



Prospects for Farmers' Support:
Advisory Services in European AKIS

AKIS and advisory services in Greece
Report for the AKIS inventory (WP3) of the PRO AKIS project

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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 Greece, 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.

The agricultural sector in Greece is characterised by one of the highest proportions of small scale family farms in Europe. The average age of farmers is higher than in most European countries while, at the same time, their education is lower. Crop production is much more important than livestock production (73:27 in terms of gross output, 2010). The main crops are cereals (mainly maize and durum wheat), olive plantations, cotton, fruit trees, fresh vegetables, vineyards and potatoes. Small ruminants are predominant in animal production, esp. in mountainous areas.

In Greece the AKIS is highly fragmented and ineffective. Decentralisation and the current financial crisis, which implies the further downsizing of the state, resulted in a tripartite extension structure: the headquarters of MRDF (including the Dir. of Extension), isolated from the lower levels; regional and sub-regional services under the Ministry of Interior; and, local offices under the Municipalities. Although the tasks of all the sub-national levels emanate from MRDF, such a structure, along with the breakaway of research and (farmers') training from the Ministry into semi-autonomous organisations has led, at best, to extremely weak linkages and thus coordination and cooperation among the main public AKIS components.

Given that, since the accession to the EEC/EU in 1981, the Greek Extension Service gradually got more heavily involved in fulfilling the increasing administrative bureaucratic tasks of the State, extension activities are largely carried out by private companies (branches of transnational companies) through private agronomists – input shop owners at the local level. On the other hand, private consultants (agronomists) serve those interested in having access to EU programmes and are thus severely restricted in terms of advice on farm development issues. An exception to this picture concerns producer groups certified under the Integrated Management System for agricultural production.

Overall, in the last 30 years, despite continuous calls for the reorganisation and reorientation of extension services in Greece, the extension system has been disrupted. The underway restructuring of MRDF and the establishment of ELGO may be a chance for improvement.

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List of Acronyms

Acronym	Explanation
AGRO 2.1 & 2.2	Integrated Management System standards
AGROCERT	Agricultural Products Certification and Supervision Organization
ANKA S.A.	Development Agency of Karditsa
AWU	Annual Work Unit
DA	Development Agency
EASA	Fruit Producer Group/ REA Fresh
EKDD	National Centre for Public Administration & Local Government
ELGO DIMITRA	Ex NAGREF, OGEEKA, AGROCERT and ELOGAK
ELOGAK	Greek Organisation for Milk and Meat
GEOTEE	Geotechnical Chambers
HEIs	Higher Education Institutes
KEGE	Local Farmers' Training Centres
KEPPYEL	Centre for the quality control of propagation materials & fertilizers
MoA	Ministry of Agriculture
MRDF	Ministry of Rural Development and Food (ex MoA)
NAGREF	National Agricultural Research Foundation
OGEEKA	Organisation of Agricultural Vocational Education, Training and Employment
OPEKEPE	Greek Payment Authority of Common Agricultural Policy
PASEGES	Pan-Hellenic Confederation of Unions of Agricultural Co-operatives
PEGEAL	Regional laboratory of agricultural extension and fertilizer analysis
PGs/POs	Producer Groups
TOKAA	Local Centres for Rural Development

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1. Main structural characteristics of agricultural sector of the country

The agricultural sector in Greece is important for both the rural areas and the national economy, in general. Indeed, agriculture's contribution to employment is as high as 12% (2011); agriculture contributes 3.4% to the GDP (2010) and further affects significantly other sectors of the economy¹ as well as the country's social and cultural development. Farm size is on average small (just under 5 ha) with the majority of agricultural holdings (76%) not exceeding 5 ha. Around 33% of the agricultural population is over 64 years old (55% over 54 years). At the same time, Greek agriculture is very heterogeneous; a major distinction is that between, on the one hand, agriculture in plain, irrigated areas and, on the other hand, agriculture in less favoured and mountainous areas and the islands.

Crop production is much more important than livestock production (73:27 in terms of gross output, 2010). Cereals cover (2010) around 1,030 thousands ha. followed by olive plantations (717 thousands ha), cotton (255 thousands ha), fruits (200 thousands ha), fresh vegetables (81 thousands ha), vineyards (67 thousands ha), and potatoes (30 thousands ha).

The harvested production of cereals amounts to 4098.1 million tons (2011), with maize and durum wheat accounting for about three quarters of it. The harvested production of fruits and vegetables amounts to about 7.2 million tons, almost equally divided between fruits and vegetables. Tomatoes are predominant among vegetables while fruit production mainly concerns citrus fruits, peaches and nectarines, water melons, table grapes, apples, melons and pears; the production of olive oil is also very important (roughly 225,000 tons annually) for Greece.

The breeding of small ruminants (sheep and goats) is a traditional activity for Greece (56% of the country's livestock units in 2010), esp. in the mountainous areas. It mainly concerns labour-intensive units with the animal grazing for around seven months in mountainous grasslands; modern, capital-intensive units are nevertheless currently developing in the plains. The PDO feta cheese is the most important and well known dairy product (100,000 tons/year).

The European Union is the main destination for exported agricultural products (ca. two-thirds of total value), although Greece's penetration of core European markets is extremely low. In parallel, Greece is a net importer of almost all agricultural products with the exception of fruits & vegetables and aquaculture products; bovine meat and dairy products which are responsible for two thirds of the deficit.

However, during the crisis (2008 – 2013) a number of interesting developments are taking place. The contribution of agriculture to the GDP has increased to 4.1% as a result of the recession in the other sectors of the economy. Furthermore, agriculture resists the increasing rates of unemployment and some trends for 'return to agriculture' are observed. And, exports of agricultural products are increasing. At this point, the prospects of Greek agriculture seem more favourable when compared to the other sectors (Kasimis and Zografakis, 2013).

¹ For example, food processing is the largest sub-sector of manufacturing in Greece. According to McKinsey & Company (2012) this owes to the availability of high quality raw materials, specialized know-how and reasonable costs. The study recognizes four high-potential categories: oil & fats, fruits & vegetables, dairy and bakery products.

Overall a number of structural as well as other weaknesses can be identified. These include the small size and fragmentation of farms; the ageing farming population and the lack, on their part, of agricultural education/training; lack of investment (owing, among other reasons, to the lack of credit due to the financial crisis); the imbalance between crop and livestock production; the lack of a holistic and focused product and export strategy; the weak structure and position of coops (notably, the lack of marketing coops); the lack of product differentiation towards high added value products; and, in general, the low productivity and competitiveness (increased production costs and low producer prices; overall deteriorating farming incomes).

2. Characteristics of AKIS

2.1 AKIS description

In Greece the main AKIS actors can be depicted according to the (administrative) level of operation: national, regional and local.

At the national level the main actors are: the Ministry of Rural Development and Food (MRDF/ex-Ministry of Agriculture), ELGO DIMITRA (incorporating the ex-semi-autonomous organisations NAGREF, OGEEKA, AGROCERT and ELOGAK²), Higher Education Institutes (HEIs)³, private companies (branches of transnational companies) and PASEGES (Pan-Hellenic Confederation of Unions of Agricultural Co-operatives).

At the regional level the main actor is the regional Directory of Agricultural Economy and at the sub-regional (ex-Prefectural) level, the Directorate of Agricultural Economy & Veterinary and local Development Agencies; NAGREF and OGEEKA DIMITRA also operate institutes and research stations, and local farmers' training centres (KEGE), respectively, at this level. Unions of Cooperatives (PASEGES branches) are also found at regional or sub-regional level. Finally, private consultants-agronomists and private input shops (run by agronomists) are found usually at sub-regional/ex-prefectural level.

At the local (municipality) level the main actors are: the Municipal Agricultural Production Offices (ex-Agricultural Extension/Rural Development Offices), local cooperatives (Coops Union branches) and, of course, individual farmers.

In Greece there is actually neither a national policy framework nor a coordination mechanism or agreements between the aforementioned AKIS actors. Indeed, it is a common understanding that, despite rhetoric and marginal, fragmented actions, MRDF has long since ceased to put together an overall national strategy for agriculture and rural development; instead MRDF rather plays the role of an intermediary transferring and controlling the implementation of EU policies (CAP Regulations and relevant financial resources/subsidies) in the country.

On the other hand, during the last 25 years, in the name of the downsizing of the state, decentralization (Decentralisation Laws I-Kapodistrias and II-Kallikratis; see below), and lately the economic crisis, the previously existing structures under one authority (from the national to the sub-regional to the local level), i.e. the Ministry of Agriculture, have become (semi)autonomous and/or transferred under new administrative structures/authorities (e.g. the Ministry of Interior; see below). As a result, nowadays, the overall picture is that of a highly fragmented, uncoordinated and dysfunctional AKIS.

This is, more or less, the common understanding of the current situation, among actors at various levels, in Greece. This, in turn, along with the pressure for the restructuring (downsizing) of the

² NAGREF: National Agricultural Research Foundation; OGEEKA: Organisation of Agricultural Vocational Education, Training and Employment; AGROCERT: Agricultural Products Certification and Supervision Organization (responsible for the implementation of national policy on quality in agriculture); ELOGAK: Greek Organisation for Milk and Meat.

