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**Special session: Smart rural development and beyond**

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**Title:**

Eco-innovation path for Smart rural development: organisational dynamics and resources' mobilisation

**Keywords**

Eco-innovation, rural, trajectories, organisation, environmental factors, external resources

**Summary:**

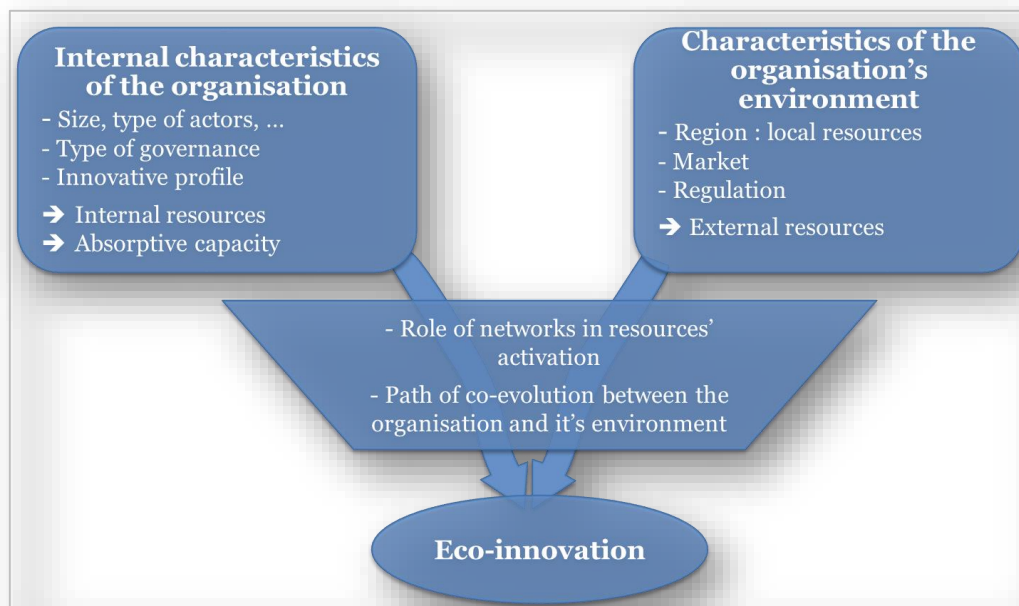
Rural areas are generally considered as less innovative because of their limited agglomeration of activities. There has been little research on innovation in rural areas, whereas they host many environmental innovation projects. In this study we propose an analytical framework to examine the role of internal organizational factors and environmental factors (sectoral, spatial, and regulatory) that influence the development of eco-innovation projects. We tested this framework by using an original method: the Quantified Narrative Method (QNM), applied to seven cases studies in French rural areas conducted in the framework of the TASTE project and afterwards. Based on in-depth interviews, this method enabled the identification of external resources (nature, mode of acquisition, and location) used by the project. The results show the importance of personal networks – especially local professional networks - and projects' leaders to strengthen the project's absorption capacity (mobilisation of specific local factors, development of related activities). While local resources remain crucial for these projects, remote resources are increasingly mobilised along the projects' path.

**Objective and contribution:**

This study was mainly conducted in the framework of the TASTE "Toward a smart rural Europe" project. Its main goal is to provide new knowledge about innovation processes in rural areas. As a matter of fact, innovation is often considered by the economic literature as a process favored by the economies of agglomeration that characterise the urban phenomenon. But rural areas also have strong innovation potentials (Steiner et al., 2011) and / or host innovative activities (Magrini and Galliano, 2012). Innovation can thus be considered as one of the pillars of rural development (Naldi et al., 2015). To better understand the possible drivers of innovation

in rural areas, we use a theoretical framework based on Economics of innovation and Geography of innovation. This framework emphasises the role of both internal<sup>1</sup> factors - absorptive capacity, entrepreneurship and governance / management - and external factors: place-specific factors and related variety (Boschma and Frenken, 2011), sectoral environment, market and regulation (Horbach, 2008). It also emphasises the role of collaboration and social networks in the articulation of internal and external resources all along innovation processes. Based on a mixed method and on monographs of innovative projects in rural areas of the south-west of France, our study analyses the different drivers of such projects. It provides specific knowledge about the resources necessary to the projects' development, their geography, and the role of personal networks in their acquisition. Using a dynamic perspective that contributes to the originality of this work, it gives then new insight about how innovative actors in rural areas compensate the lack of economies of agglomeration and take advantage of local resources all along their project.

