

## From territory agronomy to regional planning: Agricultural management in periurban areas

Sylvie Lardon<sup>a</sup>, Salma Loudiyi<sup>a</sup>, Mariassunta Galli<sup>b</sup>, Elisa Marraccini<sup>b</sup>, Marie Houdart<sup>c</sup> and Enrico Bonari<sup>b</sup>

<sup>a</sup>UMR Métafort – INRA Sciences pour l'Action et le Développement (SAD) & AgroParisTech-ENGREF (Clermont-Ferrand, France)

<sup>b</sup>Land Lab - Scuola Superiore Sant'Anna (Pisa, Italy)

<sup>c</sup>UMR Métafort – Cemagref (Clermont-Ferrand, France)

**Abstract:** We present an initiative organised by researchers from different disciplines aimed at stimulating a discussion on agricultural management in periurban areas. It originated from crossing perspectives of landscape agronomy and regional planning. Analysing the changes in periurban areas, we both observed needs about taking into account agricultural issues in planning operations and lacks of knowledge about how to fulfil it. During the seminar we discussed the resulting challenges for action research initiatives. The paper describes scientific considerations that lead us to set up such a seminar, the synergies between different points of view and the methodological basis for a future educational programme.

**Keywords:** agriculture, periurban areas, territory, spatial modelling, durability, changes, action

### A seminar on agricultural management in periurban areas

The joint seminar initiative originates from the opportunity of a field case study work during the two Winter Schools in Landscape Agronomy in 2007 and 2009 (Rapey *et al.*, 2008; Moonen *et al.*, 2010 in this book of abstracts) and a seminar on the agricultural management of periurban areas that was held in 2009. Through the Pisa plain case study (Debolini *et al.*, 2008), positive interactions between agro-environmental and territorial issues, especially about urbanization controlling process in periurban areas, have appeared obvious. These also emerged during the field work of the second Winter School on the Massaciuccoli basin in Pisa<sup>1</sup> as well as during the field visit of the seminar on periurban agriculture in Massa-Carrara. Convergent research studies in France and Italy highlight needs to see agriculture as a resource for territorial development (Galli and Bonari, 2009; Méasson *et al.*, 2009). Therefore, there is an interest in a thematic convergence between agronomy and regional planning when studying the issues of agriculture in periurban areas.

About such issues, agronomists are involved because of their ability to design innovative systems for agricultural development in periurban areas, e.g. multi-functionality, tracking agricultural products, taking into account the diversity of stakeholders operating in agriculture and territory management (Galli *et al.*, 2010). However, because of the important spatial, temporal and social dynamics, it is suitable to be involved by a territory approach. Following Deffontaines (1998), geography and agronomy are taking part in theoretical and methodological basis of landscape agronomy<sup>2</sup> (Benoît *et al.*, 2006; Lardon *et al.*, 2008; Rizzo *et al.*, 2008). Social scientists, geographers along with architects and planners are also involved.

During the seminar on the management of agriculture in periurban areas, main questions were about periurban agricultural policies, actors, agricultural land use and related planning issues, and the

<sup>1</sup> Moonen *et al.*, 2010. A winter school in landscape agronomy and the synergies it created (in this book of abstracts)

<sup>2</sup> “Thus, landscape agronomy can be defined as the study of farming practices and technical systems which mobilise territorial resources and organise territories supporting multiple stakes, by analysing the two-way relationship between practices and landscapes (practices building landscape and practices determined by landscape)” (Moonen and Lardon, 2008)

sustainability of periurban agriculture. The seminar was based on French and Italian case studies. These latter comprised periurban parks as well as territories situated in fringe areas (at the interface of rural and urban areas). Different levels were included, from municipalities to large regions and also new territorial arrangements, as such the association of neighbouring municipalities. In all the study cases, agriculture was a resource and a catalyst to territorial development.

The seminar aimed therefore to benefit from existing research programs regarding the above mentioned issue and to compare French and Italian experiences. One perspective was to support local actors and territorial institutions through a partnership research. To do so, we wished to involve students in the construction of such new approaches and to teach them to tackle complex issues like agriculture and its management and governance in periurban areas.