³ Agricultural University of Athens; School of Agriculture, Aristotle University of Thessaloniki; Dept. of Plant Production and Dept. of Animal Production, University of Thessaly; Dept. of Agricultural Development, Democritus University of Thrace; and, a number of Higher Technological Institutes.

public sector by the Troika, has triggered dialogue on ways to bring about change. However, the orientation of change is not clear since stakeholders have divergent aims.

A first step was undertaken in (October) 2011 with the establishment of ELGO DIMITRA. Nevertheless, it is only nowadays (2013) that the organisation actually started to consolidate its new administrative structure (comprising four General Directories, with NAGREF and OGEEKA becoming distinctive GDs, AGROCERT and ELOGAK amalgamated into one GD and the administrations of the four previously semi-autonomous organisations merging into one DG) with no indication of the ways that the activities of the GDs (i.e. research, training/information, quality issues and standards, etc.) will be coordinated or interact to add value in the new structure.

Nowadays, the restructuring of MRDF is also discussed (as Greece has to cut down its public services' structures by 30% in the framework of its obligations to the Troika). Various drafts of the new structure have been presented thus far and the result is not clear yet. It has to be noted though that the first (not official) draft did not include the current Directory of Extension. On a second thought, a Directory of Agricultural Extension, Innovation and Research has been proposed (under a new GD of Rural Development) comprising the sections: Research, agricultural education and training; Rural population information; Production innovation; and, FADN/RICA. It is further proposed that the Ministry establishes its own structures at sub-regional level (ex-Prefectures) amalgamating the existing KEPPYEL and PEGEAL⁴ to cater for the extension/advisory needs in the countryside.

On the other hand, the Geotechnical Chambers (GEOTEE), taking into account the rapidly emerging predicaments among the various disconnected levels of administration and, fragmented and overlapping competences, propose the amalgamation, under the MRDF, of all relevant services at sub-regional (ex-Prefectural) level along with the establishment of teams of experts in the Ministry (as think-tanks which extensionists may address for solving new and peculiar problems) as well as the (re)establishment of experimental and demonstration plots and the recruitment of agronomists-extensionists.

⁴ KEPPYEL: Centre for the quality control of propagation materials & fertilizers (39 all over Greece). PEGEAL: Regional laboratory of agricultural extension and fertilizer analysis: they carry out water, soil and leaf analyses and provide advice to farmers on fertilization (7 all over Greece). There are also 7 Regional centres for plant protection and quality control (providing information/recommendations on appropriate plant protection interventions according to agro-climatic, etc. conditions).

2.2 AKIS diagram

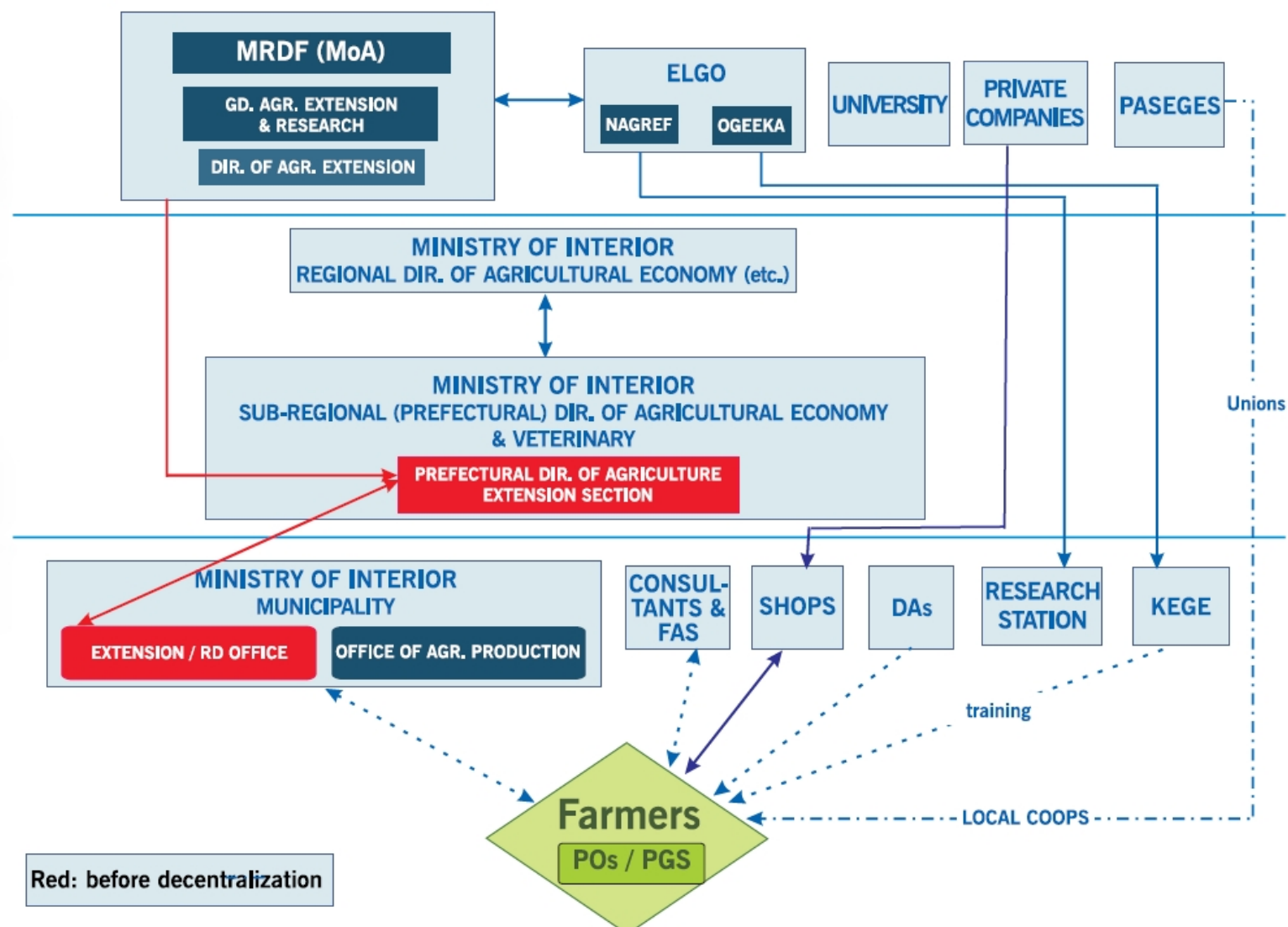


Figure 1. Agricultural Knowledge and Information System (AKIS) in Greece

Table 1. Overview of organisations creating the AKIS

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	Advisory department of the Ministry of agriculture			X	X							
	Local/regional agencies			X	X							
	Other (specify)											
Research and Education	University			X	X							
	Research Institute										X	
	Other education bodies (specify)											
Private sector	Upstream industries									X		
	Downstream industries									X		
	Independent consultant								X			
	Private agricultural advice company								X			
	Farmers' owned advice company											
	Other (specify)											
Farmer based organisations	Farmers' cooperative			X	X			X				
	Chambers of agriculture											
	Farmers' circles/groups			X				X				
	Other											
NGO												

3. History of the advisory system

In the past, each of the prefectural Directorates of Agriculture was a branch (and integral part) of the Ministry of Agriculture (MoA); each Prefectural Dir. was further branched with Extension Offices in major towns and villages in each Prefecture, supervised by the Dir's Extension Section. The Dir. was also responsible for the local Training Centres (KEGE). In some cases other branches of the MoA were also present at Prefectural level (irrigation/land improvement Dir., veterinary Dir., specialised labs, etc.). This way there was two-way communication between the MoA headquarters in Athens and the decentralized services in the countryside. Furthermore extension programming (involving tangible, quantified targets) and evaluation were carried out.

After the country's accession in the EEC (1981), the role of MoA and the extension service gradually changed to become a bureaucratic mechanism responsible for the distribution (and control) of subsidies. Therefore, information provision and training faded out and experimental and demonstration fields were abandoned on behalf of the maximisation and distribution of subsidies to farmers.

In 1989 NAGREF was established in an effort to promote agricultural research in Greece. The new organisation mainly recruited MoA staff. The ambition of the first Boards to initiate NAGREF's own extension service was never realised.

With the first wave of decentralization (Kapodistrias plan, 1997), the Prefectural Directorates of Agriculture were cut away from MoA and transferred under the jurisdiction of the (for the first time elected) Prefectural authorities. The agronomists were thus transferred from MoA to the Ministry of Interior and controlled by the Prefect (prefectural governor) although the great majority of their tasks still proceeded from MoA. Furthermore, the Prefectural service became vulnerable to local pressures and politics.

The establishment of the OGEEKA DIMITRA as a semi-autonomous organisation in 1997 implied the further downgrading of farmers' training due to the lack of staff and funds of the new organisation. Farmers' training focused on those entering EU programmes, mainly Young Farmers (300 hours) and participants in modernisation schemes (150 hours). At a later stage (1994) training was restricted to Young Farmers (150 hours). In the last decade OGEEKA expanded its activities to rural women (150 hours) and short seminars (60 hours) among which those for beekeepers are quite popular. Overall though, and despite improvements, the level of training (duration, topics, content, trainees, methodology, organisation and evaluation) are but satisfactory.

