

Living lab organization and practices as useful tools to stimulate innovation in forestry practices

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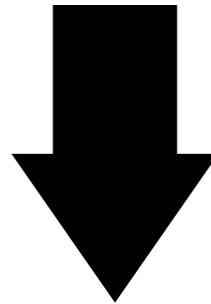
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Forest challenges

Climate change
adaptation and
mitigation (Frank
et al., 2015; Eea,
2017)

Conciliating
ecosystem services
(Sotirov and Arts,
2018)



In order to provide long-term support for the actions implemented, it is necessary to strengthen research, development and **innovation** in the forestry sector (Plan research innovation, 2016)

Innovation

AFNOR (2003) defines innovation as "a process that leads to the implementation of one or more new or improved products, services, processes, organizational forms, business models, likely to meet implicit or explicit expectations and to generate economic, environmental or societal value for all parties involved".

Two conditions are essential to the success of an innovation



New products and services must accurately meet user needs to achieve maximum success (Von Hippel, 2001)

Understanding user needs is a key factor for successful innovation (Leminen et al., 2012)

Collaborative arrangements between companies or stakeholders provide positive feedback on the value and performance of an innovation that no single organization can access on its own (Adner, 2006; Lyu et al., 2019).

Collaborative innovation denotes the extent to which organizations collaborate and work together in an innovative manner to achieve mutual outcomes (Richey et al., 2009)

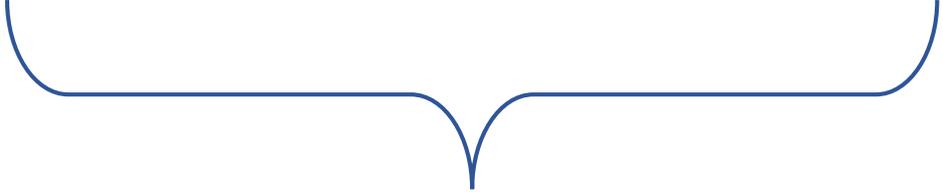
Two approaches exist : User Innovation and Open innovation

User innovation (Von Hippel, 2005)

User-based innovation involves a design process that looks at the interaction between an user and a product or service in a social and spatial context and examines the user's options, representations and meaning of the experience (Nelson, 2011)

Open innovation (Chesbrough, 2003)

Open innovation is a paradigm of innovation based on sharing and collaboration that is based on the premise that sources of knowledge are dispersed throughout the ecosystem of activity in "purposive inflows and outflows of knowledge" (Chesbrough & Bogers, 2014).



The Living Lab concept is associated with these two paradigms: open-innovation and user innovation (Hossain et al., 2019; Leminen, 2015; Pallot et al., 2010). As proposed by Schuurman (2015), the concept of Living Labs lies at the intersection of Open Innovation and User Innovation.

Living lab

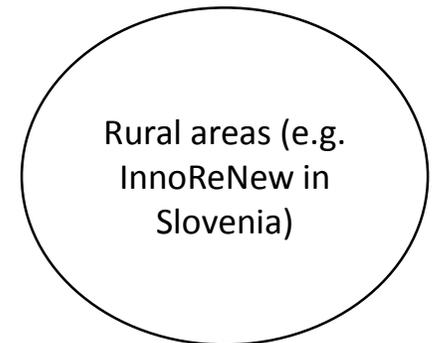
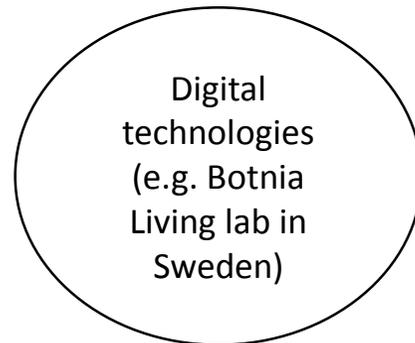
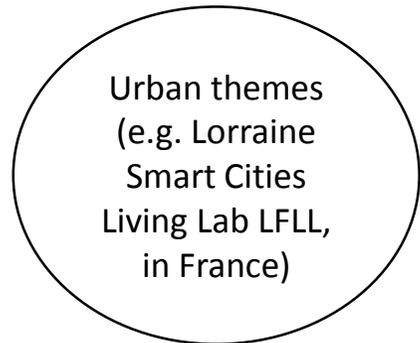
Living Labs were institutionalized by the European Union in 2006 with the creation of the European Network of Living Labs (ENoLL)

