Achievements and challenges of a research, training and extension network for organic farming development in France

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Abstract

Organic farming is increasingly considered as a sustainable production model which can inspire agriculture. In France, this sector is dynamic and growing but, many questions are still pending. Research, training and advising sectors contribute to this development. In order to federate strengths, organize complementarities and improve the efficiency of organic farming sector, a combined technological network (CTN) called DévAB standing for "Development of Organic Farming" was launched in 2007. Through this network both the different knowledge holders and their various forms of knowledge are taken into account thus creating a federative space for dialogue. Several outputs have been designed by the partners through this network, namely (i) thematic technical or economic leaflets, (ii) a comprehensive book on «organic farming and environment», and (iii) a mapping of all French running projects in organic food and farming. The on-going work packages focus on pooling training, improve the efficiency of scientific and technical production and also on how to initiate and coordinate dynamics of organic farming development with different actors at a regional level.

1. Inception of a specific network dedicated to Organic Food & Farming

The European context has changed for Organic Food and Farming (OFF) after January 1st 2009 with the birth of the common EU regulations. The same rules now apply in each member state in Europe to develop organic farming. However France, which used to be in a leading position in organic farming in the 70's and 80's, seems to have an apparent « lag » as compared with other European countries. This lag could be related to different factors, one of them is the low level of French policy support to extension and development structures dedicated to OFF and measures targeting conversion of farmers. Organic farming (OF) is increasingly considered as a sustainable production model which can inspire agriculture: to reduce both the use and the impacts of pesticides, to improve water quality and farm biodiversity, to reintroduce agronomy in farms, to protect the environment... Moreover, it may be seen as an answer to consumers and citizens

interests and the local authorities or cooperative groups are increasingly looking for organic knowledge and products. This sector is dynamic, but many questions are still pending regarding issues related with technical bottlenecks, environmental assessments and economic organisation.

In 2007, the French government organized top-level consultations called the “Environmental Grenelle”, including 4 operational committees dedicated to agriculture. The outputs of the committee on OFF lead to impulse a new national plan (2007-2012) for the development of organic farming. This plan included ambitious political targets (6% of agricultural useable area in 2012, i.e. 3 times more than in 2007) It also included increased financial supports to maintain and develop organic farming and help to structure food chains, and makes organic farming a work priority for all the agricultural sector.

In the same year, the Ministry of Agriculture created innovative partnerships between scholars (research or university), technical institutes (usually commodity oriented) and extension services (Chambers of Agriculture), as well as agricultural training institutions (all levels). Such partnerships were coined “Combined Technological Networks” (CTN). The Ministry of Agriculture provides funds devoted to management costs for 5 years. CTNs aim at organizing synergies between these stakeholders in order to promote innovation by de-fragmenting research, development (advisory or extension services), and education, and to form a cluster of competences that can be mobilized by professional organizations or decision makers. The financed CTNs were selected among several proposals because they have identified common challenges and priorities and presented a consistent program and relevant partners to implement it.
Networking promotes mutual learning between different stakeholders with various specialties and professional activities. CTN provide expertise centers (state-of-the art, thematic synthesis, resource pooling) and an organization boosting the emergence of common innovative projects. Communication and valorization of the results have to be a continuous concern and the products have to be tailored specifically according to the end-users targets (for extension, research or education), thus utilizing various communication vectors.

As a result of these political impulses but also as a concomitant fact, a CTN called "Development of Organic Farming" was launched in June 2008 in Paris. Its French acronym stands for “RMT DévAB”[1]. Its aims are to identify development strategies for organic farming and to organise knowledge transfer with the wider agricultural sector. It includes a wide range of partners involved in research, training and extension activities (51 different organisations), with a national geographic distribution. Such partnerships are more and more proving to be an asset to find new solutions to improve production and environmental performances in organic farming. They also facilitate the set-up of research and development projects, as well as knowledge transfer. This CTN also intends to strengthen international collaborations and contribute to the European technological platform TP Organics.

As different opinions on the strategy to develop organic farming are prevalent and discussed in France, the launch of this DévAB network had to face several obstacles such as the validation of the issues tackled inside the network itself, the choice of the actions planned and the place of the network in a multiple stakeholders sector... This cooperative organisation proved to be a good way to discuss and establish common priorities, without judging the strategies or giving the priority to one strategy over the others.

