



Prospects for Farmers' Support:
Advisory Services in European AKIS

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Agricultural Knowledge and Innovation Systems for an Inclusive Europe

WP3 – AKIS in the EU: The inventory

FINAL REPORT

Volume I – Summary findings

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Preface:

The final report of WP3 is the synthesis of the single reports for EU-27 member states, based on qualitative interviews, diagrams and a quantitative survey partly done by project consortium members, partly by other national experts. The objective of this synthesis report is to create an overview of the European AKIS situation in 2013. Hence, findings from the national reports were aggregated and summarised although we are aware that in many cases we may not have been able to include all relevant sources of information. We therefore request that the readers keep this in mind when looking at the figures with care. The structure of final report is similar to that of the national reports which have been done according to a common conceptual understanding of key issues developed by the project team. All national reports can be accessed through the PRO AKIS website (www.proakis.eu).

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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 the EU-27, with a particular focus on agricultural advisory services. The characteristics includes AKIS description, history of advisory services, public policy, funding schemes, financing mechanisms, advisory methods and human resources, clients and topics, programming and planning of advisory work and a section on how the Farm Advisory System (FAS) was implemented.

This report represents an output of the Work package WP3 titled “AKIS in the EU: the Inventory” which is a part of the PRO AKIS project (Prospects for Farmers’ Support: Advisory Services in the European Agricultural Knowledge and Information Systems).

The countries of the European Union are highly diversified in terms of territory, population, society and economy and especially in terms of their structure of agriculture. There are over 12 million agricultural holdings across the EU-27 working on 172.8 million hectares of land, which is the main field of influence for agricultural advisors. The average size of each agricultural holding in the EU-27 was 14.4 hectares in 2010. There is a stark contrast in the structure across the EU; on the one hand there is a large number (5.9 million or 49%) of very small farms (less than 2 hectares in terms of size), on the other hand, a small number (3%) of very large farms (over 100 hectares) that use half (50%) of the farmland in the EU-27.

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 (in Copenhagen and Paris) and March 2014 (in Krakow), discussed with stakeholders and experts, and feedback integrated in the reports.

One of the formal definitions of AKIS is: “AKIS is a set of agricultural organizations and/or persons, and the links and interactions between them, engaged in generation, transformation, transmission, storage, retrieval, integration, diffusion and utilization of knowledge and information, with the purpose of working synergistically to support decision making, problem solving and innovation in agriculture” (Röling and Engel, 1991). This concept emphasizes the process of knowledge generation and includes actors beyond the research, education and advice sectors. More recently, the AKIS concept has evolved as it has acquired a second meaning (innovation) and opening up AKIS to more public tasks and to the support of innovation (Klerkx and Leeuwis, 2009).

In the European Union countries there is no unified AKIS system. In fact, each country has built its own system determined on the basis of legislation acts, ownership of research institutions and advisory organisations, structure of education, sources of financing, characteristics of farm-holding and farm-holders – their needs and expectations as well as the necessity of the implementation of CAP and local agricultural policy.

In general, it is possible to notice many similarities in AKIS consistency. In the majority of countries the public sector (on national, regional and local level) is represented in AKIS as a

supplier of information, funding and also as an advisory provider. Sometimes it combines two or even three of these functions. Concerning research and education actors – their function in AKIS is not only that of a knowledge and innovation creator, or an educator, but also a provider of advisory services. The private sector is widely represented in AKIS. In some countries, like Italy, the number of independent consultants has exceeded 80 thousand. In some countries, there are only a few private advisory companies, but with a large number of advisors (e.g. in Finland or Sweden). A similar situation is noticeable concerning farmers-based organisations, where the number of organisations as well as the number of advisors is significant (e.g. in France). NGOs do not play a very significant role in AKIS (excluding Poland, where the number of NGOs is 10 thousand).

In fact, in each surveyed country the AKIS system is different in terms of historical conditions, the number of actors, the number of levels (national, regional or mixed level), sources of knowledge and information, sources and system of funding, ownership of advisory service organisations / companies, models of AKIS organisation, leadership and management etc. This proves the decentralization of AKIS and differentiation in linkages between AKIS actors which are formal/informal but also strong or weak.

There is no unified AKIS structure (in terms of its consistency, management and funding) in the EU-27 member states. Despite many common features, there are also some significant differences relating to the history of advisory services, forms, types and groups of advisory clients, sources of support, internal policies, economic goals and objectives, priorities and importance of agriculture in the national economy, the interrelationship between education, science, research and practice economy, and finally, the organisational structure of the state. For these reasons, analysing the AKIS systems in the surveyed countries and extracting the findings cannot be generalised for the whole EU.

There is a new role of public administration in pluralistic systems for an effective coordination of complex public-private relations within AKIS and regulatory work – diffusion of new regulations.

Although the AKIS within the EU countries is not unified, in general, in the structure in all surveyed EU countries we can notice six significant elements within the AKIS: creators of agricultural policy (government institutions, state agencies, local governments, parliaments), research and education organisations, providers of advisory services, users of advisory services, producers of inputs (suppliers) and outputs (food processors, wholesalers and other enterprises).

The creators of agricultural policy are responsible for the shape of agricultural policy, the binding law and exercising it in terms of quality, health, safety, environmental protection etc. Research and education organisations deal with generating new knowledge to consistently strengthen the system in the scope of innovation, with analysis of the efficiency of the applied production technologies, developing new management systems in particular areas of AKIS, as well as the comprehensive and specialist education of new staff for all AKIS links. Producers of inputs and processors of outputs are represented by organisations or institutions, natural or legal persons, providing farmers with means of production and services, thus supplying them with fertilizers, pesticides, seeds, farm animals, machines, and also granting loans and credits and pay subsidies and donations. Processors of outputs are represented by natural and legal persons,

producer organisations, enterprises, which purchase agricultural products, store, sort, process, transport and sell them in wholesale and retail sales. One of the most important elements are providers of advisory services represented by advisors who deal mainly with market information, promotion of agricultural, economics and organisational innovations, constant education and solving the problems of agricultural practice, sometimes in cooperation with representatives of science. The last users – farmers, owners of holdings and rural population are the main element of AKIS, are the focus group for all stakeholders within AKIS.

