Exploring Competitive Intelligence Practices of French Local Public Agricultural Organisations

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ABSTRACT: Modern agriculture has increased the need for information when making strategic decisions for farmers since they must be more entrepreneurial to survive. This paper investigates the levels of Competitive Intelligence practices in a French Regional Chamber of Agriculture and its four Departmental Chambers of Agriculture to examine the ability of these public organisations to keep fulfilling one of their missions which is to provide the necessary information and knowledge to farmers. Thus, this study proposes a behavioural and operational typology of Competitive Intelligence practice. Both types of organisations demonstrate that they are not well adapted to support the entrepreneurial farmers on this issue. The findings of this study and the diagnosis of the Competitive Intelligence practices applied to the typology could be of help to increase their and other public agricultural structures performance levels. Furthermore, the platform has the potential to inspire the public sector through subsequent adaptations.

1.0 Introduction

Agriculture is facing profound shifts (Vesala and Vesala, 2010; Woods, 2008) under the pressure of global trade agreements, climate change, the changing balance of the global energy economy (Blaney, 2006), increasing world populations

(Pollock, 2007) and the debts of developed countries which have reached a threshold, radically altering the ability of the state to intervene (Bisson et al., 2012). These conditions have triggered frequent revisions of agricultural policies (Stanford-Billington and Cannon, 2010).

Consequently, although agriculture used to be strongly subsidised in developed countries, "in recent decades, these policies have been substantially modified, from the multiple reforms of the Common Agricultural Policy (CAP) in the European Union and the various Farm Bills in the United States to the full removal of agricultural subsidies in New Zealand" (Latruffe, et al., 2013, p.10).

Under such conditions, farmers in these countries need new strategies, new sources of revenues such as tourism and "also by adding value to farm products via processing and direct marketing" (Vesala and Vesala, 2010, p.22). Hence, a greater degree of multi functionality is expected in the agricultural sector (Morgan et al., 2010) and a different strategic direction is required (European Commission, 2007), increasing the necessity for strategic planning (Franks, 2006).

About the CAP, Seuneke et al. (2013) stress that "the new EU regulations designed to stimulate more sustainable agriculture and the increasing use of expensive external inputs increased farming costs, while ongoing globalisation has led to decreased returns on agricultural products" (p. 208). Thus, 'the squeeze on agriculture' (Ploeg and Roep, 2003) compels economies of scale to reach a viable size and farmers need increasingly to be able to compete in the global market. In addition, the new CAP which will go into effect in 2015 is founded on a new paradigm (Carpon et al., 2013) as it will (among other things) no longer stipulate quotas for several products (e.g. milk) and should eventually end others (e.g. sugar in 2017). Therefore, farmers, regardless of whether they do non-agricultural activities (e.g. tourism) or purely conventional production-oriented farming, are facing similar difficulties as other businesses, and are being obliged to become more entrepreneurial (Alsos et al., 2011; Morgan et al., 2010; Seuneke et al., 2013; Vesala and Vesala, 2010).

Much of the research done on farmers' entrepreneurial skills was linked to the European research project 'Entrepreneurial Skills of Farmers' (ESoF). Seuneke et al. (2013) depict the three essential entrepreneurial skills identified by the ESoF project: a) recognising and realising business opportunities; b) developing and evaluating a business strategy; c) networking and utilising contacts (Wolf and Schoorlemmer, 2007). Thus, the first two skills mentioned above require a lot of

information since they deal with strategic formulations (David, 2013), underlining that information becomes vital for farmers like for other companies to build the right strategy and make adequate decisions (Bisson et al., 2012).

To cope with this highly competitive and changing environment (Schoemaker, 2002; Stead and Stead, 2013), private and public entities need to integrate Competitive Intelligence (CI) methodologies and tools (Larivet and Brouard, 2010; Wright, 2011; Yap et al., 2012). There are numerous conceptualisations of CI, and it has been variously defined as competitive and technological intelligence, Business Intelligence, environmental scanning, Competitor Intelligence and even Industrial Espionage in the literature (Bisson, 2013; Sewdass, 2012).

CI is defined by Rouach and Santi (2001) as the "art of collecting, processing and storing information to be made available to people at all levels of the firm to help shape its future and protect it against current competitive threats: it should be legal and respect codes of ethics; it involves a transfer of knowledge from the environment to the organisation within established rules" (p. 553). Yet, the scope of CI goes beyond entities nowadays as new forms of territorial governance must include tools and methods of CI to optimise the creation of knowledge and intelligence. This is defined as territorial CI (François, 2008; Moinet, 2009). Thus, innovative organisations must be constructed to allow for networking between the various economic actors and to be able to best share this information to improve the competitiveness of the territory (Bouabdallah and Tholonat, 2006).

Although it is deemed important that public entities engage in CI (Massmann and Quoniam, 2010), very little has been written about CI for public service or non-profit organisations (Caron-Faisan and Lesca, 2010; Sewdass, 2012) or for the agricultural field. Concerning the relationship between government, intelligence and society, France was the first country in the world to publicly make such examination (Dedijer, 1994).

Local state institutions are considered as critical in rural areas as they are "delineating the 'problems' which that economy faces and in defining attendant policy solutions" (Pemberton and Goodwin, 2010, p. 278). Located in every department and region, French chambers of agriculture are public organisations: a) Regional Chambers of Agriculture

(RCAs) aim to support farmers in their installation projects or development by providing assistance on technical, economic, administrative and personnel issues to enable them to succeed in their professional and personal lives. RCAs coordinate and plan agricultural regional development, coordinate departmental chambers, represent and discuss with the regional council and regional state services; b) Departmental Chambers of Agriculture (DCA) must disseminate information, support and train farmers (Chambers of Agriculture, 2013).

In spite of the fact that ample research has been undertaken regarding entrepreneurial skills in agriculture, and that the importance of the French public sector as an information provider for farmers was stated to be a vital component for building a robust strategy and make the right competitive decisions, no research has been done regarding the level of CI practice in the public agricultural sector.

Aiming to contribute to and fill a scientific gap in the literature, this paper examines the CI level of French public chambers of agriculture in one region, investigating their ability to provide information and knowledge for competitive and strategic purposes as a support for farmers to become more entrepreneurial and to survive in a modern agriculture (Seuneke et al., 2013). The research question which leads this study is: Are the Competitive Intelligence practices of the French local public agricultural sector congruent with the growing needs for information of farmers in facing environmental, social, and economic issues? Thus, through this lens, are French local public agricultural organisations adapted or not to the entrepreneurial mutation of agriculture?

