# Local food networks and the change of the agrofood system

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#### Abstract

Can alternative local food networks, through the relocalization of production and consumption and the higher proportion of organic practices, bring significant changes in the agrofood system? Drawing on the case of French Amaps, the distinction between an "input substitution paradigm" and a "system redesign" paradigm, which is at the crossroads of agricultural and social sciences, will help to assess the changes which occur in consumers and producers practices and in their interactions.

### Introduction

AMAPs are CSA-type box schemes which emerged in south-eastern France in 2001 and gather in mid-2007 about 500 different groups all over France. They take the material form of weekly boxes composed of diverse agricultural products (most often, fruits and vegetables) grown "without using pesticides and chemical fertilizers" (the organic certification is not compulsory even though farmers should obey organic rules). Basic principles are the long-term subscription and the variability of the assortment, with consumers being unable to select their products. A stable price is set in advance, in principle based on farm costs and incomes, and the boxes are paid for before the beginning of the season. Behind these common principles, the systems are quite diverse: they include one or several producers, only fruits and vegetables or also meat, eggs, honey, cheese or other transformed products. Each AMAP is generally a specific organisation created by the consumers to run the system and take in charge part of the distribution tasks.

AMAPs belong to local alternative agro-food networks (AFNs), which also include farmers' markets or shops and many cooperative forms and can be defined through what they contest, i.e., deregulation, globalisation, and/or degradation of agroecosystems; and what they defend, i.e., a construction of trust based on direct relationships and the relocalization of production and consumption.

In the social sciences, many studies have analysed these AFNs ambition and potential to create meaningful change in the food system. Some consider they are more oriented toward developing new alternatives for consumers in a more diverse food system, than toward changing the dominant food system (Allen et al., 2003). Others analyse the relocalization of food systems as rather defensive and being possibly part of what may be called a neoliberal governmentality (DuPuis et Goodman, 2005). Finally, more "optimistic" analysts try to overpass the tension between the alternative potential of these AFNs, which relies on a pragmatic and incremental way of acting, and their oppositional potential, which supposes more classical political action, by suggesting the notion of food democracy (Hassanein, 2003).

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On their side, biological and agricultural sciences have suggested a distinction between an "input substitution paradigm" and a "system redesign" paradigm (Altieri et Rosset, 1996). The first paradigm defines organic farming as the ban of certain inputs and/or the recommendation of others (list of non chemical methods to "fight against" pests and diseases). The second one defines organic farming in a more qualitative way and refers to the construction of diversified production systems following the ecological model considered as the "natural" one, where interactions between components guarantee fertility, productivity and resilience properties. These paradigms could help us assessing the changes occurring at different levels of the food chain in the case of AMAPs.

### Methods

The empirical data was collected through a hundred in depth interviews of horticultural producers and consumers lead between 2002 and 2007 and through an ethnographic analysis of these initiatives based on observations (e.g. distribution of the boxes, interactions between farmers and consumers, farm visits) and participation to various meetings of their network at regional level between 2004 and 2007. The interviews combine a life-story approach and a more systematic review of the different changes occurring in the food and production practices. The notion of trajectory is used in order to describe the changes in patterns at three levels: consumers, producers, and the systems and organisation that link them through these box schemes.

### Changes along consumer and producer trajectories

For consumers, belonging to such a scheme might involve minor changes in the food practices. One could perfectly eat the same kind of products, cook them the same way, and not change much to his provisioning patterns beyond the box itself. We could then talk of a mere substitution in provisioning patterns and in products, with the replacement of non organic products by organic ones. However, nearly all consumers talk of profound changes in their practices and in their diet, much more than in other short circuit schemes like farmers market or producers shops. One of the reasons might be that in these networks, there is a large diffusion of some strong arguments regarding the alternativeness of the scheme. Indeed, as the content of the box is imposed and variable, consumers have to cook according to what they get each week. Most consumers also consider they eat more vegetables since they entered an AMAP. Moreover, once there, they often get interested in other alternative food systems such as fair trade. This would suggest a possible redefinition of food practices which takes place over time and is favoured and facilitated by the diffusion of values, arguments and information across the networks as well as the access to new circuits.

On producers side, trajectories were depicted as temporal organizations with successive phases whose boundaries are specific events, decisions or changes. The trajectories were formalized through a comprehensive sketch combining the main changes regarding technical and managerial dimensions, marketing, learning processes, and interactions with consumers. This allowed the comparison of the different cases and their analysis from a combined agronomical and sociological point of view. The analysis of these trajectories showed that conversions to OF can be more direct (for example following a health incident or economical difficulties) or more progressive (when a former rupture with conventional agriculture was to be identified long before conversion to OF was considered) and that a decisive aspect of these trajectories, and especially of their progressiveness, was the issue of plant protection.