Each of these elements is more or less strongly related to others. Thus, every change in one link of the system causes particular effects in other links and vice versa. Therefore, advisory services cannot function all by themselves, separately from other links of the AKIS system.

The advisory systems have different backgrounds in the individual EU-27 countries and are deeply embedded in history, economy and social relations.

Regarding the history of advisory systems, the starting points have deep roots in the history of the individual country's policies and economy, e.g. the start-up of advisory services was as far back as the 18th century (i.e. in: Denmark, Finland, Sweden), at the beginning of 19th century (in Poland), at the beginning of 20th century (Austria, Germany, The Netherlands, Lithuania – till 1945, United Kingdom), at the middle of 20th century (in: Cyprus, Greece, Ireland, Italy, France, Malta, Portugal, Slovenia, Spain), as well as at the end of 20th century (in: Bulgaria, Czech Republic, Estonia, Germany – Eastern FS after re-unification, Latvia, Lithuania, Slovakia, Romania).

There is a considerable diversity within the EU countries regarding the way advisory services are delivered and the extent to which the state is involved.

There is no unification in terms of policy, funding, number and type of institutions and organisations within AKIS, ownership, type of clients, type of advice and advisory methods used. In some countries there is a wide range of institutions and organisations involved in AKIS (e.g. public sector, research and education, private sector, FBOs, and NGOs), in some countries the number of institutions and organisations involved is much lower (some sectors are not present). Also the linkages and co-operation between them are diverse – in some cases more strong and formal, in others weak or informal.

With the changes caused by globalisation, we can observe rapid changes in the economic, social and political processes. Globalisation puts pressure on farmers to become more competitive, which requires increasing knowledge and skills, fast access to reliable information and innovation. All of this requires appropriate amount of funds. Increasingly, intervention of the public sector in agricultural expansion depends more and more strongly on the will of taxpayers, who – already satisfied with food security – are not favourable towards agricultural subsidies. It is clear that government subsidy extension will require innovative and stronger effectiveness of advisory work and drawing significant attention to tasks of extension work, which should implement innovations, meet current challenges and farmer needs.

Regarding the type of advisory organisation, it can be noticed, that generally, there are different types of institutions and organisations – public, private, FBOs, NGOs, as well as freelancers. The dominant type of public (fully and semi-public) advisory organisations is in: Bulgaria, Czech

Republic, Estonia, Germany (in 5 states), Greece, Hungary, Ireland, Latvia, Poland, Slovakia, UK (Scotland and North Ireland); private (non-profit and profit) in: Denmark, Finland, Germany (in 5 states), The Netherlands, UK (England and Wales); FBOs (chambers of agriculture – private or mixed-financed, farmer unions, farmer associations, farmer co-operatives) in: Austria, Belgium, Cyprus, France, Germany (in 7 states), Italy, Lithuania, Luxembourg, Malta, Portugal, Romania, Slovenia, Spain and Sweden.

The recognised sources of financing of agricultural advisory services are: public funds (on national or regional level), private funding (directly payment for services from farmers entrepreneurs or NGOs), membership fees, production levies, taxes in pesticides and EU funds. The mixed system of financing (mainly public-private) dominates in all EU-27 countries. Even in those countries where advisory services providers are private organisations or FBO's (profit and non-profit) there also they use public funds as a different kind of subsidies (e.g. Great Britain, the Netherlands, Germany –5 eastern federal states, Denmark, Finland and Lithuania).

Regarding the major target groups for dominant types of advisory organisations, there are in general the following clients: (a) for public advisory organisations – medium and small commercial farms, and young farmers; (b) for private (profit and not profit) organisations – large, medium and small commercial farms; (c) for FBOs – medium, large and small commercial farms and producers' groups.

New clients of agricultural advisory services have appeared. These are: increasing groups of young farmers, families as a whole, rural inhabitants, newcomers (emigrants), women and NGOs.

Looking at the main topics of advisory services in the surveyed countries we noticed that there are some differences between the groups of clients. The main topics of advisory services for large and medium commercial farms are: plant production, animal production, accounting, taxes, cross-compliance and environmental protection. For small commercial farms there are similar topics plus rural development and diversification issues. There are also a lot of newly recognised topics of advice as new challenges for advisory services as well for research projects e.g. renewable energy, bioproducts, GMO, precision farming, biogas production, climate changes – farming for a better climate, water management, natural resources management, biodiversity, SMEs – starting, running and developing.

There is trend of decentralisation and fragmentation (vertical and horizontal) of advisory services (e.g. France, Greece, Portugal, Italy, Spain, Poland), commercialisation and privatisation of public organisations, increasing competitiveness between suppliers of advisory services and overlapping of activities but also an increasing role for new providers of advisory services such as NGOs and FBOs. There is also a lack of a coordination body, e.g. Poland, Greece, Portugal.

Due to the introduction of commercialisation of advisory services we can observe that year by year more individual methods in advisory services are present. Also group methods became more significant; especially focus groups in the countries with large number of small agricultural holdings. For this reason, at present, much more attention is paid to the quality of advisory services and professional (subject matter) knowledge of advisors and their communication skills. The results of research are not bringing detailed information in this subject. But, in general, we

can highlight that in the surveyed countries there are different systems of evaluation of advisors' skills and abilities, resulting in professional certifications.

One of the important tools in managing any organisation is planning and programming. The analysis of the country reports in terms of planning and programming of advisory work shows that all surveyed organisations use planning in their activities. Some of them work according to long-term planning; others instead work according to short-term plans or annual plans. For some organisations advisory work is part of the programme of their supervisors. The differences in the methods used for building the advisory plans have been noticed – some organisations use participatory methods (introduced farmers into planning process). In general, the question that still remains is how far advisory plans/programmes can fulfil clients' needs in terms of recognising them in advance, or another question arises – is it possible to plan the farmers' needs in advance?

The full description of all providers is difficult to achieve for different reasons. First of all, there are many types of providers, and official census or accreditation is not required for all of them. Another reason is strong dynamism in the advisory field, changing extremely fast, becoming increasingly globalised and creating a lot of hybrid, multi-function organisations, which are becoming new actors in AKIS (improving their number) or becoming new players on the market of advisory services, competing with traditional actors, and replacing them.

