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Prospects for Farmers' Support:
Advisory Services in European AKIS

AKIS and advisory services in France

Report for the AKIS inventory (WP3) of the PRO AKIS project

May 2014

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Executive summary

The main aim of the report is to provide a comprehensive description of the Agricultural Knowledge and Information System (AKIS) in France, with a particular focus on agricultural advisory services. The description includes history, policy, funding, advisory methods and a section on how the Farm Advisory System (FAS) was implemented.

This report represents an output of the PRO AKIS project (Prospects for Farmers' Support: Advisory Services in the European Agricultural Knowledge and Information Systems'). It is one of 27 country reports that were produced in 2013 by project partners and subcontractors for compiling an inventory of Agricultural Knowledge and Information Systems. AKIS describe the exchange of knowledge and supporting services between many diverse actors from the first, second or third sector in rural areas. AKIS provide farmers with relevant knowledge and networks around innovations in agriculture. Findings from the 27 country reports were presented at three regional workshops across Europe in February and March 2014, discussed with stakeholders and experts, and feedback integrated in the reports.

France is a rather important country at the European scale regarding agriculture, in terms of agricultural area, number of farms, or production and exports. The agricultural sector is highly productive, and is an important contributor to the French trade surplus together with the agri-food industry. Thus, AKIS investments and activities aim at supporting the performance of the sector but also at tackling the challenges associated to the reduction of its environmental and sanitary impact. But they also deal with the issues associated to rural development, such as the maintenance of landscape, and the contribution to services and social cohesion in rural areas.

An important feature of the French AKIS is that its governance is characterised by a long history of institutional arrangements between the state and farmers' associations. French AKIS is also characterized by very strong formal and informal interactions between the different actors of AKIS. These actors include applied research institutes, chambers of agriculture, farmers' cooperatives...and a series of third sector organisations that fulfil different functions within the system (experimental stations, advice, training...). An important dimension of the system stems from the fact that many of these actors are associations which their boards contain representatives of research, public administration and farmers' organisations. Advisory services are provided to farmers by a diversity of organisations: chambers of agriculture, farmers' associations, farmers' cooperatives, private consulting companies... but also upstream and downstream industries.

Public support for the AKIS is still important, but has changed from co-management towards more contracting and delegation of services. This support consists of both institutional mid-term funding to key actors of the system (applied research institutes, chambers of agriculture), and competitive calls. Overall, the funding of AKIS and agricultural advisory services combines different sources (regional and provincial funds, farmers' contributions) and forms. It includes calls that aim more and more at supporting innovations and at enhancing the connections between AKIS organisations, so they can be of benefit to the users. If the positive effects of these interactions are highlighted in many sectors, there are some discussions about the lock-in effects that such public-private partnerships could induce, and about the blind spots that persist within the system (e.g. access of small farms and farm workers to services, integration of health issues in advice...).

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List of Acronyms

AA	Agricultural Area
ACTA	Le réseau des Instituts des filières animales et végétales
ACTIA	Association de Coordination Technique pour l'Industrie Agro-Alimentaire
AFIP	Association de Formation et d'Information Pour le développement d'initiatives rurales
AFOCG	Associations de Formation Collective à la Gestion
ANDA	Association Nationale de Développement Agricole
AKIS	Agricultural Knowledge and Innovation System
APCA	Assemblée Permanente des Chambres d'Agriculture
ASAVPA	Association de Salariés Agricoles pour la Valorisation et la Promotion des métiers Agricoles
CAP	Common Agricultural Policy
CASDAR	Compte d'Affectation Spécial du Développement Agricole et Rural
CEL	Conseil Elevage
CER	Centre d'Economie Rurale
CETA	Centre d'Etudes des Techniques Agricoles
CGAAER	Conseil Général de l'Alimentation, de l'Agriculture et des Espaces Ruraux
CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement
CIVAM	Centres d'Initiatives pour Valoriser l'Agriculture et le Milieu rural
CNMCCA	Confédération Nationale de la Mutualité, de la Coopération et du Crédit Agricoles
CNRS	Centre National de la Recherche Scientifique
CP	Confédération Paysanne
CR	Coordination Rurale
CUMA	Coopérative d'Utilisation du Matériel Agricole
DGER	Direction Générale de l'Education et de la Recherche
DGPAAT	Direction Générale des Politiques Agricole, Agroalimentaire et des Territoires
EIP	European Innovation Partnerships
EPST	Établissement Public à caractère Scientifique et Technologique
ESITPA	Ecole d'ingénieurs en agriculture
EU	European Union
FAS	Farm Advisory System
FBO	Farmers' Based Organisations
FCEL	France Conseil Elevage
FNA	Fédération du Négoce Agricole
FNDA	Fond National de Développement Agricole
FNGEDA	Fédération Nationale des Groupes d'Etudes et de Développement Agricole
FNSEA	Fédération Nationale des Syndicats d'Exploitants Agricoles
GAB	Groupement d'Agriculture Biologique
GDA	Groupe de développement agricole
GDS	Groupe de Défense Sanitaire
GIS	Groupements d'Interets Scientifiques
GSP	Gross Standard Production
INRA	Institut National de la Recherche Agronomique
INSERM	Institut National de la santé et de la recherche médicale
IRD	Institut de Recherche pour le Développement
IRSTEA	Institut de Recherche en Sciences et Technologies pour l'Environnement et

	l'Agriculture
ITA	Instituts Techniques Agricoles
ITAB	Institut Technique de l'Agriculture Biologique
JA	Jeunes Agriculteurs
MODEF	Mouvement de Défense des Exploitants Familiaux
MRJC	Mouvement Rural de Jeunesse Chrétienne
ONEMA	Office National de l'Eau et des Milieux Aquatiques
ONVAR	Organismes Nationaux à Vocation Agricole et Rurale
PCIA	Pôle du conseil Indépendant en Agriculture
RMT	Réseau Mixte Technologique
TATFNB	Taxe Additionnelle à la Taxe sur le Foncier Non Bati
UMR	Unité Mixte de Recherche
UMT	Unité Mixte Technologique

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1. Main structural characteristics of the French agricultural sector¹

A first major trend in the evolution of French agriculture is the significant decrease in the number of farms. There were more than 600 000 farms in 2000; today there are 490 000, which is 26% fewer in the space of 10 years (Agreste Primeurs 2011_272). This decrease is not homogeneous across the whole territory: it is higher around urban areas (31% fewer farms in these areas). The farmers' population grows older much the same as the national working population: 19% of farmers are younger than 40 years old, 59% are between 40 and 65, and 12% are older than 65 years. The educational level has increased: 34% of farmers have education degrees above high schools whereas there were only 18% in 2000.

There is an ongoing change towards the specialisation of farms and the growth of their economic size (Agreste 2011_272). The decrease in the number of farms has indeed affected small and medium farms (with less than 100 000€ of standard gross margin) both in terms of area cultivated and of economic size² (see figures 2 and 3 in appendix). The number of bigger farms (either above 100 hectares or above €100 000 of gross standard production) has increased. The total area cultivated by the biggest farms (above 100 ha) has also increased by 15%: they are now cultivating about 60% of the total area cultivated in the country. This evolution in farm size is associated to transformations of farm models, where farmers tend to externalize some of their farming activities to private enterprises (Anzalone 2012), and where the farms are more and more specialised. If there is a decrease in the number of farms that specialise in animal production, and moreover of farms mixing animal and plant production, then the number of farms specialising in arable production increases (more than 25% of total). As a result, specialised farms concentrate a bigger and bigger share of the production: 44% of the areas sown in cereals were cultivated by farms which specialised in this type of production. This concentration is even greater for milk production: there were less than 90 000 farms producing milk in 2010 compared to 150 000 in 1995. The average production volumes per farm have sharply increased (France agrimer 2011).

The transformations are less spectacular for the cultivated areas. With about 27 million hectares, the agricultural area (AA) has decreased by less than 3% since 2000. This decrease is higher in areas under urban influence (around 6%). There is a great stability of land use pattern: 60% of AA is arable land (among which more than 30% of cereals) and 30% is permanent grassland (see figure 4 in appendix).

970 000 people are working on the farms (without considering non permanent workers³). Besides the diminishing numbers of farm holders, two trends can be noted: the implication of spouses and family labour is decreasing sharply whereas the number of salaried people remains almost constant (with about 150 000 people). The number of seasonal workers is not well monitored and certainly underestimated (Laurent 2013). Agriculture represents a little under 3% of the total

¹This section is based on the results of the national agricultural census carried out by the Ministry in 2010, and published in the different journals of the statistics department of the Ministry: Agreste Primeurs and Alim'Agri.

²In France, a small farm is a farm in which gross standard production is above 25 000 euros. An intermediate farm has a GSP between 250 000 and 1 000 000 euros, and a big farm above 1 000 000 euros.

³ This figure does not include non permanent workers and people working on the farm but employed by another entity.

employment in France. Despite the decrease in the number of farms, it continues to play an important role in rural areas and rural development, for instance through farm diversification (involving 57000 farms and more than 70000 people), tourism (13800 farms) or through the production of renewable energy (7000 farms). 90 500 farms are involved in short supply chains (Agreste Primeur 2013_302). Many farms produce under quality labels (for instance 13 000 farms among the 90 000 producing milk) (Barry et al. 2012).

Organic farming represents 3.5% of farms and 3% of the agricultural areas (Alim'Agri 2012_26).

Beyond employment, agriculture is still an important sector in France, in particular through its contribution to the agri-processing industries. It contributes to about 3% of the gross domestic production. Together, agriculture and agrifood represent an added value of about 60 billion euro, and both of these sectors are very important for the commercial balance of the country (Alim'Agri 2013_26).

The reduction of the impacts of agriculture on environment and health is also a major issue for the country, which is still characterised by a high level of consumption of pesticides and high level of exposure to pesticides of both agricultural population and consumers (Guérin 2013).

In total, the hierarchy of objectives of AKIS might reflect the importance of agriculture for the country: firstly combining productive and environmental objectives, along with the guarantee of food safety. Secondly, there are objectives for supporting the development of new services in rural areas. Thirdly, there are social cohesion issues (see figure 5 in appendix, adapted from Renting et al. 2005). A good illustration of this priority of the French agricultural policy can be found in the modalities of application of the Common Agricultural Policy (CAP) (European Commission 2013). Rural development (2nd pillar) accounts for 10% of the total expenditure in France (23% in average for EU-27) and first pillar measures for 80% (68% in average for EU-27) (figure 6 in appendix).

2. Characteristics of AKIS

The AKIS in France is characterised by public investments at a national scale in various research and education organisations, and by arrangements and contracting with farmers associations, non-profit organisations and private actors for advisory services and applied research.

2.1 Key actors

(see figure 1 and table 1 in appendix for a non exhaustive list)

Universities: There are no agricultural faculties within French universities, even though some of these have departments which specialise in rural sociology or geography. Besides universities, there are 21 engineers' schools which train about 16000 students every year in the fields of agronomy, food sciences, environment, landscape management, veterinary sciences or animal health. They employ more than 2500 people, of which 1000 are teachers. These schools are spread all over France and they have different statuses: 13 public schools and 6 private schools, all under the supervision of the Ministry in charge of Agriculture. One school has a special status: it is under the responsibility of the Chambers of Agriculture (ESITPA, in Rouen).

