frequent moments for reflection allowed for joint learning between the labs and for deepening the understanding of the conditions for living labs to effectively support advisory providers in developing their new roles.

Country	Topic	Sustainability challenge	Advisory challenge

Italy	Local food production on common land and development of local value chain	Improve income situation, communal strength and environmental sustainability	Provide knowledge on a broader range of topics to new and diverse stakeholders.
Latvia	Processing and marketing of horticultural products	Improve the profitability of horticulture and the living standard of small producers	Make knowledge on processing and marketing available to small scale producers
Netherlands /Belgium	Sustainable soil management in maize cultivation	Improve maize production and reduce environmental impact of maize cultivation.	Stimulate farmers to apply sustainable soil management in maize cultivation
Norway	Crop rotation on farm and between farms	Improve the environmental sustainability and income for farmers	Stimulate and enable farmers to apply crop rotation on farm and between farms.
Romania	Professionalization of food producers cooperative	To improve income security of food producers	Improving the access to reliable, timely information
Spain	Integrated pest management	Reduce pesticide use to increase food safety and reduce pollution and loss of biodiversity.	Improving the knowledge and skills of farmers and advisors to apply IPM.

Table 1. Overview of the six living labs in Agrilink

Results

The analysis of this rich empirical data resulted in four basic categories of conditions that are pivotal for the functioning of the living lab and the development of the advisory services. The four conditions relate to the complexity of the challenge, the enabling environment, the energy to move and the methodological preparation. Below we explain the facets of these conditions and indicate some implications of each for the initiation and functioning of a living lab.

Complexity of the challenge

The complexity of the challenge is an important indicator for the expected ease or difficulty of running a living lab. Two aspects are relevant for understanding the complexity of the challenge: the level of agreement on the direction of change and on the kind of solutions. In cases where the stakeholders agree on the need for change and the kind of solutions, the living lab process is easier. However one might consider to go for a more light process to involve stakeholders. It is important to assess whether the investment in a full fledged living lab is justified in any specific situation.

Enabling setting

A high level of institutional support and latitude for experimentation facilitates the development of the LL. It is advisable to start a LL in the initial stages of the development of an innovation support service and only when the cost of failure is acceptable. Involved stakeholders or partner projects must be willing and able to provide a long term commitment. If these conditions are not met or largely absent, it should be tried to create a more supportive circumstance or to seriously question whether to start a LL.

Energy to move

Multi stakeholder processes are intensive processes that require a high dedication from all involved. Without energy and momentum the living lab will stumble, lose momentum or not function at all. The energy to move is expressed in the capacity and willingness of stakeholders to engage in the LL. More precisely one can look at the pre-existing need of the end users and the sense of urgency to change. It is important when stakeholders recognize their interdependence, for example, cooperation or different types of knowledge or expertise are needed to solve the problem.

Methodological preparation

This condition is internal to the influence sphere of the facilitator. A sound methodology and knowledge of relevant tools in combination with experience to select appropriate tools is required. This allows the facilitator to provide guidance and at the same time be open to unexpected opportunities for learning and innovation. Facilitating a LL requires balancing leadership and attained mandate with a curious and flexible attitude.

Discussion and conclusions

These four sets of conditions emerged as key from the experiences in the six Agrilink LLs. They are not unique for LLs nor are they exhaustive as each LL process has specific requirements based on the specific real life setting. However these four conditions have proven to provide a workable basis for assessing a situation before starting a LL and for preparing the operation of a LL.

This paper aimed to provide an empirical answer to the question under what conditions LLs can be an effective approach to support the development of the advisory services for the realization of sustainable agriculture. Four conditions seem most relevant: the complexity of the challenge, the enabling environment, the energy to move and the methodological preparation. Turning the conditions into practical assessment questions can help to decide whether a LL is a suitable approach in a given situation. Furthermore it provides insights that help to prepare for the challenges ahead. The experiences in the Agrilink LL show that if these conditions are met the collaboration in the LL can strengthen the changing roles of farmers and advisors as equal colleagues in sustainability challenges.

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