Each Member State was legally obliged to set up a national Farm Advisory System (FAS) offering advice to farmers. The FAS had to at least cover the statutory management requirements and the 'good agricultural and environmental conditions' (Council Regulation EC No 73/2009). Farmers can benefit from the advice on a voluntary basis and receive support to adapt their farms to the cross-compliance requirements. These tasks are carried out under Measure 114 Use of advisory services by farmers and forest holders of the RDP 2007-2013. The main objective of the measure was the introduction of co-financing advisory assistance to farmers in the process of adapting their farms to the cross-compliance requirements. The cost of consulting services is partially refundable (up to 80% of reimbursement of eligible costs) and the maximum amount is 1,500 euros per household throughout the programming period. The beneficiary (farmer) is required to pay 20% of eligible costs of advisory services and ineligible costs, which include VAT.

From the country reports we learned that in around half of the Member States the FAS specific service was set up as a complementary to the existing extension services. In the other cases the FAS was interwoven with the existing extension services. Generally (in 23 MS), the FAS is coordinated and supervised by public bodies, except Slovenia and Estonia. Most Member States have established a system for the accreditation of FAS operating bodies and a system for certification of advisors. This role is played by the Ministry of Agriculture (national or regional) or its subordinate unit or regional authorities in most countries.

Farmers had free access to one-to-one on-farm advice (4 MS – Austria, Bulgaria, Latvia, Slovenia), or partially (mixed) contributed to the costs of that advice (20% to 80% of the full cost) (17 MS), entirely covered these costs (real costs) (2 MS - Denmark, Ireland). In Germany, Italy and Spain the costs for farmer differed depending on the region. In 18 Member States the FAS was established in the years 2004-2007 but in the rest of them – later (e.g. Bulgaria, Greece,

Luxembourg, Malta, Portugal – in 2008, Latvia, Lithuania, Poland – in 2009). For Italy the date of establish the FAS is not available. In Romania the decision for establish the FAS was done in 2007. But up to date of research it didn't launched.

The Farm Advisory System in EU-27 includes one or more operating organisations e.g. one FAS organisation operates in Austria, Luxembourg and Slovenia – as a Chamber of Agriculture and in Finland – ProAgria Group. In other countries FAS is created by a set of different operating bodies such as public or semi-public agricultural advisory organisations, research institutions and colleges, private non-profit and profit firms, individual consultants, farmers' unions, associations, cooperatives, agencies. Because of this reason we identified countries with five different operating body statuses:

- public – Austria, Bulgaria, UK - Scotland and North Ireland,
- private non-profit - Latvia,
- private profit – Belgium Fl, the Netherlands, UK - England,
- private mixed – Portugal, Denmark, Estonia, Finland, Greece, Malta,
- mixed (private/public) – Belgium Wa., Cyprus, Czech Republic, France, Germany, Hungary, Ireland, Italy, Lithuania, Luxembourg, Poland, Romania, Slovakia, Slovenia, Spain, Sweden, UK – Wales.

Measure 114 “Use of Farm Advisory Service” co-financed farmers in 20 MS except: Austria, Belgium Wa., Bulgaria, Finland, France, Ireland and Slovenia.

Additionally measure 115 “Setting up of Farm Advisory Services” was used by two federal states of Germany, some regions in Italy, in Malta, Portugal and Spain.

The beneficiaries expressed little interest in measure 114 due to conditions resulting from EU legislation, under which support is granted (small amount of support, the need for co-financing of services by farmers, lack of funding opportunities VAT from public funds). In addition, consulting services financed under 114 are focused primarily on protection from being excluded from the single payment scheme, so they have the nature of an investment, like other RDP measures (e.g. premium for young farmers, modernisation of agricultural holdings).

Table of contents

Executive summary	3
List of abbreviations and acronyms	10
1. Main structural characteristics of agricultural sector of the EU-27	17
2. Characteristics of AKIS in the EU-27	20
3. History of advisory system.....	39
4. The agricultural advisory services.....	56
5. Characteristics of Farm Advisory System.....	97
List of tables	105

List of abbreviations and acronyms¹

AAFS	The Academy for Agricultural and Forestry Sciences "Gheorghe Ionescu - Sisesti"
ABL	Arbeitsgemeinschaft Bäuerliche Landwirtschaft (Syndicate of Traditional Agriculture)
ACOT	The Agricultural Training Council (Translated from Irish Gaelic)
ADAS	Agricultural and environmental consultancy (UK)
ADESVA	Technological Centre for Agro-Food (Huelva, Andalucia)
AEA	Agricultural Entrepreneurs Association
AES	The Agricultural Extension Service
AFIP	l'Association de Formation et d'Information Pour le développement d'initiatives rurales
AFOCG	The Associations de Formation Collective à la Gestion
AGROALIMED	Institute for Agricultural Research of the region of Valencia, Polytechnical University of Valencia, CSIC and INIA
AGROBIO	The Portuguese Association of Organic Agriculture
AGROCERT	Agricultural Products Certification and Supervision Organization
AHA	Andreas-Hermes-Akademie (Andreas Hermes Academy)
AIA	National Breeders' Association
AICs	Agro-Industrial Complexes
AINIA	Technological Centre for Agro-Food (Huelva, Andalucia)
AJAP	The Association of Young Farmers of Portugal
AKIS	Agricultural Knowledge and Information Systems
AMS	Agricultural Municipal Services
ANDA	The National Association for Agricultural Development
ANVUR	The National Agency for the Evaluation of Universities and Research Institutes
APA	Agricultural Paying Agency
APA	Provincial Breeders Association
APCA	Assemblée Permanente des Chambres d'Agricultures
APIA	The Agency for Payments and Intervention in Agriculture (Romania)
APRD	Agency for Payments for Rural Development
ARDBA	Association of Rural Development and Business Advisors (Lithuania)
ARI	Agricultural Research Institute (Cyprus)
ARSIA	Region agency for agricultural development and innovation
ASAJA	Agricultural Association of Young Farmers
ASTA	Administration des Services techniques de l'Agriculture (Administration of Agricultural Technical Departments)
ASU	Aleksandras Stulginskis University (Lithuania)
ATEVA	The Technical Association of Winegrowers of Alentejo
ATRIA	Associations for the Integrated Treatment in Agriculture
AVDBC	The Association of Village Development and Business Consultations (Lithuania)
AWU	Annual work unit
BICREF	Biological Conservation Research Foundation
BIOG	Bio-Bauere-Genossenschaft Lëtzebuerg (Organic farmer's association)
BLE	Bundesanstalt für Landwirtschaft und Ernährung (German Federal Agency for Agriculture and Food)

¹ Most of the acronyms refer to a specific country report and can best be understood in the respective national contexts (please cf. www.proakis.eu).