In this regard, the two paradigms of substitution and redesign can describe different trajectories or different moments in the farmers trajectories. Some farmers replace forbidden inputs by eligible ones but remain in the aim to "fight against" pests and diseases: "We do not use the same products, but we do the same treatments". Others would redefine things more globally and consider "that a new ecosystem can rapidly appear as there is no chemical intervention", aiming more at doing "with" pests than at fighting against them. In this paradigm of system redesign, interactions between techniques and the components of the "agro-eco-system" have to be built so as to enhance natural regulation processes and partial or indirect effects. A third intermediary paradigm is also observed, in which substitution (of conventional chemical by organic inputs) was followed by a reduction of these organic inputs themselves. All the dimensions of the trajectories are linked in such evolutions: the adoption of such a box scheme gives the farmer a guarantee of income which allows him to take certain technical risks, especially regarding plant protection, and in some cases, to turn to organic. Indeed, the changes do not only concern agricultural practices, but also marketing choices (table).

Agric. Practices ->	Already certified	Turned to OF	Non certified
	46%	19%	35% (half are considering conversion to OF)
Marketing choices->	Already in short circuits before	Gave up long circuits	Combine short and long circuits

Source: survey among 54 Amap vegetable growers in Provence, 2006

## Redefining the agro-food system?

Beyond these changes along consumers and producers trajectories, how can these schemes contribute to larger changes in the agro-food systems? This question is hardly tackled in these networks, even though it is very central as a claimed aim. Several possible types of changes can be identified and are partially experimented: 1/ enlarging the number of involved consumers (and producers); 2/ enlarging the number of different products in each scheme and box; 3/influencing the dominant system through the creation of hybrid schemes or approaches; 4/ influencing the definition of public policies at different levels.

The two first possibilities aim at going beyond the current "niche effect" and relate to the substitution paradigm. The third one might be closer to the redefinition paradigm but for the time being, it emerges rather from outside these alternative systems. For example, many similar box schemes are now proposed by more "conventional" food chain actors such as organic wholesalers and do not include any direct commitment and links between producers and consumers. In France, the fact that many extension structures have recently acquired competences in short circuits might also be considered as an effect of such initiatives on the dominant agrofood system, even though it is often perceived in terms of "recuperation" in the alternative circles. Finally, the fourth mode of change combines substitution and redesign. For example, some AMAPs try to have local schools or hospital establishing contracts with their local producers, which means a substitution in their sourcing practices but also a potential redefinition of local policies. Another possible effect, which goes beyond the question of food production and consumption and towards potential redesigning effects, is the participation of such local networks to local or larger environmental and land use issues. The necessity to fight for a common (threatened) environment through civic engagement and "civic agriculture" might indeed be more involving than the mere acquisition of a weekly box of vegetables.

### Changes at the interface between production and consumption

Even though AFNs often appear very ambitious regarding their possible effect on the agrofood system, it might be more modestly at the interface between producers and consumers in local groups that some effective change can occur. In the AMAPs, the principle is that consumers negotiate collectively the process of production (e.g., the content of the box over the growing season, the choice of crop varieties, etc.) with the farmer(s) as well as the system of distribution, which allows them to take part in decisions which they are ordinarily excluded from. Such negotiations are made possible through learning processes of both farmers about consumers' taste and culinary uses, and of consumers about farmers' production and distribution constraints. This allows for a re-skilling of consumers which is a reaction to the consumer deskilling achieved by the corporate system (Jaffe et Gertler, 2006). The decision to ask for organic certification might be discussed in the case of non organic farmers and the consumers might propose to pay for the costs or might decide, together with "their" farmer, that trust rely on proximity and direct relations more than on any label. Such an issue rarely leads to a conflict at local scale but has been a major source of conflict at regional scale. In Provence, the AMAP network is currently elaborating a participatory certification scheme so as to solve this (Lamine, 2008).

### Conclusion

By establishing strong commitments between consumers and producers, AMAPs intend to redefine both the consumption system and the production system. The study of their networks over a 5 years period of time shows that not only substitution but also redefinition processes can be observed along time both in farmers and in consumers practices as well as in their interactions. However, such changes are mainly visible at the scale of local groups and the conditions of an "upscaling process" are still unclear. It will be necessary in the future to follow the trajectories of such initiatives....

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