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Innovation and governance of rural territories

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Introduction

The idea that innovation or creativity can be the basis of the processes of development of territories has appeared only fairly recently in the literature and in public policies and actions. And it is only in the past few years that there has been an acceptance of the fact that new activities can be useful to – or even be drivers of – the growth of rural territories (Regional Science Policy and Practice, 2011). And yet, this approach is still usually confined to the high-technology or new economy sectors.

It was only in the 1990s that work was undertaken that placed innovation at the core of regional or territorial growth. It highlighted the importance, in this mechanism, of innovative firms and of clusters that brought together high-tech creative activities. It discussed the spatial dissemination of technologies and its geographic limits in terms of spillovers. Also noted were the problems relating to the capacity of absorption and the difficulties of reproducibility of innovations developed elsewhere. This movement resulted in and was accompanied by the implementation of many local, national and community policies according priority to innovation, such as the creation of science parks and technopoles, the significantly increased R & D funding or the strengthening of research-industry relationships. Almost without exception, it was the development of high-tech innovations that was favoured, with an emphasis on the creation and transfer of innovations of a very high level. They were supposed to benefit to enterprises that used them as well as the network of their subcontractors, suppliers or geographical neighbours and, through a trickle-down effect, the entire local economy.

The resulting model of regional or territorial development is therefore based on high-tech activities. Innovation is considered the main engine of growth (a watered-down version of development) as well as a differentiating factor useful for overcoming competitive constraints, at least partially. International institutions (OECD, EU, etc.) and national governments, who advocate these development policies based on innovation and competitiveness, have set up mechanisms to intensify selection between territories. This often results in land planners and managers acquiring a naive and wishful attitude, wanting to enter a competitive world and considering that valorising local resources and supporting cutting-edge sectors are enough to generate development.

But the territories are not at an equal footing in the race for technological excellence since not all have resources that can easily be valorised or the expertise necessary to do so. This is especially true for rural territories – and for countries of the South – and thus the question of the nature of innovation and the conditions under which it can truly bloom in territories needs to be readdressed. This article's goal is to explore the links between three key elements: innovation, territorial development and governance. In the first part, we present the main development models and the various types of their implementations in rural or agricultural territories. We then discuss the role of innovation in development approaches by considering successively the approaches of territorialized innovation and policies of territorial innovation. We conclude with an analysis of modes of governance of rural and periurban spaces as expressions or vectors of innovations in territories. This analysis covers processes of negotiation and decision making, actors and governance structures and mechanisms dealing with conflicts or encouraging consultation.

I. Models of regional and territorial development

Works on the theme of development, whether focused on rural and agricultural issues or more generally attempting to define conditions for the growth and success of regional economies, most often take the form of studies of economic mechanisms. It is readily apparent that the issue of innovation, of limited interest during the post-war boom years, has now become a major component of these approaches, given that development is now closely linked to innovation in all its forms. Three major competing visions of development currently coexist, corresponding to strong analytical assumptions in which innovation is present to a lesser or greater degree (Torre and Wallet, 2012).

1.1. Development as an optimum balance

First of all is the thinking that focuses primarily on defining a balance between interests and gains derived by the various local actors of the development process and on seeking principles that will lead to the maximum satisfaction of all stakeholders. The founding approaches of neoclassical theory belong to this category. They propose a homothetic growth based on inputs of capital and work, later extended to a third, more technological, input, most often in the form of knowledge or the amount of R&D investments (Solow, 2000). In these approaches, innovation is mainly considered as an input that can improve the efficiency of the allocation and use of production factors and thus boost productivity. It is a matter of assessing the production volume and its growth and of comparing them to the optimal combination of factors and the efforts undertaken in terms of productivity or capital accumulation for example (Johansson *et al.*, 2001). This approach, which envisages the eventual possibility of eliminating interregional disparities, has seen significant success and has only been held back by its limitations in terms of homothetic growth and of its inability to account for imbalances reported early on by the authors of polarization or by growth at the bottom for example.

1.2. Development as a source of inequality and polarization

The second, and largest, group of analyses consists of approaches that consider compromises made between local actors to be only temporary and ultimately untenable. They believe development processes always generate interregional inequalities which are hard to reduce. In contrast to the 'optimum balance' thinking, these analyses consider that development brings and contributes to the

widening of disparities between regions or territories, often permanently. They also highlight the existence of local systems with specific institutional, economic or technical characteristics and whose successes or failures induce fundamentally unbalanced development processes. This body of work is based on the analyses of growth poles, conceived by Perroux and developed by Myrdal, Hirschmann and Higgins. Perroux's (1961) original idea is that development cannot occur everywhere at the same time and with the same intensity. This is amply demonstrated by countries or areas that are lagging behind in development, a fact that the growth pole theory was the first to recognize. Development relies on a process of polarization of activities, itself based on the existence of large companies which act as driving forces, located in the heart of the most developed regions. They are the vectors of innovation and of its unbalanced dissemination between territories.