BMEL	Bundesministerium für Ernährung und Landwirtschaft (Federal Ministry for Food and Agriculture)
BÖLN	Bundesprogramm Ökologischer Landbau (Framework Program for Ecological Agriculture)
CAAs	Agricultural service centers
CAC	County Agricultural Chambers (Romania)
CACO	County Agricultural Consultancy Offices
CAFRE	College of Agriculture, Food and Rural Enterprise (Northern Ireland, UK)
CAFs	Tax assistance centers
CAFS	Chamber of Agriculture and Forestry of Slovenia
CAP	Common Agricultural Policy
CAP	The Confederation of Portuguese Farmers
CARL	Chamber of Agriculture of the Republic of Lithuania
CASDAR	The Special Account for Agricultural and Rural Development
CBGP	Centre of Biotechnology and Plant Genomics
CC	Cross Compliance
CDR	Centrum Doradztwa Rolniczego (Agricultural Extension Centre)
CECRA	Certificate for European Consultants in Rural Areas
CER France	Advisory organisation
CESAR	Project “Complementing EU Support for Agricultural Restructuring in Romania”
CETA	The Centre d'Etudes des Techniques Agricoles
CEVTD	The Consultancy, Extension and Vocational Training Department
CFP	Common Fisheries Policy
CIAL	Institute for Research in Food Sciences
CIDA	Interregional Committee for Agricultural Advisory
CIFA	Centre for Research and Agricultural Training of Cantabria
CIFDA	Interregional Training Centre for Agricultural Advisory
CITA	Centre for Research and Agro-Food Technology of Aragon
CIVAM	Centres d'Initiatives pour Valoriser l'Agriculture et le Milieu rural
CNA	The National Confederation of Agriculture
CNJ	The National Federation of Young Farmers and Rural Development
CNR	National Research Council
COAG	Coordinator of Organizations of Farmers and Stockbreeders
COMPAG	National Federation of Agriculture Products Traders
CONFAGRI	The National Confederation of Agriculture Cooperatives and Farm Credit Cooperatives
CP	The Peasant's confederation
CRA	Agricultural Research Council
CRA-W	Centre de Recherches Agronomiques de Wallonie
CRP	Centre de Recherche Publique (Public Research Centre)
CSIC	National Research Council
CTAEX	Agro-Food Technological Centre of Extremadura
CU	Cooperative Union
CUMA	Coopératives d'Utilisation du Matériel Agricole
DA	Development Agency
DAAS	Danish Agricultural Advisory Services
DAFA	Deutsche Agrarforschungsallianz (German Alliance of Agrarian Research)
DAFM	Department of Agriculture, Food and the Marine (Republic of Ireland)
DARD	Department of Agriculture and Rural Development (Northern Ireland, UK)

DBV	Deutscher Bauernverband (German Farmer's Federation)
DEFRA	Department of Environment, Food and Rural Affairs (UK)
DESIPAP	Development of Extension Services to Improve Primary Agricultural Production
DIP	Deutsche Innovationspartnerschaft (Agricultural Innovation Partnership)
DLG	Deutsche Landwirtschaftsgesellschaft (German Agricultural Society)
DLR	Dienstleistungszentrum Ländlicher Raum (Service Centre for the Rural Area)
DLV	Deutscher LandFrauenverband (German Rural Women's Association)
DLV	Dutch: Dienst Landbouwvoorlichting (Agricultural Extension Service)
DRAF	The Regional Directions in Charge of Agriculture
DVS	Deutsche Vernetzungsstelle (German Networking Agency for Rural Areas)
EAA	Economic accounts for agriculture
EAFRD	European Agricultural Fund for Rural Development
EAGF	European Agriculture and Guarantee Fund
EIP	European Innovation Partnership
EKDD	National Centre for Public Administration & Local Government
ELGO	incorporating the ex-semi-autonomous organisations NAGREF, OGEEKA,
DIMITRA	AGROCERT and ELOGAK
ELOGAK	Greek Organisation for Milk and Meat
ERDP	Estonian Rural Development Plan
ESITPA	School of Agricultural Engineering, France
ESU	European size units
Evira	Finnish Food Safety Authority
FADN	Farm Accountancy Data Network
FAR	The Found to facilitate research
FAS	Farm Advisory System
FAServices	Farm Advisory Services
FASRB	The Farm Advisory Service Registration Board
FATA	The Federation of Agriculture of Trás-os-Montes and Alto Douro
FBO	Farmer-Based Organisation
FCEL	France Conseil Elevage
FILL	Fördergemeinschaft Integrierte Landbewirtschaftung Luxembourg (Association to promote integrated agriculture in Luxembourg)
FIRB	The Investment Fond for Basic Research
FIRST	The new Fund for investment in scientific and technological research
FMS	Farm Management System
FNDA	National Fund for Agricultural Development
FNGDA	Federation of farmers' groups for agricultural Development
FNSEA	The National Federation of Farmers' Unions
Fondagri	Foundation for agricultural advisory services
FORESTIS	The Portuguese Forestry Association
FTCIS	Farmer's Training and Consulting Information Centre (Lithuania)
FVM	Ministry of Agriculture and Rural Development (Hungary)
GAEC	Good Agricultural and Environmental Condition (Part of the minimum requirements of the FAS)
GAK	Gemeinschaftsaufgabe zur Verbesserung der Agrarstruktur und des Küstenschutzes (Federal Fund for Agriculture and Coastal Protection)
GDA	Groupe de développement agricole
GDP	Gross Domestic Product
GDS	Groupe de Défense Sanitaire
GEOTEE	The Geotechnical Chambers of Greece