The establishment of OPEKEPE, the Greek Payment Authority of Common Agricultural Policy (C.A.P.) Aid Schemes in 1997 (operational since 2001) implied the creation of a central service in Athens and its own branches at regional/sub-regional level which nevertheless were cut off from the Prefectural Dirs, responsible thus far for the control and payments of subsidies, grants, etc.

In 2005, in an effort to counterbalance the lack of extension services in the countryside the MRDF (MoA was retitled to MRDF in 2004) established (by Law) the TOKAA (Local Centres for Rural Development). These centres were actually in operation in 2008, staffed with highly

qualified agronomists. However, they never got off the ground and in 2010 they were closed down and their staff mainly transferred to OPEKEPE and the headquarters of MRDF and KEPPYEL.

The Kallikratis plan in 2010 (aiming at saving public money through the reorganisation and decentralisation of the public services) implied the breakup of the regional services in two levels: regional and sub-regional (ex-Prefectural), and municipal. In parallel, various Dirs (agriculture/agricultural economy, veterinary, fisheries and land policy) were amalgamated into a single Dir. of Agricultural Economy & Veterinary at sub-regional (ex-Prefectural) level.

Overall the two waves of decentralisation resulted in a dual structure: the headquarters of the MRDF and the regional and sub-regional services with no actual coordination among them. The changes introduced by the Kallikratis plan as implemented nowadays (local level) create yet another, rather disconnected level, the Municipal Offices of Agricultural Production.

According to a Presidential decree for MoA (1990), at this point MRDF comprises seven General Directories one of which is the GD of Agricultural Extension & Research. This, in turn, comprises five Directories, one of which is the Dir. of Agr. Extension with six Sections: a) programmes' coordination, implementation and evaluation; b) restructuring and modernization of production units; c) innovatory/specialised technology and activities (knowledge transfer to branches, identification of problems to be transferred to research); d) in-service training; e) rural exhibitions, archives, museums and libraries; f) information of rural population (publicity). Of these, (a) supervises OGEEKA (given that extension programmes are not carried out any more); (b) deals with FADN/RICA (since modernisation schemes, early retirement and the Young Farmers programmes were transferred to the Dir. of Programming and Agricultural Structures, MRDF); (c) is no longer operational; (d) has been transferred to the Dir. of Education/GD of Administrative Support, MRDF which cooperates with EKDD (National Centre for Public Administration & Local Government) providing training on administrative matters; (e) deals with the promotion of agricultural products (in-country and abroad, based on the examination and financing of producers' or processors' groups and coops); and, (f) produces print materials upon request from other Dirs of MRDF (mainly as information/promotional material for exhibitions/fairs)⁵.

A further problem is that services at all levels are understaffed, a phenomenon which is expected to intensify due to the retirement of a large number of agronomists who entered the service in the period 1981 – 1987 and the prohibition of hiring new staff (rule of 10:1 imposed by the Troika). On top of this, the restriction of travelling by a further 2/3 confines agronomists to the office and thus curtails the contacts between agronomists and farmers.

Overall, in the last 30 years the need for extension has been seriously downplayed (see literature review in Appendix) as a result of the dominant attitude according to which the absorption of available EU funds (subsidies and grants) overwhelmed 'the need to produce'; in this sense, the scientific support of farmers (being thought of as 'entrepreneurs') was not deemed 'necessary'.

⁵ The production of audio-visual materials for radio and TV programmes as well as of print materials distributed to farmers (through prefectural and local Extension services) stopped in 2009.

4. The Agricultural Advisory Service(s)

None of the national level organisations, i.e. MRDF, ELGO (esp. NAGREF; less OGEEKA) or HEIs⁶, is involved in the provision of advisory services, with the exception of PASEGES. It may thus be argued that while NAGREF and HEIs generate new knowledge or adapt existing knowledge, currently they face rather insurmountable difficulties in transferring such knowledge to farmers with the exception of sporadic events (seminars or public presentations/talks) and publications which nevertheless do not actually reach farmers (or, are written for farmers).

MRDF is primarily occupied with the CAP implementation (albeit without serious efforts to adapt them to the Greek peculiarities).

As far as NAGREF is concerned, it has to be noted that although representatives of Ministries (MRDF & Mo Development) and the GEOTEE (Geotechnical Chambers of Greece) sit on the Board of NAGREF the lack of a clear strategy for Greek agriculture and of funding do not allow for the design of research strategy in order to correspond to contemporary needs in agriculture and rural development. The lack of funding results in the dependence of researchers on EU funded projects which nevertheless rarely correspond to the needs of Greek farmers. Furthermore, even when in a few cases research is carried out covering topics of interest to Greek agriculture (for example arboriculture) there is no mechanism for the dissemination of the results. For the moment NAGREF also suffers from the lack of researchers with the number of personnel in administration by far surpassing the numbers of researchers. Currently, there are indications that NAGREF may be supported with post-doc researchers. Overall, there is a need for major restructuring of the Foundation (including the recruitment of researchers and the re-organisation of its institutes).

On the other hand, OGEEKA, although having the mandate to provide information to farmers, does not have the staff (and funds) to carry out extension activities; it is thus only involved in training (and, sometimes, initiatives taken by the organisation's local employees-agronomists to carry out talks and presentations). The fact that there is no cooperation between the aforementioned organisations (and extension programmes are not carried out) makes the design of appropriate courses for farmers difficult due to, among others, the lack of knowledge of the local farming systems.

PASEGES carries out some short seminars and presentations at local level mainly on technical matters; however, due to financial restrictions (including the withdrawn of the funding, on the part of MRDF, intended to support farmers' training) in the last few years such activities also seriously curtailed (estimated 50% as compared to 2008). Their main information activities relate to projects in which they are partners. Main sources of information are their office in

⁶ HEIs research depends heavily on EU-funded projects. Some HEIs have recently started (triggered by the crisis and a foreseen interest in agriculture on the part of the rising numbers of unemployed) to carry out open days providing information on various topics (both conventional and new agricultural systems). Furthermore, demand-driven seminars on certain topics are scheduled for those expressing interest (attendance implies a fee to cover relevant laboratory work, etc. costs). On the other hand, the limited offering of courses on extension in the Greek HEIs should be underlined.

Links between the University and MRDF exist, although informally (for example, university staff is invited in various occasions to sit in committees discussing topics related to agricultural and rural development; a recent example is that of the working teams on the new Rural Development Programme 2014-2010).

Brussels and the umbrella organisation COPA-COGECA, and project partners. PASEGES has the potential to address specific target groups as they have relevant data and can mobilize target groups through their branches at sub-regional and local level. Nowadays they work through their portal (including a, previously printed, e-magazine) as well as with specific types of cooperatives (as for example women's coops which they assist with fiscal and legal issues as well as with information on marketing and the production of safe and qualitative products). The organisation's representatives stress the lack of an advisory mechanism as well as of a strategy for agricultural development in Greece. They see some potential in contract agriculture and underline their knowledge needs in relation to the new CAP as well as the competitiveness and marketing of Greek products.

Finally, on their part, branches of transnational input companies transfer new knowledge related to their products to the private agronomists (running input shops) at the local level⁷.

The same is, more or less, true for the regional and sub-regional (ex-Prefectural level) public services created through the two decentralisation waves/laws. Structures at that level(s) are exclusively occupied with administrative-bureaucratic work.

For example, the Prefectural Directorate of Rural Development in Karditsa sub-region (ex-Prefecture) comprised (until the second wave of decentralisation in 2010) 12 Sections. The Agricultural Extension & Development Section was responsible for: a) the provision of information to any interested person or agency in relation to the EU/national programmes carried out by MRDF; b) the monitoring of investments and the follow-up in relation to the compliance to the prerequisites; c) FADN/RICA; d) updating the Farmers' Registry; and, e) bureaucratic tasks. The Dir. was also in charge of four local offices located in the 4 main towns of the Prefecture; the agronomists working in these offices were carrying out extension work (information provision, on-farm advice, public announcements through the Dir. concerning warnings and emergencies).

With the new structure (according to the Kallikratis plan, 2010), a new Directorate of Agricultural Economy and Veterinary is established (relating to two Directorates at regional level, that is the Dir. of Agricultural Economy and the Dir. of Veterinary). This new sub-regional Dir. does not include an Extension Section as such; it is only indirectly (i.e. the implementation of programmes relating to the quality of produces) that agronomists may undertake some extension work. Furthermore, the local offices are in the process of being transferred to the Municipalities. These offices (Agricultural Production & Development) include extension as one of many tasks (see below).

At the sub-regional (and local) level, private agronomists (shops) and private consultants-agronomists are the main supporters of farmers albeit in differing roles.