With the crisis of Fordism and the inability of traditional models to account for changes in capitalism, such as the success of forms of organizations other than the large-company model, new analyses have emerged which place intangible factors at the heart of the dynamics of development. Thus, Porter (1985, 1990), whose approaches have had a wide impact, explains a region's or territory's comparative advantage in terms of four major factors, each of which needs attention in order to move ahead of competing areas: enterprise strategy, structure and rivalry; demand conditions; spatial relationships with related and supporting industries; and resource and production factors (traditional or skill-based). Analyses in terms of a residential or local, face-to-face economy, which base territorial development on an increase in external revenue, have a different view of interregional disparities (Davezies, 2008).

Analyses of localised production systems (LPSs), which began in the 1970s, are also based on the observation of spatially differentiated development processes. Initiated by studies of Italian districts (Beccatini, 1990) and followed by studies of variations in different settings, ranging from the Milieus to the agrifood systems or LPSs to clusters, these analyses are based on the systemic nature of relationships maintained by actors who belong to and jointly shape a territory through their cooperation and common projects. It is here that we find the idea of development from below – so close to authors such as Stohr (1986) – and a willingness to typify forms of development (the Italian districts; public-based systems; systems based around large companies; or based on innovation, etc.) (Markusen, 1996), but very little analysis on the development processes themselves or of their dynamics.

The notion of the New Economic Geography (NEG), conceived by Krugman (1991) and popularized by authors such as Fujita, Thisse and Ottaviano (Fujita and Thisse, 1997, 2001; Ottaviano and Thisse, 2004), then formalized the significant probability of occurrence of phenomena of spatial polarization and concentration of activities. Questions then arise of the spillover effect of an activity at the regional level (e.g., spillover effect of construction), of the reciprocal impact of the locations of enterprises and those of their workers/consumers, and the ability to lower transportation costs, which only reinforces polarization processes to the detriment of peripheral areas.

1.3. Development as a dynamic process linked to innovation

The third and final research category is based on the idea that regional or territorial development is closely linked to the occurrence of dynamic ruptures with the past due to innovative or creative processes. This explains the varying speeds and amounts of development of different regions or territories (Dunford, 1993; Scott and Storper, 2003). Analyses of regional development based on

processes of innovation and regulation, as well as some systemic approaches, thus conclude that local systems are subjected to successive phases of growth and stagnation, even of recession (Colletis *et al.*, 1999). These phases exacerbate or reduce inequalities between social classes, with the benefits of growth often being appropriated by certain groups or offshore businesses belonging to external capital. Above all, it is the internal shocks which can transform systems and lead to the appearance of spatial concentration of people and wealth, as well as of zones of social and spatial exclusion. Innovation, its creation and its dissemination are therefore at the heart of these approaches (Cooke and Morgan, 1998).

During the last decade, the analysis of spatial dynamics has been enriched by work rooted in evolutionary theory (Frenken and Boschma, 2007). It considers the uneven distribution of activities in space as resulting from largely contingent historical processes. The Evolutionary Economic Geography accords a predominant place to the entrepreneurial dimension, whether based on genealogy or on processes of emergence, growth, decline and cessation of business activity (Boschma and Franken, 2011). The focus is mainly on the roles played by spin-offs and labour mobility in territorial development processes (Maskell, 2001) and on mechanisms for replicating routines within the local industrial system. Taking advantage of geographic, industrial and technological proximity between sectors (Torre, 2008) and of institutional mechanisms and network structures, these technologies spread by the snowball effect between the companies and technologically related industries, and eventually lock local systems into spatial dependencies on the growth path. This process works particularly well when the industries are emerging or are based on related technologies, with low cognitive distances being particularly conducive to the circulation of knowledge spillovers (Nooteboom, 2000).

II. Policies of development by innovation

One of the features of current development policies is their acceptance of local dynamism in innovation, production and knowledge transfer as one of the key factors in regional development. Hence the considerable efforts made by regions and local communities in this domain. Policies to encourage innovation – a source of growing income – are today part of the toolbox of all policy makers, who see in them the ultimate argument for growth and development (Hall, 1994). These policies are based on the fact that gains from innovation are difficult to appropriate and thus require State intervention to meet any possible shortfalls in R & D spending. Such strategies have not only resulted in policies to promote high-tech activities (Goldstein, 2009) and major industrial programmes such as Airbus but are also considered relevant for rural or remote areas and SMEs which lack of resources.

