Obstacles and incentives in the development of organic farming in France

In France, organic farming covers only 3.5% of the utilized agricultural area (2011 figures; source: Agence Bio), a figure lower than the European average and below the objectives fixed by the Grenelle de l’Environnement in 2007. The PEPP project (role of the economic performance of business farms and sectors, and public policies, in the development of organic agriculture) which was granted financial support from the INRA Agribio3 research programme, aims to identify the factors which influence the development of organic farming in France. A study carried out on three levels (farm, municipality and sector) highlights the drivers of organic farming practice in France (obstacles and incentives). At farm level, the economic factor is central but other considerations, like environmental sensitivity, are taken into account. At geographical level, territorial anchoring influences the spread of organic farming in a contrasted way. This study highlights the fact that the development of organic farming in France would require concerted dialogue at sector level.

At the end of 2011, 23,135 farms were engaged in organic Farming (OF) in France, representing 4.5% of the farms and about 3.5% of the Utilized Agricultural Area (UAA) (source: Agence Bio). Apart from a period of relative stagnation between 2002 and 2007, growth in the sector has accelerated in recent years. Between 2007 and 2011, sharp growth was observed in the number of farms practicing OF (+93%), OF areas (+75%) and OF downstream operators (90%). Though in Europe France is one of the leading consumers of organic produce, the national part of the Utilized Agricultural Area in France remains lower than the European average (5.1%). It remains lower than the objectives fixed by the Grenelle de l’Environnement which were to dedicate 6% of the national part of the Utilized Agricultural Area to OF in 2012 and 20% in 2020. The implementation of policy incentives enabling such objectives to be reached requires a good understanding of the elements slowing down or, conversely, encouraging French Agriculture to adopt organic practice. The identification of these factors and the quantification of their effects are among the main objectives of the PEPP project.

PEEP project: an analysis of French organic farming at three levels

The main objective of this project is to show the factors influencing OF development in France. The economic and structural factors are stressed through an analysis carried out on three different levels: the farm (section 1 of the project), the municipality where the farm is located (section 2) and the sector (section 3). In section 1, an econometric study of survey data enables the identification of factors specific to farms (such as its size and economic performances) and to the farmer such as his/her age, education level, sensitivity to environmental problems and farming practices relating
to the decision to convert to OF. In section 2, statistical work conducted at municipal level on data covering the whole territory sheds light on the factors linked to farm location (information distribution networks, distance to market, marketing network, local support policies and so on.) in the spread of OF. Last, the role of sectors is highlighted in section 3 through a quantitative analysis of surveys carried out with OF actors. The methodology implemented in each of the three sections is described in frame 1.

Incomes, environmental sensitivity and practices, three main factors of conversion to OF

The descriptive analysis of the survey carried out with beef-milk and vegetable farmers (section 1) shows that one of the major factors influencing the decision to convert to OF is economic performance before conversion. This result indirectly shows the major role of the subsidies granted for the conversion to and the maintenance in OF. The assurance of a certain income thanks to subsidies partly offsets the financial risk associated with the conversion.

The assessment results also show the importance of the farmer’s characteristics and opinions on the decision to convert, notably the fact of having an agricultural diploma, being a member of a farming union, being of the opinion that some modes of agricultural production are harmful to the environment and considering that health risk linked to the use of phyto-sanitary produce is high. Each one of these characteristics increases the probability of the farmer converting to OF, from 2 to 5%. For instance, the probability of converting of a conventional farmer who is a member of a farming trade-union is about 5% higher than the probability of a conventional member who is not a member of a trade union. De facto, some training and awareness actions in environmental and health problems could encourage conversion to OF.

Farmer practice before conversion also seems to play a determining role on the propensity to convert to OF. Our results particularly show that the farms characterized by lesser nitrogenous pressure as well as the farms which have taken agro-environmental measures (AEM) are more likely to convert to OF.

The marginal effect of AEM formalisation by contract on the probability to convert to OF is about 8%. In conventional mode, the opportunity cost linked to changes of practices is lower for a farm with integrated management or more environmentally-respectful practice. So any policy encouraging the implementation of more environmentally-respectful practices should therefore indirectly encourage the development of OF.

A contrasted dynamic of the spread of OF according to region and to the level of urban development

In France, the location of OF presents contrasts at various scales, regions, departments and municipalities (Allaire et al., 2012). The work carried out in this project (section 2) compare the development of OF and its location (see map 1). They show that during the 2000 decade the concentration process continued more in areas that were already in favour of the OF. At local level, the models used show that the likelihood of OF presence in a municipality increases with the length of time OF has been present in neighbouring municipalities, confirming the effect of spatial and temporal agglomeration. However, when the regional level of concentration is high, a distribution effect may be added to the concentration effect. For example, in the Midi-Pyrenees region, the departments where OF farms were the most concentrated, attracted the most conversions to OF over these previous ten years, while in Alps-Cote d’Azur (PACA), today the least concentrated departments in OF are those where OF where is most widespread. A differentiation between dynamics appears: on the one hand, a spatial distribution resulting from a greater circulation of OF products in the food distribution networks and from the demand which results from downstream actors, on the other hand a concentration linked to consumers’ proximity, based on producers’ markets and short channels.
Methodological frame: 3 sections of the PEPP project