Research Institutes: there are two main public research institutes involved in the agricultural sector in France, along with 15 private non-profit applied research institutes.

- The *French National Institute for Agricultural Research (INRA)* is a public research institute⁴, employing 8500 people (and 3000 people under short-term contracts among which 530 are PhD students) distributed between 17 regional centres and 13 research departments⁵. The total budget was 839 M€ in 2012, among which 78% came from the public institutional funding from the French government, 15% from competitive calls (among which 20% came from Europe). 6 transversal programmes were recently created to support synergies between departments on the following themes: Adaptation of agriculture and forests to climate change, Diet impacts and determinant, Genomic selection, Integrated management of animal health, Metaomics of microbial ecosystems and Sustainable management of crop health.
- The *National Research Institute of Science and Technology for Environment and Agriculture technologies (IRSTEA)* has the same status as INRA⁵. Its research covers three domains: water management, land use and territorial management, and agricultural technologies and equipment. The total budget is 115 million Euros. It has 1750 employees, distributed in 19 research centres, among which 700 are researchers and engineers, and 250 are PhD students. IRSTEA has many partnerships with industries (including 130 contracts with private firms), and owns a firm incubator that generates a new firm every year.

⁴ Établissement public à caractère scientifique et technologique (EPST)

⁵ Animal Genetics, Animal Health, Animal Physiology and Livestock Systems, Applied Mathematics and Informatics, Environment and Agronomy, Forest, Grassland and Freshwater Ecology, Microbiology and the Food Chain, Nutrition, Chemical Food Safety and Consumer Behaviour, Plant Biology and Breeding, Plant Health and the Environment, Science and Process Engineering of Agricultural Products, Science for Action and Development, Social Sciences, Agriculture and Food, Rural Development and Environment.

- Other research institutes are involved in research dealing with agriculture: *CIRAD* (*Agricultural Research for Development*) and *IRD* (*Institut de Recherche sur le Développement*), which both play a very important role for agricultural R&D in French overseas areas⁶, the *French National Institute of Health and Medical Research (Inserm)*, for research on health related issues, and the *National Center for Scientific Research (CNRS)*, for research on environmental and agro-ecological questions.
- *The Agricultural Technical Institutes (ITA)* are private non-profit research organisations. There are 15 institutes and 6 associated organisations. These institutes are specialised according to production sectors (pork, poultry, ruminants, wine, fruit and vegetable, cereals, horticulture, etc.) and are spread over the whole territory. These “technical institutes” are qualified as such every 5 years by the Ministry in charge of agriculture, following a quality procedure and an evaluation by an independent committee. In addition, 6 other technical institutes directly work under the aegis of their Institute of affiliation among the 15 “qualified Institutes”. Their activities include applied research, scientific and technical monitoring, experiments, innovation support, expertise, technical assistance and knowledge transfer (training and dissemination). These activities are decided by representatives of farmers’ associations and stakeholders of the supply chains and of agri-food industries: the boards of the institutes are mainly composed of representatives of farmers’ associations and their presidents are farmers. The ITA employ about 1500 people altogether, among which 1200 are engineers and technicians in one of the 100 regional centres. The funding (more than 180 million euro per year) of these institutes combine different sources: a fiscal levee monitored by the Ministry in charge of agriculture (37%), other subventions from the Ministry (13%), farmers’ contributions (27%). The remaining funds come from the supply of services and training, from editing activities, from research projects (national or international calls). It should be noted that there are strong differences in size and activities between the 15 ITA. The technical institute for organic agriculture (ITAB) has recently been recognised as one of the 15 ITA. There is a coordinating association for the 15 ITA: ACTA, the head of Network, which handle activities on cross-cutting issues, and ensures monitoring activities for the 15 ITA, for instance about EU regulations and calls for project, as well as networking or training.

(Professional) Advisory services: There are hundreds of very diverse organisations (chambers of agriculture, associations, private firms...) specialised in the supply of services, employing over 20000 employees involved in providing advice (see section 4).

Farmers’ unions: there are five farmers’ unions: *the National Federation of Farmers’ Unions (FNSEA)*, *the union of young farmers (JA)*, *the Peasant’s confederation (CP)*, *the Rural Coordination (CR)* and *the MODEF*. The money allocated to these unions by the state depends on their results in the elections of the chambers of agriculture (the last vote was carried out in 2013). The FNSEA merges 20000 local farmers’ unions and claims a total of about 320000 members⁷. FNSEA has won the election in 89 of the 94 of the chambers of agriculture in 2013.

⁶Such as Guadeloupe, Martinique, French Guiana, Réunion, Mayotte.

⁷A farmer is considered as a member of FNSEA unless he claims the opposite.

There are also 22 regional federations, 34 departmental⁸ ones, and 38 specialised by products (milk, wheat...). The federations at the different levels employ staffs that offer various services to farmers. The JA had more than 50 000 members in 2012. The CP represents about 10000 farmers. Beyond local operations, its national federation has about 15 employees who ensure monitoring on different regulations and coordinate national commissions, open to departmental federations on different products (dairy, pork, vegetables...) or transversal themes (land, social issues...). The CR has won the elections in four departments (one in coalition with the CP).

The four main farmers' unions (FNSEA, JA, CR and CP), together with the chambers of agriculture and the National Confederation of Reciprocity, Cooperation and Agricultural Credit (CNMCCA) have signed a convention to settle a mutualised insurance fund for *farmers' training* (VIVEA). It has 1800 elected members and 76 employees distributed all over the national territory, who coordinate the distribution of the funds (about 20 million Euros) to various training programmes. In 2012, 630000 people contributed to the VIVEA fund and 110000 benefited from training. The training programmes, financed by VIVEA and beyond, are implemented by various organisations: private companies, chambers of agriculture...

Support System: the organisations that supply inputs to farmers (cooperative and private companies) are major actors of the provision of advisory services and of R&D investments in the French agricultural sector (see section 4 for more details).

Education: There were more than 800 schools in 2012 (200 public and 600 private) in technical agricultural education, with more than 170000 students. Some curricula enable students to carry on in higher education (master degrees in agricultural colleges).

Public administration: beyond the financial support and monitoring of the Ministry in charge of agriculture to the actors of AKIS (see section 2.2), the state is also active through FranceAgriMer, a national public establishment monitoring the distribution of national and EU subsidies, enhancing consultation within supply chains, and diffusing information about markets. In that respect, it provides many studies, follows price- or commodity monitoring, and diffuses the information within 11 specialised committees (cereals, oilseeds, sugar, cattle, poultry, dairy, wine, fruits and vegetable, horticulture...). 15% of its resources (1350 people, including 450 at regional level) are aimed at generating knowledge about markets.

2.2 Policy framework, governance and coordination structures

The support of AKIS organisations accounts for about 28% of the total budget of the Ministry in charge of agriculture, which is close to 5 billion Euros. The public involvement in AKIS takes three major forms.

- The first one consists of the funding of public organisations of the AKIS, mainly the research institutes (€55⁹ million for INRA and €15 million for IRSTEA) and the various agricultural colleges (close to €200 million). This funding covers mainly the salaries of the civil servants working in these organisations.

⁸French administration has two main geographical levels: regions (nuts 2 level), departments (nuts 3 level). There are 21 regions and 94 départements in French metropole.

⁹ All the figures indicated for budget are planned initial budgets.

- The second form of funding is targeted towards various non-profit organisations that provide advisory services and/or implement applied research projects for the agricultural sector, thanks to a "special account"¹⁰ of the Ministry in charge of agriculture: the Special Account for Agricultural and Rural Development (CASDAR). The CASDAR is fed by a tax on agricultural gross income, with a fixed share of €90 per farm, and a variable share¹¹, with a total amount of about 110 million euros per year.

The CASDAR expenditures are found mainly¹² in funding schemes (about 12% of the budget), and in institutional funding. The funding schemes are divided into a diverse range of calls that may imply different actors: a call for "*innovation and partnerships*", a call for "*finalised research*", a call for "*collective action for agro-ecology*" (targeted towards farmers' circles willing to adopt "agro-ecological" practices), "Joint Technological Networks" (*Réseaux Mixtes Technologiques* - RMT). It is compulsory within RMTs to associate a diversity of organisations within the project consortiums: research organisations and applied research institutes or advisory organisations. Each call is monitored by a scientific committee (see section 4.5 for more details).

The institutional funding mostly benefits four networks of private or non-profit organisations: Agricultural Technical Institutes (ITA, about €43 million), chambers of agriculture¹³ (€40 million), farmers' cooperatives (Coop de France, 3 million Euros), and the 8 Organismes Nationaux à Vocation Agricole et Rurale (ONVAR, 3 million Euros). This funding follows a logic of pluri-annual contractualisation. Each organisation financed by CASDAR has to provide a pluri-annual plan that must be validated by the Ministry in charge of agriculture, on the basis of its coherence with the objectives of the National Plan for Agricultural and Rural Development written by the Ministry in charge of agriculture. The Ministry established a scientific and technical committee (mixing researchers, civil servants and practitioners) that ensures a follow-up for each pluri-annual plan.

Besides this institutionalised support to AKIS, there are other public initiatives that we cannot list exhaustively here, including interventions from local authorities such as regions. For instance, different regions have recently set up some vouchers systems, like the Aquitaine region to support organic farmers' demands for services¹⁴. The departmental administrations often also have contracts with local organisations (chambers of agriculture...), for specific projects.

Another important project was connected to the French implementation of the EU regulation aimed at drastically reducing the amount of pesticides used in French agriculture. Following a major national consultancy on environmental issues (Grenelle de l'Environnement in

¹⁰ "Special accounts" (Les comptes d'affectation spéciale) concern financial operations related to specific incomes that are by nature targeted towards specific expenditures. There are very few of such accounts (less than 8), which are characterized by a level of independency vis-à-vis the global budget of the state: contribution from the global budget cannot exceed 10% of the special account, and the special account can not be used to feed the global budget of the state.

¹¹ 0.19 % of the gross income until €370 000, and 0.05 % beyond

¹² The remaining funds is dedicated to the monitoring (0.5 million euro), and for flexibility for R&D on unplanned questions that may arise (2.4 million), and for the management of genetic resources (10 million euros) there is a fund of €10 million for supporting experiments in the line of the questions emerging within supply chains. This fund is monitored by FranceAgriMer.

