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Regional innovation and social capital: the case of French agriculture

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Abstract

The paper describes the importance of social capital as a major cause of regional innovation in French

agriculture. According to Landry et al. (2000), innovation as a concept implies not only the development

of technical solutions but also a process involving social interactions. The social capital seen as a valuable

resource in French agriculture is developed differently by local professional identities (Ceapraz and

Delhoume, 2014). Indeed the local development is the major source of collective and social action and

different spatial scales (mostly rural) should determine different levels of social capital. Thus regional

innovation might be analyzed through the importance of social capital developed at different

geographical scales. The development of these collective professional identities and rural professional

memberships in French agriculture play a key role especially for the development of rural areas. Thus

we consider that social capital as a real priority and a major asset in diffusing and improving regional

innovation.

Keywords: Social Capital, Territorial Innovation, Rural Professional Identities, French Agriculture

JEL classifications: Q12, Q19

Introduction

The social capital is one of the most important determinants of innovation (Landry et al., 2002) and an

economic actor should increase the number of its contacts in order to benefit from innovation (Capaldo,

2007). Innovation is regarded not anymore as a static process but rather as a dynamic one which is

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resulted from "interactions and exchanges of knowledge involving a large diversity of actors...". Moreover innovation implies not only technical factors but also social factors (implicitly social

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interactions). According to Akcomak and ter Weel (2009) "the social capital influences the innovation process because the financing of risky innovative projects requires that researchers and capital providers trust each other". For several authors like Carmona-Lavado, Cuevas-Rodriguez, Cabello-Medina (2009), intellectual capital should be categorized in there types: human capital, organizational capital and social capital. We are interested only in social capital since in the agricultural sector the networks within different agricultural professions (identities) are generating different flows of information/knowledge. Thus the social capital is considered as a basis for the innovation capabilities of a firm or economic actor (Subramanian and Youndt, 2005) (the authors mentioned the fact that the innovation is considered an effort of collaboration and thus enhancing the social ties; there is also a growing importance of knowledge and its accumulation effect through a specific network). This network called social network of innovation is focusing on the relations between actors rather the technical dotation's of everyone. Thus the difference in the competitive advantage should be mentioned: while the technical factors are already available to everyone in the network, the relational tools are individual and the only ones creating competitive advantages. This sharing of specific knowledge, business and mutual cooperation between actors become local competitive advantages and majors assets of differentiation concerning the innovation in general.

According to Andy Hall in a paper presented at the conference 'Farmer First Revisited: 20 years on', a study made by World Bank in 2006 revealed some important issues connecting innovation and social networks: a)" social and environmental sustainability are integral to economic success and need to be reflected in patterns of participation and interaction that are considered when strengthening innovation capacity"; b)"lack of interaction weakens innovation capacity"; c)"innovation is rarely triggered by agricultural research and, instead is most often a response of entrepreneurs to new and changing market opportunities" (World Bank, 2006).

Authors like Rajalahti, Woelcke and Pehu (2005) described the fact that the research and technologies may not solely contribute to enhance the innovation in general; they should be accompanied by "wider competencies, linkages, enabling attitudes, practices, governance structures and policies that allow knowledge to be put into productive uses" (see also Table 1). Thus the innovation should be more focusing on the interaction side rather than technological side, and, thus taking into account multiple linkages between actors.

Table 1. Characteristics of different paradigms of agricultural innovation (according to Hall, 2007)

| Paradigm | Transfer of | Farming Systems | Farmer First/ | Interactive Learning |
|--------------------|------------------------|-----------------------|------------------------|-------------------------|
| | Technology | Research | Farmer | for Change/ |
| | | | Participatory | Innovation Systems |
| | | | Research | |
| Era | Widespread since the | Starting in the 1970s | Starting in the 1990s | Work in progress |
| | 1960s, but building on | and '80s | | |
| | a very long history | | | |
| Organisation focus | Agricultural research | Agricultural research | NARS as part of | NARS as part of |
| | organisation arranged | organisation arranged | AKIS including | agricultural |
| | as a National | as a National | agricultural extension | innovation systems |
| | Agricultural research | Agricultural research | and education | |
| | organisation | organisation NARS | organisations | |
| Mental model | Supply through | Learn through survey | Collaborate in | Interact and learn for |
| of activities | pipeline | | research | innovation |
| Farmers seen by | Progressive adopters, | Objects of study and | Colleagues | Key actors among |
| scientists as | laggards | sources of info | | many others |
| Farmers' roles | Learn, adopt, conform | Provide | Diagnose, | Co-generate |
| | | information for | experiment, test, | knowledge, processes |
| | | scientists | adapt | and innovation |
| Scope | Productivity | Input-output | Farm-based | Beyond the farm gate |
| | | relationships | | |
| Core element | Technology packages | Modified packages to | Joint production of | Facilitated interactive |
| | | overcome constraints | knowledge | innovation, learning |
| | | | | and change |
| Driver | Supply push from | Scientists' need to | Demand pull from | Responsiveness to |
| | research | learn about farmers' | farmers | changing contexts |
| | | conditions and needs | | |
| Key changes | Farmer behaviour | Scientists' knowledge | Scientist-farmer | Institutional, |
| Sought | | | relationships | professional and |
| | | | | personal, affecting |
| | | | | interactions and |
| | | | | relationships between |
| | | | | all actors |

Source: Hall, 2007.