Due to our interest in both agronomy and planning, we stress the importance to point out synergies to create a better vision of agriculture as resource for the sustainable development of the territory. One important topic can be developed: the synergies associated to the proximity between agricultural areas and urban areas.

### **Creation of synergies: from concepts to actions ...**

In this field, some synergies between research and action are created through the intermediation of education.

From a research point of view, that means to explore new issues and introduce new concepts. Which are the public policies supporting the development of periurban agriculture and encouraging food provision to cities and networks between producers and consumers? How are local actors organized? What kind of rationale do they develop to control land, set up greenbelts and secure local governance for agriculture? What are practical strategic steps to conduct in order to maintain greenbelts in periurban areas, to define zoning for residence or leisure, natural, agricultural and forestry areas? Does sustainability of periurban agriculture can be secured within a double bind of product storage and transportation, while landscape and water management still remain? How to answer to divergent stakes? These are questions asked during a seminar that showed how the relevance of a cross-disciplinary attitude increases the understanding of complex stakes. To take advantage of current experiences is a first need, to formalise underlying development models is a second one.

From an action-oriented perspective, there is a need of new tools for different actors to support them to define common actions for territorial development. Thus, both field works of the seminar and Winter Schools (on three periurban areas: Massa-Carrara hillsides and plain of Pisa - Massaciucoli Lake and San Giuliano Terme plain) have been informative. In the Plain of Pisa a relevant topic was the quality of water; on this topic many actors were involved: natural park, environmentalists, local authority bodies (at local and regional levels), reclamation bodies and farmers. Those last were of particular importance for crop diversification to contain pollution and form irrigation practices. In the Massa Carrara case study, the topic was the proximity of the Candia wine area and of other residual agricultural activities to the city; in this case the main actors for food issues were farmers, consumers, inhabitants, local authority bodies, valorisation consortia. In any case, new actors, new activities and actions have to be supported. But who carry out these transformations? Are there new skills to be developed to ensure a global insight and to ease crosslinkage? We believe that new forms of organisation can be invented in action-oriented research and especially in fieldwork situations. But, how to point it out, to make good use of failures and to institutionalize success conditions? Actors come first in these learning processes. But researchers also are actors in facilitating these changes by their observations and modelling and in providing neutral rooms for discussion between stakeholders, also by education that can play an important role in setting up synergies.

Hence education is a bridge between research and action. First, education steps in action as a driving force about development issues carried out by local actors. Second, education also intervenes in research issues because it keeps raising questions about concepts and methods used by researchers to facilitate collective learning and development of skills. Third, education allows testing skills'

articulation and synergies to conceive, realise and assess collectively development projects. At last, education has to answer to actors' issues and to be ahead of current changes. So, it can help partners to interpret and formalise these changes. What makes this research-education-action device original is that education is in the centre of the action-research.

So, we argue that through education a better articulation between research and action is possible, to a new management of agriculture. Periurban areas are relevant experimental fieldwork areas because of their dynamics and fast developing issues. Other areas may be considered as fieldworks, e.g. rural and nature conservation areas, however they do not present both the same dynamics and the same concentration of different stakeholders in a so close space.

In these periurban areas, the framework consists in combining ground involvement and reflexive analysis, through interventions in a short sequence, aiming to build a common vision of a territory with stakeholders and consequently a common view on territorial development. We then have a methodological itinerary for a territorial prospective and participative diagnosis that has been constructed progressively by involving actors' participation. Therefore there is an involvement of the stakeholders at all the different steps of the action-research, from the research question building to the interpretation of the results. This involvement opens perspectives to an integration of agronomy in the territories.

The integration of agronomy deals with the capacity of this latter to be integrated in planning processes. Local administrative bodies have also to recognise that agriculture supports multiple functions (productive, landscape and social functions) within territories. Both these issues are quiet evident in periurban areas. Indeed, agriculture land in periurban areas has often been handled by planning for urban needs, even in areas with strong agricultural stakes. Nowadays, it is clear that the quality of life within territories is sometimes based on agriculture. It is also clear that the quality of life in periurban areas is supported by the neighbour agricultural systems.