To undertake such a diagnosis, this paper proposes a behavioural and operational typology of CI practices applied to a French Regional Chamber of Agriculture (RCA) and its four Departmental Chambers of Agriculture (DCA) (It was requested that the name of the French region be kept confidential.). As emphasized by Seuneke et al., (2013) "small-business entrepreneurship literature provides many useful concepts and frameworks helpful to our future work on entrepreneurship in agriculture" (p. 217), and their call in line with Alsos et al. (2011) for more research applying frameworks from small businesses, the model used in this study is inspired by a model applied to SMEs (Wright et al., 2012).

The remainder of this paper is organised as follows. The theoretical background is discussed in terms of why CI ought to be developed in the public sector, the weight of French agriculture for the French economy and the existing CI practices in agriculture. The following section describes the sampling procedures, data collection method and analytical approach. Lastly, the findings are discussed and this survey concludes with an examination of the implications while proposing some possible avenues for further research.

2.0 Review of the Literature

Why Does the Public Sector Need CI?

More than ever before, the public sector must collaborate with the private sector to improve competitiveness and face fierce global competition (Andersen et al., 1994; Fuglie and Schimmelpfennig, 2000) as "governments have a role in fostering competitive industries but it is an indirect one" (Smith, 2012, p. 17). For that reason, the flow of information and means of analysing it are vital (Herbaux, 2004). Moreover, Sewdass (2012) posits that "public service organisations need to perform types of strategic planning activities similar to their private-sector counterparts" (p. 1) which requires competitive intelligence function (Wagner, 2003). Thus, CI can improve the efficacy of the strategic planning process of public service departments in the collection of the information necessary to support decisions (Horne and Parks 2004). Moreover, CI "can and does provide external background and fundamental perspectives that can complement the traditional inward focus that public services usually have […] and assist the decision makers in the public sector in making more informed decisions concerning the improvement of the quality of services offered to citizens" (Sewdass, 2012, p. 3).

Nowadays, public organisations are facing "a series of external challenges, such as declining trust and increasing pressures for accountability, wicked policy problems that cut across organisational boundaries and require intersectoral collaboration, tightening budgetary constraints, new Internet-based technologies, and the polarization of politics and ideologies" (Holzer and Yang, 2013, p. 1). Under such conditions, the public sector becomes more like traditional profit-making organisations and so CI can benefit these organisations in a way

similar to private sector organisations (Horne and Parks, 2004).

It is strongly believed that local authorities can improve performance by adopting values and practices imported from the private sector (Clark, 2003). Moreover, local public organisations have a critical role as demonstrated by the EU programme in rural areas named 'LEADER' which is based on the fact that having local decision-making processes provides better coordination mechanisms (Ray, 2000; Shucksmith, 2000).

As regards to France, the way that the state is ubiquitous in CI affairs is unique (Dou, 2004; Massmann and Quoniam, 2010), and it makes it possible to support the co-creation of strategies of innovation and development between the state, territories and entities (Carayon, 2003). Furthermore, territory as a project has been defined in France by the inter-ministerial delegation for regional planning and regional attractiveness (1999) as an organisation to be built with information by linking public and private actors engaged in a dynamic of projects in a territory.

The Weight of Agriculture for the French Economy

In 2011, agriculture represented 1.84% of the French GDP with 32.8 billion Euro and 3.3% of the workforce (Agreste, 2014). The main productions are: Cereals (11.8 billion Euro), wine (10.9 billion Euro), milk (9.2 billion Euro), cattle (7 billion Euro), poultry (4.6 billion Euro) and pigs (3.2 billion Euro). Agriculture is the base of the agrifood sector (Momagri, 2012) which represents 2.3% of the workforce (the second most important French industrial sector based on the number of workers after the mechanical industry) and 1.68% of the GDP with 30.1 billion Euro (Agreste, 2014). Furthermore, agriculture indirectly creates jobs through service, tourism, administration, equipment and commerce. Thus, nearly 5 million of jobs, i.e. 18% of the French workforce, are dependent on agriculture (Momagri, 2012).

France is the largest producer and second largest exporter (after Germany) of agricultural products in the EU, and the eighth largest producer and fourth largest exporter in the world. However, in 1995, France was the sixth largest producer and second largest exporter in the world (Momagri, 2012). Therefore, its competitive position is decreasing due to the slow disappearance of the CAP and internal factors (Momagri, 2012). In

2011, France produced 70 billion Euro of agricultural products, Germany 52 billion, Italy 48 billion, and Spain 41 billion (Agreste, 2014). However, in terms of agrifood Germany is first in EU with 161 billion Euro and France second with 159 (Ibid.).

Concerning the trade balance, the agricultural and agrifood sectors are one of the few French economic sectors with a positive balance. Indeed, it is the second highest surplus after transport (i.e. sales from Airbus) with more than 11 billion Euro of trade surplus which represent more than 13% in value of French exports (Momagri, 2012). In 2011, France primarily exported wine and alcohols, cereals and milk and milk products, while its main imports were meat, fish and fruits (Agreste, 2014). Its main clients were Germany, Belgium, Italy, Great-Britain, Spain, Netherland and the USA, while its principle suppliers were the Netherlands, Spain, Belgium, Germany, Italy, Great Britain and Brazil. However, this surplus is constantly decreasing. In Germany, agriculture represents only 1% of the GDP and the government supports agriculture only to keep it competitive and maintain exports, not to maintain existing jobs (Lemaitre, 2012). Moreover, while France increased its exports by 10 billion Euro since 2000, Germany has increased it by 25 billion Euro. Thus, the surplus of the trade balance (second after aeronautics) has been cut in half compared to 1998 (Agreste, 2014).

Agricultural prices are highly volatile. Prices can vary for a single product in the same year by 100%. Therefore, in France, farmers' income can vary by over one third from one year to the next (Momagri, 2012). This phenomenon is reinforced by increasing economic uncertainty. Furthermore, there are no regulating stocks. A mere 1% or 2% discrepancy between supply and demand can generate a variation of 50% to 100 % (Momagri, 2012). Like many other economic sectors (e.g. the pharmaceutical sector), the trend has been to increase the size of farms to acquire economies of scale. Yet, this phenomenon has been notable accelerated by the new CAP (Girard, 2013). For that reason, there are 21% less farms compared to 2003, as 19% of farms exploit 58% of the useful agricultural surface (Agreste, 2014).

A close relation between agricultural power and political power exists as demonstrated by the fact that the main agricultural producers are all

members of the G20 and four of them (China, USA, France and Russia) are members of the United Nations Security Council (Momagri 2012). Hence, since France can export a massive amount of agricultural products, its political power on the international scene is bolstered. However, due to the characteristics of agriculture, it cannot be relocated to other countries like industry. Thus, it can be argued that agriculture is the foundation of French economic power. Furthermore, due to the increase in the global population, agriculture has potential growth with a 70% increase expected in 2050 (Momagri, 2012).

Table 1. Different types of scanning carried out by French agricultural organisations (based on the work of Laurent (2012) to which was added strategic scanning.