[1] See www.devab.org

2. Orientations and actions implemented within the CTN

The specific objectives and activities planned at the beginning were organized in 4 interacting principles, translating a vision of OFF development as connecting technical, environmental and economic challenges:

1. To strengthen and assist organic farming as an innovative and performing production model, relevant for agriculture. Among possible examples were: identifying the main technical issues in organic production systems, characterizing innovations and assessing their impacts on systems sustainability as well as integrating and extending innovation in agricultural production systems. This concerns both newcomers shifting to OF&F and already converted farmers.
2. To value natural resources and ecological functionalities in organic farming i.e. contributing to develop organic production systems through a better identification and integration of ecological functions and improving environmental balances and performances of organic production systems. This implies considering environment as an integral part of OF&F development, instead of assuming that OF&F is naturally environmentally-friendly.
3. To contribute to the economic development of organic farming i.e. identifying ways to increase production and reducing imports, improving the economic performances of organic farming, analysing trends and development potential for various markets and facilitating the design of collective solutions. In parallel, specific national funds were dedicated to structure commodity chains (3M€/year from the Ministry of Agriculture).
4. To integrate and disseminate knowledge, in organic and conventional agriculture i.e. enhancing acquired technical knowledge in agricultural extension, improving the effectiveness of knowledge transfer to and from conventional agriculture, contributing to training in organic farming and cooperating with international bodies and partners. In this sense, connections with the whole agricultural sector were at stake, also entailing relationships with other CTNs.

More than 120 persons are implied in this network which finally succeeds to be a federative space for dialogue and the place where all the stakeholders of organic farming shared their vision of the stakes for organic farming development, with a common language, together with acknowledged differences. The exchanges were encouraged and strengthened through productive working groups and complementary activities (seminars, debates, meetings…).

3. Main outputs of the CTN after 5 years of operation and critical eye upon this dynamic

3.1. Main outputs

The main available results of this network since 2007 until now are available for free on the website www.devab.org. Some of them are described below.

Technical and economic leaflets: 30 technical leaflets about innovation and organic farming, and 10 economic leaflets about the various productions (such as crops, pigs, vegetables…), made for farmers, advisors, trainers or processors. Theses leaflets are presenting the principles of organic food and farming according to each kind of crop or livestock production.

A comprehensive book on «organic farming and environment» (Fleury, 2011) which is the result of an approach referring to Participatory Action Research (PAR) (Monceau, 2005; Charles and Ward, 2007) by defining collectively a “problem” and then attempting to solve it by bringing

together various players and resources. We gather different forms of knowledge: scientific, technical, empiric, local know-how … Interconnecting different knowledge and experiences led to the following practical issue for our work: the current societal need for improved environment could be an asset to develop OF. Addressing such a challenge requires specific knowledge on both the environmental impacts of OF on the way farmers manage agro-ecosystems and how collective dynamics towards development of OF and practices could be engaged. In order to design an extensive view of the interrelationships between OF and environment we combined three methods:

- Debates between stakeholders of the network (researchers, technical advisors, teachers …) to discuss the shared issues between development of OF and resolution of environmental problems. In a second step this group designed a common and shared framework to handle the interrelationships between OF and the environment.
- Review of scientific literature. We investigated the literature published after 1999 through computer queries. Associated with the term OF (agriculture) we used a large set of key-words: biodiversity, water, landscape, energy use, soil, life cycle assessment, energy and nutrient inputs, nitrogen and nutrients leaching, carbon storage, etc.
- Survey about different innovative projects involving organic agriculture and farmers for improved environmental performances. We interviewed organic farmers, environmental managers, technical advisors and local facilitators.

Finally, the book deals with two interconnected questions: How can organic farming cope with the increasing environmental issues? How can environmental issues be a cornerstone for the future development of organic agriculture? Firstly we present a comprehensive view on the interrelationships between environment and organic farming: the concept of ecosystem services to agriculture is used to characterise both the services to agriculture (supporting and regulating services) and the services from agriculture (non-marketed services). In a holistic approach we handle a wide range of environmental components: biodiversity, water supply and quality, soil fertility, climate change. Secondly we focus on innovations and case studies involving organic agriculture for improved environmental performances. This is based on empirical surveys of a range of actions concerning biodiversity conservation, water quality improvement, landscape management and preservation of soil fertility. Finally we conclude on related outlooks for the development of organic farming.

We also worked to create a mapping and summary of all the running projects about organic farming in France and EU in 2010: more than 60 projects were identified and briefly described in this document. And last but not least, we are still working on a project in progress about organic farming reference framework (2010-2012), see Sautereau *et al.* paper here at IFSA.