II.1 Technological innovation within poles of development

Approaches dealing with the role of innovation in the dynamics of territorial or regional development are based on taking into account the importance of R & D or innovation in local development. Partly inspired by Schumpeter's work, these approaches rely on the idea that innovations are key to development processes and that R&D efforts and incentives for innovation can play an important

role in the establishment and success of the dynamics of growth. It is often a matter of a systemic approach, one which emphasizes the role played by innovation transfer and dissemination at the local level (Feldman, 1994; Autant-Bernard *et al.*, 2007). It also underlines the importance of face-to-face relations and of expansion phases by setting up of spin-offs and via support of creative efforts (nurseries, incubators, etc.). The engine of development is thus found in the presence of localized spillovers of innovation or knowledge, which spread within the local system and can give rise to very competitive local systems such as technology hubs or competitive clusters. It is innovation that powers development and differentiates dynamic systems from those that are not.

Advocating the concentration of industrial investment in clearly identified clusters is now a dominant feature of European policies but one limitation is due to these policies' linear design, which ignores the importance of feedback loops and uncertainty in innovation processes. Such approaches lead to rather poor results insofar that they omit the geographic concentration of R&D and innovation in a few regions and are unaware of the use of new knowledge outside the areas being covered. Moreover, pick-the-winner policies aimed at selecting areas most conducive to innovations and the sectors most likely to create new-economy jobs (biotechnology, nano-technology) can see their usefulness and relevance being called into question (Boschma, 2009). Besides the fact that it is impossible to predict future growth regions or successful sectors since new industries are often the results of spontaneous processes rather than of planned interventions, these policies lead to the adoption of the same activities everywhere whereas industrial and innovation systems are very different and often incomplete (Camagni, 1995). The phenomena of inertia and lock-in thus lead the great majority of regions to fail to develop these industries, resulting in huge losses of public resources.

These analyses draw support from the changed perception of innovation processes: from a purely linear model to the interactive one (Lundvall, 1992). Whereas the linear model, based on the Taylorist structure of production, described innovation as an unwavering process going from an initial idea to production to commercialization, the interactive model emphasizes the interactive and iterative nature of innovation between closely linked organizations at various stages of its development. Innovation is thus considered a social endeavour taking shape in a diversity of geographic configurations (Wolfe and Gertler, 2002). The linear model describes a spatial division of work based on a specialized functional hierarchy, with some regions benefitting from the positive effects in terms of income and growth due to their positioning and specialization in R & D activities. In contrast, the interactive model accords greater importance to the close relationships between knowledge users and knowledge creators through their geographical proximity and/or ICTs. Consequently, territorial institutional contexts are keys to explaining the potential and success of innovations with some areas proving to be much better than others in producing or adapting innovations (Malecki, 1997).

The question of the scale at which the innovation process takes place in association with the dynamics of development is also an essential element of the debate. Based on work on national innovation systems (Lundvall, 1992; Nelson, 1993; Freeman, 1995; Amable *et al.*, 1997), studies have been conducted on how these systems are deployed at the regional scale. They have sought to understand under what conditions local and regional networks and institutional mechanisms were more or less favourable to innovation and what were the conditions propitious to their adaptation and permanence over time (Lundvall and Maskell, 2000). These studies resulted in approaches of

regional innovation systems (Cooke and Morgan, 1998) seeking to find ways to anchor innovations in territories and attempting to identify conditions leading to efficient and successful systems. This research insists on the importance of the presence of certain elements such as physical and technological infrastructure, R&D links between industry and universities, highly qualified workforce available on the local labour market and the existence of venture capital mechanisms. Also necessary are less tangible factors relating to the local social environment such as local know-how, a regional technical culture and proximity to collective cognitive frameworks. The role of regional and local institutional mechanisms appears therefore essential to reduce uncertainty and to support coordination and collective action conducive to innovation processes. Efficient systems are thus characterized by a high level of local interactions and interdependent relationships where innovation is supported and encouraged by public or private organizations.

II.2. Innovation through knowledge creation

More recent works highlight the central role played by knowledge and its implications for territorial and regional development in association with innovation processes. According to these studies, development can be understood as the transformation of a set of assets consisting of products poorly developed and exploited by an under-qualified workforce into a set of knowledge-based assets exploited by skilled labour, with information regarded as an essential raw material (Lundvall and Maskell, 2000). Learning ability is thus revealed to be essential to the adaptive potential of territories and regions for their development. Learning is considered a collective, social and geographical process which brings about an improvement in individual or organizational understanding and capacities.

Some studies put emphasis more on the tension between individual representation and decision making and collective innovation, thus bringing the processes for creating and disseminating knowledge to the fore in the analysis. In this perspective, approaches based on territorially rooted communities of practices are marked by the use of an original conceptual framework to highlight the importance of routines and networks. Such approaches are similar to work on creative cities (Cohendet and Simon, 2008) and on evolutionary economic geography (Frenken and Boschma, 2007).