	Local source(s)	National source(s)	International source(s)
Territorial scanning	DCA	DCA, RCA, PACA	PACA, Institutes
Technical, legal and competitive scanning	DCA, RCA	RCA, PACA, Institutes	PACA, Institutes
Technological scanning	RCA, Institutes	RCA, INRA, Institutes	INRA, Institutes
Scientific scanning	RCA, INRA, Institutes	INRA, Institutes	INRA, Institutes
Strategic scanning	INRA (animal health department)	INRA (animal health department)	INRA (animal health department)

Nevertheless, the debts of states including the U.S.A. and the European Union (EU) will cause major changes in public policies, foremost among which are agricultural policies (e.g. the new CAP in 2015). In such a context, French agriculture will undergo various changes and could optimize its competitive intelligence practices to address these challenges.

Competitive Intelligence in Agriculture

A rich body of literature exists about CI practices in the service and industry sectors (Day and Schoemaker, 2005; Dou, 2004; Smith et al., 2010). However, only a few articles have been written about CI and scanning for agriculture such as in China (Peng Cui and Li, 2011), Japan (Nagai et al., 2009), India (Gupta, 2012), Columbia (Domínguez

et al., 2009), France (Bisson et al., 2012) and Denmark (Grunert et al., 1996). This is surprising since agriculture needs, just like other sectors, information about various topics such as competition, markets, and technologies to judge the implications of feasible alternatives in the decision making process (Aharoni et al., 2010; Hammondet al., 2006; Kroll and Forsman, 2010).

Furthermore, agriculture and its actors form an important pillar of territorial intelligence and CI activities should be developed to ensure better governance (Herbaux, 2004). Guesnier (2004) has pointed out the correlation between territorial governance and economic performance, and in this way CI activities should lead to better territorial economic results. A lack of information, for example, on price or technology lowers the price of farmers' yields (Momagri, 2012). Moreover, Ghadiyali et al. (2011) contend that intelligence for agriculture makes it possible "to avoid guess work [...], to improve performance [...], to know about the customer [...] and to know about competitors' markets and enhance profitability" (p. 314).

In France, agricultural entities such as DCA, RCA, The Permanent Assembly of Chambers of Agriculture (PACA) which is the national network of Chambers of Agriculture, considered as the "official" agricultural development and extension agencies (Goulet, 2013), Institut National de Recherche Agricole (INRA) and Agricultural Technical Institutes practice different types of scanning (see table 1). Renard (2010) underlines that CI practices are emerging in French Chambers of agriculture. However, an important base for CI exists in these as their libraries constitute a network allowing them to share tools and professional know-how (Dutkiewickz, 2004). As regards INRA, a strategic scanning system has been launched at the animal health department (Fauré, 2010) and can be construed as the most advanced system it has developed. This was triggered by the sanitary crises that occurred in previous years (e.g. mad cow disease). Moreover, other advanced projects were undertaken by Multon et al., (2003) who used bibliometrics to analyse the locations of scientific collaborations at INRA. Falize and Faure (2010) noted about the CI culture at INRA that (translated from French) "scanning to support projects and decision makers is not natural in our structure. The CI culture is underdeveloped [...]. The CI concepts and vocabulary seem to be more suitable to the industrial world and cause reluctance among researchers [...] Nevertheless, scientific and documentary scanning, more individually based, is intrinsic to the work of researchers and this is well developed, but not structured from a collective point of view" (p. 4) .

3.0 Methods

Sample and procedure

This study was conducted at a French regional chamber of agriculture and the four departmental chambers of agriculture linked to it. In 2010, the French region where the study was carried out represented 4.3% of the French GDP and 5.2% of the French population. 2.2% of the regional GDP was from agriculture and this represented 3.5% of the labour force, which is slightly higher than the French average. The agrifood business was significant, with 2.7% of its workers and 2% of its GDP derived from this sector (National Institute for Statistics and Economic Studies, 2013).

This survey is based on the model developed by Wright et al., (2012), a behavioural and operational typology of competitive intelligence practice applied to SMEs and construed as robust (Ross, 2012; Gaspareniene et al., 2013; Smith, 2012). This model is based on six strands which are Attitude, Gathering, Use and Location (drawing on the model created by Wright et al. 2002), Technology Support (identified as the degree of investments made to assist with gathering competitive information), and IT Support (i.e. the type of systems used to manage the flow of competitive information).

This paper aims to create a behavioural and operational typology of CI practices of the French public agricultural sector, and therefore a constructivist/transformative approach was adopted. Although one could argue that the data collected provides 'provisional knowledge,' the results pinpoint the CI practices of the French public agricultural sector and can be replicated with similar structures in France, in the EU and the rest of the world.

For this study, the questionnaire used by Wright et al. (2012) was adapted to the context of the French public agricultural sector and all the strands were changed into diagnostic questions leading to a CI typology verdict for the RCA and DCAs. Thus, the model and its questionnaire were tested through

collaboration with top management and CI specialists from the RCA and each DCA. This helped avoid issues arising from lack of clearness and potential misinterpretation. For example, a new question was added to investigate who the targeted persons were for the collection of strategic information and to understand the concepts of service toward companies and society, and other questions related to competitors were deleted. Furthermore, some terms were replaced by others such as 'employee' by 'collaborators' and 'firm' by 'organisation'. A self-declared position statement was included at the end of the questionnaire to confirm or contradict answers given within each category. This helped to reveal any inconsistencies in a typology verdict based on the allocations of answers to individual questions and the position statement. The top management of the RCA and DCAs identified the targeted collaborators for that survey and two types of jobs were not selected as they were deemed to be not concerned with CI. Thus, only six job categories were considered through eight of the official Journals of French Agriculture (see Appendix 1). Indeed, the first two classes were 'Logistics and Maintenance' and 'Secretary, assistance and accountancy'. In addition, the class 'management' was divided into two categories to merge 'Technical head and head

of service' as lower class management and 'vice director and director' as upper class management. So, seven classes were considered for this survey.

Qualtrics (www.qualtrics.com) was used to develop the online survey and collect the responses from the 38 collaborators selected at the RCA and 248 at DCAs. The message which accompanied the questionnaire mentioned that the results would be anonymous to guarantee freedom of expression. It is important to note that the directors did not take part in the survey (the chambers of agriculture believed they should be observers of the survey) and only vice directors answered the questionnaire.

Thus, by aggregating the number of people from DCAs and the RCA, 153 people completed the survey and 286 participated in the study. The structure of the questionnaire and its model of analysis can thus be considered to be robust. It is worth noting that the percentage of persons who participated is higher for the RCA than the DCAs. Yet, all the RCA collaborators who started the questionnaire finished it, showing a greater interest in the survey (see table 2).