Living labs are defined by the European Network of Living Labs (ENoLL) as user-led open innovation ecosystems, which engage all stakeholders in the form of a public-private-people partnership (PPPP) to cocreate products, services, social innovations... in a real context.

Living labs are characterized by (Pallot et al., 2010) :

- A strong involvement of users from the upstream phases of product development;
- A deep anchoring in the real environment;
- A close link with information and communication technologies (ICT);
- Multidisciplinary collaborative work throughout the design process.

Several examples living labs :



To date, very few living labs deal with forestry issues and themes and none have formalized a forestry living lab

However, the living lab would be suitable for stimulating innovation in the forestry sector

Potential contributions of the living lab approach to forestry sector

Living lab

Public-private-people partnerships (4Ps) :
Living labs assume a quadruple helix (i.e. a collaboration between business, research and education, public administration, and civil society/users) (Hyysalo and Hakkarainen, 2014).

Potentials contributions

One decision, one innovation that suits all stakeholders (a consensus)



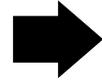
The Living Lab is an open innovation laboratory with the user as a central actor in the innovation process (Hossain et al., 2019).

Methods and tools co-created and experimented by the users which will then be very operational in their deployment.

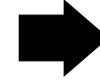
Living lab implementation to improve management and wood mobilization in small French private forest

French forests (IGN, 2018) :

- 17 million hectares of forest
- 75% private forest



Problems of management and wood mobilization in small private forests (Alexandre, 2017)



- Fragmentation (Alexandre, 2017)
- Owners who have no interest in the forest (Ademe, 2011)
- ...

A problem that has been dealt with since the 2000s but that has still not been resolved and needs to be addressed.

- A territorial development of measures adapted to their context before being adapted to the social, biophysical and political conditions of other local contexts (Lawrence, 2018)
- A need for innovation to bring added value to the existing situation and make actors collaborate with each other to avoid antagonistic approaches (Orazio et al, 2017).
- Collaboration between stakeholders to avoid antagonistic approaches (Sergent, 2014)