Finally, interdependent non-market relationships between institutions are key to a territory's or region's performance as measured by innovation, productivity growth and development. Relationships of trust – as well as high levels of tacit knowledge and the existence of routines – determine the structure of local mechanisms of cooperation and coordination. They can then be viewed as relational resources conducive to an increase in learning abilities and to the creation of benefits that other territories will find hard to replicate. In such a perspective, urban spaces and, more generally, urban territories are considered favourable to innovation and to knowledge creation due to the cognitive externalities they can generate (Scott and Storper, 2003).

The recognition of the role of innovation, knowledge and learning in the processes of regional and territorial development has had an impact on the evolution of development policies, which are now most often characterized by a set of infrastructure-oriented interventions (transport, high-speed telecommunications, etc.). These policies also extend support to less tangible elements such as network structuring and knowledge transfers in order to strengthen collective capacities of knowledge creation and learning. The challenge then remains to build assets that are endogenous to

the territory. This is an objective that requires the mobilization of local forces in an interactive framework where the logic of experimentation (marked by an acceptance of the trial-and-error method) takes precedence over the implementation of predefined solutions, notwithstanding the constraints of public finances. This is why such mechanisms of public intervention are best assessed in the context of their construction rather than being assigned a universal value. Nevertheless, any examination of strategies pursued at the territorial or regional level (in addition to within a same national framework) shows the relatively low creativity of solutions put in place and the difficulty of most territories to differentiate themselves clearly and sustainably.

II.3. Towards territorial innovation?

Even though there has been undeniable progress over the last twenty years in the understanding of links between innovation, knowledge, learning and regional development, the theoretical models therefrom advanced are still characterized by the diversity and weakness of their conceptualization and formalization, as well as by an unfortunate lack of clarity in messages destined for decision makers seeking to improve public policies. Often based solely on high-tech activities, oriented by technology and by a market-focused corporate culture, these proposals narrow the field of innovation to the most technological of dimensions. In this way, they neglect not only incremental innovations but also ignore many territories which do not adhere to high-tech principles but are still characterized by other sorts of vibrant innovation activities (social, organizational, institutional, etc.). Furthermore, apart from a facade of semantic unity based on their underlying concepts, these analytical models represent, in reality, different visions of the dynamics of innovation – hence the difficulty in establishing a clear theoretical framework.

A way forward on these issues, and in particular on including the question of innovation in an analysis that encompasses all territories, including rural ones, would be to broaden the debate to take into account the concept of territorial innovation in all its dimensions. Such a debate should lead to an improved understanding of the progress of humanity at the territorial scale (Moulaert and Sekia, 2003) and to permit analysis of innovation models actually useful to local communities. Some approaches, for example the work of the Group for European Research on Innovative Environments (GREMI) on the concept of the innovative milieu (Camagni and Maillat, 2006), have investigated the concept of territorial innovation in the most rural or underdeveloped territories based on organizational innovations and on the mobilization of local populations. The rules for collective action and institutional mechanisms are then considered as factors explaining innovative territorial dynamics. Innovation is viewed as a social construct conditioned by the geographical context in which it occurs; rooted in practices, it is therefore necessarily located in the space. The issue of territorial innovation is also addressed by the emerging fields of social and solidarity-based economy and sustainable development (Zaoual, 2008). New concepts have been created such as that of social innovation (Klein and Harrison, 2007; Hillier *et al.*, 2004) which describes a set of corporate innovative practices in response to social needs which have been little met or unmet and/or implementing processes to incorporate an approach for social transformation over time. These initiatives show the prominent role played by territories as crucibles of new forms of organization and of innovative partnerships, both in urban and rural areas.

The Localized Agrifood Systems

The approach of Localized Agrifood Systems (LAS), which originated at the end of the last century following the observation of organized exchanges and relationships between local actors involved in agricultural production or agrifood activity. This concept includes 'all production and service structures (farm, agrifood industry and businesses, catering businesses, etc.) linked by their characteristics and functioning to a specific territory. The environment, products, people, their institutions, their expertise, their food habits and their relationship networks all combine in a territory to form an agrifood structure at a given spatial scale (Muchnik, 1996).

This concept, which quickly became a major success with a section of the scientific community and with policy makers and public authorities (Muchnik and de Sainte Marie, 2010), is obviously an extension of the concept of localized production and innovation systems and other clusters to the agrifood production domain. The LASs are often found in rural areas, especially in developing countries, where the organization of local actors in production processes is based on local ties and sharing of skills and techniques.

In addition, we note the significant references to technical aspects of production of goods, which is closely associated with the social context. We cannot take into account the production methods and related techniques without considering the modalities of the actors' social structuring, as well as the joint construction of social links and of the technical determinants in the action. We note, however, that these systems still remain orphans as far as a truly analytical assessment is concerned: they are interesting but lack substance. In fact, it is not possible to encapsulate them in a dominant or determinate theoretical approach even if the notions of economy of proximity or common goods seem to promise interesting developments in the coming years (Perrier-Cornet, 2009).