3.2. Challenges and perspectives for the CTN

This network dynamics is on-going and a second phase was designed and validated by a steering committee. Four new thematic guidelines were defined in 2011 and launched in 2012: (i) by the end of 2012, we will design an approach and a tool to share scientific and technical references, (ii) the training offer related to organic farming will be gathered in a single place, (iii) a practices exchange group on organic farming, environment and local development will meet regularly and (iv) a seminar about life cycle analysis will be organised. These working groups are coming from and the following of the first phase of the network, they are responding to the demand of the partners.

For example, as for the topic on training in organic farming, the main aim consists in a better communication and visibility of the training offer. To reach this goal, the network will be reinforced with trainers in organic farming. First, we intend to examine what the needs of teachers and trainers are in organic farming, what is the present offer in training, what are the main pedagogical resources. Then we will build an internet portal with the “DévAB” CTN website and organize a seminar on this training issue in the end of 2012. This action concerns mainly teachers and trainers, as well as advisers and professionals working in certification. The first results show that there is a wealth of information on specialized websites such as “DévAB” CTN or ITAB (the Technical Institute of Organic Farming) which are used by trainers and advisers. Needs are not rather well-known, but we realize that the difficulties to teach or advise on organic farming are not mainly about technical issues but often about sociological aspects. It appears as difficult to change the students’ view point, even teachers’ one! The aim is to better identify the forms of knowledge to encourage and the pedagogic methods to develop. These outputs meet different target groups, from the farmers who look for more information to reassure them and to maximize their chances of success before deciding to convert their farm to the farmers who want to improve and go further in organic farming.

3.3. Critical eye upon this dynamic

The creation of the “DévAB” CTN occurred at the same time as the “Environment Grenelle”. This lead all the organic farming stakeholders to take this CTN into account. It also obliged the CTN to take into account existing networks and institutions in organic farming in France. Thus, the beginning of this CTN was rather hard in the French institutional context as this CTN was sometimes viewed as a competitor of existing initiatives. Six months were needed by its pilot to meet the main stakeholders, discuss with them and reach a consensus among all the partners. Even if the strained relations are not all solved, the CTN role is acknowledged and this is one of the main achievements.

The CTN has the development of organic farming in France as a focus area. This question was viewed at the articulation of innovation, technical, environmental and economic issues. This was quite innovative at the beginning of our work and it is confirmed nowadays as the environment becomes (or stays) a development issue itself, with the local food issue for example. Today, organic farming development also means a better recognition of the organic farming preoccupations in the whole society with subjects like the ecosystem services or organic farming as public goods, which were not treated anywhere else before the “DévAB” CTN choose to address them. Today, the common agricultural policy is taking this into account also for the next program.

Specific financial and human (like the pilot as seen above) resources were dedicated to the CTN during the first three years (2007-2010). This enabled to support the most involved partners, motivating them to participate in the suggested activities and projects, even if it was not the case for all the fifty formal CTN partners. But, as the second phase is on-going, the dedicated resources are reduced and only the coordination staff can be supported but not at the same level as it used to be. This lead to less implication from the main stakeholders and, since coordination is time consuming, a lower investment is anticipated. This is questionable because the given impulse is slowing down and the network needed this strong and dynamic coordination to be alive. Thus, the CTN is still a place to federate initiatives and discuss organic farming development or search for others agricultural models. The CTN still has this expertise mobilization potential but it is less solicited.

One of our main difficulties was with the “certification” of the projects proposed within a call from the French Minisitry of Agriculture. This was one of our activities as the CTN was also created to generate and direct to projects in OF&F. In fact, the projects were not really constructed inside the network, except for one of them RefAB (Sautereau et al., 2012), but they were more proposed to receive the CTN certification but the delay were quite short so the projects were only rapidly examined by the CTN steering committee and often supported. This function was not expected and the coordination team was not enough prepared to it. Was it our role? It was a kind of game where a balance must be found between sparing CTN partners and maintaining the credibility of the network… In order to be more effective and have more relationships with the projects leader, we are thinking of organizing a projects ideas speed dating this fall, in order to be more involved from the projects building and initial stages..

4. Conclusions and outlooks

Our CTN finally succeeds to share the points of view of a variety of stakeholders: farmers, researchers, trainers, extension actors and environmental stakeholders. It enables to question about the manner of presenting the information and addresses new themes such as OF and environment, economy.