GIS	Groupes d'Intérêt Scientifique
GKC	Green Knowledge Cooperative
GPP	Office of Planning and Policy
GQS	Gesamtbetriebliches Qualitätssicherungs-System (Quality Management System)
HACCP	Hazard Analysis and Critical Control Points
HEIs	Higher Education Institutes
HNV	High Nature Value Farming Systems
HUF	Hungarian forint
I+DEA	Centre for Research and Agro-Food Development (Segovia, Castilla y León)
IAEI	Institute of Agricultural Economics and Information
IALB	Internationale Akademie Land-und hauswirtschaftlicher Beraterinnen und Berater (International Academy of Rural Advisors)
IBLA	Institut fir Biologësch Landwirtschaft an Agrarkultur Luxembourg (Institute for organic agriculture)
ICIA	Institute for Agricultural Research of Canary Islands
ICONA	The Institute for the Conservation of the Nature
ICT	Information and Communication Technologies
ICVV	Science Institute of the Vine and Wine
IDELE	Livestock Research Institute
IFA	Individual Farmers Association
IFAP	Financial Institute of Agriculture and Fisheries
IFAPA	Institute for Agricultural and Fishing Research and Training of Andalusia
IFEE	Institute for Forestry Extension and Education
IMIDA	Research and Agricultural and Food Development Institute of Murcia
IMIDRA	Research and Rural Development, Agricultural and Food Institute of Madrid
INEA	National Institute of Agricultural Economics
INGACAL	Institute of Agro-Food Quality of Galicia
INIA	Instituto Nacional de Investigacion y Tecnologia Agraria y Alimentaria (the National Institute of Agricultural Research) (Portugal)
INIA	National Institute for Agricultural and Food Research and Technology (Spain)
INIAP	Instituto Nacional de InvestigaçãO Agrária e das Pescas (the National Institute for Agriculture and Fishing)
INRA	The French National Institute for Agricultural Research
INRAN	National Research Institute for Food and Nutrition
INRB	The National Institute of Biological Resources
INTIA	Institute of Technology and Agro-Food Infrastructures of Navarra
IPIMAR	National Institute for Ocean Resources Research
IR	Izba Rolnicza (Farmer Agricultural Chambers)
IRFAP	Research and Training Institute for Agricultural and Fishing of Balearic Islands
IRSTEA	The National Research Institute of Science and Technology for Environment and Agriculture technologies
IRTA	Institute of Research and Agro-Food Technology of Catalonia
IRYDA	National Institute of Reform and Agricultural Development
ISMEA	Institute of Services for the Agricultural and Food Market
ISO	International Standardization Organization
ITA	The Agricultural Technical Institutes; Technical Research Institutes
ITAB	Technical Institute on Organic Research
ITACYL	Agricultural Technological Institute of Castilla and León
IVIA	Institute for Agricultural Research of the Region of Valencia
IVV	Institut Viti-Vinicole (National Institute for Viticulture)

JA	The union of young farmers (France)
KCA	Knowledge Centre for Agriculture (Denmark)
KEGE	Local farmers' training centres
KEPPYEL	Centre for the quality control of propagation materials & fertilizers
KIM	Koperattiva ta Min Irabbi l-Majjal Ltd. (Pork Breeders Cooperative Pork Ltd.)
KKL	Kriterien-Kompodium Landwirtschaft
KPH	Koperattiva Produtturi tal-Halib Ltd (Milk Producers Cooperative Ltd.)
KSH	Hungarian Central Statistical Office
L'UNIO	Union of Farmers and Stockbreeders
LAAS	Lithuanian Agricultural Advisory Service
LACC	Local Agricultural Consultancy Centers (Romania)
LDAs	Local Development Associations
LEADER	Liaison entre acteurs de développement de l'économie rurale (Links between the rural economy and development actions)
LEAF	Linking Environment and Farming (England, UK)
LFI	The Rural Training Institute
LIAE	Lithuanian Institute of Agrarian Economics
LNIV	Laboratório Nacional de Investigação Veterinária (the National Institute for Veterinary Medicine Research)
LRATC	Rural Advisory and Training Centre (Latvia)
LSU	Livestock unit
LTA	Lycée Technique Agricole (Technical College for Agriculture)
LTO	Land-en Tuinbouw Organisatie Nederland/Dutch Organisation for Agriculture and Horticulture
LWK	Landwirtschaftskammer (Chamber of Agriculture)
MA	Managing Authority (of the RDP) (Malta)
MAF	Ministry of Agriculture and Food (Bulgaria)
MAFF	Ministries of Agriculture, Fisheries and Food (Denmark)
MAGOSZ	National Association of Hungarian Farmers Societies and Co-operatives
MAKIS	Project "Modernization of the Agricultural Knowledge and Information System"
MAMAOT	Ministry of Agriculture, Ocean, Environment and Spatial Planning
MARD / MOARD	Ministry of Agriculture and Rural Development
MCAST	Malta College of Arts, Science & Technology
MEPA	Malta Environment and Planning Authority
MFA	Multifunctional Agriculture
MIPAAF	Ministry of agriculture forestry and food policies
MIUR	Ministry of Education, University and Research (Italy)
MMM	The Ministry of Agriculture and Forestry (Finland)
MNVH	the Hungarian National Rural Network
MoA	Ministry of Agriculture
MOAM	Malta Organic Agricultural Movement
MOSZ	The National Federation of Workers' Councils
MRDF	The Ministry of Rural Development and Food (Greece)
MRJC	Mouvement Rural de Jeunesse Chrétienne
MSDEC	Ministry for Sustainable Development, the Environment and Climate change (Malta)
MSKL	Central Association of Farming Advising Centres
MTA	the Hungarian Academy of Science
MTT	AgriFood Research Finland