III. What form of governance to help innovation emerge in rural and periurban areas?

Originally centred mainly around economic aspects, the analysis of the development process has gradually opened itself to the question of innovation by considering the interplay of local social and institutional relationships as well as the interactions and overlaps between geographical scales and levels. This increased complexity requires the issue of territorial governance to be addressed not only with an objective of helping innovative processes to emerge but also of incorporating the various aspirations and wishes of the local populations and to link them with overall policies and regulations.

Territorial governance processes are today undergoing intense upheavals. These latter shape the phases of territorial innovation and thus constitute an engine of development and growth in rural or urban territories. Such governance mechanisms can be viewed as laboratories of change because they accompany and sometimes anticipate the changes underway in the territories by giving them shape, by helping maintain a dialogue and expressions of opposition and by preventing violent confrontations or failures of development due to sluggishness or expatriation. These changes are embodied in the opposing and twin forms of conflict and consultation which constitute the modes of expression and the vehicles of transmission of ongoing innovations at the territorial level.

III.1. Consultation and negotiation to define a shared vision

To begin with, this concerns negotiation mechanisms, in particular those of consultation and their implementations at the local level. According to Beuret (2006), we can distinguish between different types of operations, characterized by increasing levels of involvement, that can be called upon within participatory approaches and which contribute at various levels to the territorial governance processes. Communication methods are used to convey messages and to obtain public support for proposals. Instead of relying on the balance of power, these methods can be used as part of participatory approaches, for example when it is a matter of convincing some groups that it is in their interest to participate. Information can be used to transmit data that would allow target individuals or groups to form an opinion and to participate in discussions. The actors' views can be ascertained via consultations but without any express guarantee that they will be accepted. Dialogue can draw participants closer together and lead to the establishment of a common language and references. Consultations encourage joint action and decision making and can be used to build a collective vision or goal and to set up joint projects. Finally, negotiations can be used to reach a decision acceptable to all participants.

In recent decades, these mechanisms have resulted in inventions and interventions of various kinds, all with the common purpose of facilitating the implementation of the consultation paradigm. The work of Ostrom (1990, 2005) is a successful example in creating mechanisms for governance of shared natural resources through the prism of property rights as defined by local communities. Nevertheless, it must be admitted that, on the whole, these mechanisms do not seem to be fully stabilized; in fact, they have set off debates and generated many controversies on their utility (Blatrix *et al.*, 2007, Mermet and Berlan-Darqué, 2009). A relative consensus has, however, emerged to acknowledge that various forms of participation by private or semi-public actors in debates or in public decision making does lead to more harmonious and democratic territorial governance processes. The result is a number of territorial governance mechanisms and tools. Examples from France are the 1983 Bouchardeau Act and the 2002 Law on local democracy; increasing complexity of the decision making process relating to public infrastructure projects with the declaration of public utility, public hearings, and the setting up of the National Public Debate Commission; consultations before the creation or revision of urban master plans; and consultative commissions on local public services and utilities.

The consultation processes, characterized by a cooperative intent, form an important laboratory of coordination for improved territorial governance. The collective construction of these processes, based on the establishment of a structured and sustainable relationship between actors willing to share information, discuss problems or specific issues in order to agree on common objectives and possible collective action (Bourque 2008), distinguishes them from other forms of cooperation and public-action participation. This consultative approach therefore encompasses 'processes of collective construction of visions, goals and joint projects in order to act or decide together' (Beuret, 2006). It can also be used by a third-party actor, such as an agent of development, to encourage coordination between various parties. It takes shape on stages – or arenas – around which revolve exchanges between groups of persons and entities characterized by the same actions relating to the subject under discussion and by the same attitudes and stances. In its history, the consultation process has often been subject to one or more controversies but the fact remains that its script is not written in advance and has to be developed on the fly as it follows a path of consultation.

III.2. The role of conflicts in the processes of innovation

Our research into conflicts in rural and periurban areas (Torre *et al.*, 2006, 2010) shows that this dimension is also key in processes of territorial management, regional development or the governance of various local activities. It appears in the form of litigation, media events or violent protests. In most cases, land-use conflicts are not blind oppositions or purely egoistical in origin but constitute a way of initiating discussions on the issues and paths of territorial development and of influencing decisions by participating in processes underway from which one had been excluded (Dowding *et al.*, 2000). That is why they have a bearing, either on the decisions on land use and management (arbitrated negotiation) or on the composition and representativeness of the bodies responsible for taking decisions (arbitral negotiation). The conflict thus becomes an integral part of the deliberative process at the local level by allowing an expression of local democracy and the re-inclusion of participants who were forgotten or deliberately excluded during earlier project development stages.