## **Methodological basis for a future educational programme**

To answer to resulting stakes in periurban agricultural management, an educational program has to be set up. We assume that this educational program for agronomy has to combine at least four themes: a prospective and processes approach of the territories, an hybridising of local and global knowledge, a participatory experimentation, a multi-stakeholders action planning. Applying these approaches may contribute to the acquisition of relevant competencies and offer good opportunities to enhance them on the field. This future educational programme may give many openings for students, as such in research centres, local administrative bodies, public or private consultancy organisations.

### **A prospective and processes approach of territories**

Development models are broadened. How to induce and support innovative and creative development projects (Deffontaines and Prod'homme, 2001)? We have to combine nature and technology, history and future anticipation, art and science, in a respecting way of a «socio-diversity» that guarantees the adaptation capacities of territorial organisations. A regional translation of national prospective of periurbanisation by the DATAR (Vanier and Lajarge, 2008) and new forms of rurality by INRA (Mora *et al.*, 2008) have to be done.

Territorial prospective is a way to induce participation of actors in a collective project design. It implies that not only sectoral actors (farmers and agriculture professionals) take part in the process but also all actors that are concerned by planning. Therefore, territorial prospective results in scenarios which objectives are to encourage local actors to act together and to collectively anticipate changes. Thus, this approach brings along a shift that facilitate the mobilisation of local actors and it contributes to the construction of a shared vision of the future. Territorial prospective is related to three main principles: (i) time projection is made to better act in present times by taking into account

past times, (ii) a symbolic dimension is at stake because it opens possible ways through creativity and imagination and (iii) it directs to action.

### **A local and global knowledge hybridizing**

At the local level, one observes the application of sustainability norms defined at higher levels. The local application of sustainable development norms is always specific because of actors' stakes. Local devices help to construct new networks and new knowledge, institutions and norms. These constructions can be mobilized elsewhere by other actors at different scales (much more global than farm scales and urban development scale) and contribute to drawing public policies. Similarly, concrete ways by which actors are coordinated at local scales can impulse restructuring at global scales. Experiences can be effective at multiple organisation levels.

Our research is wilfully placed at the local level where actors «are making» sustainable development. It is interested in observed local applications. It integrates institutional plurality and enlargement of scales and temporalities within the territory, revealing pluralities and tensions. Territorial inscription of governance processes and agricultural transformations shows for example breaks and evolutions we are in concern with: activity withdrawal, creations, organisation level changes (farmers networks) and actions principles. Clarifying the interaction between local and global is important in order to make generic some local observations, to qualify actions led for sustainable development and to identify ways of combining actions led at different scales.

### **A participatory experimentation**

Actors concerned by agriculture in periurban areas are plural. How to facilitate actors' participation and the integration of new actors in the local governance (Lardon *et al.*, 2008)? It seems to be important to extend the farmers realm and assert agriculture as a resource for all kinds of actors living within periurban areas. Of course these governance processes are still uncertain, they have to be locally constructed and have to be adapted to local agricultural specificities.

Actors' participation to development projects is usually effective upstream from decision making processes. Spatial representations can be useful to make explicit territorial dynamics. Spatial representation is an opportunity to show transformations to be encouraged and a way to transform actors' representation of reality.

### **A multistakeholder action planning**

Agricultural organisation levels in periurban areas are many. How to joint different territories and to build in projects in order to bring dynamics together (Vanier, 2008)? Individual practices have to be linked with public policies by building intermediate levels. Following this assertion, municipalities, inter-municipalities and other project levels have to be defined as the appropriate levels for actions and must not be ignored as partners. These could be levels upon which agriculture can underlie and become a development catalyst.

In periurban areas, actors' coordination is an important issue because bringing together different actors holding on different territory visions and contrasting rationales and interests.

These are basis principles for an educational program to territorial development that we seek to promote (Angeon *et al.*, 2009). It is related to territorial development design and technology methods and concepts because it takes into account both territorial organisation understanding and it accompanies territorial changes (Lardon, 2008). International co-operations between Italy and France are a first result. "Wandering" fieldworks, European PhD candidates network, partnership with territorial institutions are many of the following steps to be constructed in order to work for the assertion of agriculture in periurban areas.