NAAC	The National Agency of Agricultural Consultancy
NAAS	National Agricultural Advisory Services (Bulgaria)
NAGREF	National Agricultural Research Foundation
NAKVI	the Rural Development, Training and Consultancy Institute
NARS	National Agricultural Research System
NÉBIH	Hungarian National Foodchain Safety Authority
NGO	Non-Governmental Organisation
NRDN	The National Rural Development Network
NRDSP	The National Rural Development Strategy Plan 2007-2013
NSOM	National Statistics Office of Malta
OB	Operational bodies
OCA	Agricultural County Office
ODR	Ośrodek Doradztwa Rolniczego (the Provincial Advisory Centre)
OECD	Organisation for Economic Co-operation and Development
OGA	Other gainful activity
OGEEKA	Organisation of Agricultural Vocational Education, Training and Employment
ONVAR	Organismes Nationaux à Vocation Agricole et Rurale
OOO	Onderwijs, Onderzoek, Ondernemerschap - Education, Research, Entrepreneurship
OPAs	Agricultural Professional Organization
OPEKEPE	Greek Payment Authority of Common Agricultural Policy
OTRI	Office for Transfer of the Results of Research
OVO	Openbaar Voortgezet Onderwijs - Public Secondary Education
PA	Paying Agency
PASEGES	Pan-Hellenic Confederation of Unions of Agricultural Co-operatives
PCIA	Pole for Independent Advice
PEGEAL	Regional laboratory of agricultural extension and fertilizer analysis
PGs/Pos/OPs	Producer Groups
PNR	National Research Program (Italy)
PRIN	The found for Research Project of relevant national interest
PROAGRI	National Agricultural Investment Program
PSOE	The Socialist Party
R&D	Research & Development
RAAS	Regional Agricultural Advisory Services (Bulgaria)
RAES	The Rural, Agricultural and Economical Societies (Sweden) (In Swedish: Hushållningssällskapet)
RAO	Rural Advisory Offices (Latvia)
RC	Rural Coordination
RDP	Rural Development Programme
RIAFE	Research Institute for Agricultural and Food Economics
RMT	Réseaux Mixtes Technologiques
RPA	Regional Paying Agency
RSPB	Royal Society for the Protection of Birds (UK)
SAC	Scottish Agricultural College
SCAC	Slovak Commerce and Agricultural Chamber
SCAR	The Standing Committee on Agricultural Research
SEARS	Scotland's Environmental and Rural Services
SECTI	System of Science, Technology and Innovation of Extremadura
SER	Service d'Economie Rurale (Department for Rural Economy)
SERIDA	Regional Service of Research and Agro-Food Development of Asturias

SFA	State Fund Agriculture
SFCH	Slovak Food Chamber
SGIT	The General Sub-Directorate of Research and Technology
SGPCP	The General Sub-Directorate of Foresight and Coordination of Programmes
SITA	Research and Agricultural Technology Service of Castilla-La Mancha
SMEs	Small and Medium Size Enterprises
SMFs	Small and Medium Farms
SMR	Statutory Management Requirements
SRUC	Scotland's Rural College
TAA	Total agricultural area
TAC	Territorial Advisory Centres
TOKAA	Local Centres for Rural Development
TP	Technological platforms
TRAME	A network of federations
UAA	Utilised Agricultural Area
UMT	Unités Mixtes Technologiques
UNFOs	National Union <i>Olive oil mills</i>
UNIMA	National Union of Agricultural Mechanisation Companies
UPA	Union of Small Farmers
USDA	United States Department of Agriculture, USA
UTAD	University of Trás-os-montes e Alto Douro
VAS	Veterinary Advisory Services (UK)
VLK	Verband der Landwirtschaftskammern (Federation of Agricultural Chambers)

1. Main structural characteristics of agricultural sector of the EU-27²

The countries of the European Union are highly diversified in terms of territory, population, society and economy, especially in terms of their structure of agriculture.

EU-27 was inhabited in 2012 by 500,355 thousand people – food consumers. The largest populations are in Germany (80.3 million), France (65.3 million) and UK (63.5 million). The countries with the smallest populations are Malta (417.5 thousand), Luxembourg (524.8 thousand) and Cyprus.

Gross domestic product (GDP) at market prices per inhabitant is on average 25,200 Euro in EU-27. The highest level is reached in: Denmark (43,900 Euro) and Sweden (42,800 Euro). The share of agriculture in GDP (2010) on average UE-27 is low and amounts to 1.48%. In Belgium it is 0.69%, in UK 0.72% and in Germany 0.87%, while in Romania it is as much as 7.14% and in Bulgaria 4.90%.

The structure of agriculture in the Member States of the European Union varies as a function of differences in geology, topography, climate and natural resources, as well as the diversity of regional activities, infrastructure and social customs. There were 12 014.78 thousand agricultural holdings across the EU-27 in 2010 working on 172.8 million hectares of land or 40.3% of the total land area of EU-27, which is the main field of influence for agricultural extension advisers. The average size of each agricultural holding in the EU-27 was 14.4 hectares. There is a stark contrast in the structure across the EU; on the one hand there is a large number (5.9 million or 49%) of very small farms (less than 2 hectares in terms of size) using a small proportion (2%) of the total land area that is used for farming in 2010 and, on the other hand, a small number (3%) of very large farms (over 100 hectares) that use half (50%) of the farmland in the EU-27.

Almost one third (32.2% or 3.9 million) of all agricultural holdings in the EU-27 were in Romania (average size is 3.45 ha). One in four of the EU-27 holdings were in Italy (1.6 millions, 13.5%) and Poland (1.5 million, 12.6%) on average below 10.0 ha in terms of size. The small average size of holdings is also in Malta (0.91 ha), Cyprus (3.05 ha), Greece (4.57 ha), Slovenia (6.47 ha) and Hungary (8.12 ha). The weakest territorial structure, taking into account the share of small farms (less than 2 ha) in general can be observed in Malta (88.8%), Bulgaria (83.1%), Hungary (79.0%), Cyprus (75.2%), Romania (74.3%), also in Greece (51.7%), Italy (50.9%) and Portugal (50.4%).