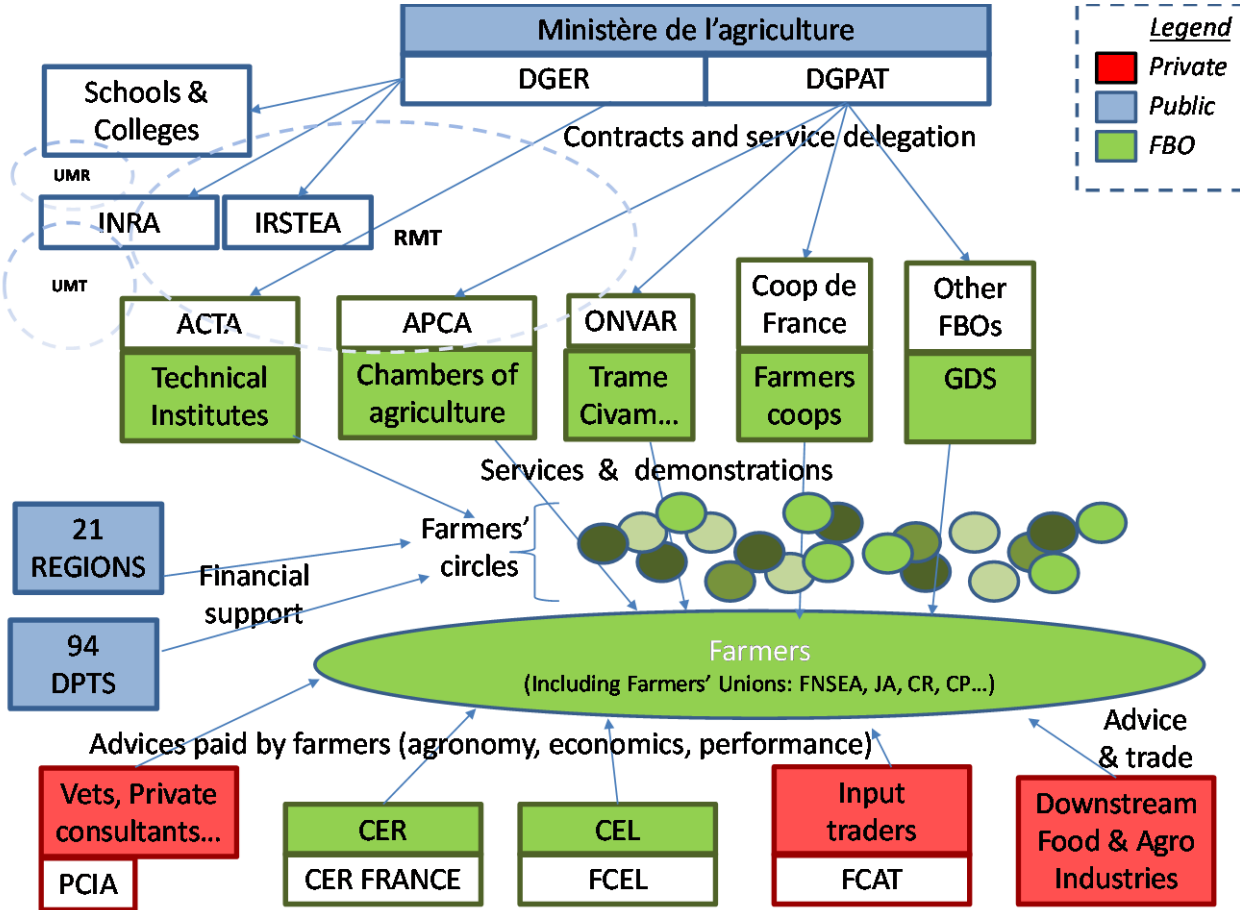
¹³ Chambers of agriculture also benefit from a tax on agricultural land, which is their main source of funding.

¹⁴ <http://les-aides.aquitaine.fr/article688.html>

2008), the state has established a national plan: Écophyto 2018¹⁵, where the production of knowledge and the diffusion of information regarding the low use of pesticides are key elements. This plan represents a major investment, relying mostly on a tax on pesticides monitored by the National Office of Water and Aquatic Systems (ONEMA). Among the 9 axis of the program, there are three major operations in this project: an information system to warn farmers about pest diffusion (7000 regional bulletins edited in 2012), the creation of network of farms that produce results about the effectiveness of practices enabling pesticide reduction (1950 farms in 2012) together with a network of 140 experimental stations, and a training and certification system about pesticides use for farmers and advisors (350000 certificates were awarded in 2012).

- The third form of intervention of the state is in the settlement of institutions and procedures for the planning of applied and finalised research, involving stakeholders, for instance through the participation of farmers to the board of research institutes or within some Groupements d'Interets Scientifiques (GIS) (see section 4.5 for more details).

Figure 1. AKIS diagram in France (source: the authors)



¹⁵ <http://agriculture.gouv.fr/ecophyto>

3. History of the advisory system

The evolution of the financing and management of advisory services in France is embedded in the history of the relationship between the state and farmers' unions (Cerf and Lenoir 1987, Labarthe 2006). This is embodied, since the early 1960s, in key role played by the chambers of agriculture, in which boards of elected farmers chair advisory services which are financially supported by public funds and targeted towards public missions. Thus, this system was described as a system of co-management of services, following Rivera's typology (Rivera 2000). Nevertheless, there is a progressive shift towards a strategy of delegation of services and contracting. This can be illustrated in the history of CASDAR, the national fund for agricultural advisory services and applied research. From 1960 until 2006, this fund used to be called the National Fund for Agricultural Development (FNDA). This fund was fed by a tax on agricultural commodities (so-called "*para-fiscal*" tax, consisting of a percentage taken on the first trades of milk, wheat...). The allocation of this fund, mainly to applied research institutes (ITA) and the chambers of agriculture, was negotiated between the State and farmers' unions within a dedicated institution: the National Association for Agricultural Development (ANDA), where the farmers' unions, elected at the chambers of agriculture (FNSEA), and of the Ministry in charge of agriculture were equally represented. This institution faced a growing crisis from the 1970s onwards. In 1999, a very critical report by the institution monitoring public expenditure in France ("*Cour des Comptes*") emphasised three main weaknesses which called for the dissolution of ANDA in 2006 (Evrard and Vedel 2003):

- the lack of transparency in the distribution of FNDA money and the lack of evaluation of its effectiveness;
- the low diversity of the stakeholders involved (e.g. in terms of farmers' unions¹⁶);
- the inability of ANDA to redirect the actions implemented towards public interest issues, e.g. the integration of environmental issues.

As a result, three major changes were implemented:

- 1) The funding system was reformed: it is no longer a tax on agricultural commodities trade, but a tax on farmers' gross income; and the global amount of the tax has decreased (see figure 7 in appendix).
- 2) ANDA was shut down in 2005. The FNDA was replaced by the CASDAR, a special account of the Ministry in charge of agriculture. There is no longer a co-management of the monitoring of the fund. It has been replaced by a procedure of contractualisation between the state and the beneficiaries of the contracts (pluri-annual contracts).
- 3) There were some efforts for diversifying the beneficiaries of the policy. Firstly, some of the funding (about 10%) was converted into competitive funding schemes. Secondly, the funding of new actors, such as non-profit organisations promoting alternative trajectories or rural development, was institutionalised by their acknowledgment as "*Organisme Nationaux à Vocation Agricole et Rurale*" (ONVAR).

¹⁶The FNSEA was the only farmers' union allowed to chair at ANDA.

This reform has affected the diverse actors of AKIS and advisory services. For the chambers of agriculture, a major change stems from the fact that their mission was gradually reoriented towards new themes such as environment, local development, territorial issues... As a result, they provide less advice on technical or economical issues (see figure 8 in appendix). The second consequence was the emergence of networks between the alternative federations of non-profit organisations (ONVAR), which has more visibility in the system but has to comply with the procedure of proposing pluri-annual plans to the Ministry in charge of agriculture in a context of reduction of public expenditure. Another major trend lies in the growing importance of organisations supplying inputs to farmers (mainly farmers' cooperatives). There has been major restructuring of these organisations, with many mergers, and the creation of R&D units. An example of this is INVIVO, a union of cooperatives created in 2001, which regroups 241 cooperatives today, has a turn-over of €5.7 billions, and invests massively in R&D.

4. The Agricultural Advisory Service(s)

This section was rather complex to explain, given the high degree of diversity and plurality of advisory services suppliers. The methodology (see section 7 for details) combined different sources of information, including bibliographic (written documents and websites), interviews with experts and an online survey. It was estimated in different reviews that there were about 20 000 people active in advisory services in 2004, and that this figure is rather stable (Vedel 2006, CGAAER 2014). Even though it was not possible to collect figures for all types of suppliers, we tried to sketch the advisory environment of farmers and to have an overview of the respective resources of different types of advisory organisations. A first attempt of such an overview is presented in table 2 in appendix.

4.1 Overview of all service suppliers

An initial very important group of stakeholders for the provision of advisory services and information to farmers are the organisations in direct contact with farmers for **the supply of input or the purchase of agricultural commodities**. There are two types of organisations providing such services: farmers' cooperatives or private traders. The evaluation of the number of advisors within such organisations is difficult. A first reason is the speedy reorganisation of this sector, especially for cooperatives. Another reason for this uncertainty is that the role of their field workers might be ambiguous and variable, between marketing or the provision of information on input/outputs' trade and the actual supply of advisory services on agronomic issues. Nevertheless, there are some indicators of the importance of such organisations. The federations of farmers' cooperatives (Coop de France) and the federation of input traders (FNA) claimed in their last overview to have more than 7500 (Coop de France 2013, data from 2006) and 2600 people working in the field of advisory services (FNA 2013). Even though these statements are difficult to validate, other sources of information tend to confirm that such organisations are the farmers' initial partners for accessing technical information, as a survey in the Region Rhône-Alpes (Mundler *et al.* 2006 and figure 9 in appendix). Recent research (Vargas 2013), based on the study of six major cooperatives (that have 57900 members in total, which represents more than 10% of French farms, and more than 700 advisors), shows the strategic role of advisory services for these cooperatives. First, they have signed a charter that sets the ethics and methods for their advisors (Coop de France 2006). Secondly, they invest both in front-office¹⁷ (the number of clients per advisor decreases, with less than 80 on average) and in back-office, with the creation of R&D units (see also Pinel 2012 for the example of the cooperative Terrena). Advice appears to be an important dimension of their economic activity and of their relations with farmers. These services are partly charged separately from the commercial transactions of inputs or outputs. Some of these cooperatives are grouped under an umbrella organisation, INVIVO, which is a major player within agricultural R&D nowadays.

¹⁷ The front-office of the advisory services stands for the direct interactions between the advisors and the beneficiaries of the advice. The back-office corresponds to R&D, scientific monitoring and all the activities guaranteeing that farm advice will be based on the best possible evidence in each particular situation (Labarthe *et al.* 2013).

Dowstream industries can also be key actors of advisory services (agro-food industries), even though there are strong differences between sectors, and a clear lack of information about the development of such services. In certain supply chains with high levels of vertical integration (milk, poultry...), some firms have created important advisory service departments, such as, for instance, McCain for potato production in north of France (Tschuisseu and Labarthe 2013).

A second major actor are the **chambers of agriculture**, which are present at different geographical levels: national (the umbrella organisation *Assemblée Permanente des Chambres d'Agriculture* - APCA, with 200 employees), regional (the 21 regional chambers of agriculture, with 335 employees) and departmental (the 94 departmental chambers of agriculture, with 7300 employees). 73% of the employees are engineers or technicians involved in advice or R&D activities. The chambers are consular organisations: they are chaired by a president (farmer), and a board of farmers' representatives (4200 elected farmers belonging to different unions), who nominates the chamber's director. But they are mainly subsidised by public funds and are endorsed with public missions. They combine different sources of funding: a local tax on "non-built" land (onaverage 50% of the funding of chambers), subsidies from the Minsitry in charge of agriculture (CASDAR fund, about 17% of total funding), contracts with local authorities (regions, departments), and the purchase of services by farmers. The domains of intervention are the following: individual business advice for farmers (commercial strategy, organisations, investment in equipments), agronomic and environmental advice, territorial and local development, compliance with regulations (standards, subsidies, application forms...), quality of products (standards...), and the monitoring of intangible resources and databases. Some of these services are mandatory missions associated with the delegation of service from the Ministry. The chambers of agriculture also hold a training centre (Resolia, 23 employees), and an agricultural private college (ESITPA, 52 employees).