It is also a neutral and open place of mobilizing, a catalyst for the development of Organic Food and Farming thanks to annual seminars. It allows the involvement of many partners on various topics. So we can consider it has attractiveness and functionality. It enables a work on forward-looking or exploratory issues, like farmers’ pathways towards organic farming. So we can say that thanks to these products and projects, the process is launched, and dynamics are on-going! But nothing is secured as yet concerning mid-term situation.

Our strengths are the division of roles between the partners of the CTN what is acquired, what is being debated is revealed; networking is now a skill for all the multi-institutional partners, with different levels of involvement. The “DévAB” CTN became a network of experts who exchange and has written productions (and successful ones!). The partners’ information is made through the website, the annual seminars, and the working groups. This has a structuring effect.

Some of our unsolved difficulties are that the CTN was totally new without any background so everything has to be built together in every work axes (innovation and OF, OF and environment, economic development of OF, integrated vision of OF development). The beginning was hard: the schedule was tight; each stakeholder has to understand the interest of such a network and to find the time to get involved. We can consider that 2 circles of partners exist: one is composed by the more involved partners, who are implied in projects; the second one is composed by other partners that come to have information and learn, not to contribute to projects.

This network needed and still needs a lot of energy to be driven to its goals. But this dynamic group was recognised as a useful network by the authorities in charge of its evaluation. It contributes to develop organic farming, both for newer and organic farmers.

Common rules and regulations imply that organic farming and food development issues are increasingly transnational issues. Other organization models surely exist, but we can suppose that some preoccupations might be shared. We now have the opportunity to change our scale of work, cross analyses, discuss viewpoints… Future work will focus on pending questions, such as: Which scales are relevant to address the OF&F development (territorial…)? What kind of

collaboration to start and foster? (Relationships between research, extension and training, their relative weight and contribution, within the scope of the CTN) Is there any forms of knowledge that should be given priority, and which form?

We are at the interface of these professional, institutional dynamics and knowledge mixtures! The idea is now to go-on with the food-processors sectors and maybe go further to reach the European level. Every willing country is welcome to join our initiative!

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Organic Farming has emerged as an important priority area globally in view of the growing demand for safe and healthy food and concerns on environmental pollution associated with the indiscriminate use of agro-chemicals. Though the use of chemical inputs in agriculture is inevitable to meet the growing demand for food in India, there are opportunities in selected crops and niche areas where organic production could be encouraged to tap the domestic and export markets.Â Through proper training and organization of farmers groups, some of the areas and crops with good market potential can be encouraged to go organic.Â Organic Farming Research in Karnataka â€“ Outcome & Lessons Learnt M.N. Sreenivasa. Organic farming is a method of crop and livestock production that involves much more than choosing not to use pesticides, fertilizers, genetically modified organisms, antibiotics and growth hormones. Organic production is a holistic system designed to optimize the productivity and fitness of diverse communities within the agro-ecosystem, including soil organisms, plants, livestock and people. The principal goal of organic production is to develop enterprises that are sustainable and harmonious with the environment. Adebiyi, Jelili Adegboyega, "Organic agriculture development strategies in Tunisia and Uganda: Lessons for African organics" (2014). Graduate Theses and Dissertations. 13932. https://lib.dr.iastate.edu/etd/13932.Â Chapter 6. organic agriculture development in uganda and tunisia: lessons for african organicsâ€¦â€¦â€¦ 160. Institutionalization and Sector Organizationâ€¦ .Â Tunisia has also recorded impressive achievements in this regard, a fact which became evident in the increase in export earnings of organic farmers over the years. In 2003, â‚¬3.3 million was earned by organic farmers from organic exports. Networking and cooperation between research and extension or farmers groups is crucial and to be promoted. Agenda setting by farmers and food business is more important than just more research dissemination. We therefore advocate a distinction between science-driven research and innovation-driven research in the motivation of research. Programming, farmer/business involvement and the role of the EU are quite different in both types (Table S1). By taking this difference in motivation into account, research policy and management could be improved. Organic farming is practiced around the globe, but the markets for sale are strongest in North America and Europe, while the greatest dedicated area is accounted for by Australia, the greatest number of producers are in India, and the Falkland Islands record the highest share of agricultural land dedicated to organic production. The following information is taken from the 2009 edition of the yearbook "The World of Organic Agriculture", published by the International Federation of Organic Movements...