Land-use conflicts thus constitute one form of resistance and expression of opposition to decisions that leave part of the local population unsatisfied (Darly and Torre, 2011). Some local innovations, whether technical or organizational in nature, give rise to resistance which can turn into conflict. Major changes requiring reconfiguration of the use of space (creation of transport, energy or waste-processing infrastructure, new urban master plans, territorial or environmental zoning, etc.) generate conflicts whose spatial and social extent can quickly grow. Conflicts are signals of social, technological and economic changes, indicators of novelty and innovations. They demonstrate the opposition aroused by the latter, lead to discussions on their implementations and their possible (non-) acceptability as well as on the adoption of governance procedures and their transformation under the influence of the dynamics of change. All changes encounter opposition or resistance of varying relevance and justification. But it would however be simplistic to see this resistance as a systemic sign of reactionary opposition to change because, in a number of cases, they are more a reflection of differences over the direction taken by the new initiatives that are being imposed on the public than of a stubborn desire to maintain the status quo. During these phases of conflict, social and interest groups tend to reconstitute themselves and may even undergo technical or legal changes. Once a conflict ends, it leaves behind new local agreements, new modes of governance, new configurations of discussion forums as well as new technical procedures (changes in direction, various adjustments, changes in urban planning documents, etc.), all arrived at during the negotiations. Harbingers of territorial innovation, conflicts are thus both the result as well as the cause of territorial changes.

Territorial governance is therefore not limited to an idyllic vision of economic and social relationships, i.e., to forms of cooperation and common constructions. It is also involves interactions between forces favouring cooperation and those pushing towards conflict (Torre and Traversac, 2011). Far from resembling a smoothly flowing course, territorial development processes and their implementations over time are made up not only of processes of negotiation, collaboration or appeasement but also of more lively or confrontational phases during which some groups or category of actors face off, sometimes violently, in order to define the way forward and to make choices. The process of territorial governance therefore presents two complementary aspects whose mutual importance varies with time and situations. It feeds on these opposing tendencies (Glazer and Konrad, 2005), with their synthesis and combination revealing paths of territorial development.

Conclusions

Today, many authors consider that a new paradigm of rural development is being created which is independent of the agro-industrial and hygienic model of production based on the use of chemical inputs and sanitary control of products. It builds a representation of rural spaces that differs from one of dependence on urbanization (Röling and de Jong, 1998; Marsden, 2006). Additionally significant is the rise of environmental and sustainable-development issues, which are impacting strongly the design of rural activities, especially agricultural activity, as well as influencing public policies through their local implementations, in particular via zoning processes (Natura 2000, habitat directives, green and blue belts, etc.).

This new paradigm emerges both in the local actors' practices and procedures and in public policies, with rural development being seen as a multi-level, multi-actor and multi-faceted process (van der Ploeg *et al.*, 2000). Multi-level in the diversity of policies and institutions designed to address the issues of rural development, as well as the evolution of the agriculture-society relationship, taking into account the production of public goods, the construction of a new agricultural production model incorporating interactions between agriculture and other activities and the combining of activities at the enterprise scale in rural areas. Multi-actor because of the interactions between farmers and other rural-area actors and because of the rural development policies designed to bring about new links between the local and the global. They can however also be used to restore the legitimacy of local elites or to play on clientelist interests. Finally, multi-faceted because rural development unfolds into a range of differentiated practices, some of which are emerging and sometimes interconnected (landscape management, nature conservation, agritourism, organic farming, specific agricultural products, short supply chains, etc.) so that elements considered redundant in modernist paradigms acquire new roles in farm-to-farm relationships and in those between farmers and the urban population.

References

- Amable, B., Barré, R. and Boyer, R. (eds), 1997. Les systèmes d'innovation à l'ère de la globalisation. Paris, Economica.
- Autant-Bernard, C., Mairesse, J. and Massard, N., 2007. Spatial knowledge diffusion through collaborative networks. *Papers in Regional Science*, vol. 86(3), pp. 341-350.
- Becattini, G., 1990. The Marshallian Industrial Districts as a Socio-Economic Notion, in Pyke, F., Becattini, G. and Sengenberger, W. (eds.), *Industrial Districts and Inter-Firm Cooperation in Italy*, International Institute of Labour Studies, Geneva.
- Beuret, J.E., 2006. La conduite de la concertation. Pour la gestion de l'environnement et le partage des ressources. Paris, L'Harmattan, 340 p.
- Blatrix, C., Blondiaux, L., Fourniau, J.M., Heriad-Dubreil, B., Lefebvre, R. and Revel, M., 2007. Le débat public : une expérience française de démocratie participative. *La Découverte*, 416 p.
- Boschma R., 2009. Evolutionary economic geography and its implications for regional innovation policy. *Papers in Evolutionary Economic Geography*, 09.12, URRC, Utrecht University.
- Boschma, R. and Frenken, K., 2011. The emerging empirics of evolutionary economic geography. *Papers in Evolutionary Economic Geography*, 11.01, URRC, Utrecht University.