A third group of actors is composed of various farmers' associations that provide services to their farmers.

Some of them have been grouped under the term of **Organismes Nationaux à Vocation Agricole et Rurale (ONVAR)**, and are more oriented towards rural development. The ONVAR are somenational umbrella organisations of local non-profit organisations and/or provincial federations of farmers and workers. They are often grounded in collective and participatory approaches so as to promote alternative farming practices or models of farm management. They are mixing different sources of funding: public subsidies (including CASDAR), farmers' contributions, projects, and purchase of service by clients (training, advice...). The main ONVAR that actually provide advisory services to farmers are:

- the federation of *Centres d'Initiatives pour Valoriser l'Agriculture et le Milieu rural (CIVAM)*, which represent 135 farmers' groups (10000 members) run by 107 advisors with the support of a national federation employing 6 people. The main themes of theadvisory services are: low input agricultural production systems, localised agri-food systems, exchanges within rural communities, and economic and social activities and networks in rural communities;
- *TRAME*, a network of federations, mainly the federation of agricultural workers (ASAVPA, 6000 members and 50 technicians) and the federation of farmers' groups for agricultural

Development (FNGEDA). The later includes more than 40000 members distributed in 1200 groups. These groups can be connected to the chambers of agriculture (Groupe de développement agricole, GDA, often supported by chambers' advisors), or can be independent, as the Centre d'Etudes des Techniques Agricoles (CETA), where advisors are paid by farmers' contributions.

- the *Associations de Formation Collective à la Gestion (AFOCG)* merge 2000 farmers who share the willingness to benefit from life-long learning collectives based on discussion groups about management and socio-economical issues, with the help of 35 local agents and 4 employees at the national level in an umbrella organisation (Inter-AFOCG);
- *l'Association de Formation et d'Information Pour le développement d'initiatives rurales (AFIP)* is 6 regional associations facilitated by about 20 agents with knowledge on rural development, land planning, sociology, educational and projects methods;
- Other ONVAR are dedicated to the support of certain social groups or firms, like *GAEC & Sociétés* for collective farm structures (8 employees) or the *Mouvement Rural de Jeunesse Chrétienne (MRJC)* dedicated to young people (15000 members, 80 employees).

There are two other federations of **non-profit organisations** (not subsidised by CASDAR) that play a key role in the provision of services for farmers, in the field of advice related to the technical and economic performance of farms:

- The first network is *CERFrance*, a network of 70 farmers' associations providing bookkeeping services and advice to 182000 farmers (and 63000 other SMEs essentially in craft industry), thanks to 12000 employees, among which there are 6300 accountants and 1300 advisers. These associations were established 50 years ago. They are independent organisations that benefit from the support of a national federation (17 employees) involved in networking, training and foresight. More than half of the funding comes from members' contributions, and 25 % from the sales of services. There are no formal agreements with public actors beyond specific contracts related to the production by CERFrance of *ad-hoc* data bases for the Ministry in charge of agriculture, mainly about farms' economic performance indicators (CERFrance is also a key actor of the FADN system in France). Despite the decrease in the number of farms, the activity (both in terms of employees and gross income) is still increasing, due to a diversification, not only towards new clientele outside agriculture, but also thanks to the diversification of services for farmers. As a result some associations CER have locally invested in agronomic advice (both for back- and front-office);
- *France Conseil Elevage (FCEL)* is a network established in a similar way to CERFrance. It is also a very old network (its history dates from the beginning of the 20th century). It is composed of farmers' associations (with different status: unions, associations...), which former aim was not the provision of advice but rather the measurement and monitoring of the performance of animal production (amount of milk produced per cow and weight growth rate for meat cattle), so as to support genetic selection. Today, such organisations are diversifying their activity towards more and more advice, on animal feed, milk quality, reproduction, economic performance, fodder production and even fertilization. There are about 70

associations for milk production, with 1250 advisers and more than 45000 members (66% of dairy farms and 82% of milk production); and also 70 for meat cattle (with 230 technicians). The associations do not benefit from public subsidies: they are financed by farmers' contributions that cover basic services. Extra advice is billed individually. The associations are independent but benefit from the support (for networking, training...) of the 10 employees of the national federation. This federation is also involved in research projects and in the maintenance (with applied research institute and the Ministry in charge of agriculture) of a data base on milk production that supports the national system and procedures of genetic selection for animal production;

- Another active actor is the federation of the 11500 *Coopératives d'Utilisation du Matériel Agricole (CUMA)* that represents more than 220 000 members. Their primary aim is to organise a collective and shared utilisation of agricultural machinery among farmers. These cooperatives benefit from the support of 350 employees within regional federations, among which there are 150 advisers (and 150 bookkeepers) who offer services such as individual and group advice, experiments, demonstrations (trials with constructors...), training and methodology.

A last group of actors are **private advisory companies**. At the moment there are only a few of these firms in existence. Some of them have recently created a national association (*Pole for Independent Agricultural Advice - PCIA*) that gathers about 20 firms creating a total of between 50 and 60 advisers (who share a few thousands clients); and advocates for independent companies that "only sell knowledge". Some of these firms are individual consultants, other are SMEs with 5 to 10 consultants. Most of them are based on the provision of agronomic advice for arable farming or horticultural or wine production. We have to acknowledge here that we have less data about private consultants for animal production, where veterinarians may play the role of advisor. Veterinarians are for instance in charge of implementing a compulsory sanitary diagnostic¹⁸ of each farm every two years, which is an important source of advice for farmers. Also we could not check whether private independent bookkeepers offer advice to farmers, and if so, to what extent. Another new field of service is the development of companies selling software to farmers, such as ITK or ISAGRI, European leader of the market, with more than 150 employees, and a network of farmers for peer-to-peer diffusion (Tupperware model, Labarthe *et al.* 2013).

Beyond this case of private advisory companies, **we have to acknowledge the different limitations of the study** as we could not assess the development of services for certain segments of clientele, for certain actors, or for certain domains of agriculture.

As mentioned earlier, we had difficulty assessing the advisory services for animal production, where the supply might be more fragmented. The experts that we interviewed mentioned that producers' organisations, farmers' groups and the dairy industry are key actors. It should be noted that sanitary issues, such as the prevention of disease and contamination, play a key role in this sector. This is for instance the case of the *Groupe de Défense Sanitaire (GDS)*. There is one GDS in each French department, with the aim of monitoring animal health and preventing sanitary risks thanks to advice provided by veterinarians on vaccination, hygiene, and

¹⁸ <http://agriculture.gouv.fr/visite-sanitaire-bovine>

practices. The GDS benefit from a contract with the Ministry in charge of agriculture in that respect. A large majority of farmers are members of GDS, but we could not collect information about their farm advice activities. It was estimated that the equivalent of 240 advisors are active in GDS (CGAAER 2014, p. 99). More globally, there is a need to understand better how exactly farmers and agricultural workers have access (or not) to information on the work safety related to pesticides use.

We didn't collect information about the specific advisory organisations dedicated to the development of organic farming. There is an applied research institute dedicated to the R&D on organic production (Technical Institute on Organic Research - ITAB), which has recently been acknowledged as one of the ITA, and receives subsidies from the CASDAR. There are also some associations of farmers (Groupements d'Agriculture Biologique - GAB) that support farmers with any aspect of the production (either technical or economical). But field research indicates that organic farmers also receive advice from private firms that collect their production or supply them with specific inputs that suit their production systems (Hellec and Blouet 2010).

We also did not assess the services provided to farmers that were willing to start a new business. A study in one French region reveals that this sector of services is extremely fragmented, especially when it comes to supporting the settlement of part-time farming, with many associations (from within and out of the agricultural sector) with heterogeneous competences (management, economics, technical...), and a lack of coordination (Tallon *et al.* 2010).

Moreover, there are some new trends associated with advisory services provided for the support of new forms of agriculture. It has been highlighted by Goulet (2011) in the case of the spread of no-tillage technologies. He showed that this technology was spread thanks to new networks of farmers, relying on collective exchanges of knowledge, but also supported by various industries that provide specific inputs to these farms, together with new methods for providing services to farmers (Goulet and Le Velly 2013). More globally, it was difficult to assess the development of services linked to downstream industries and marketing, and the role of farmers' circles in that respect, especially for animal production.

Neither were we able to evaluate the information flows between farmers and regional or departmental administrations, especially for overseas areas. Beyond their role in financing advisory services, they are also a source of information for farmers, especially about the content of local, national or European regulations. To our knowledge, there is no systematic assessment of either of these activities.

4.2 Public policy, funding schemes, financing mechanisms, programming and planning of advisory work

The public policy, funding schemes, financing mechanisms and planning of advisory work have already been described partly in section 2. Indeed, the CASDAR is the central element of a public policy characterised by procedures of delegation of services, where the state funds and regulates the supply of services without being directly active in their provision. Besides CASDAR, there is a second major fund to support advisory services: a tax collected on “non-

built” land: the “*Taxe Additionnelle à la Taxe sur le Foncier Non Bâti*” (TATFNB)¹⁹. This tax is collected at a departmental level and specifically benefits the chambers of agriculture that depends heavily on it (about 50% of their budget and 80% of their personnel cost on average) (CGAAER 2014, p. 32). In total, the public funding of advisory services is complex, and mixes supports at different levels (national, regional, EU) in different ways according to the various organisations (chambers, ITA, farmers’ cooperatives...) (see table 3).

More globally, three trends are worth highlighting on the evolution of the funding and planning of agricultural advisory services:

- There is a growing trend towards devolution and decentralisation, as departments or regions tend to develop their own instruments to support advisory services (as voucher systems in different regions). Moreover, regions will be in charge of implementing the European Innovation Partnerships (EIP) in France;
- There is not a global coordinated national policy regarding farm advisory services: there are different instruments, connected to different agricultural and rural policies. These instruments are conceived and evaluated separately by different sections of the Ministry in charge of agriculture. This is true, for instance, in the case of CASDAR (linked both to rural development policy and to agricultural education policy), of Ecophyto 2018 (linked to Grenelle de l’environnement) or of the Farm Advisory System (linked to cross-compliance of CAP 1st pillar, see section 5);
- An important part of these instruments are not aimed at transforming the supply of services, but rather at supporting interactions (in a projects dynamics) between the different actors of AKIS and advisory services (see section 4.5).