Section 1: analysis of farmers’ conversion to organic farming
This analysis relies on detailed data about a panel of conventional and organic farms. These data were collected through a survey carried out on two regions (Brittany and Pays-de-Loire) and two subsectors (beef-milk and vegetables). Structural and accounting information covering several years were gathered from 307 milk farmers in Brittany and Pays-de-la-Loire and 99 vegetable producers in Brittany. The aim of this survey was the identification of the determiners of conversion from conventional mode to organic mode; farmers directly established in OF were not surveyed. A certain number of partners were mobilised to implement the survey conducted from September 2011 to January 2012: Cogedis-Fideor, Inter Bio Bretagne, the Regional Federation of Agro-biologists of Brittany (FRAB), the Agro-biologists coordination of Pays-de-la-Loire, the students from the General, Agricultural and Technological School from Le Rheu, the College of Agriculture from Angers and the Rural Institute of Education and Orientation from Lesneven.

Section 2: analysis of spatial dissemination of Organic Agriculture
For that analysis carried out at municipal level, data accessible through the Observatory of Rural Development cover all French municipalities and include: the base of operators certified in OF in 2010 (source: National Institute of Origin and Quality (INAO) which enables the location of organic farmers but also downstream operators (processors and organic distributors), the base of beneficiaries of aid for OF conversion (source: Agency of services and payments) and the base of farmers paying contributions to the MSA (agricultural mutual insurance scheme). Various public geographical databases from the agricultural census of 2000 and 2010 (source: Agreste) as well as data from the BIO Agency, particularly OF areas aggregated at departmental and regional level. Statistical techniques were implemented to study the OF spatio-temporal dissemination on French territory.

Section 3: analysis of the downstream part of the organic sector
The results of this analysis are based on a sequence of interviews of the semi-directive type with representative actors of various levels of fresh vegetable and cereals in Brittany and Rhone-Alps. The respondents were chosen in conjunction with Inter Bio Bretagne (in Brittany) and Appui Bio (in Rhone-Alps). In Brittany, 10 actors were met from the 20 requested and in in Rhone-Alps only three from the 12 requested accepted to be interviewed. Among the actors met, there were storage organisations, animal feed manufacturers, flour-mills, a producer involved in direct selling, producer groups and wholesaler-shippers. Each actor was questioned on his/her strategy (range, price, supply strategy) and on his/her vision of the sector (functions, structure, inefficacy sources, competitive intensity and public regulation).

From a geographical point of view, we also note that physical constraints in high mountains (rather than hills), which limit the range of potential productions and make access to markets difficult, reduce the municipality’s propensity to welcome organic produce. While it could be supposed that the local nature of organic sectors, historically stronger than in the conventional sector, tends to fade with the “conventionalization” of OF, the data on the marketing modes issued by the Agence Bio (2012) suggest that the proximity relationships keep on playing a role in the organisation of production and markets. According to our model, the social composition of the population residing at a living area plays a role in the presence of OF, the weight of middle class households over 50 increases in the propensity of municipalities to welcome at least one OF producer. Agricultural diversification within the municipality also has a positive effect. This refers back to the fact that supplying local markets implies a diversity of produce.

The inclusion of a municipality in an AOC (controlled designation of origin) wine area significantly favours the presence of OF; wine production (in private wineries more than in cooperatives) constitutes a particularly dynamic sector of OF development today. Conversely, location in a cheese AOC area has no significant effect; in this case, there is no complementarity. The other cases of AOC areas have a positive effect (as is the case of dairies other than cheese in the West and olive oils and honeys notably in the South East).

Last, we showed a complex effect of the urban network on the OF location, depending on the town size, which on the one hand seems to attract OF producers for which they constitute a direct outlet and at the same time push them back to the outskirts due to land tax pressure. This polarisation effect is significant whatever the type of region or department. Additionally, the presence of downstream OF-certified operators in the municipality plays positively; but this
effect does not exist in all regions. The presence of a
downstream operator in the municipality does not play
any role in Pays-de-Loire and PACA, which seems to
indicate the weight of a new OF sector using the
conventional networks of collection and distribution
(milk for Pays-de-Loire, fruit and vegetables for both
regions) in these regions.

Map 1: Municipalities with at least one organic farm certified in 2010

A French OF sector which lacks coherence
A better structuration of the downstream part of the
sector is necessary
In the sectors where farmers are highly dependent on
downstream operators (whether they are private firms,
cooperatives or others), the decision to convert to OF
may be influenced by the characteristics and choices of
these operators (notably the choice to favour OF
development). This is notably the case of fresh milk
producers which depend on specific industrial and
commercial capacities (with organic production lines,
collection networks and so on) to guarantee the sale of
their production. On the other hand, for sectors such as
wine, fruit and vegetables or cheeses, the dependency
on the downstream part is lower, chiefly because access
to short channels is easier and more common. So there is a public issue linked to the structuration and
development of the downstream parts of OF in long
channels.