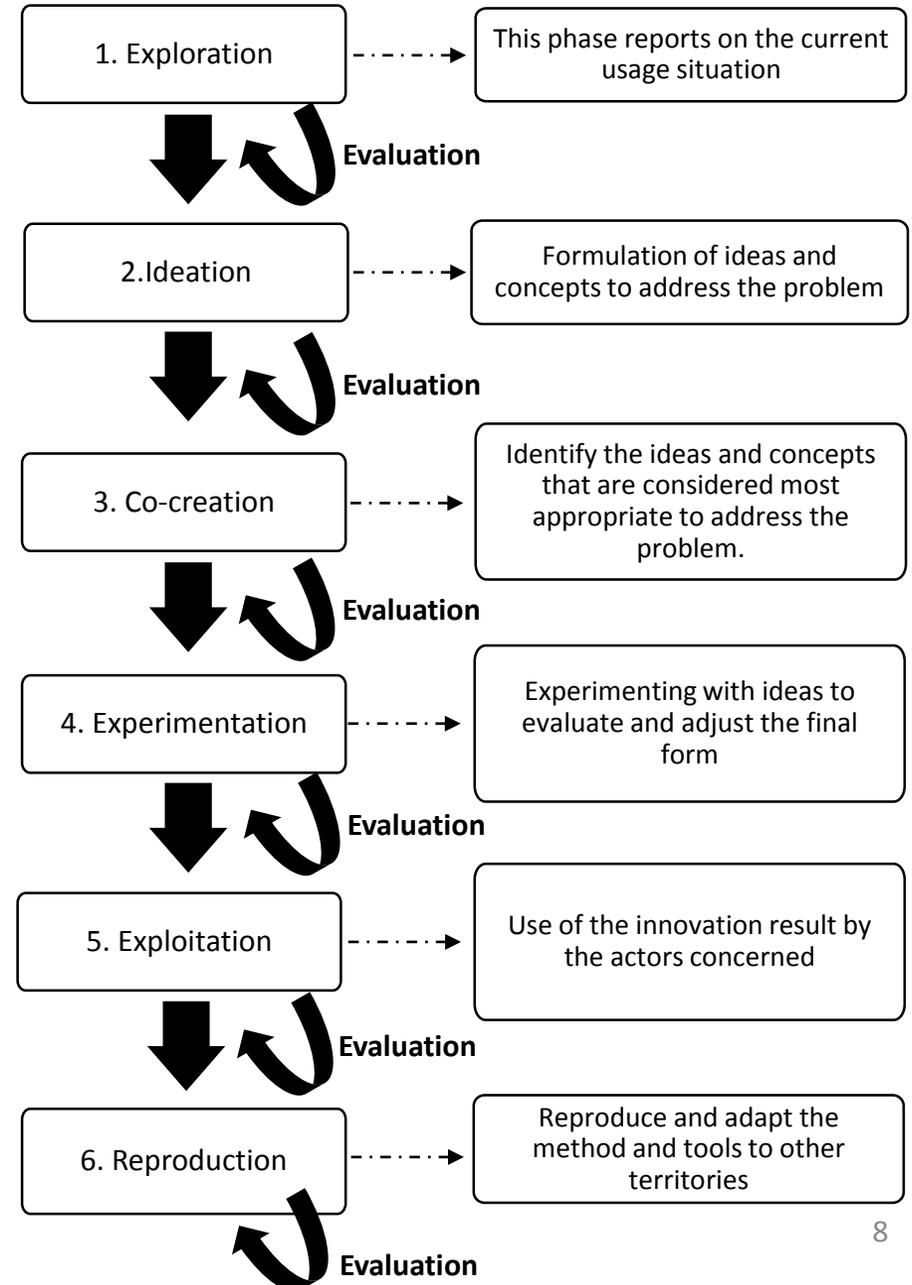
Implementation forest territorial living lab

To implement forest territorial living lab we have chosen the Vosges department because (CRPF, 2006) :

- The existence of an active local forest policy with a wide range of stakeholders
- Pronounced fragmentation of private forest

Our objective is to apply the living lab approach to design tools and methods to enable territorial project actors to improve forest management and wood mobilization in small private forests on a territorial scale.

A review of the literature shows that there is no "standard" model of living lab processes (Coenen et al., 2015; Glaser and Strauss, 2017; Logghe and Schuurman, 2017).



Example of an operational tool : Living lab Community Workshops

Question: In rural areas, how and on what territorial scale could citizens become more involved in forest management and timber harvesting?

Hypothesis: Citizens will be more concerned about forest management and timber harvesting when they are involved in a community-wide forestry project.

In Community workshops, The main objective is to initiate a citizen participatory approach to deal with community forest projects related to forest management and timber harvesting.

Defined by the municipal council with all the stakeholders (private forest, public forest, hunters, environmental associations, industrialists...) and the inhabitants of the municipality

Conclusion and perspectives

- 1) Living lab vision and organization seem adapted to address forest challenges through co-creating, user-centered and collective intelligence processes, multi-stakeholder and multi-challenges approaches, short-term and long-term visions and participatory actions.
- 2) The living lab approach does not compete with existing methods, but rather reinforces them
- 3) The living lab integrate citizens to gather their opinions and raise their awareness of forest management and forest issues.
- 4) We are testing the living lab to improve the management and mobilization of wood in small private forests, but we will also be able to use it for many other ecosystem services.

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Thank you



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