## References

- Angeon V., Lardon S. and P. LeBlanc (2009) « Accompagner le développement territorial par la formation. Quels dispositifs d'apprentissage collectif et quelles compétences mobiliser ? valorisation d'expériences de formation et d'action ». appel à communication pour la session spéciale du XLVI Colloque ASRDLF : Entre projets locaux de développement et globalisation de l'économie : quels équilibres pour les espaces régionaux ? ; 2009/07/06-08 ; Clermont-Ferrand (FRA), 2p.
- Benoît, M., Deffontaines, J.-P. and S. Lardon (Eds) (2006) *Acteurs et territoires locaux. Vers une géoagronomie de l'aménagement*, Paris, Editions INRA - Savoir faire, 174p.
- Debolini, M., Jacopin, R., Marraccini, E., Pistocchi, C., Rizzo, D. and A. Toillier (2007) Territorial diagnosis using spatial representations, in *Actes des rencontres Internationales Géomatique et Territoire*, Clermont-Ferrand, France, June, 18-20.
- Deffontaines, J.P. (1998) Les sentiers d'un géoagronome. Textes réunis par Benoît et al., Editions Arguments, Paris, 359p.
- Galli, M. and E. Bonari (2009) Brevi riflessioni sull'agricoltura periurbana. Dal progetto agro-urbano al parco agricolo. *Locus*, n.12, pp. 10-16.
- Galli, M., Marraccini, E., Lardon, S. and E. Bonari (2010) Agronomia territoriale e sviluppo dell'agricoltura periurbana. *Agriregionieuropa* 20: 9-11
- Lardon, S. (2008) L'ingénierie territoriale pour les espaces peri-urbains. Proposition d'une démarche. In : Loudiyi S, Bryant C.R., Laurens L., Territoires périurbains et Gouvernance. Perspectives de recherche. Editions du laboratoire développement durable et dynamiques territoriales. Université de Montréal, pp. 149-158.
- Lardon, S., Caron, P. and M. Benoît (2008) De la géo-agronomie à l'agronomie des territoires : un parcours, des étapes-clés et des prolongements. Journées J. P. Deffontaines, 1 et 2 Avril 2008, Versailles, 16 p.
- Méasson, L., Loudiyi, S. and S. Lardon (2009) Construction des capacités de développement territorial dans les zones-charnières. L'exemple de Volvic Sources et Volcans. In : Lardon S., Vollet D., Rieutort L., Devès D., Mamdy J.F., 2009. Développement, attractivité et ingénierie des territoires. Des enjeux de recherche pour l'action et la formation. *Revue d'Auvergne*, N° 590-591, pp 131-153.
- Moonen, C. and S. Lardon (2008) In: Dedieu B. and Zasser-Bedoya S. Satellite session - Education in Landscape and Territory Agronomy" Proceedings 8th European IFSA Symposium, Clermont-Ferrand (FR), 6-10 July, 163.
- Mora, O. (dir.) (2008) Les nouvelles ruralités en France à l'horizon 2030. Rapport final du groupe de prospective INRA, 82p.
- Rapey, H., Lardon, S., Galli, M., Moonen, A.C., Benoît, M., Thenail, C., Bàrberi, P., Caron, P., Marraccini, E., Rizzo, D. and E. Bonari (2008) Experiences from a winter school on landscape agronomy: stakes, difficulties, perspectives. Proceedings 8th European IFSA Symposium, Clermont-Ferrand (FR), 6-10 July, 999-1004.
- Rizzo, D., Marraccini, E., Debolini, M., Galli, M. and E. Bonari (2008) Agronomes et géo-agronomie : « relecture » de trois études de cas en Toscane. Journées J. P. Deffontaines, 1et 2 Avril 2008, Versailles, 10 p.
- Vanier, M. and R. Lajarge (2008) Les Futurs périurbains de la France en Europe. Rapport final du groupe de prospective DATAR.