Table 2. Response rates for each stage of the survey

Typology strand	Section Heading	RCA		DCAs	
		Number of respondents	%	Number of respondents	%
Gathering	Intelligence Gathering strategies	n = 25	100	n = 152	100%
Attitude	Attitude toward CI	n = 25	100	n = 138	90.8%
Technology support	Technology support used for CI	n = 25	100	n = 133	87.5%
IT systems	IT systems used to manage CI	n = 25	100	n = 133	87.5%
Use	Use of CI in the decision making process	n = 25	100	n = 133	87.5%
Location	Location for intelligence gathering in the structure	n = 25	100	n = 132	86.8%
Identification	Job title and type of DCA	n = 25	100	n=128	84.2%

Moreover, it should be pointed out that at the RCA nobody provides consultancy or technical support and at DCAs there are no IT positions (see table 3).

Table 3. Response rates per type of job.

Type of job	RCA		DCAs	
	Number of persons	%	Number of persons	%
Technician	n = 0	0	n = 28	21.9
Consultant	n = 0	0	n = 41	32
Surveys, RD	n = 10	40	n = 36	28.1
IT	n = 3	12	n = 0	0
Information/Communication/Library	n = 3	12	n = 2	1.6
Technical head. Head of service	n = 7	28	n = 19	14.8
Director. Vice-director	n = 2	8	n = 2	1.6
TOTAL	n = 25	100	n = 128	100

4.0 Analytical Approach

Based on previous research and the results obtained from the pilot survey and consequent improvements, a set of descriptors was made (see Appendix 2). Thus, the findings from the survey were applied to this behavioural and operational typology of CI which allowed for verdicts regarding their levels of Gathering, Attitude, Use, location, IT systems and Technology support. The categories in italics are the optimal ones which could lead the public organisations to better CI practices. Furthermore, since this study aims to investigate the CI levels of two different public structures of the French agricultural sector, i.e. the RCA and DCA, and of seven different classes of workers, cluster analysis was chosen as an exploratory tool (Kaufman & Rousseeuw, 2005). Once the diagnostic of their CI practices is established, it could trigger improvements in terms of benefits for the farmers and the entire society.

Results and Discussion

The answers obtained for the behavioural and attitude descriptors are indicated below for each of the six strands, and this is followed by a discussion of the implications of these results.

In the first question, the respondents were asked about the persons who were their main targets for the gathering of strategic information in the investigation of whether or not a relation exists between the targeted persons and the level of gathering. It was found that the main concern for all DCAs and the RCA was for farmers (see table 4). However, in comparison with DCAs, the collection of information at the RCA targets elected officials more than farmers at the RCA. This reveals two aspects: There is a greater political dimension at RCAs compared to DCAs, and DCAs have a core mission of 'services for farmers'. Only DCA 4 displayed similar results (see the percentages in table 4) as the RCA.

Table 4. People targeted for the collection of strategic information at the RCA and DCAs.

	Farmers	Elected officials	Internal for the service	No difference	Main target
DCA 1	15 (65.2%)	2 (8.7%)	4 (17.4%)	2 (8.7%)	Farmers
DCA 2	20 (69%)	2 (6.9%)	5 (17.2%)	2 (6.9%)	Farmers
DCA 3	36 (73.5%)	3 (6.1%)	10 (20.4%)	0	Farmers
DCA 4	13 (48.1%)	4 (14.8%)	6 (22.2%)	4 (14.8%)	Farmers
RCA	10 (40%)	6 (24%)	6 (24%)	3 (12%)	Farmers
TOTAL	94 (61.4%)	17 (11.1%)	31 (20.3%)	11 (7.2%)	N=153

As regards the people targeted for the collection of strategic information by type of jobs at the DCAs (see table 5), they logically all have farmers as their main target, except the librarians (who also target equally 'internally') and the top management (who also target equally 'elected officials').

Table 5. People targeted for the collection of strategic information by type of job at DCAs.

Type of job	Farmers	Elected officials	Internally	No difference	Main target
Technician	22 (78.6%)	0	5 (17.9%)	1 (5%)	Farmers
Consultant	30 (73.2%)	2 (4.9%)	6 (14.6%)	3 (7.3%)	Farmers
Surveys, RD	21 (58.3%)	5 (13.9%)	7 (19.4%)	3 (8.3%)	Farmers
Information/ Communication/ Library	1 (50%)	0	1 (50%)	0	Farmers or internally
Technical head. Head of Service	9 (47.4%)	3 (15.8%)	6 (31.6%)	1 (5.3%)	Farmers
Director. Vice Director	1 (50%)	1(50%)	0	0	Farmers or elected officials
TOTAL	84 (65.6%)	11 (8.6%)	25 (19.5%)	8 (6.3%)	N=128

At the RCA, the results are similar (see table 6). A slight difference can be seen compared to DCAs as regards the vice directors as their target is 'elected officials.' Similarly, librarians have as their main target 'farmers'. It should be noted that, in this group we find both 'communicating' persons and 'librarians' who may therefore have different perceptions of their targets.

Table 6. People targeted for the collection of strategic information, by type of job at the RCA

Type of job	Farmers	elected officials	internally	No difference	Main target
Surveys, RD	4 (40%)	2 (20%)	3 (30%)	1 (10%)	Farmers
IT	0	0	2 (66.7%)	1 (33.3%)	Internally
Information/ Communication/ Library	2(66.7%)	0	1 (33.3%)	0	Farmers
Technical head. Head of Service	4 (57.1%)	2 (28.6%)	0	1 (14.3%)	Farmers
Director. Vice Director	0	2 (100%)	0	0	elected officials
TOTAL	10 (40%)	6 (24%)	6(24%)	3 (12%)	25

Information Gathering

This section covers the types of information gathered, the sources of information used, how much strategic information is provided to the organisation, how staff are prepared to collect strategic information, the expected financial performance of their efforts regarding CI and the financial support given to CI activities.

605 responses were received from DCAs about the types of information collected, and by far the most frequent type of information collected regarded the products and/or services in the market/area of intervention (74.3%), followed by four subjects i.e. laws (55.3%), articles and scientific publications (52.6%), economy (50%), and customers/users (48%). Other selected types of information were much lower, i.e. political, social, financial, ISO standards, industrial processes and patents. Therefore, the type of information collected is limited, which is surprising for such a broad sector as agriculture.

At the RCA, nearly 100 responses were obtained regarding this question, and the top five types of information were: products and/or services in the market/area of intervention (80%), customers/users (72%), economy (52%), articles and scientific publications (48%) and law (44%). In this particular, the results are very similar to those of DCAs and the range of the types of information collected is also limited to a 'comfort zone'.