Private shop owners-agronomists make a living from selling inputs to farmers. Their espoused main goals are the improvement of quality and quantity, (production) cost reduction and environmental protection. Information/advice is provided for free to farmers and mainly

⁷ In the last 2-3 years various companies (transnational, consultancy groups, groups/companies of agronomists, etc.) provide a wide variety of information on agricultural topics, in the first place through their sites. Furthermore, whoever is interested may get in contact with these companies to receive further assistance (attend seminars, ask for a techno-economic study and/or proposal application, etc.; a fee is foreseen per package).

concerns the use/application of inputs, esp. fertilization and plant protection, and the introduction of new crops and/or varieties. Shop owners are university graduates (but none of them has additional training or certification), with varying professional experience (3 to 14 years) and mainly operate the business by themselves and at local (sub-regional/ex-Prefectural) level; in the case such a shop operates at an extra-local (i.e. regional) level other agronomists and/or auxiliary staff may be employed (women agronomists in shops are a rather marginal phenomenon). Shop owners may be also involved in other activities; for example, in Karditsa, one of the interviewees also runs an oenological lab while another one works with the introduction of new crops (hippophaes). The former is paid per analysis by the farmer concerned while the latter works on a contractual basis with farmers.

The working time is allocated as follows: for 25% (20% - 30%) of the shops' overall working time; R&D accounts for 5% for two of the shops and 20% for the one working with hippophaes. Around 50% of the working time (30% - 70%) involves administrative tasks. Marketing concerns rather smaller fractions of the total shops' working time (5% - 20%).

Advisory work is allocated as follows: management accounts for 20%; information activities for 25%; educational activities for 20%; advisory services for 15%; and, own improvement for 17% (5%-30%). The main method used is individual contacts (75%), followed by group (15%) and mass media (0% - 15%). On farm advice (visits to fields to detect farmers' technical/production problems) ranges from 1/3 to 1/2 (average 41%) of the individual extension work followed by advice provided outside the farm (1/3; i.e. farmers' visits to the shops not including informal contacts taking place in the local cafes which function as a two-way communication process – i.e. agronomists respond to farmers' requests and take notice of farmers' problems and innovations/adaptations of technology/practices), and telephone calls (average 22%). Group extension is carried out outside the farms; the agronomist involved with hippophaes claims that 10% of the working time is devoted to training (re: the introduction of hippophaes in the area) while the agronomist operating the oenological lab has recently also carried out a training session on viticulture with a group of 30 farmers. Mass media extension largely concerns (> 80%) the uploading of information on the shops' website.

The number of clients for the newer shops is around 100 farmers while for the long established one is more than 500. The latter is also occupied with bookkeeping for farmers involved in the 'reduction of nitrate pollution caused by agriculture' programme. The average farm size is around 7-8 ha while for the one working with viticulture is around 0.5 ha. The target group of the agronomists are individual farmers; shops work with commercial farmers (medium and small) while the one with the oenological lab works with small commercial farmers as well as with subsistence and part-time ones.

All the agronomists mainly provide advice on plant production (new varieties, plant protection, fertilisation, with mainly commercial farmers being also interested on machinery). On average delivered advice concerns environmental issues (mainly responding to requests concerning the availability of subsidised programmes) and diversification/new products (mainly the one working with hippophaes who receives requests on hippophaes, goji berry, and other 'exotic' crops); rural development issues are seldom delivered. Finally, the one with the oenological lab

works with producer groups and young farmers on wine making units. None of the shops work on the basis of extension programming or are involved in FAS.

All shop owners-agronomists claim that they need to be informed and trained on all kinds of topics to meet the challenges of the new CAP. Currently, their main (very relevant) sources of information are: private (inputs) companies (3/3), the internet (3/3), university (2/3), and public research (2/3), followed by private (processing) companies; other sources are of little or no relevance. All agronomists have intensive cooperation with private (inputs and processing) companies and cooperation with private consultancies/enterprises. Intensive cooperation with university is indicated by two of the agronomists and with public research by one of them⁸. Cooperation with public authorities and NG research is indicated by one.

At this point it has to be mentioned that transnational companies transfer (imported from their headquarters abroad) knowledge/technology through a) their salesmen/agronomists to the shops/local agronomists they cooperate with (80%), b) open days for all the local/regional agronomists (15% where the company's specialist-agronomist may also participate), or c) directly to farmers (5%). As far as the latter case is concerned, bigger/innovative farmers are identified through the local shops' agronomists and are encouraged to try new inputs/practices; in turn, they receive inputs for free and may also get a small reward. Often, the results of such trials are locally disseminated through word of mouth and observation of the experimental plot.

It is the common understanding of these shop owners-agronomists that in Greece here is no strategy for agriculture and rural development; instead various scattered efforts take place at local level with no coordination or 'lessons learned' to be further disseminated. Additionally, they all claim that farmers are addicted to subsidies and are not willing to pay for advice.

Local consultants are agronomists (university graduates with further training and certifications⁹). Their professional experience varies between 3 and 10 years. Their income comes from the fees paid by farmers mainly relating to the preparation of applications for access into EU programmes (Young Farmers, early retirement, modernization schemes, nitrate pollution, etc.); payment is per application¹⁰. They usually operate on extra-Prefectural level. Their main goal is to inform farmers on running programmes and to prepare their applications. They employ other (full or part-time) agronomists as well (very few women involved).

Most of their working time (70%) is devoted to direct contacts with farmers and the rest concerns administration tasks (re: preparation of the application forms). As far as their extension work is concerned this is allocated as follows: advisory services (35%), own improvement

⁸ The agronomist working with hippophaes cooperates with a university abroad as well as with the University of Thessaly to carry out experiments (re: hippophaes) on his own or relatives' farms; he is also in non-formal co-operation with NAGREF. He therefore claims that he generates knowledge on hippophaes which he disseminates to farmers-clients. The plan is to start carrying out open days on new cultivations in order to attract investors and farmers with the agreement that when farmers start to produce and make profit 30% goes to investors and 10% to the agronomist.

⁹ The consultants are certified in relation to the programmes they work with as well as in FAS. One of them is certified in HACCP as well as a trainer in vocational training (through the National Organisation for the Certification of Qualifications and Vocational Guidance). One of them attended training concerning AGRO (the Greek quality standards) by a private training organisation.

¹⁰ There is no standard fee. In case the application is successful the farmers gets back the fee paid to the agronomist (up to €2000).

(27.5%), management (22.5%) and information (15%). The main method of advisory work is individual contacts (90%) followed by group extension and mass media (5% each). One-to-one outside the farm and telephone contacts are the main techniques used (65% and 32.5% respectively). With respect to the preparation of applications the two consultants have an average of 900 clients (300 and 1,500 respectively). The consultants' clients cultivate on average 10 and 5 ha., respectively. The first consultant works almost exclusively with (medium and small) commercial farms while the second one works with semi-subsistence and part-time farmers as well. Plant production, rural development, cross-compliance and agri-environmental programmes are topics often delivered by both consultancy offices. The first one also works with animal production and stable design, while the second one with renewable energies. Business diversification is a secondary topic for both consultants.

Commercial farmers ask advice on plant production (plant protection, processing, marketing, subsidies) and machinery but, according to one of the consultants, also about bookkeeping. The consultant working with animal production also receives relevant requests (breeds, processing, marketing) by large and medium commercial farmers. Cross-compliance is a common topic with the farmers-clients of the consultants. Young farmers (including women) demand advice on all the aforementioned topics - although differentiated between the two consultants - plus rural development.

Only one of the consultants keeps relevant records (farm performance evaluation).

They both claim that they need to be informed and trained on all kinds of topics to meet the challenges of the new CAP (with the exception of climate change and biodiversity on the part of one of them). Their main source of information is the internet, followed by public authorities and private consultancies/enterprises. Of little relevance are (input and processing) companies and, for one of them, the university. They mainly cooperate with private companies, followed by public research and public authorities.

They are both involved with FAS. It is very interesting to note at this point that none were able to attract farmers in FAS - although they addressed farmers from the pool of those they were already in contact/ co-operation with. For consultants, farmers do not feel the need to pay, at least, for advice concerning issues beyond production; furthermore, farmers believe that it is an 'obligation' of private agronomists (in shops) to provide advice for free when they buy inputs or when they meet at local cafes or social events.

The main problems reported concern farmers' attitude ("they know everything"); the wide range of conditions farmers work with (including farm fragmentation) and thus the applicability of the (general) advice/recommendations provided; the inadequate information provided by the Ministry (including late updates on the Ministry's website, while agricultural related social media are much quicker in providing updates); the demand on the part of the farmers that agronomists have (are obliged) to provide advice for free; and, the client focused attitude of all the parties (MRDF, local Dir., agronomists, farmers) involved in programmes. Their own needs concern their update on programmes, their payment for advice and the quicker evaluation of farmers' applications on the part of MRDF.