Bourque, D., 2008. Concertation et partenariat. Entre levier et piège du développement des communautés. Presses de l'Université du Québec, Collection Initiatives, 142 p.

Camagni, R., 1995. The concept of innovative milieu and its relevance for public policies in European lagging regions. *Papers in Regional Science*, 74(4): 317-340.

Camagni, R. and Maillat, D. (eds), 2006. *Milieux Innovateurs. Théorie et politiques*. Anthropos, Economica, Paris.

Cohendet, P. and Simon, L., 2008. *Knowledge intensive firms, communities and creative cities*. Oxford University Press.

Colletis, G., Pecqueur, B., Rychen, F., Zimmermann, J. *et al.*, 1999. Construction territoriale et dynamiques productives. *Sciences de la Société*, no. 48, 35–54.

Cooke, P. and Morgan, K., 1998. *The Associational Economy: Firms, Regions and Innovation*. Oxford University Press, Oxford.

Darly, S. and Torre, A., 2011. Land-use conflicts and the sharing of resources between urban and agricultural activities in the Greater Paris Region. Results based on information provided by the daily regional press, in T. de Noronha Vaz, E. Van Leeuwen and P. Nijkamp. (eds), *Towns in a rural world*, Ashgate, London.

Davezies, L., 2008. *La République et ses Territoires*. Editions du Seuil, Paris.

Dowding, K., John, P., Mergoupis, T. and Van Vugt, M., 2000. Exit, voice and loyalty: Analytic and empirical developments. *European Journal of Political Research*, 37, 469-495.

Dunford, M., 1993. Regional disparities in European Community: evidence from the REGIO databank. *Regional Studies*, 27(8), 727-743.

Feldman, M., 2000. Location and innovation: the new economic geography of innovation, spillovers and agglomeration, in G.L. Clark, M. Feldman and G. Gertler (eds), *The Oxford Handbook of Economic Geography*, Oxford, Oxford University Press.

Freeman, C., 1995. The 'National System of Innovation' in Historical Perspective. *Cambridge Journal of Economics*, 19: 5-24.

Frenken, K. and Boschma, R., 2007. A theoretical framework for evolutionary economic geography: industrial dynamics and urban growth as a branching process. *Journal of Economic Geography*, 7(5): 635–649.

Fujita, M. and Thisse, J.F., 1997. Economie géographique, problèmes anciens et nouvelles perspectives. *Annales d'Economie et de Statistique*, vol.45: 37-87.

Fujita, M. and Thisse, J.F., 2001. Economie et marché. *Cahiers d'Economie et de Sociologie Rurale*, vol. 58-59: 11-57.

Glazer, A. and Konrad, K.A. (eds), 2005. *Conflict and Governance*. Springer Verlag, 201p.

- Goldstein, H., 2009. Theory and Practice of Technology-based Economic Development, in Rowe, J.E. (ed.), *Theories of Local Economic development*, Ashgate, Burlington, 375p.
- Hall, P., 1994. *Innovation, Economics and Evolution*. Harvester Wheatsheaf, New York.
- Hillier, J., Moulaert, F. and Nussbaumer, J., 2004. Trois essais sur le rôle de l'innovation sociale dans le développement territorial. *Géographie, économie, société* 2/2004 (Vol. 6): 129-152.
- Johansson, B., Karlsson, C. and Stough, R.R., 2001. *Theories of Endogenous Regional Growth*. Springer, Heidelberg New York.
- Klein, J.L. and Harrison, D. (ed.), 2007. *L'innovation sociale. Emergence et effets sur la transformation des sociétés*. Presses de l'Université du Québec.
- Krugman, P., 1991. *Geography and Trade*. MIT Press, Cambridge.
- Lundvall, B-A. (ed), 1992. *National Innovation System: Towards a Theory of Innovation and Interactive Learning*. Pinter, London
- Lundvall, B-A. and Maskell, P., 2000. Nation states and economic development: from national systems of production to national systems of knowledge creation and learning, in G.L. Clark, M. Feldman and G. Gertler (eds), *The Oxford Handbook of Economic Geography*, Oxford University Press, Oxford.
- Malecki, E., 1997. *Technology and Economic Development: The Dynamics of Local, Regional and National Competitiveness*, (2nd ed.). Addison Wesley Longmann, London.
- Markusen, A., 1996. Sticky Places in Slippery Space: a Typology of Industrial Districts. *Economic Geography*, Vol. 72, No. 2: 294-314.
- Marsden, T., 2006. Pathways in the sociology of rural knowledge, in Cloke, P., Marsden, T. and Mooney, P., *The Handbook of Rural Studies*, Sage Publications, London, 510p.
- Maskell, P., 2001. The firm in economic geography. *Economic Geography*, 77(4): 329–344.
- Mermet, L. and Berlan-Darqué, M. (eds), 2009. *Environnement : décider autrement. Nouvelles pratiques et nouveaux enjeux de la concertation*, L'Harmattan, 378 p.
- Moulaert, F. and Sekia, F., 2003. Territorial Innovation Models: A Critical Survey. *Regional Studies*, Vol. 37(3): 289–302.
- Muchnik, J., 1996. Systèmes agroalimentaires localisés : organisation, innovations et développement local. Proposition issue de la consultation du Cirad *Stratégies de recherche dans le domaine de la socioéconomie de l'alimentation et des industries agroalimentaires*, Cirad, 27 p.
- Muchnik, J. and de Sainte Marie, C. (eds), 2010. *Le temps des Syal. Techniques, vivres et territoires*, Coll. Update Sciences & Technologies, Ed. Quae, Paris.
- Nelson, R. (ed.), 1993. *National Innovations Systems. A Comparative Analysis*. Oxford University Press, Oxford.