Concerning the sources of information used at DCAs, the primary sources used were experts from the competence networks (78.9%), followed by websites (68.4%), then magasines in the industry /sector (59.2%), respondents' own knowledge (59.2%) and national newspapers (50%). Thus, the organisation essentially uses free and/or cheap sources. These are local or national sources but rarely international.

At the RCA, websites were the most used sources (76%), then 'their own knowledge' (68%), and 'experts from competence networks' (64%). Thus, the organisation also uses mainly free and/or cheap sources.

DCAs use slightly more human sources than the RCA as they tap more into the competence network.

To the question 'how much strategic information does your organisation obtain from you', 48% of collaborators answered a low level or none, 35% a moderate amount and only 7% a high

amount. This reveals the lack of participation among collaborators and involvement in the decision making process at DCAs. The same situation was found at the RCA, as only 16% of employees responded 'a large amount of information' and 36% 'do not know'. It seems that strategic information is provided with moderation in these organisations.

The gathering of informal information is not frequent and rarely formalised at DCAs as demonstrated by 51% of persons who were occasionally prepared/trained before going to public events and 24% never (the RCA had similar results). Therefore, reporting does not seem to be formalised. The organisation thus deprives itself of a very interesting source, the cost of which would be minimal.

To the question about financial support for the monitoring of the strategic environment, responses at DCAs reveal minimal support. At the RCA, responses were disparate but generally this support seems to be minimal (32% 'do not know,' 20% 'no funds' and 16% 'somewhat adequate').

In the light of these results, the general verdict is that the gathering of information falls into the category 'Basic gatherer' at DCAs and the RCA. Taking into account the responses to the question about the targets of the gathering of strategic information from collaborators, generally, regardless of who is the target, the level of gathering is 'basic gatherer' but there are more employees in the category who are 'hunters' if the target is 'Farmers,' followed by 'internally for services' and then 'elected officials' (see table 7 for DCAs for the RCA).

Table 7. Targeted persons for the collection of strategic information

	DCAs				RCA			
	Basic gathering (G1)	**Gathering 'hunter' (G2)**	**Gathering level**	**G1/ G2**	**Basic gathering (G1)**	**Gathering 'hunter' (G2)**	**Gathering level**	**G1/ G2**
Farmers	62	40	G1	1.5	6	4	G1	1.5
elected officials	8	4	G1	2	5	1	G1	5
internally for services	18	10	G1	1.8	5	1	G1	5
No difference	5	5	G1	1.6	2	1	G1	2
TOTAL	93	59	152	1.6	18	7	25	2.6

Attitude

Concerning the rhythm at which DCAs collect information on technologies and markets, the most frequently selected answer is the same for both 'irregularly, when available'. This reinforces the previous conclusion concerning the gathering of information. Only 12% reported that their organisation has a written procedure and a dedicated CI system. The situation is comparable at the RCA, as the most frequent response was 'irregularly, when available'. Only 12% underlined that their organisation has a written procedure and a dedicated CI system. Moreover, 25% of respondents at DCAs and 20% at the RCA answered 'I do not know' which emphasizes a lack of participation in the decision making process and a top down organisational process.

At DCAs, to the question, 'Does the organisation audit staff knowledge regarding its

strategic environment to determine what report they possess', 56% answered 'never' which strongly indicates an 'overall attitude of immunity' which is staggering as they need to provide services for farmers (e.g. consultancy). At the RCA, to the question, 'What kind of support does the CI activity get from the management?' 40% responded 'just about enough for immediate needs' which is the most common response. This places the RCA in the '*ad hoc* attitude' category which is somewhat better compared to DCAs. Notwithstanding, the organisation does not try to anticipate and is far from engaging in collective gathering and analysis of information leading to collective intelligence.

Technological Support

This section discusses the types of tools used to support the gathering of information. At DCAs, the most utilised tools are web sites (97%) and search engines such as Google (96.2%). Following that, 24.8% of people used specialised websites e.g. Espacenet (see www.espacenet.net). Eight persons reported that they had access to other tools such as the PACA databases. These results were confirmed by the self-declared position statement (at the end of the questionnaire and used to either confirm or contradict answers given within each category), where 91.4% of people responded that they are utilising 'free common web tools, such as Google to search for information'. Therefore, DCAs fall into the category 'Simple Technological Support'.

At the RCA, from a total of 73 selections across 10 possible answers, the most frequently used tools were websites (25) and Google (25). Only one person reported that they used specialised databases (e.g. Dun and Bradstreet) and four reported using specialised websites such as Espacenet. This was confirmed by the self-declared position statement, where 88% of people responded that they utilise 'free common web tools, such as Google to search for information'. This places the RCA in the category 'Simple Technological Support'.

Information Systems

This section aims to evaluate the level of information systems used by the organisation to manage strategic information. To this question, 60.2% at DCAs stated 'we rely on our memory and the willingness of the staff to share what they are learning'. The second most common answer was (21.1%) 'the organisation has developed its own internal information system which is unique to the organisation and its needs'. Thus, some people have certainly developed their databases and Excel spreadsheets; they may use macros to analyse and store their strategic information. So, DCAs are in the category 'missing Information system'.

At the RCA, 48% reported that they do not know. This again reveals the lack of visibility and participation in the decision making process. 24% declared that they do not use any systems to manage strategic information. 20% claimed they use standard systems. To the self-declared position statement, 52% answered 'we rely on our memory and the willingness of the staff to share what they are learning'. This positions the RCA in the category 'missing Information system'. Therefore, both DCAs and the RCA are organised like silos in which collaborators organise their work as they can. Furthermore, the redundancies of work must be frequent and the processes of these structures are far from being optimised.

Use

The most common answer from staff at DCAs is that 'there is no established process for the use of CI' (49.6%), followed far behind by 'short-term decisions' (23.3%), and 'operations are done on a daily basis. As soon as we receive information, we act' (21.1%) and 'long-term decisions' (18.8%). DCAs can be classified as 'Joneses Users'.

At the RCA, the most common answer was that 'there is no established process for the use of CI' (48%), followed by almost an equal number of 'decisions for the long term' (32%) and 'short-term decisions' (28%). Yet, 48% (the most frequent answer) of people responded to the self-declared position statement 'we move forward with the data we obtain, but we often do it too quickly'. Hence, the RCA falls into the 'Knee-Jerk User' category, which is slightly better than DCA.

Location

It was essential to know whether respondents deemed that a place dedicated to CI would be beneficial. 59.8% of respondents

at DCAs indicated they knew to whom to provide information. The most frequent responses about the 'service which is responsible for the gathering of strategic information' were 'all services have this responsibility' (34.8%) followed by 'no service has responsibility for it' (31.8%) and 'library' (27.3%). These answers highlight the informal and disorganised nature of CI at DCAs. Yet, 36.4% of respondents agreed that a unit specialised in intelligence is essential but not always necessary. Furthermore, only 14.4% of people replied negatively to the question; the responses generally emphasize that people are aware of the needs and improvements that should be done. 78.8% of respondents underlined that they did not have a unit dedicated to monitoring their strategic environment, and 9.1% replied 'yes' (they most often mentioned the library as being in charge of these functions). Thus, the conclusion is that the location is 'ad hoc' as regards the use of CI at DCAs.