As far as the local KEGE is concerned, besides its training functions (based on EU and relevant national funds), depending on the local employee's (agronomist's) initiative some seminars and public talks may take place, including cooperation with public (primary and secondary) schools (for example on "environment and agriculture"). Furthermore, demonstration work may take place depending on the interest shown and sponsorship provided by private companies. The local KEGE agronomist may also provide some off-farm advice upon farmers' request (which nevertheless is very restricted in terms of working time allocation, ca. 2-3%). The main clients of the Young Farmers training programmes taking place at KEGE are farmers with over 1.5 AWU. Depending on the trainees, the main topics dealt with are plant and animal production, cross-compliance and environment followed by bookkeeping and machinery, diversification and the CAP. The programme is in general designed at the OGEEKA headquarters and trainers are local agronomists¹¹.

In terms of the advice requested small commercial farms and Young Farmers are interested in almost all topics (with the exception of environment and renewable energies). The main topics concerning plant production are as follows: plant protection, fertilization, post-harvest treatments, while for animal production are: diseases, feeding and processing.

The main sources are the university and private consultancies/enterprises followed by public research and private (processing) companies. Cooperation exists with universities and to a lesser degree all others but NG research and private (processing) companies.

The main problem faced concerns the lack of staff and funds to carry out advisory work. Extension, for him, is badly needed in order to sustain and develop agriculture; additionally, there is a need to transcend typical in-class training and engage in experiential learning and mentoring.

The new municipal Offices of Agr. Production are staffed by agronomists working either at the ex-Extension/RD Offices of the Prefectural Dir of Agriculture or agronomists recruited by the municipalities in 1997, as foreseen by the first wave of decentralisation (Kapodistrias plan). Their staff (agronomists, university graduates) is funded by the municipality (public funding). They are not involved in FAS. Despite their goal being the transfer of knowledge to farmers, only half of their working time is devoted to advisory work; 30% concerns administrative and management issues followed by looking for information. In turn, most of their advisory work concerns management (40%) and information (20%) relating to farmers' needs vis-à-vis various programmes; advisory covers 20% and education as well as own improvement 10% each. In terms of methods, individual contacts with farmers predominates (90%) comprising one to one outside the farm advice (80%), on-farm advice (10%) and telephone calls (10%). Group activities account for 5% of advisory work (all outside the farm) mainly in the form of public talks (on new crops, plant protection, etc.) and excursions relating to the introduction of new, subsidised techniques/practices. Finally, mass media account for 5% of their extension work (90% publications). The municipal agronomists do not have a specific target group but serve all

¹¹ Most of the trainers are certified with the National Organisation for the Certification of Qualifications and Vocational Guidance. The quality of the training provided largely depends on the interest of the trainers-agronomists (public and private) who are paid as trainers; evaluation is rather a routine process than a critical component of the seminars.

the interested farmers of the municipality. The main topics delivered (upon farmers' request) are plant production (new crops) and animal production (diseases, milking machines), followed by rural development (CAP) and cross-compliance. Their most relevant knowledge source is the internet followed (relevant) by all other sources. Their knowledge needs embrace all kinds of topics. It is worth mentioning that municipal agronomists were the only ones, besides shop owners, who took notice of farmers' innovations/adaptations of technology/practices.

The local DA (ANKA S.A.¹²), in Karditsa, takes care of their agronomists and encourages them to undertake postgraduate studies and further training. The DA currently works with one older and three new groups¹³. The former concerns the local industrial tomato producer group active since 1997 (for producer groups, see below). Besides the producer group's own agronomist, the DA is also involved in providing external assistance to the group with one of its agronomists. The DA agronomist's main goal is to assist the group in the processing and marketing of their produce as well as in keeping the whole process in line with the EU Regulations. Given that farmers address private agronomists (shops) for production matters, the main task of the DA's agronomist is administration and management (ca. 85%). The advice provided concerns plant protection and fertilization; the group's members are medium commercial farms - and to a lesser degree other commercial farms. Requests from commercial farmers relate to all topics (but animal production, bookkeeping, machinery and diversification), especially rural development, subsidised programmes. Therefore, the agronomist's knowledge needs mainly relate to diversification and rural development. His main knowledge sources are public authorities, private consultancies, private processing companies and the internet. The same actors are the ones he has established cooperation with. The main challenges relate to keeping the group together and enhancing its competitiveness; the stoppage of farmers' exploitation by the industry (since farmers cannot store their produce for long); the diversification of farmers' advice sources (vs. industry and private agronomists/shops) as well as of production system; farmers' greater involvement in the agri-food chain and engagement in networks with other producer groups; and, the carrying out of R&D on behalf of the group along with the certification of its produce (according to established quality standards and/or conversion to organic farming).

The DA's primary source of information and partner are HEIs. New knowledge is also acquired through (the results of) European projects which the DA tries to adapt and utilise in its area (Prefecture). In general, the DA claims that little of the available knowledge is transferred to farmers and underline the need for a national extension strategy. The main challenge of the DA is the introduction of innovation and the mobilisation of the local population.

Finally, according to the local researcher (NAGREF research station at Karditsa) there is no staff/mechanism for the dissemination of research results to farmers. Furthermore, there is no participation of farmers in research; furthermore, attempts to inform farmers (public presentations) usually fail as researchers do not have appropriate communication skills. The

¹² The local Development Agencies (DAs) are autonomous bodies, directed by shareholders (mainly comprising local authorities and collectivities) and funded through projects (LEADER, LIFE, local authorities' strategic plans, etc.). They employ agronomists (university graduates), at least as far as LEADER (i.e. LAGs) is concerned.

¹³ The three newly established groups (in the building of which the DA actively contributed) concern: a) super foods (including farming and processing; 2 years with 60 members); b) biofuels (wild artichoke; 3 years with 33 members including 23 farmers); and, c) stevia (farming and processing; 1 year, 17 members, 40 ha. already cultivated by ex-tobacco and cotton producers; application for processing unit in programme already put forward).

attempts to transfer knowledge and technology from abroad with no adaptation to the Greek conditions is not successful; however, the lack of a national strategy as well as of staff, infrastructure and funds do not allow for such adaptive experiments to be carried out at local stations. In total, the researcher claims that due to the lack of a research-extension system it is only private agronomists (shops) who actually play the role of extension in the countryside; however, in quite some cases private agronomists provide farmers with contradictory advice which, along with the lack of farmers' professional training, leads to farmers' confusion and distrust. His suggestions include the need to work with groups of farmers as well as that the introduction of new cultivations should only be done (or allowed) after testing them under the Greek conditions (including socioeconomic aspects such as the small and fragmented farms, the lack of processing units, etc.).

An interesting case is that of the Producer Groups (PGs/POs). These groups are self-financed (by members-farmers) and may submit a business plan to be co-financed by the EU and the group. In such groups agronomists (university graduates) are employed (in many cases through their business plans). Agronomists provide the groups' members-farmers with training and advice free of charge. The goals of the groups depend on the business plan (in case one is submitted and approved) and, in general, concern the provision of technical advice/support to farmers to improve quality and get better prices in the market.

In the case of the EASA Producer Group, the overall staff is five people (1 agronomist) mainly occupied with administration and management (60%); advisory work accounts for 20% and R&D for 20% of the staff's working time. Especially as far as the agronomist's (extension) work is concerned, it is equally distributed between management, information, education, advisory and own improvement (20% each). The main method employed is individual contacts (80%) mainly face-to-face advice outside farm (90%) and secondly advice via telephone (10%). Group work accounts for 10% (all outside farm) and mass media another 10% (publication, radio & TV 70%; internet 30%).

Of special importance, as far as advisory work is concerned, are the groups (or sub-groups as in the case of EASA¹⁴) which are certified under the Integrated Management System for agricultural production, in compliance with AGRO 2.1 & AGRO 2.2. standards¹⁵. In such cases agronomists are responsible for providing continuous training and technical assistance to the group's members as well as to assist them in keeping the necessary records; the latter usually takes most of the agronomists' energy since farmers are not in a position, or willing, to be involved with 'bureaucracy'¹⁶. An interesting result of the work of the groups' agronomists is the 'control' they exert on private shops, in the sense that following the AGRO protocols they prescribe the inputs groups' members use (and thus buy from shops). Records on advisory work are not kept.

Therefore, both the advice delivered and demanded (on the part of members-farmers) concerns plant production, cross-compliance, bookkeeping, machinery, rural development, diversification

¹⁴ Out of the 3,900 members of EASA, only 110 produce (apricots) under AGRO standards. The average size of the groups' members is 1.7 ha. (mainly small commercial farms and part-time farmers).

¹⁵ AGROCERT is the competent national Authority for the evaluation, approval and supervision of private Certification bodies (see: <http://www.agrocert.gr/pages/content.asp?cntID=31&catID=16>)

¹⁶ See also Koutsouris (2008a).

(esp. new plants and varieties, processing and new products), and environment/ agro-environmental programmes.

The main (very relevant) knowledge sources are the internet and private companies (inputs and processing); cooperation is established with public research (partners in research projects), public authorities, private consultancies and private companies (inputs and processing).

The knowledge and information needs concern all aspects- challenges of new CAP 2014-2020. Finally, the need for advisory/extension services is underlined along with the need for farmers to understand that they may have to pay for advice.