4.3 Methods and Human Resources

Unfortunately it was not possible to use data from the online survey to feed this section. We did not get enough responses to do so, and the sample was biased: we got many answers from private advisors or farmers’ organisations such as FCEL, but only a few responses from Chambers of Agriculture or from farmers’ cooperatives. Even though the generic value of this information should be considered cautiously, nevertheless, the qualitative interviews with experts tend to indicate that two major historical tendencies seem to still co-exist:

- the dynamics of some networks which were historically built with the idea of promoting participatory approaches based on farmers’ groups (for instance, within ONVAR, part of the chambers of agriculture...), but which work with a small number of farmers;
- the development of an individualisation of services for advice on agronomic and economic performance of farms (CERFrance, FCEL, Farmers’ cooperatives...), reaching a bigger number of farmers by offering advice together with other services (input delivery, bookkeeping, performance monitoring...).

¹⁹ The TATFNB was applied to 50,6 millions hectare and represented €296.8 millions in 2012. It concerns both Agricultural Area and Forest Area. The Agricultural Area stands for 27 millions in this land tax and contribute to €158.78 millions. This tax is collected at local level (departements), and there are strong discrepancies across departements (CGAAER 2014).

It should also be noted that since the mid 2000s there has been a renewal of research on advisory services in France, mainly in sociology (Rémy *et al* 2006, Compagnone *et al* 2009). Many of these academic works have dealt with the questions of the evolution of advisors' knowledge and methods, often relying on empirical research based on partnerships with advisory organisations and/or action-research methods. They have enabled the identification of new issues raised by the transformation of advisory service activities:

- the issue of the new knowledge needed by advisors in order to integrate environmental issues in their services (Brives 2006);
- the issue of the new profiles of advisors, such as “facilitator”, needed for the renewal of collective forms of advice (groups, circles, networks) for farmers characterised by higher levels of qualifications and education (Compagnone 2009, Ruault and Lemery 2009);
- the growing importance of the territorial dimension of advisory activity in the context of decentralisation, which requires advisors to function as mediators or coordinators within (political) networks of actors (Albaladejo *et al.* 2009, Barthes 2009).

More globally, there are many debates about what the most efficient advisory methods to support transitions of farmers' practices and production systems towards more sustainability are (Cerf *et al.* 2011).

4.4 Client and topics/contents

As for the overall topic, the collection of data from the online questionnaire was not successful enough to provide robust data about farmers' access to advisory services. It should nevertheless be noticed that there is, in France, a clear lack of monitoring and evidence about farmers' access to advisory services. To our knowledge, there is not any robust data base or survey about which people in agriculture have access (or not) to which kind of services. The only systematic one dates back to 2000 when a specific question on the access to advice was added within the agricultural census questionnaire, but only for one region (Rhône-Alpes) (Mundler *et al.* 2006). Even though such data might thus be outdated and not be extendable to the national context, there were two major findings that should be highlighted with regards to these results:

- many farmers were not connected to any advisory services, even though there were some important differences across sectors of agriculture (see table 4 in appendix). Moreover, the advisory services that were reported as better connected to farmers were those closer to market issues (advice from farmers' organisations about bookkeeping and management: CERFrance...) and advice from farmers' cooperatives and traders associated to inputs or output trades;
- some farmers were almost completely disconnected from advisory services, such as part-time farmers or small farms (figures 9 of appendix).

Even though we should not generalise, these results are in line with other observations at different periods and scales (Rémy 1982, Labarthe 2006, Labarthe and Laurent 2013). Nevertheless, it should be emphasised once more that there is clearly a knowledge and data gap

on the characterisation of the relations between farmers and advisory services²⁰. This problem is even higher for the population of farm employees, and especially for migrant and seasonal workers (Laurent 2013).

4.5 Linkages with other AKIS actors / knowledge flows

The relations within the AKIS are partly embedded in formal and informal partnerships that have been institutionalised for the long term between applied research institutes and advisory organisations or farmers' associations. This can be illustrated with the functioning of the two biggest Technical Research Institutes (ITA): Arvalis (ITA for cereals, maize, potatoes, flax and and fodder crops), and IDELE (Livestock Research Institute), which both play a central role in AKIS in France. For instance, the interactions between ARVALIS and other actors of the French AKIS can be described at different stages:

- *in the programming of the applied research activities*: the working plan (themes for R&D...) of ARVALIS is mainly decided by the executive board of the institute. Farmers' representatives have a majority on the board. This board receives recommendations from two commissions: a scientific commission (with four representative bodies: one for public research and education; one for industries; one for farmers; and one for NGOs for environment, food and water quality...); and from regional commissions of farmers. Some of these farmers' representatives are chosen locally by other actors of AKIS, such as chambers of agriculture, farmers' cooperatives, farmers' unions of wheat or corn producers...;
- *in the implementation of the research*: each year ARVALIS implements some experiments about the relative performance (yield, resistance to pest, adaptation to soil and climate conditions...) of the different wheat varieties available on the market. These experiments are financed by farmers' contributions. They are run in 30 experimental stations, where ARVALIS share facilities and competences with other actors of AKIS (chambers, other ITA). Some of the experiments are carried out directly with farmers;
- *in the dissemination of the results of the experiments*: the results are disseminated according to three channels: through the publication of regional reports (called "Choosing"), available for free online; through open days and demonstrations on the experimental stations, and through training sessions for advisors. There are specific conventions between ARVALIS and each departmental chamber of agriculture. These conventions give access for the chambers to the different channels of diffusion of the results of ARVALIS' experimental trials, but also to other resources of the institute (such as methods and agronomic tools for advisors).

These formal and informal interactions exist for each of the ITA, even though they may take specific forms according to the organisations in the different sectors. For instance, the livestock institute has relatively similar procedures for the definition of its strategic plan. This plan is decided by an executive board (composed of farmers, but also of representatives of other AKIS organisations such as chambers of agriculture or FCEL) that receives recommendations from a scientific committee and from committees representing supply chains (dairy, pork, meat...). A

²⁰ A recent survey funded by the Ministry of Agriculture showed some relatively different results as it indicated that there is high level of satisfaction of farmers regarding farm advisory services, but confirmed the low level of contact between small farms and advisors. (CGAAER 2014). We could not integrate extensively this report in our study, as it was published in May 2014, simultaneously as this report.

unique feature of the institute is that it may be less active in the dissemination of agronomic results from experimental stations, but more in partnerships with advisory service organisations (chambers of agriculture, FCEL, producers' associations) to develop new methods for advisory services with them (Dockès *et al.* 2010). In that respect, IDELE plays the roles of facilitator, as well as brokering and organising many training activities.

Beyond these historical relations, since the 2000s, different institutional innovations have been created with the aim of generating partnerships that bridge research and practice. Advisory services are fully integrated in these institutional innovations that fulfill different functions within the French AKIS.

Some of them are directly aimed at supporting new partnerships between research and other actors so as to produce operational or finalized knowledge and methods for farmers:

- 26 Joint Research Units (Unités Mixtes Technologiques - UMT, created in 2005) that merge researchers from INRA (95 full-time jobs) and from applied research institutes (ITA), with the aim to produce knowledge and innovations on agriculture and agri-food for diverse productions (rapeseeds, vineyards, cattle genetics, cattle welfare, seed potatoes, dairy...) or related to diverse topics (water management, emissions...);
- 3 Agro-transferts: there are three of these regional associations (since 1989 in Picardie, 1995 in Bretagne and 2000 in Poitou-Charentes) that merge producers' organisations, applied research institutes, chambers of agriculture, local authorities, INRA...). They employ engineers who lead projects (3 to 6 years) so as to propose methods and practices that farmers can apply (about the reduction of the use of input, soil management...). The idea is to bring researchers and engineers in a same geographical location and under a same management unit to enhance the knowledge exchanges.

Other institutions are more targeted at supporting network and project dynamics and fostering stakeholders in building consortium and apply to different national or EU call in the line with the objectives of the French rural and agricultural policy.

- This is the case of the 27 Joint Technological Networks (RMT) created since 2007. The regulation setting the rules for RMT stipulates that each RMT should integrate at least five partners: three applied research institutes and/or chambers of agriculture, one organisation for technical agricultural education, one organisation for higher agronomic education or a public research institute. Each partner should invest at least 20 days of labour per year. Each RMT is affiliated within an institutional network (ACTA, ACTIA, APCA). The aims are to produce reviews of academic literature, comparative analysis (about tools, data bases, models...), but also to help identify new areas for public research and to apply to new R&D projects to several calls (mainly from CASDAR). There are also objectives for knowledge transfer such as handbooks, tools for advisors, training programmes, and communication operations. The main aim of the RMTs is to gather all the relevant stakeholders and skills in order to tackle collectively the whole themes from agronomic content (fertilisation, weeds management), to R&D methods (modelling...), or social and economical issues (labour and supply chains in animal production). Since their creation, the state has invested about 8 million Euros in RMTs (total cost: more than €12 million).

Other institutions aim at facilitating the integration of stakeholders in the planning of agricultural research.

- This is the case of the 15 scientific interest groups (Groupes d'Intérêt Scientifique) where different organisations share resources for long-term conventions. GIS can be thematic (about agronomy, supply chains, soils, green biotech...), or regional. Regional GIS aims at producing knowledge about, and for, the different functions that agriculture plays at the crossroads of territorial and sectoral issues, for instance in mountainous areas.

Other initiatives also involve exchanges of resources and competences between research institutes such as INRA, and advisory organisations. For instance, INRA has welcomed 14 engineers from advisory organisations between 2006 and 2009. INRA also has some agreements for placing some experimental equipments and facilities at the disposal of different actors of development and advisory services.

5. Characteristics of Farm Advisory System (EC reg)

There were two regulations that set the modalities of adaptation and implementation of the EU Farm Advisory System (FAS) regulation in France, one in 2007 and one in 2009²¹. The implementation of FAS was not aimed at developing new services but rather at supporting the interactions between organisations. Thus, the objectives of the implementation of FAS were:

- to benefit from the complementarities of knowledge between the different types of organisations providing services;
- to increase the exchanges between these organisations and to encourage them to share their knowledge, experiences and methods;
- to increase the effectiveness of the system;
- to increase the transparency and readability of the system.

Thus, there are two main characteristics of the implementation of FAS in France.

- Firstly, France decided not to use EU funds of the CAP second pillar (rural development) to co-finance the implementation of FAS, nor to open special funds for this activity. The organisations certified as FAS providers can either decide to charge FAS services to farmers or to use other resources to support this activity.

- Secondly, the state decided not to give accreditations to single organisations, but rather to networks of organisations. When a network is accredited, any of its members are entitled to deliver FAS related advice, whatever the status of the organisation (public, non-profit organisation, private advisory firms, or cooperatives supplying services together with the trade of inputs). The only condition is that each FAS network covers all the different dimensions of cross compliance. Each network has to describe the different types of services offered to farmers (their methods: face-to-face or phone or group advice, their frequency, their prices for farmers), the number of advisors available (and the distribution of their competences according to the different components of cross-compliance) and the training sessions attended by these advisors on cross-compliance issues. FAS is thus primarily targeted towards the generalisation and support of networks between organisations.

The national regulation precisely describes the content of advice: for each domain of cross-compliance, there is a list of information and knowledge that should be integrated in FAS related advice. It also sets some criteria to guarantee the quality of the service, which includes:

- the competences of the advisors of the networks (standard requirements about education and/or professional experience) and their basic knowledge of cross-compliance (training sessions and/or professional experience);
- the quality of the references, knowledge and evidence used within the network: utilisation of formalised technical and economical data bases and references (freely accessible to anyone) as well as decision support tools; and integration in the advice of the information provided by public administration about cross-compliance.