Regarding the RCA, 68% of respondents indicated that they knew to whom to provide information; this is surprising with respect to the previous answer, as 68% replied that the process was not formalised. The most frequent responses about the 'service which is responsible for the gathering of strategic information' were: the library (56%), 'all services have this

responsibility' (44%) and then the planning service (20%). It seems that the library works for and with only some people about CI. Yet, 48% of respondents agreed that a unit specialised in intelligence is important but not always essential. Surprisingly, 52% of respondents said they had a specialised intelligence unit and 44% 'no.' We can interpret this with the lack of visibility, communication, participation and organisation of the CI process at the RCA. Thus, the conclusion is that the location is 'designated' for the use of CI at the RCA.

Cluster Analysis of DCA and the RCA

Concerning the six themes of the typology studied, i.e. Gathering, Attitude, Technology Support, Information System, Use and Location, the practices of DCAs are homogeneous and at the lowest levels of the reference grid model. Only DCA 3 demonstrates a better attitude regarding strategic information (see table 8). The RCA shows slightly better practices compared to DCAs through their attitude and use, and there is a designated location for CI. For the detailed results by DCA, see Appendix 3.

Table 8. Behavioural and operational typology of CI practices at DCAs and the RCA (G= Gathering; A=Attitude; TS= Technology support; IS= Information System; U= Use; L= Location).

	G	A	TS	IS	U	L
DCA 1	G1	A1	TS1	IS1	U1	L1
DCA 2	G1	A1	TS1	IS1	U1	L1
DCA 3	G1	**A2**	TS1	IS1	U1	L1
DCA 4	G1	A1	TS1	IS1	U1	L1
RCA	G1	**A2**	TS1	IS1	**U2**	**L2**

Cluster Analysis for the Different Types of Job

Table 9 summarises the results by types of job. Overall, levels of DCAs' practices are at the lowest levels of the reference grid of the model but some jobs have better practices on given

strands. Therein, technicians are the only ones to reach level 2 for the gathering, which can be explained by their having numerous topics to work on. Concerning this attitude, unsurprisingly librarians as information professionals have the best level, followed by vice-directors,

and department heads and technicians. As for the level of the information system (IS) of the organisation in terms of the management of strategic information, librarians have access to higher levels of IS, followed by vice directors. Hence, such IS exists and is used only by a few people. Still, the top management (director and vice-director) prefer paper as they certainly have difficulties quitting their old habits. For the details of the cluster analysis for the different types of jobs, see Appendices 4 and 5.

At the RCA, the level of practices is generally slightly better than those of DCAs but some jobs stand out (see table 9). Thus, for gathering, librarians are the only ones to be at the level of 'hunter.' Regarding the attitude, it is reassuring that management positions have a higher level even though it is limited to *ad hoc* practices. While most collaborators do not use any IS to manage their strategic information, librarians and IT staff have access to very good levels of tools which are unique to them. This demonstrates yet again the very low levels of collective intelligence of such entities. Although most employees are classified as 'impulsive users', some are more effective, including people in management.

Table 9. Behavioural and operational typology of CI practice by type of job at DCAs and the RCA.

	DCAs						RCA					
	G	A	TS	IS	U	L	G	A	TS	IS	U	L
Technician	G2	A1	TS1	IS1	U1	L1						
Consultant	G1	A1	TS1	IS1	U1	L1						
Surveys, RD	G1	A1	TS1	IS1	U1	L1	G1	A1	TS1	IS1	U2	L2
IT							G1	A1	TS1	IS6	U2	L2
Information/ Communication /Library	G1	A3	TS1	IS3	U1	L1	G2	A1	TS1	IS6	U3	L2
Technical head. Head of service	G1	A2	TS1	IS1	U1	L1	G1	A2	TS1	IS1	U3	L2
Director. Vice-director	G1	A2	TS1	IS2	U1	L1	G1	A2	TS1	IS1	U2 or U4	L2

Cluster Analysis for the Type of Structure, Type of Job, the Targeted Person of the Collection of Strategic Information and the Level of Gathering

This Cluster analysis confirms the previous conclusion regarding a higher level of collection of information if the targeted person is a farmer (see Appendix 6). However, a collaborator at DCA4 from the 'technical head/ head of service' category who targets elected people for his/her collection of strategic information is at the level of 'hunter.' One can explain this either by the fact that this collaborator (only one head of service at DCA4) has a special interest in that matter or the elected

persons in that DCA are particularly demanding regarding strategic information.

5.0 Conclusion

This paper investigated the CI level of French public chambers of agriculture in one region to examine their ability to provide information and knowledge for competitive and strategic purposes, as a support for farmers to become more entrepreneurial. While the CI practices of DCAs are at the lowest levels of the reference grid of the model (only DCA 3 attained A2), RCA practices are slightly better. DCAs practices are anchored in the past and do not tackle the upheaval in the agricultural sector.

Compared to DCAs, the RCA demonstrates to some extent better attitudes, use and has a designated location for CI. However, its practices are *ad hoc*, its sources and tools are limited, and it is organised like a hive in which collaborators and departments work as though in silos. In such a context, redundant work might be frequent, and the feedback on the service satisfaction is certainly informal and un-optimised as well. Thus, the existing system is ineffective, inefficient and the organisation is far from having attained collective intelligence.

In both the RCA and DCAs, the CI organisation is informal and top-down, and the number of collaborators involved in the decision making process is very limited as demonstrated by the limited access of only a few to IS to manage strategic information. Yet, even though a few collaborators demonstrated higher CI practices (e.g. librarians and top management), most of them are at the lowest levels.

Hence, the findings of this study demonstrate that both DCAs and the RCA are not well adapted to satisfy the current needs for information and knowledge by farmers which is one of their missions.

The diagnostics of CI practice applied to the typology provide a useful model which could inspire all DCAs and RCAs in France to improve their CI practices. This has the potential to help them improve their performance to better support French agriculture which is vital for the French economy, and this would be useful in dealing with the deep changes expected in the short and medium term (e.g. rapid emergence of new competitors, amendment or withdrawal of agricultural subsidies,

rapid technological advances, and climate change). In the same way, organisations which are similar to DCAs or RCAs in the EU and the rest of the world could use this model as a platform to increase the quality of their services delivered to clients and users while also benefitting society.