5. Characteristics of Farm Advisory System¹⁷

In Greece the Ministerial decrees concerning FAS were launched in 2006 and the System was officially established in 2007 – as required by the EU Regulation. The Greek MRDF¹⁸ chose to implement only Measure 114 through private bodies of mixed status (profit/non-profit) with mixed cost for farmers (i.e. support to the farmers is limited to 80% of the eligible cost per advisory service, up to a maximum amount of €1500).

In the first place, in 2006, agronomists were called to submit applications to become certified as advisors within the FAS. In the first place, 638 independent agronomists as well as 30 so-called advisory structures (such as agricultural co-operatives or agronomists' companies) with 92 agronomists were certified. The minimum requirements were that agronomists should have a university degree and at least two years of professional experience and that they do not work either for a public agency (including higher education institutions) or as a dealer of agro-inputs. Furthermore FAS advisors were obliged to follow specific training related to the objectives of FAS and relevant policies (i.e. at least, SMR & GAEC) in December 2008. Out of those registered 39 independent agronomists and 16 structures (with 58 agronomists of which 4 agricultural co-operatives with 8 agronomists), i.e. 97 agronomists, finally actively participated in the programme.

As far as farmers were concerned the FAS was activated in November 2008 – February 2009; during this period farmers were asked to put forward their applications to enter the programme. The call was published on the sites of MRDF and OPEKEPE (Payment & Control Agency for Guidance & Guarantee Community Aid). Overall, 4,370 applications were received by the relevant authorities out of which 3,859 were approved. The FAS was active till mid-2009. By the end of 2010 all relevant controls were completed; 2,160 farmers produced the documentation in order to get the relevant subsidy. Finally 2,114 were approved; that is, 55.23% of those who had put forward an application were finally eligible and were subsidised for the advice received.

In most aspects Greece followed, in general, the practice followed by the majority of the EU MS: the FAS was set up as a specific service, complementary to existing extension services; the FAS is coordinated and supervised by public bodies; the advisory bodies were selected via calls for tenders; the advice embraced broader issues beyond GAEC; the approach adopted was on-farm one-to-one advice; there has not been much prioritising of groups of farmers, except the initial obligation to give priority to farmers receiving more than €15,000 in direct payments; farmers partially contributed to the costs of that advice (20%), i.e. farmers were supported/subsidized up to 80% for the services up to a maximum amount of €1500.

The FAS evaluation on the EU level (ADE et al. 2009; EC 2010) concluded that, overall, the FAS helped increase farmers' awareness on the topics addressed; one-to-one advice was considered particularly effective; the establishment of the FAS represented a good opportunity to rethink and improve the wider advice and knowledge information systems in the agricultural sector; the FAS helped farmers to meet cross-compliance requirements; it also increased farmers' financial management skills (accountancy) and improved their bookkeeping with

¹⁷ Source: Tyligadi and Koutsouris (2013)

¹⁸ The responsible for FAS GD was not that of Agricultural Extension & Research but the GD of Plant Production.

regards to cross-compliance obligations; that the voluntary concept and overall flexible architecture of the FAS should be maintained although the effectiveness of the FAS was still limited.

Greece, as aforementioned, chose to run the programme through mixed private bodies. Given the serious problems of its public Extension service, FAS was expected to somehow become a system which might compensate for such a situation. Nevertheless, the results of the programme are rather moderate. This owes to a number of factors including advisors’ inadequate training on FAS and thus line of action, farmers’ mentality (indifference and suspiciousness towards a programme which did not bring about any financial gains – obsession with subsidies), the short time of the programme’s implementation, the lack of an effective campaign to create awareness about the programme and so on. As a result, according to the FAS advisors, the gains on the part of the farmers in terms of knowledge and skills are at most moderate; innovations were largely not disseminated through the programme.

Moreover, the failure of the programme to meet its targets should be also underlined (Table 1).

Table 2. Overall performance of the FAS programme

Participants in FAS	Ex-ante target	Revised target	Outcome
no of farmers	25,000	6,000	2,144
no of forest holders	5,000	1,500	0

This is a rather disappointing situation given that the programme will be put in place again in the next CAP implementation period (2014-2020). Nevertheless, the lessons learned through this study, along with the general recommendations of the EC (EC 2010) can contribute to the improvement of the pre-conditions necessary for a more effective implementation in the future.

6. Summary and Conclusions

The current picture of AKIS and, in particular, of advisory/extension services in Greece is that of a highly fragmented and ineffective system. More specifically, the breakup of the services and therefore of the line of command of the Ministry of Rural Development & Food (MRDF; ex-Ministry of Agriculture) in the name of decentralisation as well as due to the financial crisis resulted in the following paradox: the headquarters of MRDF seem to be isolated from lower levels with the regional and sub-regional (ex-Prefectural Directorates of Agriculture/RD) services being under the Ministry of Interior which again seem disconnected from the local offices (ex-Extension/RD Offices) being under the Municipalities, although the tasks of all the sub-national levels emanate from MRDF. The breaking away of a number of functions from MRDF (such as research and training) has resulted, at best, in extremely weak linkages and thus coordination and cooperation among these organisations. Furthermore, their functions are in the last 3-4 years severely curtailed given the current crisis implying a lack of staff and funds. Moreover, it is a common understanding that MRDF has not put together a development strategy for agriculture and rural development; instead MRDF is perceived as primarily being occupied with the maximization of the CAP financial resources and their distribution to farmers resulting, in turn, in farmers' obsession with subsidies and grants.

Overall, since the accession to the EEC/EU in 1981 the Greek Extension Service gradually got heavily involved in fulfilling the increasing administrative bureaucratic tasks of the State (implementation of the CAP policies and control of subsidies); extensionists were thus gradually transformed into almost typical civil servants working in office. Therefore, extensionists became more severely restricted vis-à-vis the provision of advice to Greek farmers (bureaucratic function; conflict between advisory and inspection roles) than ever before; information was provided to those of the farmers who actively sought it albeit in a rather fragmented, inadequate and inefficient manner. As a result, as Alexopoulos et al. (2009) and Charatsari et al. (2011) clearly indicate, there is demand for extension and training, even if this implies fees, given that a number of prerequisites pertaining to the content, format and personnel are fulfilled. The vacuum created was filled by private agronomists either working for private companies or establishing local commercial enterprises promoting, in both cases, all kinds of commercial inputs.

Currently, thus, the only channel for the transfer of new technology and practices in Greek agriculture is private companies (branches of transnational companies) through private agronomists – input shop owners at the local level. Nevertheless, private agronomists, making a living from the sales of inputs, with advice not been paid as such, mainly targeted commercial farmers and thus largely neglected other segments of the farming population. It is interesting to note that some of these agronomists also tried to organise farmers in order to introduce new, innovative cultivations or to carry out small-scale on-farm trials.

As shown by Kaberis and Koutsouris (2012) suspicion towards, on the one hand, the bureaucratic and client focused public services and, on the other hand, the largely profit-oriented private agronomists, aggravates the situation. Additionally, the fact that farmers follow recommendations relating to rapidly changing physical products (such as fertilizers and drugs) without understanding (re: lack of general and/or occupational education/training) results in uncertainty on the part of the farmers and further undermines 'expert' knowledge. Therefore,

Carolan's (cited in Kaberis and Koutsouris, 2012) claim that "individuals are often compelled to act 'as if' they trust experts and/or institutions because they feel they have no other choice, keeping any significant doubts to themselves" is largely confirmed in the Greek case.

On their part, private consultants (agronomists) serve those interested in having access to EU programmes and are thus restricted to the putting together applications with little room for manoeuvre in terms of advice on farm development issues. Finally, some local Development Agencies tried to introduce innovations in local agriculture through the establishment of stakeholders' networks thus corresponding to the current developments in international literature. Unfortunately, these kind of activities is rather marginal and not supported.

An exception to this picture concerns producer groups certified under the Integrated Management System for agricultural production, in compliance with AGRO 2.1 & AGRO 2.2. standards. In this case the groups' agronomists provide continuous advice to farmers (group-members) as well as to assist farmers with the records demanded by the system. At the same time, they also protect farmers from the irresponsible and profiteering practices on the part of some of the input shop owners.

The Greek situation clearly identifies with extension systems in which agronomists have the role of experts who disseminate technical information to farmers who are highly dependent upon them (Kaberis and Koutsouris, 2012). The Greek extension system has thus to be transformed/re-built. To this end, agronomic education has to change as well (see: Koutsouris and Papadopoulos, 2000). In the first place, courses on Agricultural Extension will have to be widely introduced in university curricula since the lack of such training results in a top-down, expert-led extension (and knowledge) system. Additionally, in the aggregate, agronomic education has, among others, to abandon mono-disciplinary and reductionist science in favour of trans-disciplinary as well as to change from transmissive to transformative learning (Koutsouris, 2009b).

Overall, in the last 30 years the need for extension has been seriously downplayed as a result of the dominant attitude according to which the absorption of available EU funds (subsidies and grants) overwhelmed 'the need to produce'; in this sense, the scientific support of farmers was not deemed 'necessary'. Despite continuous calls (on the part of academics and GEOTEE) for the reorganisation and reorientation of extension services in Greece no relevant action has been taken; on the contrary, the extension system has been disrupted. The restructuring of MRDF and the establishment of ELGO may be a chance for improvement.