The regulation also makes it compulsory for advisors to ensure a written registration of the advice.

²¹CIRCULAIRE DGPAAT/SDEA/C2009-3003 Date: 21 janvier 2009.

The implementation of FAS is clearly the expression of the situation of delegation of services of public policies regarding advisory services: the state sets the aims and qualitative requirements of services, but fully delegates the implementation to non-profit organisations or private firms. As a result these organisations are in charge of choosing the methods, the funding, and the targeted clientele of the FAS services that they provide. The evaluation of the activity is also delegated to these organisations.

Another characteristic of the procedure for FAS accreditation is its decentralisation. The certification of the networks is under the responsibility of the Regional Directions in Charge of Agriculture. It should be noted that the role of the regional administrations is only to give an accreditation to the different networks. This accreditation is an acknowledgement of the fact that each network holds the knowledge for covering every dimension of cross-compliance. It is neither a certification of the advisory activity nor a validation of the content of the services. Thus, the advisory organisations are responsible for the quality of the information, knowledge, tools, diagnostics and recommendations that they provide. In that respect, the state even recommended that advisory organisations should take out an insurance policy for their FAS related advisory activities, in case of conflict with farmers (about non-conformity for instance).

In total, more than one hundred networks have been accredited by the 21 French regions. These networks represent more than three hundred organisations. We will not extensively provide the details of these organisations here²², but two major features should be highlighted:

- 1) Beyond the importance of the diversity of suppliers accredited by the regions (farmers' associations, chambers of agriculture, farmers' cooperatives, private firms), there are three dominant types of organisations in French FAS: chambers of agriculture, farmers' associations (mainly from the group CERFrance); and farmers' cooperatives (which also supply inputs to farmers).
- 2) There is a strong difference in the composition of the networks from one region to another. Apart from one region (Brittany), there are more than one network in every region (up to 6 networks in a given region). The structures of the networks differ greatly (see figure 10 for an example):
 - In some regions, there is one network per type of advisory organisation. For instance, one network with all the chambers of agriculture of the region, one with all the CERFrance associations of the region, one with all of the farmers' cooperatives...
 - In other regions, the distribution is more geographical. There is one or two networks per department. Each network in a given department represents some of the main actors providing advisory services to farmers (a chamber of agriculture, a local farmers' cooperative...).

There are of course intermediary situations between these two extreme cases. This diversity in the composition of networks is also the expression of the local relations between the diverse organisations providing advisory services, between competition and cooperation.

It is very difficult to evaluate the impact of the implementation of FAS in France, even though the advisers and farmers within the different networks may have attended many training sessions

²² To our knowledge, the list of advisory organisations accredited for FAS in France has not been published officially.

together. As this implementation was not directly supported by any specific fund, there was not a significant public investment in the monitoring and evaluation of FAS in France. Also we could not find any systematic and publically available assessment of FAS accountability or effectiveness (in terms of number of operations, characterisations of the beneficiaries of the services...), neither at a national nor at a regional level.

6. Summary and Conclusions

At a first sight, France may appear as a European country which AKIS and agricultural advisory services have not faced radical transformations over the last twenty years. The same key actors still operate: public research institutes (INRA, IRSTEA), private non-profit applied research institutes (ITA), chambers of agriculture, farmers' cooperatives and a diversity of farmers' associations that provide services (ONVAR, CERFrance, FCEL...). However, the continuity of these formal institutional patterns should not conceal the importance of the changes that occurred in the conception and types of public intervention, from co-management to delegation of services and contracting. Before 2000s, yearly institutionalised negotiations between the state and the dominant farmers' union (FNSEA) were set up to decide how to spend, and spread between AKIS organisations, the income generated by a tax on agricultural commodities. This has been replaced by a system of delegation of services, where the Ministry in charge of agriculture sets specific contracts with a variety of AKIS organisations. This reform has changed the roles of both public and private actors, as well as their relations within the AKIS:

- The public administration, besides research and education, is less involved in the supply of information to farmers through applied research or advisory services. Its role is limited to the validation of the terms of the contracts agreed on with the different subsidised AKIS actors and then to the evaluation of their activity. In principle, the state is also responsible for controlling the quality of the knowledge available for the AKIS actors. Nevertheless, in a context of reduction of public expenditure dedicated to the technical services of the Ministry in charge of agriculture, one can wonder whether this control can truly go any further than just validating the accountability of the financial expenditures of the subsidised organisations. This can be illustrated with the case of the agricultural warning system ("*Système d'Avertissement Agricole*"). This system aims at avoiding asymmetries of knowledge and at providing the same information about pests hazards to all actors. This information draws on field observations, and used to be formerly validated and disseminated by local agents of the Ministry in charge of agriculture. These tasks are now delegated by the state to diverse actors (chambers of agriculture, cooperatives, farmers' associations...). Some of the experts interviewed fear there will be a decrease in the quality of evidence collected: the reduction of the technical services of the public administration making it difficult to validate the whole process. In addition, there are some concerns expressed by different actors about the ability of the state to guarantee access for farmers and advisors to high quality knowledge, and there is a risk of a conflict of interests associated with public-private partnerships. For instance, since this delegation of services was established, there have been few potato production fields identified as being contaminated by quarantine diseases (such as cyst nematode). One can argue that it is unlikely that an advisor employed by a farmers' association would warn the Ministry of their client contaminated field (Tschuisseu and Labarthe 2013). Such a case illustrates a major shift in the role and competences of public administration, characterized on the one hand by a decrease of technical competences and on the other hand by an increase of administrative and management tasks and skills related to the monitoring of contracts with AKIS actors.

- The changing relationships between the public and private sectors have also contributed to transforming the relations between AKIS organisations and more specifically between advisory

service organisations. Until the 2000s, there was little competition between the service suppliers: the different organisations were specialised in different domains with limited overlap. And there were often local institutional arrangements coordinated by the farmers' unions to delimitate the respective areas of activities of the chamber, of the cooperative, of CERFrance... (which were all controlled by farmers). According to Compagnone *et al.* (2010), this “*Yalta*” of advisory services has ended and the competition became stronger within a context of fast and constant decrease in the number of farmers. For instance the organisations specialising in management and financial advice (like CERFrance) tend to develop agronomic advice to support farmers' practices or production systems, based on the data bases they have accumulated on farm performance. This new competition appears in front-office, where different providers propose services on the same issues (like fertilisation...), but also in back-office, where knowledge and data bases (about farmers' practices and performance) are increasingly considered as key resources; and some might be less shared between organisations. In such a context, different stakeholders that were interviewed emphasised their difficulties accessing certain resources, such as academic publications (published on private platforms that individual consultants cannot afford to pay), evidence about the effectiveness of pesticides (partly confidential as part of industrial R&D of upstream companies), evidence on farmers' practices effectiveness... This can even be the case for data or information collected by different suppliers thanks to public funds.

- For the moment, this competition between advisory organisations does not seem to have deeply transformed the relations between advisory services and other AKIS organisations. There are still some formal and informal collaboration between the various applied research institutes (ITA) and advisory organisations such as the chambers of agriculture or the cooperatives or FCEL. There are even academic debates about whether or not the path dependence generated by these strong relations could induce lock-in situations, especially regarding environmental and sanitary issues, such as the development of alternative solutions to the use of pesticides. For instance, there could be a risk that the strong role played by unions and upstream firms in the planning of French agricultural policy could prevent the R&D work on new issues, especially when these issues concern environmental performance and not only the economic performance of the supply chain (Tschuisseu and Labarthe 2013).

Beyond this complex situation, it should be noted that debates about farm advisory services and AKIS are clearly back on both the academic and political agendas (Faure *et al.* 2012). For instance, the Ministry in charge of agriculture has recently published a report evaluating the French public policy for agricultural development (CGAER 2014)²³. This evaluation encompasses extensively the diversity, richness, potential and diversity of the organisations involved in French AKIS. It also stresses the difficulties associated to this situation in terms of coordination, both at the level of design and evaluation of public policies (where different divisions of the Ministry in charge of agriculture are involved as well as different administrative levels: European, national, regional, local...), and at the field level of implementation of services. If this report does not bring new knowledge regarding the impact of R&D public policies in France (e.g. for environmental or health issues) nor regarding the access of different categories of people working in agriculture to knowledge and services, it proposes to discuss

²³ We could not integrate fully this report in our study, as it was published in May 2014, simultaneously as this report.

three scenarios of transformation of these policies: an “inflection” scenario, characterised by a great stability of AKIS, a ‘liberalization” scenario, with a strong withdrawal of the state and a “regionalization” scenario. The discussion is currently carried on in a foresight project involving INRA, ACTA, APCA and the French Ministry in charge of agriculture.

Such discussions are crucial and need to better integrate a major issue: how to adjust the supply of advisory services (both front-office and back-office) to the radical transformations of farm structures? These transformations are manifold and raise specific questions for the adaptation of farm advisory services and broader AKIS. This can be illustrated in the case of advice for the safe use of pesticides. The average size of farms is increasing quickly. This growth can radically change the distribution of tasks within and between farms. Advice on pesticide use may involve the manager, about managerial issues, the agronomist in charge of decisions about farm practices, and the employees in charge of spraying. Such a division of tasks is quite new in the French context and calls for new types of front-office relationships. This need for new forms of advice is also true for new types of collective organisations of farming (Anzalone 2012), for the growing population of farm workers (especially for migrant seasonal workers, Laurent 2013), and for small farms. Even though the number of these farms is decreasing, there are still many of them, and there is no evidence to suggest they have better access to services than 10 years ago (Labarthe and Laurent 2013).

Despite all these major structural changes, there is very little political debate about who should be the targeted clientele of advisory services that are financially supported by the state. This lack of debate is favoured by the fragmentation of the support to advisory services. This fragmented support is the result of a strategy of delegation of services within a pluralistic advisory services system. Such a pluralistic contracting strategy may have great potential for targeting different issues and populations through different channels, but it could lead to difficulties to integrate these issues and populations within a global perspective. This is all the more difficult as, nowadays, AKIS and advisory services are controlled within a multi-level governance structure where departmental, regional, national, and European administrations delegate services to advisory and AKIS organisations, with specific rules, conditions and targets. Such difficulties are particularly vivid when it comes to evaluating the effectiveness of each public support instrument for advisory services (Berriet et al. 2013).

7. Methodological reflections and acknowledgements

Before I start to describe the methodology of our work I would like to thank all the experts interviewed for the time they kindly spent answering our questions and for the numerous documents that they provided. I am also very grateful to Catherine Laurent, Marianne Cerf, Sonia Ramonteu, Adrien Guichaoua and Rachel Creaney for their very careful and constructive reading, comments and corrections of preliminary versions of the report.

The methodology of this work combined three sources of data: 1) open interviews with 11 experts of the French AKIS and advisory services organisations; 2) bibliographic searches; and 3) an online survey with advisory organisations.