Furthermore, this study demonstrates that CI models and practices can be implemented in the public sector just as in the private sector. Obviously, it would require some adaptation, and the changes encountered by the private sector as the result of various phenomena (e.g. globalisation, fast improvements of ICTs) also have impacts on the public sector; CI is thus necessary to address these challenges.

Further work

It would be quite interesting to utilise this behavioural and operational typology of CI practices in the public agricultural sector in other countries and especially in the EU. Indeed, it could be the initial point of an ambitious EU program with an objective to adapt agriculture to the new constraints (e.g. rapid increases in the public debt, changes made to the CAP and an increase in competition) of today's agriculture. Moreover, agriculture constitutes a strategic and vital sector for the EU, just as in France, as the 'EU goes neck and neck with the US as the leading agricultural exporter' (European Commission, 2012, p. 1).

Moreover, since this model can be construed as an inspiring template to improve CI performance, one aspect that could be further explored is the qualitative and quantitative analysis of the outcomes triggered when one structure reaches different levels of each strand of the model. Thereby, a longitudinal study could lead to the simulation of the performance of a public agricultural organisation through the lens of its CI practices.

Lastly, other public organisations aware of the importance of CI in the tackling of new challenges brought about by the rapidly changing and fiercely competitive environment might also adapt and implement this model with the aim of improving the quality of their services for citizens as well as benefitting private organisations in the country.

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Appendix 1. Classification of jobs considered in the survey according to PACA (2007)

Type of jobs	Content
Technical support and analysis	Controller
	Laboratory technician
	Technical officer (Technical Assistant, identifier, hardware controller)
	Operating agent
	Specialized technician
Consultant (training and development)	Consultant / Company consultant
	Specialized consultant
	Trainer
	Training engineer
	Consultant / facilitator in local development
Surveys, R&D	Responsible for studies, methods and references engineering
	Project manager
IT	Computer operator
	IT project manager
Information/communication/library	Assistant librarian
	Librarian
	Communications specialist
Management	Technician
	Head of service
	Vice director
	director

Appendix 2. A Behavioural and Operational Typology of CI Practice in a French public organisation

GATHERING

Basic Gathering	Organisation which uses general publications and/or specific industry periodicals and think these constitute exhaustive information. Unlikely to commit resources to obtain information which may be difficult or costly to obtain.
Hunter Gathering	Organisation which knows that the Basic Gathering of information is available to all who care to look. Realizes that if CI is to have a strategic impact then additional, sustained effort is required. Resources are available which allow researchers to access sources within reasonable cost parameters; these types of organisations support their instincts, allow them to follow apparently irrelevant leads and spend time talking, brainstorming and thinking about CI problems without always being pressured for 'the answer.' Organisation appreciates and support intellectual effort.

LOCATION

Ad-Hoc Location	No dedicated CI unit. Intelligence activities when undertaken are on an ad-hoc basis, and are subsumed into other services with intermittent or non-existent sharing policies.
Designated Location	Organisation with a specific intelligence unit, full time staff, dedicated roles, and addresses agreed upon strategic issues. Staff has easy access to decision makers, and status is not a barrier to effective communication.

ATTITUDE

Immune Attitude	Too busy thinking about today to worry about tomorrow. Thinks that the organisation is either so small, so big or so special since public that it enjoys immunity from users/clients and thus CI is a waste of time. Minimal or no support from either top management or other services.
Task Driven Attitude	Finding answers to specific questions and extending what the structure knows about its environment, usually on an ad-hoc basis.
Operational Attitude	A process with the organisation at its centre, and individuals are encouraged to understand, analyse and interpret markets. Top management usually tries to develop a positive attitude towards CI because they can see it might increase service quality. Unwilling or unable, however, to think about the application of CI for the long term.
Strategic Attitude	Scanning of the environment, anticipating changes and working out response strategies. Receives both top management support, co-operation from other services and is recognized by all as essential for future success.

USE

Joneses User	Structure trying to obtain answers to disparate questions with no organisational learning taking place.
Knee Jerk User	Structure which obtains some CI data, but fails to assess its quality or impact, yet acts immediately. Can often lead to wasted and inappropriate effort, sometimes with damaging results.
Tactical User	CI used mostly to support tactical measures leading to the making of some changes on the market. Some organisations can successfully argue that CI causes a loss in impact and timeliness if it gets stuck at the strategic level but are, nevertheless, acutely aware of its
Strategic User	CI is used to identify opportunities/threats in the market and to aid effective strategic decision making. All levels of staff, management and operational, are aware of CSF's and their attendant CI requirements. Continuous, legal measures used to track the strategic environment, simulate their strengths and weaknesses, build scenarios, and plan effective counter attacks. Deciders are involved into a high number of 'what-if?' discussions for which data obtained from CI are applied. Contingency planning and counter intelligence is a part of normal strategic thinking. Open and facilitative management culture which displays trust and encourages involvement.

TECHNOLOGY SUPPORT

Simple Tech Support	The organisation just uses the free web resources such as a search engine which require no specific knowledge. Also, usage of general office software such as spreadsheets.
Average Tech Support	Using 'off the shelf' products such as meta-search engines which simply reorganize publicly available information for their own use. The structure might use web sites requiring specific knowledge (e.g. espacenet) and pay to use specialized websites and databases (e.g. patent and finance).
Advanced Tech Support	This information system holds vital and high level information as well as operational and tactical material. It is fully integrated throughout the organisation and continually evolves to meet requirements. Content analysis (e.g. statistical analysis) is provided.
High Tech Support	In addition to advanced tools, the structure uses 'clever' algorithms aimed at automatically understanding the strategic information collected. These algorithms are based on semantics.

IT SYSTEMS

Dismissive IT Systems	Does not use any IT systems to manage strategic information
Skeptic IT Systems	Has a system to manage strategic information but prefers to use paper based records. Does not trust IT systems sufficiently and is wary of their reliability
Standardized IT Systems	A standard existing system is purchased from a software vendor and installed on computers located within an organisation.
Hosted IT Systems	A standard system is used, but it is not managed by the structure itself (e.g. pay per view system).
Tailored IT Systems	In a tailored development, an off-the-shelf system or hosted solution is tailored according to a structure's needs regarding its strategic information.
Bespoke IT Systems	Unique to the organisation, a system which has been designed in-house and aims at collecting, analyzing and disseminating strategic information.