Especially nowadays, in a time of crisis, when there are indications that many (among the rising numbers of) unemployed are thinking of returning to the countryside (home-towns and villages), the lack of a service to support them may lead to the undertaking of uninformed and thus unsuccessful efforts to establish themselves as farmers (Koutsouris, 2013).

7. Methodological reflections and acknowledgements

Mr G. Korobilias (KEGE officer at Karditsa Prefecture) is acknowledged as he facilitated the research team in organising contacts with stakeholders (re: interviews and questionnaires).

The problem in Greece is that there is no operational extension service; therefore, major parts of information for the project had to be collected through actors, more or less, substituting for it. Although such substitutes are extremely heterogeneous since they are distinct, private owned entities (shops and consultants). The choice thus was made to focus our research in Karditsa, an area where the team has had projects in the past and thus where links with local stakeholders have been long established. Additionally the area, located in Thessaly Region, Central Greece, is heavily dependent on agriculture; in the area the main crops found in Greece are cultivated (cotton, cereals, industrial tomato and to a lesser degree vegetables, vineyards, etc.). Experimentation with new cultivations also takes place. In the mountainous area (covering almost half of the area) animal breeding (small ruminants) is dominant.

The questionnaire was very detailed. It assumed that the detailed data is kept by the interviewed actors, which is not the case in Greece.

8. References

- ADE – ADAS – AGROTEC- Evaluators.EU (2009) Evaluation of the implementation of the Farm Advisory System. ADE, Louvain-la-Neuve (Belgium).
- Aggelopoulos, S., Pavloundi, A., Manolopoulos, I. and Kamenidou, I. (2008) The Attitudes and Views of Farmers on the New Common Agricultural Policy and the Restructuring of Crops: the Case of Greece. *American-Eurasian J. Agric. & Environ. Sci.*, 4(4): 397-404.
- Alexopoulos, G., Koutsouris, A. and Tzouramani, I. (2009). The financing of extension services: A survey among rural youth in Greece. *The Journal of Agricultural Education & Extension*, 15(2): 175-188.
- Androulidakis, S., Siardos, G. and Crunkilton, J. (1995) Perceptions of agricultural extension agents of their effectiveness to reach farmers in a selected area of Macedonia, Greece. *Journal of International Agricultural and Extension Education*, 2(1): 2-9.
- Batzios, C., Salampanis, M., Liakos, V., Tait, J. and Androulidakis, S. (2000) Towards increasing productivity of the Greek beekeeping industry: Tools and methods for building a hypermedia digital library for extension training. *Revista Brasileira de Agroinformática*, 3(1): 30-40.
- Charatsari, C., Papadaki-Klavdianou, A. and Michailidis, A. (2011) Farmers as consumers of agricultural education services. *The Journal of Agricultural Education & Extension*, 17(3): 253-266.
- Damianos, D. and Giannakopoulos. N. (2002) Farmers' participation in agri-environmental schemes in Greece. *British Food Journal*, 104(3/4/5): 261-273.
- Dimara, E. and Skuras, D. (2003) Adoption of agricultural innovations as a two-stage partial observability process. *Agricultural Economics*, 28: 187-196
- Dimara, E. and Skuras, D. (1999) Importance and need for rural development instruments under the CAP: A Survey of farmers' attitudes in marginal areas of Greece. *Journal of Agricultural Economics*, 50(2): 304-315.
- Dinar, A., Karagiannis, G. and Tzouvelekas, V. (2007) Evaluating the impact of agricultural extension on farms performance in Crete: a nonneutral stochastic frontier approach. *Agricultural Economics*, 36: 135–146.
- European Commission (2010) Report from the Commission to the European Parliament and the Council on the application of the Farm Advisory System as defined in Article 12 and 13 of Council Regulation (EC) No 73/2009, COM (2010) 665 final. EC, Brussels (Belgium).
- Georgoudis, A., Hatziminaoglou, I. and Pappas, V. (1995) The breeding scheme of the K aragouniko sheep in Greece. *Cahiers Options Méditerranéennes*, 11: 61-65.
- Kaberis, N. and Koutsouris, A. (2012) “Reflections on the ‘expert syndrome’: a Greek case study on extension education. In: *Producing and reproducing farming systems: New modes of organisation for sustainable food systems of tomorrow* (10th European IFSA Symposium), Aarhus, Denmark, 1-4 July 2012.
- Kasimis, C. and Zografakis, S. (2013) The countryside and agriculture in crisis. *International European and Economic Policy*, 27: 17-31.
- Koutsou, S., Samathrakis, V. and Androulidaki, M. (undated) Rural development and businesswomen: the case of agritourism in Greece.
http://sbagis.farm.teithe.gr/uploads/8/3/4/5/8345585/sbagis_a4_11.pdf

- Koutsouris, A. (2013) The role of training and technical assistance in the establishment of new entrants in agriculture. *International European and Economic Policy*, 27: 60-68.
- Koutsouris, A. (2009a) Social learning and sustainable tourism development; Local quality conventions in tourism: A Greek case study. *Journal of Sustainable Tourism*, 17(5): 567-581.
- Koutsouris, A. (2009b) Sustainability, crossdisciplinarity and Higher Education – From an agronomic point of view. *Journal of US-China Education Review*, 6(3): 13-27.
- Koutsouris, A. (2008a) Innovating towards sustainable agriculture: A Greek case study. *The Journal of Agricultural Education & Extension*, 14(3): 203-215.
- Koutsouris, A. (2008b) The Battlefield of (Sustainable) Rural Development: The case of Lake Plastiras, Central Greece. *Sociologia Ruralis*, 48(3): 240-256.
- Koutsouris, A. (2007) Entrepreneurship in LFAs: The Greek LEADER Programme. In: Slavic, M. and Zakova, P. (eds.), *Supporting viable rural communities* (Proceedings 18th ESEE Seminar). Czech University of Life Sciences, Prague: 195-200.
- Koutsouris, A. (2003) Rural extension: The missing link in rural development. In: Kozari, J. (ed.), *Rural extension and training/education as the missing elements in rural development projects* (Proceedings 16th ESEE Seminar). Szent Istvan University, Godollo (Hungary), 2003: 211–216.
- Koutsouris, A. (1999). Organisation of Extension Services in Greece. *Options Mediterraneees*, Serie A: Seminaires Mediterraneees, 38: 47-50.
- Koutsouris, A. (1994) Crucial Factors Related to the Education/Training of New Entrants into Agriculture in Greece. PhD thesis, Agricultural University of Athens.
- Koutsouris, A. and Hatzantonis, D. (2002). The LEADER II Initiative: Aspects of evaluation of the Greek programme, *Agricoltura Mediterranea*, 132(2-3): 198-207.
- Koutsouris, A. and Papadopoulos, D. (2000) Sustainability: Implications for Agricultural Extension, Education & Training - The Greek case. In Doppler W. and Calatrava, J. (eds.) *Technical and Social Systems Approaches for Sustainable Rural Development* (Proceedings of the 2nd European Symposium on Rural and Farming Systems Research). Margraf Verlag (Germany), pp. 353–357
- Koutsouris, A. and Papadopoulos, D. (1998). Extension functions and farmers' attitudes in Greece: A case study towards a sustainable future. In: Roling, N. and Wagemakers, A. (eds.) *Facilitating Sustainable Agriculture: Participatory Learning and Adaptive Management in Times of Environmental Uncertainty*. Cambridge: Cambridge University Press, pp. 88 - 101.
- Koutsouris, A., Nellas, E. and Panagiotou, A. (1998) The Modern Role of Agricultural Extension: A comparative study between Greece and Ireland. In: *Competitiveness and Integrated Development of the Rural Sector* (Proceedings of the 4th Panhellenic Conference of Rural Economy), Ziti Editions, Thessaloniki, pp. 281 – 294.
- Koutsouris, A., Papadopoulos, D. and Panagiotou, A. (1996) Agricultural extension in Greece: New perspectives and development priorities. In Siardos, G. and Androulidakis, S. (eds.) *Extension at the Cross-roads* (Proceedings of the 12th European Seminar of Extension Education). Zitis Editions, Thessaloniki, pp 31 - 37.
- Labarthe, P. and Catherine Laurent, C. (2013) Privatization of agricultural extension services in the EU: Towards a lack of adequate knowledge for small-scale farms? *Food Policy*, 38: 240–252
- Lioutas, E. and Charatsari, C. (2011) Who is the customer of public agricultural extension/education services? *International Journal of Rural Management*, 7(1&2): 83–102.

