Bridging Research and Rural Realities: Living Labs as a Tool for Data-Driven Decision Making

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Long Abstract

Objective

The Long-Term Vision of Rural Areas (LTVRA)[1] recognizes the importance of engaging territories and local actors for addressing rural challenges through active participation and collaboration. Rural territories demand innovative data and methods to effectively capture the complexity and support decision making toward tailored area-specific solutions. This paper aims to explore processes and dynamics of rural community engagement in the real-world context through the main activities of seven Living Labs (LLs) across Europe (France, Italy, Netherlands, Poland, Spain, Sweden, United Kingdom) within the GRANULAR project.

GRANULAR (Giving Rural Actors Novel data and re-Useable tools to Lead public Action in Rural areas) is a four-year project started in 2022 under the Horizon Europe program. It aims to integrate multiple and different data sources and methods to produce indicators and tools for characterizing the diversity of the EU's rural areas. The ambition of GRANULAR is to help understanding the characteristics, dynamics and drivers of rural areas and hence support place- and evidence-based policy making.

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1 European Commission (2021). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions a Long-Term Vision for the EU's Rural Areas - Towards stronger, connected, resilient and prosperous rural areas by 2040. COM (2021) 345 final, Brussels.

GRANULAR is characterized by a Multi-Actor Approach including the collaboration between LLs and scientific partners to ensure the relevance and applicability of the developed tools across diverse rural contexts. In this context, the role of LLs is shifting from the field of product innovation to a more general idea of territorial agencies, for organising policies and promoting a participatory system of local governance. The 7 Living Labs represent and include a variety of actors, geographical contexts, and histories. They show several issues because they deal with large rural territories (to varying degrees) and focus not on isolated interventions but on the broader management of the territory. This adds significant complexity, as they address a wide range of issues, including connectivity, tourism, agricultural productivity, involving diverse private and public actors.

Contribution

Within this framework, this study analyses the actions undertaken by the GRANULAR LLs, identifying the primary barriers they encounter, the strategies implemented to overcome them, and how do they address complex, "wicked" problems. In fact, despite the LLs' rural diversity in terms of leadership, territorial scales, actors involved and priorities this heterogeneity could support us to generalize the results through the emerging commonalities across LLs and providing opportunities for highlights the implications in their active effort to produce innovative knowledge. This contribution is crucial for agriculture and rural policies, which increasingly see the involvement of LLs' spaces for co-design place-tailored policy interventions (Cascone et al., 2024), and for an effective interaction and exchange between LLs, researchers and policymakers (Bouwma et al., 2022).

Methodology

Hinging on our role of LLs' coordinator, we conducted an exploratory case study analysis seeking to understand the barriers, strategies, and overall dynamics within the seven GRANULAR LLs and create the opportunity to generalise the results from localised territory to a broader context (Levitt, 2021; Yin, 2019). From October 2022 to October

2024, LLs have gone through the setting up and actors' engagement phases, identifying, at the same time, local needs and actions to strengthen their internal governance. We used various empirical materials collected during this period such as notes derived from workshops and meetings, monitoring tools, and reports to identify and describe the challenges that the seven LLs faced.

For the analysis of these materials, we employed a nested qualitative coding methodology using Atlas.ti. Methodological consistency across the diverse sources was reinforced by shared templates among project partners, ensuring comparability of data and alignment with transdisciplinary collaboration principles. This allowed us to organise, categorise, and examine patterns in stakeholder engagement, communication, and governance challenges. Given the complexity of rural dynamics, we applied a nested coding structure to capture both broad themes and specific sub-themes emerging from the data (Saldaña, 2013). Our coding structure was developed through a hybrid approach, incorporating both inductive coding (emerging from data) and deductive coding (informed by existing literature on rural governance and LLs). Parent codes captured broad thematic areas (e.g., 'Stakeholder Engagement'), while child codes identified specific subthemes (e.g., 'Trust/Mistrust'). This hierarchical structure allowed us to analyse interactions between various governance elements at different levels. Preliminary findings highlight the role of trust, inclusion, and communication as key determinants for the effectiveness of LLs as a participatory tool in shaping rural policies.

Preliminary results: Barriers and strategies

The success of LLs hinges on their ability to foster genuine participation and communication among diverse stakeholders. However, several structural and operational barriers can hinder their effectiveness. The analysis of LLs' data collected within the GRANULAR project reveals three major challenges: involvement and inclusion, communication, and trust. These barriers are interlinked and must be addressed systematically.

GRANULAR LLs act as a bridge between scientific partners and local actors, ensuring that knowledge production aligns with real-world challenges and fosters long-term collaboration. Designed to be participatory, they still face challenges in ensuring meaningful engagement across different stakeholder groups. Involving a diverse range of local stakeholders, including institutions and administrations, from the outset has proven essential to facilitating policy discussions and shaping decision-making processes. The data suggests that it is easier to involve institutions and local administrations in this type of LLs' activities than community-level actors, that often require additional facilitation efforts. Resource constraints—especially time limitations—further exacerbate these challenges.