Appendix 3

Organization	Gathering			Attitude					Technology			Information System							Use					Location		
	G1	G2	Verdict	A1	A2	A3	A4	Verdict	TS1	TS2	Verdict	IS1	IS2	IS3	IS4	IS5	IS6	Verdict	U1	U2	U3	U4	Verdict	L1	L2	Verdict
DCA 1	17	6	G1	10	9	2	2	A1	23	0	TS1	14	1	2	0	2	4	IS1	10	1	3	9	U1	19	4	L1
DCA 2	16	13	G1	17	10	1	1	A1	29	0	TS1	19	1	4	1	0	4	IS1	17	1	6	5	U1	24	5	L1
DCA 3	32	17	G1	13	21	12	3	A2	49	0	TS1	28	4	6	0	4	7	IS1	26	5	9	9	U1	40	9	L1
DCA 4	15	12	G1	12	10	5	0	A1	27	0	TS1	17	2	2	1	3	2	IS1	10	1	7	9	U1	14	13	L1
RCA	18	7	G1	9	11	3	2	A2	24	1	TS1	13	4	0	0	1	7	IS1	1	11	8	5	U2	4	21	L2

Appendix 4

DCAs	Gathering			Attitude					Technology Support			Information System							Use					Location		
	G1	G2	Verdict	A1	A2	A3	A4	Verdict	TS1	TS2	Verdict	IS1	IS2	IS3	IS4	IS5	IS6	Verdict	U1	U2	U3	U4	Verdict	L1	L2	Verdict
Technician	13	15	G2	12	10	4	2	A1	28	0	TS1	17	1	1	0	6	3	IS1	13	1	6	8	U1	22	6	L1
Consultant	25	16	G1	16	13	10	2	A1	41	0	TS1	23	3	3	1	3	8	IS1	18	3	8	12	U1	27	14	L1
Surveys, R&D	28	8	G1	18	16	1	1	A1	36	0	TS1	24	2	5	1	0	4	IS1	19	3	8	6	U1	28	8	L1
Information/Communication/Library	1	1	G1 or G2	0	0	1	1	A3 or A4	2	0	TS1	0	0	2	0	0	0	IS3	1	0	1	0	U1 or U3	2	0	L1
Technical head. Head of service	11	8	G1	6	10	3	0	A2	19	0	TS1	14	1	2	0	0	2	IS1	11	0	2	6	U1	16	3	L1
Director. Vice-director	2	0	G1	0	1	1	0	A2 or A3	2	0	TS1	0	1	1	0	0	0	IS2 or IS3	1	1	0	0	U1 or U2	2	0	L1
TOTAL	80	48	128	52	50	20	6	128	128	0	128	78	8	14	2	9	17	128	63	8	25	32	128	97	31	128

RCA	Gathering			Attitude					Technology Support			Information System							Use					Location		
	G1	G2	Verdict	A1	A2	A3	A4	Verdict	TS1	TS2	Verdict	IS1	IS2	IS3	IS4	IS5	IS6	Verdict	U1	U2	U3	U4	Verdict	L1	L2	Verdict
Surveys, R&D	7	3	G1	4	3	3	0	A1	10	0	TS1	7	1	0	0	0	2	IS1	1	6	2	1	U2	1	9	L2
IT	2	1	G1	2	0	0	1	A1	2	1	TS1	0	1	0	0	0	2	IS6	0	2	1	0	U2	1	2	L2
Information/Communication/Library	1	2	G2	1	1	0	1	A1 or A2 or A4	3	0	TS1	0	0	0	0	1	2	IS6	0	0	2	1	U3	1	2	L2
Technical head. Head of service	6	1	G1	2	5	0	0	A2	7	0	TS1	4	2	0	0	0	1	IS1	0	2	3	2	U3	1	6	L2
Director. Vice-director	2	0	G1	0	2	0	0	A2	2	0	TS1	2	0	0	0	0	0	IS1	0	1	0	1	U2 or U4	0	2	L2
TOTAL	18	7	25	9	11	3	2	25	24	1	25	13	4	0	0	1	7	25	1	11	8	5	25	4	21	25

Appendix 5

DCA 1	G	A	TS	IS	U	L
Technician	G1	A1	TS1	IS1	U4	L1
Consultant	G1	A2	TS1	IS1	U1	L1
Surveys, R&D	G1	A1	TS1	IS1	U1	L1
Information/Communication/Library						
Technical head. Head of service	G1	A2	TS1	IS1	U4	L1
Director. Vice-director	G1	A3	TS1	IS2	U2	L1

DCA 3	G	A	TS	IS	U	L
Technician	G1	A2	TS1	IS1	U1	L1
Consultant	G1	A3	TS1	IS1	U1	L1
Surveys, R&D	G1	A2	TS1	IS1	U1	L1
Information/Communication/Library	G2	A4	TS1	IS3	U1	L1
Technical head. Head of service	G1	A1	TS1	IS1	U1	L1
Director. Vice-director	G1	A2	TS1	IS3	U1	L1

DCA 2	G	A	TS	IS	U	L
Technician	G2	A1	TS1	SI1	U1	L1
Consultant	G1	A1	TS1	SI1	U1	L1
Surveys, R&D	G1	A1	TS1	SI1	U1	L1
Information/Communication/Library						
Technical head. Head of service	G1	A2	TS1	SI1	U1	L1
Director. Vice-director						

DCA 4	G	A	TS	IS	U	L
Technician	G1	A1	TS1	IS1	U4	L1
Consultant	G2	A1	TS1	IS1	U1	L2
Surveys, R&D	G1	A2	TS1	IS1	U1	L1
Information/Communication/Library	G1	A3	TS1	IS3	U3	L1
Technical head. Head of service	G2	A2	TS1	IS1	U1	L1
Director. Vice-director						

Appendix 6

DCA 1

Type of job	Main target	Level of gathering
Technician	Farmers	G1
Consultant	Farmers	G1
Surveys, R&D	Farmers	G1
Information/Communication/Library		
Technical head. Head of service	Farmers	G1
Director. Vice-director	Farmers	G1
TOTAL	23 persons	

DCA 2

Type of job	Main target	Level of gathering
Technician	Farmers	G2
Consultant	Farmers	G1
Surveys, R&D	Farmers	G1
Information/Communication/Library		
Technical head. Head of service	Farmers	G1
Director. Vice-director		
TOTAL	29 persons	

RCA

Type of job	Main target	Level of gathering
Surveys, R&D	Farmers	G1
IT	Internally	G1
Information/Communication/Library	Farmers	G2
Technical head. Head of service	Farmers	G1
Director. Vice-director	Elected officials	G1
TOTAL	25 persons	

DCA 3

Type of job	Main target	Level of gathering
Technician	Farmers	G1
Consultant	Farmers	G1
Surveys, R&D	Farmers	G1
Information/Communication/Library	Farmers	G2
Technical head. Head of service	Farmers	G1
Director. Vice-director	les élus	G1
TOTAL	49 persons	

DCA 4

Type of job	Main target	Level of gathering
Technician	Farmers	G1
Consultant	Farmers	G2
Surveys, R&D	Farmers	G1
Information/Communication/Library	Internally for services	G1
Technical head. Head of service	Elected officials	G2
Director. Vice-director		
TOTAL	27 persons	