1) The interviews with stakeholders were carried out through a very open questionnaire. Our aim was to gather information and knowledge with stakeholders from different standpoints: public administrations, research institutes and universities, advisory organisations and associations. The list of experts interviewed can be found below:

- Edouard de Sainte Maresville, APCA, Sept-oct 2013
- Jean-Pierre Bordes Arvalis, Sept-oct 2013
- Anne-Charlotte Dockès, IDELE, Sept-oct 2013
- Martine Georget, INRA, Sept-oct 2013
- Philippe Bouillet, CER France, Sept-oct 2013
- François-Xavier Delepine, TRAME, Sept-oct 2013
- Anne Legeard, FCEL, Sept-oct 2013
- Hervé Bossuat, MAP, Sept-oct 2013
- Brigitte Midoux, MAP, Sept-oct 2013
- Julie Coulerot, PCIA, Sept-oct 2013
- Hervé Tertrais, PCIA, Sept-oct 2013

This was completed by my participation in the Scientific and Technical Committee of ONVAR, which gave me access to all the evaluation reports of these associations. I also attended a seminar where a commission of the Ministry in charge of agriculture presented the results of an evaluation of the French Development Policy (CGAER 2014), including advisory services and applied research.

2) The bibliographic survey combines four sources of information: the documents and reports provided by the different interviewees, the websites of the different organisations of the AKIS in France (including their annual reports), my own library of articles and books on extension services, a systematic survey on Web of Knowledge, using the following algorithm: (advi* OR consul* OR extension) AND (France OR French) AND (agri* OR farm*). This procedure was also done in French.

3) An online survey with the organisations supplying services to farmers. We want to thank our colleague Katrin Prager from the James Hutton Institute who provided technical support for this online survey. The questionnaire to federations coordinating the various organisations supplying services (APCA, Coop de France, FNCIVAM, Inter-AFOCG, AFIP, CER France, FCEL, TRAME...). We had a very low number of responses with less than 20 organisations responding to the survey.

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9. Appendices

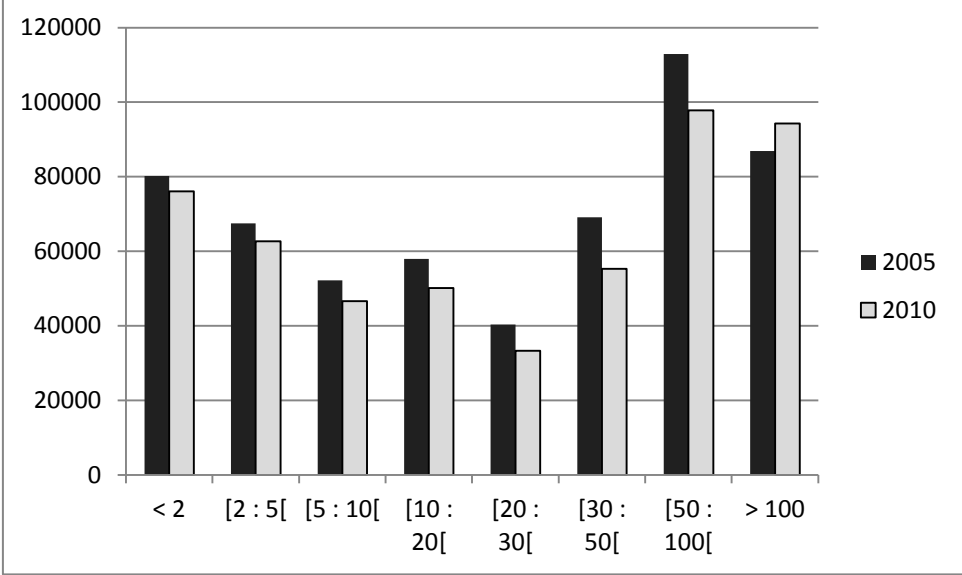
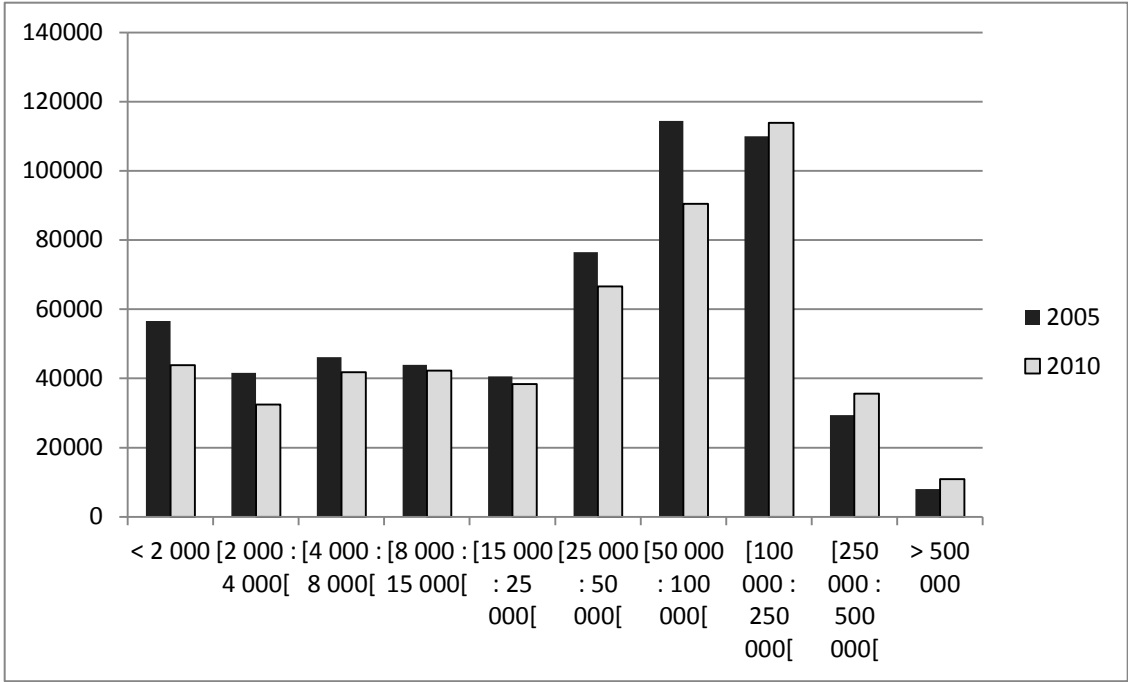


Figure 3. Distribution of the number of farms according to their standard gross production (€)
(source: Agricultural census, Eurostat)



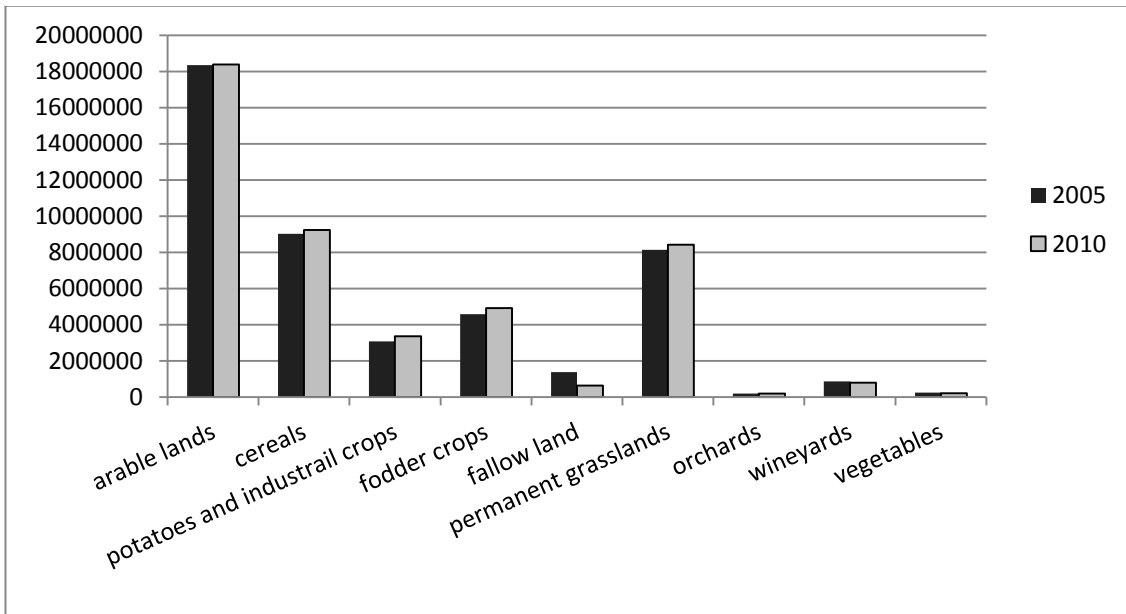
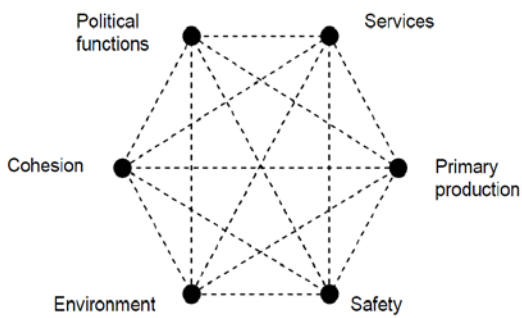


Figure 5. The main objectives of the support of the MultiFunctionality of Agriculture in France (source: Renting et al. 2005).



- services = amenities for urban populations, landscape management;
- safety = sanitary quality of product, consumers' and farm labour's health
- environment = environment conservation, biodiversity
- primary production = commodity production
- cohesion = job creation, diversification of farm activities
- political functions = occupation of land, food security, national commercial balance

Figure 6. The distribution of CAP expenditures in France (source: EC 2013)

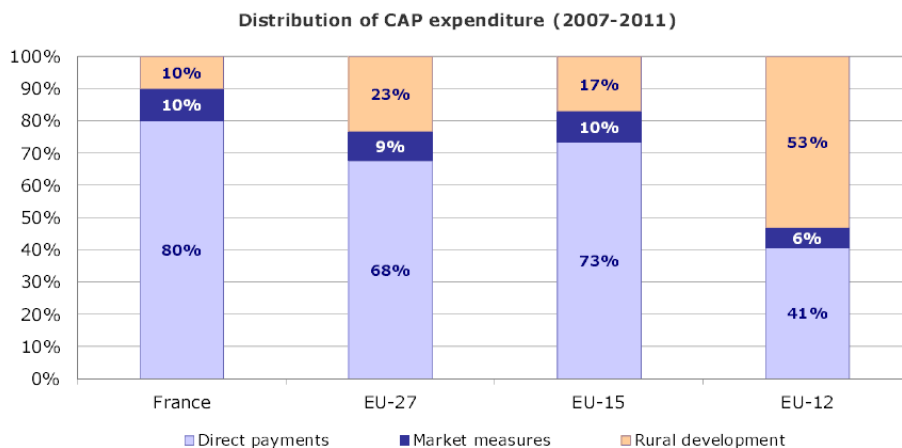


Table 1. Main actors of AKIS in France²⁴

Name of organisation (in English)	Website	Role	Status (public/R&E/private/FBO/NGO)*
Minsitry in charge of agriculture	http://agriculture.gouv.fr/		Public
Agricultural colleges	http://agriculture.gouv.fr/Enseignement-agricole-superieur	Public education	Public and Private
National Institute for Agricultural research (INRA)	www.inra.fr	Research Institute	Public
(IRSTEA)	http://www.irstea.fr/	Research Institute	Public
ACTA (and 21 ITA)	http://www.acta.asso.fr/	Research Institutes	Public
Chambers of Agriculture (APCA)	http://www.chambres-agriculture.fr/	Advisory organisation	Farmer based Organisation
France Conseil Elevage	http://www.france-conseil-elevage.fr/	Advisory organisation	Farmer based Organisation
CER France	http://www.cerfrance.fr/mon-espace/	Advisory organisation	Farmer based Organisation
Coop de France	http://www.coopdefrance.coop/fr/index.html	Farmers' Cooperative	Farmer based Organisation
TRAME	http://www.pardessuslahaie.net/trame	Advisory organisation	Farmer based Organisation
FNCIVAM	http://www.civam.org/	Advisory organisation	Farmer based Organisation
INTERAFOCG	http://www.interafocg.org/	Advisory organisation	Farmer based Organisation
AFIP	http://afip.asso.fr/	Advisory organisation	Farmer based Organisation
FNCUMA	http://www.cuma.fr/	Advisory organisation	Farmer based Organisation
GDS		Advisory organisation	Farmer based Organisation
Federation of Agricultural Trade (FNA)	http://www.negoce-village.com/default.aspx	Input suppliers	Private sector
Pole for an Independant Agricultural Advice (PCIA)	http://www.pcia.fr/	Advisory organisation	Private adviser

²⁴As AKIS in France counts hundreds of actors, we only indicate in this table the federation or umbrella organisation of the different AKIS actors.