Nooteboom, B., 2000. Learning and Innovation in Organizations and Economies. Oxford University Press, Oxford.

Ostrom, E., 1990. Governing the commons: The evolution of institutions for collective action. Cambridge University Press.

Ostrom, E., 2005. Understanding Institutional Diversity. Princeton University Press, Princeton, NJ.

Ottaviano, G. and Thisse, J.F., 2004. Agglomeration and economic geography, in J.V. Henderson, J.F. Thisse (eds), Handbook of Regional and Urban Economics, edition 1, vol. 4, chap. 58: 2563-2608, Elsevier.

Perrier-Cornet, Ph., 2009. Les systèmes agroalimentaires localisés sont-ils ancrés localement ? Un bilan de la littérature contemporaine sur les Syal, in Aubert, F., Piveteau, V. and Schmitt, B. (eds), Politiques agricoles et territoires, Quae, 223 p.

Perroux, F., 1961. L'économie du XXe siècle. Presses Universitaires de Grenoble, Grenoble.

Porter, M.E., 1985. Competitive Advantage. The Free Press, New York.

Porter, M.E., 1990. The Competitive Advantage of Nations. The Free Press, New York.

Regional Science Policy and Practice, 2011. Special issue on innovation and creativity as the core of regional and local development policy, August.

Röling, N. and de Jong, F., 1998. Learning: Shifting paradigms in education and extension studies. The Journal of Agricultural Education and Extension, vol. 5(3): 143-161.

Scott, A.J. and Storper, M., 2003. Regions, globalization, development. Regional Studies, 37(6-7): 579-593.

Solow, R.M., 2000. Growth theory: an exposition, Oxford University Press, New York.

Stöhr, W. B., 1986. Regional Innovation Complexes. Papers in Regional Science, 59: 29-44.

Torre, A., 2008. On the role played by temporary geographical proximity in knowledge transfer. Regional Studies, vol. 42, no. 6: 869-889.

Torre, A., 2010. Conflits environnementaux et territoires, in Zuideau, B. (ed), Développement Durable et Territoire, Presses Universitaires du Septentrion, 518p.

Torre, A., Aznar, O., Bonin, M., Caron, A., Chia, E., Galman, M., Guérin, M., Jeanneaux, Ph., Kirat, Th., Lefranc, Ch., Melot, R., Paoli, J.C., Salazar, M.I. and Thinon, P., 2006. Conflits et tensions autour des usages de l'espace dans les territoires ruraux et périurbains. Le cas de six zones géographiques françaises. Revue d'Economie Régionale et Urbaine, no. 3: 415-453.

Torre, A. and Traversac, J.B., 2011. Territorial Governance, Springer Verlag, Heidelberg and New York.

Torre, A. and Wallet, F., 2012. The intriguing question of regional and territorial development in rural areas. Analytical variations and public policies. European Planning Studies, Special issue on Rural areas and Agrofood business (accepted).

van der Ploeg, J.D., Renting, H., Brunori, G., Knicken, K., Mannion, J., Marsden, T., de Roest, K., Sevilla Guzman, E. and Ventura, F., 2000. Rural Development: from practices and policies towards theory. *Sociologia Ruralis*, 40, 4: 391-408.

Wolfe, D.A. and Gertler, M., 2002. Innovation and social learning: an introduction, in M. Gertler and D.A. Wolfe (eds) *Innovation and Social Learning: Institutional Adaptation in an Era of Technological Change*. Palgrave Macmillan, Basingstoke.

Zaoual, H. (ed.), 2008. *Développement durable des territoires : économie sociale, environnement et innovations*. Coll. marchés et organisations, L'Harmattan.