Create your own Living Lab to meet complex challenges in the agricultural sector

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Living Labs (LL) are a promising tool for the agricultural sector. They were used in context of ROADMAP to reduce the risk of antimicrobial resistance (AMR) through reduced antimicrobial use (AMU). This is a complex issue, and it requires many stakeholders to be involved.

LL are user-centered, open innovation ecosystems based on a systematic user co-creation approach integrating research and innovation processes in real-life communities and settings (ENoLL). The goal of a LL is to structure user participation in real-life settings.

"When the goal is to co-create and develop innovative solutions to complex problems or challenges in a given setting, and solutions necessarily have to involve multiple stakeholders, LL will be a relevant option to consider."

The approach is different from an approach where innovations or novel ideas are only tested in the end of a development phase. Instead, LLs require that innovations and ideas are continuously validated and iteratively developed.

The use of antimicrobials in animal husbandry across Europe differs, but there is still room for reduction. EU and national regulations have been continuously improving for years and livestock sectors have already been tackled with one-size-fits-all solutions. Further reduction can especially be achieved with locally and often societal-adapted solutions. By implementing 12 living labs in different countries and value chains, we aimed at developing, testing, and evaluating locally adapted solutions for the prudent use of antimicrobials.

To make progress on the issue, stakeholders need to agree on the shared goal (e.g. reduced AMU), develop common visions, and agree on the focus of the work. Potential changes and solution(s) to meet the goals should be well-embedded by all these stakeholders.

By starting a LL, the issues in focus can be addressed with all important stakeholders involved. In a LL, the issue can especially be addressed by testing a 'product' (e.g. support services or advice products) through a so-called 'action lab'.

LL are of participatory nature as every participant's expertise is actively brought into the process. It is then easier to overcome barriers due to technical, social or economic asymmetry of information or interactions between stakeholders.

End users are directly involved in developing innovations. The end users can be for example farmers, citizens, companies, workers, or authorities. The LL participants are stakeholders representing the wider community of end users, being end users themselves. They contribute to conceiving, testing and assessing the proposed product, tool or indicator in their daily routine.

Characteristics of a LL based on experiences in ROADMAP:

Has an initial question or issue to address, on which the participants share a common understanding. Specific goals are part of the co-building approach.

Will co-develop, implement and evaluate tools or strategies.

However, finding and implementing solutions to complex or problematic (societal) issues is challenging and sometimes even impossible. Often, it is not only the farmers who has to change, but the whole value chain, or the wider system. Different stakeholders need to work together with a same vision and goal.

Is facilitated by a facilitator, who keeps the LL on track.

Has about 10-20 participants, but smaller or bigger groups are also seen; relevant actors of the whole value chain may be involved.

The process in a LL is documented and a reflection process of the LL takes place.

Can be closed (fixed participants) or open (participants are going in and out), or a hybrid ('core group' and open spaces with participants going in and out).

Before you start a LL:

Select all the stakeholders that are important to make progress on the issue.

Make sure that there is a good match between the overall aim and questions of the focus area for the LL, and the composition of the initial group. The group itself can refine and develop the more specific focus and research questions, and reach consensus on whether the group itself is suitable or should involve more / other stakeholders.

Iit is essential to have an organisator/facilitator to structure the LL meetings.

Example of a LL process:

Setting the scene, sharing visions:

- Each participant should be contacted separately before the LL to be consulted and informed.

- Introduction of the participants and the LL concept and procedures.

- Be aware of conflict of interest and/or property issues to set a frame which will induce trust between participants.

Exploring, negotiating and diagnosing:

- Prioritize key challenges and weaknesses of current practices and define work plan, considering feasibility and agentivity of stakeholders.

- Present joint starting point or initial question.

- What are the expected outcomes for the different participants after solving this initial question?

Co-creating potential solutions:

- Identify major changes necessary to induce the main outcomes.

- Identify critical points of change (key challenges or weaknesses) of the initial question.
- Develop hypotheses for improvement: what strategies and activities are needed to overcome these critical points of change? Who will implement them?

Detailed design ('Action Labs' may be involved):

O What outputs will be produced in this LL?

O Which stakeholders have an indispensable function in the further development of the
O action plan (= action lab)?

O Set the strategy and detailed plans for implementation (e.g. physical infrastructure,
O material, assessment techniques, social change, new practices), taking barriers into
account.

O Define measures, choose between:

1. The effect of a technical factor in the production system;
2. The impact of improved knowledge and practices;
3. Approaches aiming toward changing the production system;
4. The social learning in the process.

O Risk assessment: how are potential economic losses covered within the project?

Prototyping and implementing / launching:

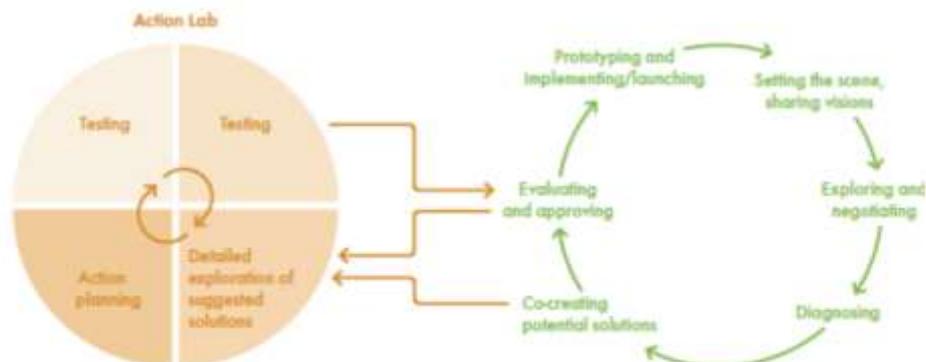O Involves end-users actively in the development and test of the "product" or process.

Evaluation of practices:

O Indicators may involve due to the testing itself.

Specify and further planning

Tips and tricks:

Consider underlying conflicts, hidden agendas and international processes in the value chain when selecting stakeholders.

Avoid pre-existing working groups as a basis for your LL. This may create a lack of open mindedness.

Managing expectations of the LL participants at the start of the LL process is very important. Pay enough attention to this.

Create an environment where everyone feels free to invite people into the LL when they feel it would be valuable to the process.

Make sure you evaluate the LL process properly at the end to assess the impact and possible next actions.

Use participative facilitating approaches to help people to move away from their usual position.

Facilitation and motivating participants does require a significant workload, since each participant should also be contacted between the collective meeting.

More information about the ROADMAP H2020 project can be found in our website:

www.roadmap-h2020.eu

Technical leaflets.

Living Labs videos.