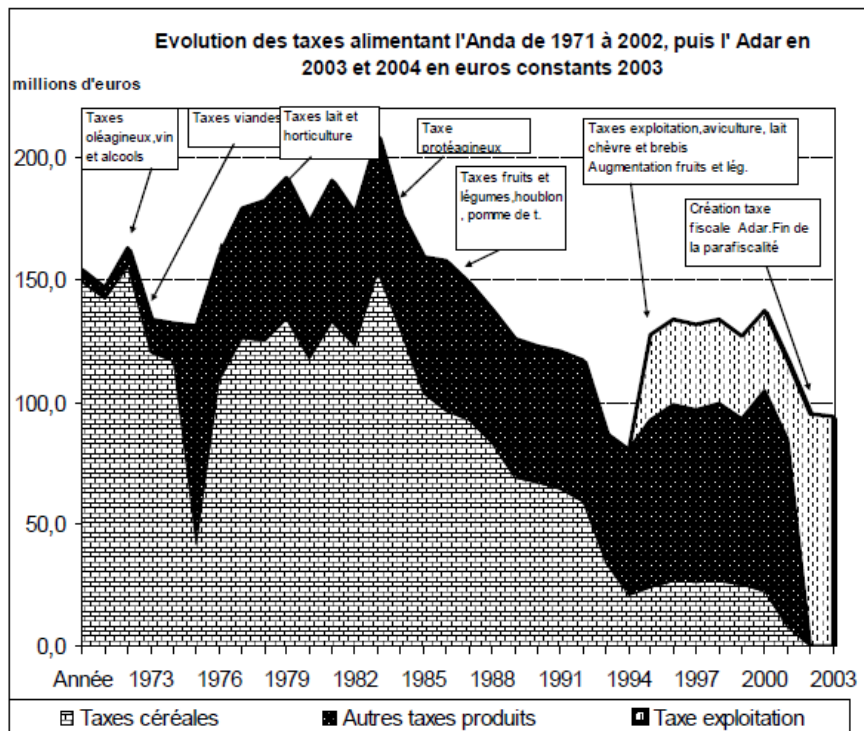


Figure 8. Evolution of the distribution of financial resources of the Chambers of Agriculture according to the theme of advisory services (source: Labarthe 2006)

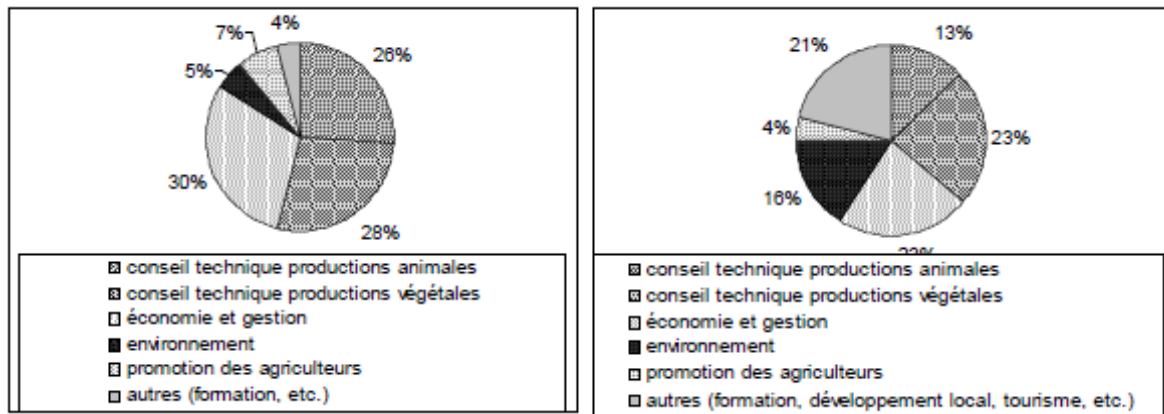


Figure VI.3. Répartition des conseillers des chambres d'agriculture (ETP) selon l'objet de leurs prestations de conseil en 1980 (figure de gauche) et 2000 (figure de droite).
Source : ANDA (1982), APCA (2000).

Provision of service				Source of financing								
Status of the organisation	Type of organisation	Number of organisations	Number of advisors	Public funds			Farmers			Private	NGO	Other (specify)
				EU funds	National funds	Regional funds	Farmers' levies	Farmers' contribution	Billing services	Other products (inputs, outputs)	foundation	
Public sector	National Ministry		0									
	Local/regional agencies		?									
	Other (specify)											
Research & Education	University											
	Research Institute	>30	>1000	x	X	x						
	Other education bodies											
Private sector	Upstream industries	>400	>2600							X		
	Downstream industries											
	Independent consultant											
	Private agricultural advice company	>30	>60									
	Farmers' owned advice company											
	Other (specify)											
Farmer based organisation	Farmers' cooperative	>3500	>7500		x				X	X		
	Chambers of agriculture	115	>5500		x	X			x			
	Farmers' associations	>800	>3500		x	x		x	x			
	Farmers' circles	>1500	?									
Brokers	Experimental stations and association											

Table 2. Tentative overview of farm advisory services suppliers in France (source: the authors and CGAAER 2014, p.24)

Table 3. Distribution of public funding to advisory organisation in France in 2011 (source: CGAAER 2014, p. 31)

Organisation benefiting from public funding	Total budget (k€)	Source of public money						
		Land tax (TATFNB) (k€)	CASDAR (k€)	Other public national fund (k€)	Local administrations (regions, departements) (k€)	European Union (k€)	Total (k€)	Share of public fund in total budget (%)
Chambers of agriculture and APCA	724 830	195937	36812	81557	56955	8748	380009	52,4%
Applied Research Institutes (ITA and ACTA)	180019	0	45970	17768	3692	3334	70764	39,3%
ONVAR	4830	0	3014	225	102	73	3414	70,7%
Coop de France (only for the national umbrella organisation)	6098	0	2935	453	56	4	3448	56,5%
TOTAL		195 937	88 731	100 003	60 805	12 159	457 635	

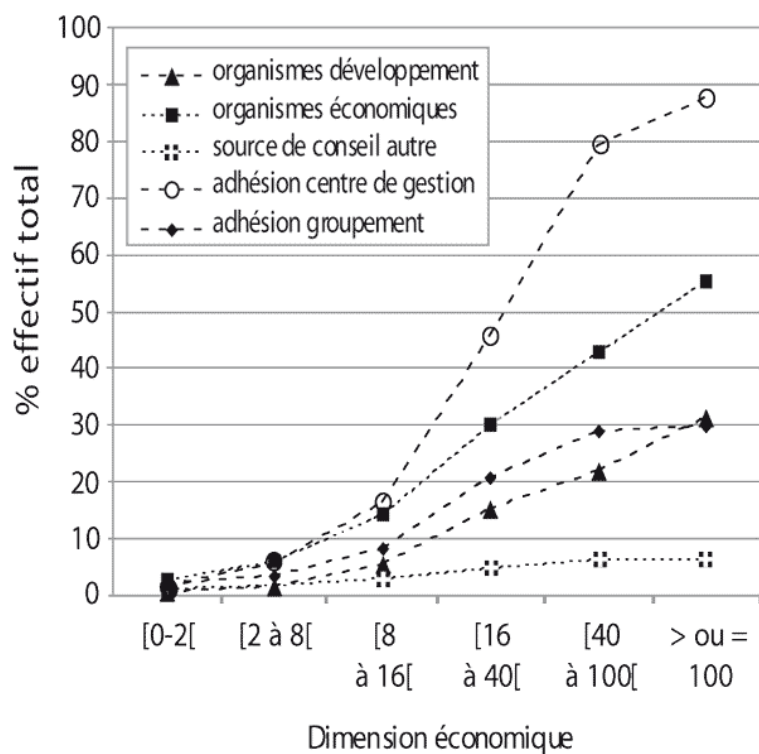


Table 4. Percentage of farms that did NOT have contact with advisory services according to their farm type (OTEX, lines) and their economic size (ESU-UDE, columns) (source: Mundler et al. 2006)

OTEX	CDEX	[0-2[[2 à 8[[8 à 16[[16 à 40[[40 à 100[> ou =
		UDE n = 12 028	UDE n = 12 808	UDE n = 6 526	UDE n = 12 728	UDE n = 10 298	100 UDE n = 2 574
Total OTEX		95,83	91,53	80,32	59,73	45,44	33,41
OTEX 13 + 14 (céréales + oléo + cultures...)		96,72	90,11	79,3	55,72	35,32	25,83
OTEX 28 + 29 (maraîchage, horticulture...)		100	94,03	90,23	74,59	66	44,81
OTEX 37 + 38 (toute viticulture)		91,49	86,31	77,06	68,49	65,2	51,48
OTEX 39 (fruits et cultures permanentes)		92,14	92,24	83,57	63,86	41,68	22,98
OTEX 41 (bovins lait)		99,12	93,56	82,41	57,11	43,01	31,53
OTEX 42 + 43 (bovins viande + lait-viande)		97,17	95,57	89,03	64,71	43,65	35,14
OTEX 44 + 71 (herbivores)		97,63	92,66	74,62	57,94	35,99	15,56
OTEX 50 + 72 (granivores)		95,81	71,43	38,18	32,62	24,9	26,92
OTEX 60 (polyculture)		95,4	92,01	77,03	58,24	33,6	18,79
OTEX 81, 82 + 90 (cultures et herbivores + autres)		93,57	91,51	83,52	60,7	34,25	26,86

Source : traitement spécial RA 2000

sous classe ayant le plus faible taux de suivi dans la classe de dimension économique concernée.
 sous classe ayant le plus fort taux de suivi dans la classe de dimension économique concernée.

Figure 10. Structure of the FAS networks in two French regions (source: the authors)