### *Theoretical framework*



### Methods and data:

In order to collect and analyse the information, we used QNM which was designed by French sociologist Michel Grossetti (Grossetti, 2011; Grossetti et al., 2011). Grounded in the literature on social networks, QNM focuses on the role of personal ties in mobilising partnerships for innovation. We conducted in-depth interviews with the main actors of each project in order to build monographs. These face-to-face interviews helped us to understand the mobilisation of resources along the course of the project.

We collected the following types of information for the three main phases (genesis, creation, stabilization) of these projects, that may be considered as innovation processes:

- The nature of external resources acquired by the main actors (financing, inputs, commercial partners, knowledge and advice, etc.);

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<sup>1</sup> To the organization that innovates.

- The modes of acquisition of these resources, distinguishing between “relational” and “mediation”, where “relational” refers to the interviewed actor’s existing personal ties (colleague, family, friend or other types of relations), and “mediation” designates a situation where the actor acquires a resource through organizations or devices without using personal ties;
- The geographical origin of the resources, particularly, whether or not they are local (indicator used to assess the degree of spatial anchoring but also the degree of openness).

We conducted multiple interviews for each project, in order to collect a cross-section of perspectives among the various actors of the project. Additional data were collected to assess the importance of the governance factor in the eco-innovative projects.

This study is based on the analyses of seven eco-innovative projects in rural areas of the south-west of France. The selection of projects was based on three criteria. The first was location. The projects had to be outside of the large urban areas and outside of their zone of influence. Second, we selected projects that are linked to agriculture and include an environmental dimension, in other words, they had to be eco-innovative. Third, the projects had to be collective; we didn’t look for eco-innovations developed by a firm, but for projects with multiple stakeholders, including farmers. The choice of this type of projects is explained by the remaining importance of agriculture in rural regions and the rise of multi-stakeholder governance of rural development (Torre and Wallet, 2015).

Five monographs were conducted in the framework of the TASTE project (two methanation projects and three agrofood projects). This corpus is being completed with two other cases, one on the organic production and processing of organic pulses and the second on the creation of an organic sunflower oil industry with local procurements. These two projects are both led by cooperatives, in collaboration with other local cooperatives and small firms.

#### Preliminary results and conclusion:

Results combine qualitative analysis and statistics about the number of resources mobilised, their type, their geography and the way they are acquired (personal ties or other types of ways, according to the three phases of the projects: genesis, creation, stabilisation).

Our first analyses show that major trends and patterns in the determinants of eco-innovation in rural areas can be identified. In the beginning, the absorptive capacity of the organisation, and its governance, have a strong impact on the development path of eco-innovative projects. These internal factors are reinforced by specific characteristics of the external environment, notably the presence of place-based factors and related variety, as defined by Frenken et al. (2007). The innovation process in rural areas strongly relies on personal relationships and central actors combined with the determinant use of institutional devices, local resources and external relational networks.

In terms of dynamics, the means for acquiring external resources evolve throughout the project but not as much as expected, as shown by the results of Esparcia (2014). Personal networks remain the main path to external resources throughout the course of the projects. The importance of other networks (friends, family locally elected-representatives, etc.) gradually decreases. Surprisingly, the importance of mediation remains relatively stable. This indicates no progressive decoupling of the projects from the familiar relational environment of its

members. This finding is reinforced by the fact that the actors use personal ties even when seeking remote resources (outside of the region). This tendency continues during the phases of creation and stabilization when the origin of resources often expands beyond the local environment. The weaker dependence on proximity suggests a progressive decoupling from the local context in a manner that is consistent with the literature (Grossetti, 2011). It also emphasizes the fact that local resources are determinant but not sufficient, which is again consistent with the literature (Ferru et al. 2015; Boschma, 2005).

As a consequence, the drivers of eco-innovation in rural areas emphasized by our study (related variety of local activities, connectivity, and embeddedness) remain highly relevant to the determination of public policies addressing rural innovation.

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