The organisation of the OF sector must meet the needs
of both short and long channels. Favouring one or the
other may constitute an obstacle to OF development
Unlike short channels which provide an outlet for
national production, long channels may rely on
imported produce. It is nevertheless important that
French production may provide a major part of the
needs of long channels. Recourse to imports may in
some cases be a source of pollution (generated by
transport) or risks when those imports come from
countries where OF specifications are less demanding
than French specifications.

Profusion of certifications causes confusion and may
discredit the standard “OF” label
Some downstream actors in the organic sector have
introduced new labels to differentiate their products
from those which do not meet the “OF” specifications:
for instance, a label guaranteeing the local origin of
the produce. For some of the subsectors such as fresh
vegetables, some actors stress that the excessive
number of labels could be counter-productive. Too

((Source: INAO))
many labels may create confusion for consumers and there is a risk that the consumer sees the quality of a product having only an “OF” label as lower than other products presenting several labels (including the “OF” label). It is important here that the sector establishes precise tracking of the existing labels and that marketing studies are performed to measure their effects on the perception of quality by consumers and on their willingness-to-pay for organic produce.

The development of the organic sector may lead to the emergence of new forms of market relationships within the sector making the balance between supply and demand more difficult to achieve

The balance between supply and demand of organic produce is difficult to achieve because of the small size of the sector and fluctuations in production. To make this balancing easier, the coordination implemented between actors and producers is based on formal or informal contracts. However, growth in the sector makes the forms of market exchanges more competitive, particularly with the emergence of speculative markets. In this case it would be important to anticipate the effect of this development on the balance between supply and demand. The experience with conventional production shows that the market for this fast-growing sector may be a major source of price instability, itself inducing fluctuations in the volumes put into production.

Downstream part of the organic sector requires efficient coordination

This coordination may be achieved through measures such as information systems on the state of organic production and its outlets. To be efficient these systems must give information quickly; for instance, actors must be informed quite early in the season of the sowing status in the various regions. Currently, coordination within the organic sector relies on a multiplicity of structures, both local and national. The regional structure must be kept because of the local nature of a part of this sector’s market. But the network formed by these structures may be simplified by grouping if required. The interaction between these local structures and the national ones such as the BIO Agency should also be fostered.

Findings for the future, beyond the PEPP project on organic farming

The analyses carried out within this project and the main results obtained show that it is important to analyse the organic question at different levels (farm, local/municipality) and from several angles (farm and sector). For instance, studying the conversion decision at farm level enables a precise analysis of the choice determiners which are difficult to highlight when more aggregated data are used (municipality data, for example). On the other hand, the use of municipality data presents the advantage of covering the whole of Metropolitan France, unlike farm data (sample) and provides an understanding of the spatial-temporal dynamic of the spread of OF. Last, an analysis of the whole sector enables a definition of the stakes that neither the analysis of individual data nor the analysis of municipal data can elicit.

It is also important to stress that to date, there are little available data on farms committed to OF. The existing databases covering a large number of farms and integrating economic characteristics (for instance the French FADN or RICA) are usually limited in terms of organic farm coverage. The low number of organic farms surveyed makes it difficult (or even impossible) to perform statistical analyses that produce reliable data. Getting relevant data is crucial for future research on the matter.

We also note the difficulty of studying the downstream part of the sector, for two reasons: the large number of studies and, for some operators, a mistrust and reticence about disclosing important information. Ideally, it would be better to organize a regular and quite exhaustive survey on organic operators’ strategies and difficulties compared with conventional operators and, where possible, make the finds of this survey accessible to the scientific community as a whole.

This project has mainly focused on the study of conversions to OF. However, it is important for additional research to be conducted on the question of starting out in OF. This is probably easier than converting mid-career, as the latter option involving challenging the farmer’s identity and networks and this may, in some cases, slow down his/her conversion decision. Young farmers wishing to set up and newly-established farmers may be particularly well suited to sustaining the development of OF.
Laure Latruffe INRA, UMR1302 SMART, F-35000 Rennes laure.latruffe@rennes.inra.fr
Céline Nauges (corresponding author) INRA and University of Queensland, Australie c.nauges@uq.edu.au
Gilles Allaire INRA, US ODR, F-31326 Auzeville gilles.allaire@toulouse.inra.fr
Eric Cahuzac INRA, US ODR, F-31326 Auzeville eric.cahuzac@toulouse.inra.fr
Alexis Garapin Université Pierre Mendès France, UMR GAEL, F-38000 Grenoble alexis.garapin@grenoble.inra.fr
Stéphane Lemarié INRA, UMR GAEL, F-38000 Grenoble lemarie@grenoble.inra.fr

For further information