EU farmers can get direct payments under CAP with a yearly budget of around 40 billion Euros. Direct payments ensure a safety net for farmers in the form of a basic income support, separated from production, stabilizing their income stemming from sales on the markets, which are subject to volatility. Direct payments also contribute, in combination with cross-compliance, to providing basic public goods delivered through sustainable farming. The number of agricultural holdings in EU-27 which received direct payments in 2009 was 8,060,359 (67.4% of the total

² This chapter was elaborated based on “Farm Structure Statistics” 2012, http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Farm_structure_statistics and other statistical data of Eurostat, <http://epp.eurostat.ec.europa.eu>

number). Diversification in territorial payments between EU countries is also due to high amounts of rates of direct payments, per hectare per annum. According to the existing legislation, average rates for the years 2007-2013 were the highest in Malta – 696 Euros, the Netherlands – 457 Euros, Belgium – 435 Euros, Italy – 404 Euros, Greece – 384 Euros, Cyprus – 372 and Denmark – 363. They were the lowest in Latvia – 95 Euros, Estonia – 117 Euros, Lithuania – 144 Euros, Romania – 183 Euros, Portugal – 194 Euros, Slovakia – 206 Euros and Poland – 215 Euros.

The majority of arable land in 2010 was used for cereal production. The highest percentage of arable land is in Denmark (56.9% of total area), Hungary (46.3%), Poland (38.7%) and Romania (38.4%), average for EU-27 is 24.5%. The share of permanent grassland (pastures and meadow) is highest in Ireland (50.6% of total area), and UK (45.9%).

According to the EU's labour force survey, agriculture, forestry and fishing employed 11.3 million persons aged over 15 in the EU-27 in 2010, the equivalent of 5.2% of all those employed. The highest contribution of agriculture to employment (as a percentage of civilian employment) was in Romania (30.1%), Poland (13.8%), Greece (12.5%) and Portugal (10.9%). The lowest one was in Luxembourg (1.0%), UK (1.2%), Malta (1.2%), Belgium (1.4%), Germany (1.6%) and Sweden (2.1%). Farming is predominantly a family activity in EU-27; over three quarters (77.5%) of the labour input in agriculture came from the owner or member of his/her family in 2010. In Poland, Ireland and Malta family labour accounted for over 90% of the volume of work carried out in agriculture. By contrast, there was a small percentage of countries for whom non-family labour accounted for a majority of their labour force (Czech Republic - 74.6%, Slovakia - 68.4%, France - 45.1%).

Farms in EU-27 are managed by managers who are relatively old. On average, as much as 53.1% of managers are above 55 years of age. Only 24.2% of owners are less than 44 years old. There is a relatively significant difference in the age structure of managers among different EU countries. The most beneficial age structure of farm managers can be observed in Poland– 40.2% managers are less than 44 years old, Austria – 38.0%, Czech Republic – 32.4%, Germany – 31.6% and France – 29.9%. The highest percentage of elderly farm managers, i.e. 65 years and more is in Portugal (46.5%), Bulgaria (37.3%), Italy (37.2%), Romania (37.9%), Lithuania (34.7%), Greece (33.3%), Cyprus (33.0%) and Slovenia (30.4%).

In analysing the farm type based on standard outputs in 2010 we noticed that 25% of agricultural holdings specialise in field crops (for example cereals, oilseeds and vegetables). About 20% farms specialise in permanent crop holdings (for example with vineyards, olive groves or orchards). Holdings with grazing livestock (dairy cows, cattle, sheep and other ruminants) account for 15.8%, granivore holdings (pigs or poultry) for 11.6%, mixed livestock holdings for 6.5%, and mixed crop-livestock holdings for 12.8%. There are also mixed cropping holdings (4.3%), horticulture (2.0%) and non-classifiable holdings (2.0%).

The biggest producers of some of the main crops in 2011 are following:

- **cereals total, including rice:** France, Germany, Poland, Spain, UK and Romania;
- **sugar beet:** France, Germany, Poland, UK and the Netherlands;
- **rape:** France, Germany, UK, Poland, Czech Republic;
- **sunflower:** France, Romania, Bulgaria, Hungary and Spain;

- **tomatoes:** Italy, Spain, Greece, Portugal;
- **apples:** Poland, Italy, France, Germany;
- **oranges:** Italy, Spain, Greece, Portugal, Cyprus, and France;
- **vineyard:** Spain, France, Italy, Portugal, Romania, Germany, Greece, Hungary, Bulgaria and Austria.

The total livestock numbers in EU-27 was 133.9 million of LSU in 2010. About half (47%) of which were cattle, a little over a quarter (27%) were pigs, 15% were poultry and 7% sheep. Just over half (51.1%) of the EU-27 livestock herd was located in four following member States: France (16.9%), Germany (13.2%), Spain (11.1%) and UK (9.9%).

The most milk collected in 2011 was in Germany (29.7 million tons), France (24.7 million tons), UK (13.8 million tons), Netherlands (11.6 million tons), Italy (10.5 million tons) and Poland (9.3 million tons).

The number of organic producers were 227,641 (1.9% of total number of agricultural holdings) in EU-27 in 2010, and the organic area used by them was 9,179,900 hectares (5.2% of total UAA). Taking into account the share of the total organic crop area out of the total utilized agricultural area in particular Member State of EU, we could identify the following countries that have implemented a system of organic production to the greatest extent: Austria (19.5%), Sweden (14.3%), Estonia (12.8%), Czech Republic (12.4%), Latvia (9.2%) and Slovakia (9.1%).

2. Characteristics of AKIS in the EU-27

As was mentioned at the beginning of this chapter, it is not easy to compare AKISs, which exist in the surveyed EU countries. In fact, in each surveyed country the AKIS system is different in terms of historical conditions, the number of actors, the number of levels, sources of knowledge and information, sources and system of funding ownership of advisory service organisations / companies, model of AKIS organisations, leadership and management etc. Therefore, below, the extracted information summarising the AKIS systems in individual analysed countries is presented.

1. The structure of the **Austrian** AKIS is modest, clear and, as compared to other EU Member States, rather small. It has continuously evolved over time and has not experienced any major restructuring or commercialisation/privatisation compared with other EU Member States. It is characterised by widespread public support and the existence of a manageable number of organisations, most of them do not operate on a commercial basis. Public research, education and extension bodies are well connected and, in some cases, even integrated. Education and extension go, in practice, often hand in hand. Institutes often offer both training and advice and many services and activities work on and integrate both approaches. Thus the border between education and training and advice is blurred.