- McKinsey & Company (2012) *Greece 10 years ahead: Defining Greece's new growth model and strategy*. McKinsey & Company Athens Office, Athens.
- Marantidou, A., Michailidis, A. and Papadaki-Klavdianou, A. (2011) Information and Communication Technologies as agricultural extension tools. *Scientific Bulletin-Economic Sciences*, 10(1): 114-125.
- Michailidis, A. (2007) Agricultural Extension Services in the Mountain Areas of Greece. *Journal of International Agricultural and Extension Education*, 14(1): 71-81.
- Michailidis, A., Koutsouris, A. and Mattas, K., 2010. Information and Communication Technologies as agricultural extension tools: A survey among farmers in West Macedonia, Greece. *Journal of Agricultural Education and Extension*, 16(3): 249-263.
- MoA (1988) *Orientations of the educational work of agricultural extension* (Proceedings of the 1st national conference on Agricultural Extension). Ministry of Agriculture, Athens.
- MoA (1999) *The contemporary content of agricultural extension* (Proceedings of the 2nd national conference on Agricultural Extension). Ministry of Agriculture, Athens.
- Panagiotou, A., Koutsouris, A., Papadopoulos, D. and Nellas, E. (1996) The need of diversification of the Extension Service in Greece. In: *State and the Rural Space* (Proceedings of the 3rd Panhellenic Conference of Rural Economy), Papazisi Editions, Athens, pp. 419 - 439.
- Panagiotou, A., Kazakopoulos, L., Koutsouris, A. and Nellas, E. (1994) Aspects of Communication in the Farming Milieu: Results of an empirical research in Greece. *MEDIT*, 1/94: 22 - 28.
- Papaspyrou, S., Koutsouris, A. and Karalis, T. (2009) Changing agronomists' perceptions and practices vis-à-vis extension education in Greece. In: Paffarini, C. and Santucci, F. (eds.), *Theory and practice of advisory work in a time of turbulence* (Proceedings 19th ESEE Seminar). DSEEA/University of Perugia, Perugia: 190-194.
- Papadopoulos, D. (1996) Evaluation of the Agricultural Extension System in Greece. PhD thesis, Agricultural University of Athens.
- Polyzos, S. and Arabatzis, G. (2005) Labor Productivity of the Agricultural Sector in Greece: Determinant Factors and Interregional Differences Analysis. *Discussion Paper Series*, 11(12): 209-226, Department of Planning and Regional Development, School of Engineering, University of Thessaly.
- Rigou, A. and Koutsouris, A. (2011) Agricultural training and entrepreneurship: The case of 'young farmers' in a Greek prefecture. In: *Private - public partnerships for advisory services in Europe* (Proceedings 20th ESEE Seminar), JTO School of Management, Kirkkonummi, Finland: 204-209.
- Tyligadi, V. and Koutsouris, A. (2013) Agricultural Extension: The Case of Farm Advisors in Greece in the framework of the Reg. (EC) 1782/2003 (FAS). In: *Extension education worldwide: trends, challenges and cases* (21st ESEE), Antalya, Turkey, 3-6/9/2013.
- Tzouvelekas, V, Pantzios, C. and Fotopoulos, C. (2001) Technical efficiency of alternative farming systems: the case of Greek organic and conventional olive-growing farms. *Food Policy*, 26: 549-569

9. Appendices

9.1. List and contact of organisations forming AKIS

Name of organisation (in English)	Address	Website	Status (public/R&E/private/FBO/NGO)*
Dir. of Extension, MRDF	Skalistiri 19 & Patisision 207, 11253 Athens	www.minagric.gr	Public authorities (Ministry of Rural Development & Food)
OGEEKA DIMITRA (ELGO DIMITRA)	Aharnon 29, 10439 Athens	http://www.ogeeeka-dimitra.org.gr/ http://www.elgo.gr	Public (training)
NAGREF (ELGO DIMITRA)	Aigialeias 19 & Halepa, 15125 Athens	www.nagref.gr	Public (research institute)
PASEGES	Arkadias 26 & Mesogeion, 11526 Athens	www.paseges.gr	Farm-Based Organisation
ANKA SA.	M. Alexandrou 34, 43100 Karditsa	www.anka.gr	Mixed (Public/Private) consultancies
KEGE Karditsas (ELGO DIMITRA)	Tauropou 77, 43100 Karditsa	www.elgo.gr	Public (local training centre)
AgroEco	Sarantaporou 148, 43100 Karditsa	http://agroeco.gr/portal/	Private consultancies
Ippophaes Thessalias	Ag. Theodoroi, 43100 Karditsa	http://hippophae.net/	Private
Agrodomi EPE	10 th Km Karditsas – Larisas National Road, 43100 Karditsa	agrodomi@hol.gr	Private
Agoroiniki	Karaiskaki 91, 43100 Karditsa	agrooiniki@gmail.com	Private
Directorate of Agricultural Economy and Veterinary (Karditsa)	L. Dimokratias 46, 43100 Karditsa	agroikon.ktin.kard@thessaly.gov.gr http://www.pthes.gov.gr/main.aspx?catid=94&qd=3&dn=18	Public (sub-regional Directorate)
NAGREF – Karditsa branch	1 st km Karditsa – Mitropoli Rd., 43100 Karditsa	ethiag@otenet.gr ; ethi93@otenet.gr	Public (local research centre)
DIMITRA Tomato Producer Group	Filia, 43300 Karditsa	asop@otenet.gr / www.anka.gr	Farm-Based Organisation
Municipality of Sofades	Sofades, 43300	www.sofades.gr	Public
EASA Fruit Producer Group/ REA Fresh	2 nd km Nafplio - Nea Kios, 21100 Nafplio	www.easa.gr	Farm-based organisation
Delta Gamma Argo SA	Alamanas 20, 14121, Athens	www.dgagro.gr/	Private (input company)
Municipality of Mouzaki	Mouzaki, 43060	www.mouzaki.gr	Public
OPEGEP/AGROCERT (ELGO DIMITRA)	Patisision & Androu 1, 11257 Athens	www.agrocert.gr	Public

*confer table 1 (page 8), first column

9.2. List of interview partners

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9.3. Literature review summary

Given the crucial role of extension in the restructuring of the Greek rural economy and society in the post-War period (1950s and '60s), the importance of advisory services (MoA 1988 and 1999; Koutsouris, 1994; Georgoudis et al., 1995; Koutsouris et al., 1996; Papadopoulos, 1996) and thereof the repercussions of the lack of extension services in Greece has been put forward by a number of studies pertaining diverse scientific fields. The lack of active and appropriate extension services in Greece, due to the bureaucratisation of the service after the country's accession in the EEC (1981), and the negative consequences in terms of agricultural and rural development has been emphasised especially since the late 1980s (MoA 1988 and 1999; Panagiotou et al., 1994 and 1996; Koutsouris et al., 1998; Androulidakis et al., 1995; Koutsouris and Papadopoulos, 1998; Koutsouris, 1999).

Dimara and Skuras (1999) have shown that in the Greek islands farmers value extension services highly and argue for a decentralized extension system. The same authors have also shown that (the lack of) extension is vital for the (non-)adoption of innovations in the Greek countryside (Dimara and Skuras, 2003). Tzouvelekas et al. (2001) claim that especially organic farming as a specialized production mode "needs to be based on effective information, research and development (R&D), and extension service networks" (p. 566); the same holds true for beekeepers (Batzios et al., 2000) and agri-environmental schemes (Damianos and Giannakopoulos, 2002). Polyzos and Arabatzis (2005) have underlined the lack of extension in relation to labour productivity in agriculture. Dinar et al. (2007) maintain that while not all farmers use extension, the use of both private and public extension services (serving different farmers' purposes and needs) leads to higher levels of farms' performance, *ceteris paribus*. Koutsou et al. (undated) have established the negative consequences the lack of extension has on agritourism development and Michailidis (2007) looked at the decisive (albeit missing) role of extension for women animal breeders in mountainous areas. Aggelopoulos et al. (2008) have shown (in line with Koutsouris and Papadopoulos, 1998) that the higher the farmers' income is and the more business-oriented their farms are then the lower their satisfaction from organisations that are supposed to provide advisory and information services to farmers is.

In parallel, the inability of the LEADER LAGs to undertake the role of animators and extension agents has been shown by Koutsouris and Hatzantonis (2002) and Koutsouris (2003, 2007, 2008a&b, 2009a). More recently, Papaspyrou et al. (2009), in line with previous publications, have argued that the transformation of the Greek extension service into a bureaucratic mechanism, results in the provision of inadequate services to farmers, in a time when agriculture faces serious socioeconomic as well as environmental challenges. Moreover, they show that younger agronomists are, rather gladly, confined to the provision (at office) of techno-economic advice to clients who seek for it without great expectations that they may bring about substantial

change. Michailidis et al. (2010) and Marantidou et al. (2011) show the need Greek farmers express the need for personal communication with extension agents and argue that ICTs should be used as supplementary extension tools (not as substitute for extension). Lioutas and Charatsari (2011) also show that private extension/education services are used much more than public ones (2.57 vs. 0.62 times/year). Additionally, the deficiencies of the training (seminars) provided mainly to those accessing the 'Young Farmers' EU funded programme have been shown by Rigou and Koutsouris (2011) and Kaberis and Koutsouris (2012).

Finally, the disappointing implementation of FAS has been shown by Tyligadi and Koutsouris (2013) while Labarthe and Laurent (2013) take notice of the diversification of agriculture in Greece and show that Greece has followed a decentralisation trajectory for extension.