There is a general agreement among LLs leaders that effective collaboration in LLs depends on clear communication. The data highlights an initial difficulty in conveying the benefits of engagement in the GRANULAR project. Without well-defined communication mechanisms, the risk of fragmentation and misalignment between research teams, local actors, and policymakers increases. Bridging broader societal challenges and research goals with the specific realities of local contexts is essential, ensuring that innovation and policy discussions remain relevant and actionable.

This latter issue is deeply intertwined with another key challenge: mistrust between local actors and academia. There is a perceived disconnect between scientific research and the practical realities of stakeholders. LLs report that scientific knowledge is sometimes viewed as abstract, overly theoretical, or misaligned with the immediate concerns of local communities. In some cases, this scepticism stems from previous experiences with research initiatives that did not engage in proper restitution to the territory or failed to generate tangible positive impacts. As a result, LL's facilitators encountered some reluctance from local stakeholders in engaging in research initiatives, questioning their relevance and applicability. Trust in data reliability also emerged as a significant issue. Several LLs expressed concerns about how to effectively translate scientific data for local actors and how to involve them in discussions on data interpretation and use. The challenge is not solely about data accuracy, but rather about bridging the gap between scientific knowledge and practical, local understanding. Stakeholders often struggle to

engage with complex datasets, research methodologies, and technical jargon, which creates barriers to meaningful participation and co-creation. LLs in the GRANULAR project emphasised the need for accessible and contextually relevant ways to present data, ensuring that local actors can interpret, discuss, and apply scientific insights to their specific realities. Additionally, the findings highlight a lack of trust in institutions, particularly regarding policy implementation and governance structures. In some cases, institutions are perceived as disconnected from local needs or imposing top-down solutions and stakeholders are not invested in participation, further deepening the trust gap. Overall, building trust in scientific knowledge, data, and institutions requires a long-term commitment involving sustained engagement, transparency, and participatory approaches.

Recognizing these challenges, LL leaders acknowledge the importance of fostering inclusivity to prevent LLs from becoming top-down initiatives rather than participatory environments. To tackle these barriers, LLs have implemented different strategies. Successful LLs rely on pre-existing stakeholder networks with strong local ties, leveraging these connections to enhance credibility and ensure immediate engagement. Some LLs implemented mechanisms like horizontal communication tools, including regular project updates and periodic face-to-face interactions, to actively engage a diverse range of actors and promote more balanced decision-making. Inclusion is strengthened by creating spaces where all stakeholders feel empowered to participate, with facilitators playing a crucial role in ensuring horizontal communication. To support this, many LLs have adopted structured participatory methodologies, such as focus groups and workshops, to ensure that diverse stakeholders contribute meaningfully. However, many participants highlight the need for additional training and capacity-building to fully engage with these methodologies.

Virtual engagement alone is considered insufficient for meaningful collaborations. Prioritizing in-person interactions has been a key factor in overcoming communication barriers. Stakeholders prefer direct, in-person meetings, which proved to be essential for effective collaboration. Horizontal communication plays a central role in this process, as LLs emphasize the importance of non-hierarchical dialogues, where all participants—

whether from research, policy, or practice—can express their perspectives freely. To avoid fragmentation and ensure continuous alignment, successful LLs have also implemented structured communication protocols, such as regular reporting formats and feedback loops.

LLs have actively worked to define research priorities with local actors, ensuring that scientific activities address rural societal challenges. Some LLs highlight that trust is further strengthened when research efforts lead to tangible benefits for local communities. They are also aware that trust is not built in a single interaction but through consistent, meaningful, and iterative engagement. Long-term commitment, follow-ups, and continued involvement beyond specific projects have proven to be key trust-building factors.

Conclusions

To capture the diversity of rural characteristics, rural actors need more accurate and detailed data to make informed decisions and strengthen the capacity of local governments to set policies and develop strategies to monitor and evaluate their actions.

The attention on rural vitality is especially evident in the LTVRA, which is based on citizens and other stakeholders' participation and highlights that the territorial diversity calls for locally designed responses and solutions corresponding to each territory's specific needs and possibilities. Under this framework, GRANULAR and its LLs are aiming to contribute to this vision through a data-driven approach to support decision-making processes.

Our preliminary results reinforce previous reflections (Stortini et al., 2024), namely that some elements are crucial to support the construction of participatory processes that accompany the choices of priorities, the involvement processes suitable for different rural territories, and, at the same time, the maintenance of interaction with project partners which are supposed to facilitate the research processes (Wittmayer et al., 2014).

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