We already analyzed the networks of several dairy stockbreeders in rural France by their belonging to their professional identities and thus by redefying the social networks in rural areas (Ceapraz and Delhoume, 2014). Their typology of professional identities defined by daily routine interactions and their role for collective action are very important and useful to clarify their integration into a social network. This particular integration of dairy stockbreeders into a social network by their agricultural professional identities constitutes a resource for action which very useful for creating social capital. Their professional

identity was recognized differently on time scale (different types of socialization) and by their geographical location (more or less integration within a geographical space or community). In this order the daily interactions within this profession are very important to understand major changes in the sector and clarify the role of social network. Furthermore we try to establish a connection between all these characteristics and the creation of innovation. What type of innovation these rural professional identities can create? Do we really have different types of innovation depending on their gradual integration within the social network or the innovation depends really on farmer's capacity of accepting the changes?

Methodological approach

We are using the same methodology used in the previous research paper which was dealing with farmers' life and their interaction position within a very unstable environment (Ceapraz and Delhoume, 2014). Several interviews were performed with dairy stockbreeders in Picardy region, France through a "detailed survey guide" for every aspect of their professional, social and individual life" (Ceapraz and Delhoume, 2014). This database was used to establish a typology of profession behaviors and will be further used in this paper to assess the importance of innovation in creating collective action and social capital. Although their professional identities are characterized as individual, different or fragmented, their structure determines a "collective capacity of action" that have an effect on a "sustainable collective identity and implicitly social capital". As shown by Ceapraz and Delhoume (2014) these professional identities are facing both restrictive attitudes and practices but also supportive attitudes and practices (see Table 2).

Table 2. Attitudes and practices affecting key innovation processes and relationships (World Bank, 2006)

| Innovation processes | Restrictive attitudes and | Supportive attitudes and |
|-----------------------------|----------------------------|--------------------------------|
| | practices | practices |
| Interacting, knowledge | Mistrust of other | Trust |
| flows, learning | organizations | - Openness |
| , , | - Closed to others ideas | - Transparency |
| - Secretiveness | | - Confidence |
| | - Lack of confidence | - Mutual respect |
| | - Professional hierarchies | - Flat management structure |
| | between | - Reflection and learning from |
| organizations and disciples | | successes and failures. |
| | - Internal hierarchies | - Proactive networking |
| | - Top-down cultures and | |
| | approaches | |

| - Covering up of failures | |
|----------------------------------|--|
| - Limited scope and intensity of | |
| interaction in sector networks | |

Source: World Bank, 2006.

Today the agricultural professions are facing many constraints. Crisis, events and even political actions are challenging these professional identities. According to Ceapraz and Delhoume (2014) several consequences of this pressure can be described as follows:

- A local level or scale which is considered the most important place of "business regulation" and the origin of local action
- A global level which is much more challenging and characterized by the association to global markets

Conclusion

Taking into account these two different levels of agricultural development related to social networks of agricultural professions can suggest a particular way of considering these developments as "territorial innovations".

The territorial innovation might be the answer to the organization of social networks belonging to these agricultural professional identities. According to Oural (2015), "the success of a territorial innovation is linked to its ability to meet the specific needs of a territory (in terms of economic development, well-being, citizen participation, etc.) while creating locally the conditions for the expression of a collective intelligence and the direct involvement of local actors". The agricultural actors being part of a network, the sharing of knowledge and diffusion of innovation can contribute to synergies and implicitly to territorial innovation.

Defining a territorial framework for the agricultural professional identity will allow the development of a collective identity framework and the emergence of "local environments" (Pinton et al., 2007). Apart this definition of local environment which can influence the opening of collective identities and professions towards a specific territory and be considered as a first attempt of "territorial innovation", we also assist to a second opening which can be considered "an opening farming profession" towards the society (Dufour et al., 2003) and considered as a second attempt of "territorial "innovation".

In this way the two contexts, one locally and the other globally oriented can trigger different types of territorial innovation.

First of all, the local context which is considered by Anselm Strauss (Basznager, 1992) "the closest context" or the immediate context of action might lead to a redefinition of the farming profession.

Secondly, the global context is considered the "distant context" or the secondary context of action.

The association of these two types of contexts can redefine the professional identities through a geographical scale since the local context or the closest context constitutes the first step for the farmer in order "to adjust its business". In this case the level of territorial innovation from the part of the community is relatively weak since we don't have major innovative actions produced by the working routine of the farmers. The second step reveal "the distant context" which described a more opened professional identity to meet a variety of actors.

These plurality of contexts can redefine the identity of the farmer profession and thus allow us to describe the identity itself of the farmer as relational since at this level interactions are multiple and unceasing (Ceapraz and Delhoume, 2014). Interactions, negotiations and confrontations between different types of professional identities can lead to the redefinition of the agricultural identity.

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