2. In **Belgium** – a main characteristic of the AKIS in Belgium is its decentralisation, connected with the specific nature of state federalism, and regionalisation of services in general. In fact there are two different AKISs in both regions, in Flanders and Wallonia. Before 2003, advisory services were essentially under federal responsibility. The main role in finance subsidies in Flanders is played by the Ministry of Agriculture, in Wallonia – Service Public de Wallonie. The key role in AKIS, in both regions, is played by experimental stations. These stations are organised at a lower level than regions: provinces. Although, in both Flanders and Wallonia, the pilot centres and experimental stations have the status of associations, the advisory system has evolved differently in two regions. In Flanders, there has been a reorganisation of the applied institute and experimental stations to share investments with the regions and to cover R&D for every agricultural commodity, e.g. through distributing the topics of experimental station advisory according dominant production in the particular area (experimental stations are co-funded by the region, the provinces and farmers). In Wallonia, the situation is more complex with a bigger number and diversity of associations, subsidised by the Wallonia region and by farmer's contributions. In Wallonia it is possible to observe more pluralism and fragmentation of the advisory systems.

3. **Bulgarian** AKIS can be defined as rather centralised. The main role in AKIS is played by the National Agricultural Advisory Service established in 2000, participating in different international programmes. In the period of 2007-2013 NAAS started providing advisory services implementing measure 143 *Provision of farms advisory and extension services in Bulgaria and Romania*. At the same time many private advisory companies were established and provide advisory services in all fields, focused mainly on rural development and other measures, excluding the NAAS priorities. Also, Farm Advisory System is represented by the NAAS. The range of advice and services that the FAS provides in Bulgaria covers mainly development

measures. The funds for consulting activities cover around 20-25% of the total number of registered farmers due to a lack of sufficient funding and administrative staff. Unfortunately, the private advisory sector in Bulgaria is not included in FAS and during the conducted interviews with private advisors, they did not know much about the system.

The linkages between actors inside AKIS are rather weak and informal. They are only strong inside the NAAS organisational structure because of internal dependency.

4. In Cyprus, as the results of the survey pointed out, the AKIS system is working quite well, only a few actors in Cypriot agriculture suggest a more intensive cooperation between all the actors concerned (with the lead of the Department of Agriculture/ Extension Section). The employment of a network of experimental plots (collaborative experiments) for the generation-testing-adaptation-introduction of innovations emphasized the need to focus more on farmers' needs as well as on the enhancement of farmers' occupational training and experiential learning. Farmers, from their side, have to become more open and willing to share their know-how with their colleagues and thus enable/facilitate farmer-to-farmer transfer of innovations. A further obstacle stems from farmers' unwillingness to pay for advice (since currently they do not, in general, have to pay) as far as private services are concerned. Additionally, farmers are presented as unwilling to undertake risks and, on the other hand, introduce new cultivations without waiting for the results of experimental plots run by ARI and/or the Extension Section. A major challenge, of which the extension service is aware of, concerns the increasingly stronger tendency for privatisation, which, in the case of Cyprus, may be enforced. This, in turn, is expected to have major repercussions for small-scale farmers who dominate in Cyprus - as they are not in a position to pay for advice (which is currently provided for free by the service). As a consequence, this is most likely to lead to land abandonment and degradation.

5. AKIS in the Czech Republic represents a complex system of agriculture advisory services including the transfer of the newest knowledge and information to agriculture users. This concept guarantees openness of the system and its possible extension to other areas.

The main parts of AKIS are the Division of Education and Advisory Ministry of Agriculture (MoA CR), Institute of Agricultural Economics and Information (IAEI). Agricultural Agencies MoA, research and educational institutions, non-governmental non-profit organisations (including Agrarian Chamber) and advisors. Private companies supporting agriculture by different materials play an important role in the transfer of professional information too. There are tools in the frame of the system for synergic operation between all parts of the AKIS, as advisory, educational training, information transfer and research; with respect to tool specificity. It is possible to predict that the presented AKIS state will continue in the next planning period.

6. Denmark – Danish AKIS and advisory system are strong due to their deep roots in a long tradition and some institutional legacies. What is the more interesting in the Danish AKIS –there are not many official documents about the formal connections inside AKIS, but the linkages are rather informal but very strong between its particular nodes – universities, agricultural colleges and vocational schools, public agencies, ministries, agricultural knowledge centres, advisory companies and farmers. We can see these strong ties, especially when looking at the dense network of formal and personal linkages between associations, boards, companies etc. The challenge for Danish AKIS is structural development within Danish agriculture. The number of

full-time farmers continuously declines, size of farms is increasing, becoming large-scale, organised like a business owned by financial actors outside the agricultural sector and turning the farmer into a farm manager. Observing such trends and thinking about these very important actors in the AKIS Danish experts put forward the question about whether this will affect a system based on farmers and farmer associations and the dense network of farmer controlled organisations (including the farmer owned and controlled advisory companies).

7. In Estonia the linkages between various AKIS actors are quite weak and it is necessary to further develop co-operation. Representatives from the Ministry of Agriculture draw attention to the necessity to create an advisory system as a link between research and active agriculture, where through advisers the research results could be transferred to active farmers and food handlers. And vice versa, that through advisers the problems of active agriculture could also reach the researchers and organisers of training. The advisory system has to ensure both an effective information flow from producers to researchers and feedback from researchers to producers. The interviewed experts admitted that one of the crucial mistakes of the current advisory system is the lack of a comprehensive approach that covers a whole company: the main advisory activities include advice on a single problem or concerning an application for support. The current advisory service cannot provide sufficient advisory services on the primary processing of food, diversification of agricultural production, organic farming, joint activity and other necessary specific areas. In order to increase the provision of specialised (technological) advice, professional organisations and associations, agricultural schools and R&D institutions need to be included in the advisory system.

The discussions concerning the future of AKIS are still going on. The Estonian advisory system will be modified in the foreseeable future.

In Estonia the main overall points of concern are: (1) the reinforcement of the cooperation between researchers, agricultural advisers and agricultural producers; (2) the precision, reliability and availability of scientific information and its distribution; (3) the possibilities to integrate research, advice and production.

8. In Finland, AKIS is rather modest and consists of only a few actors. The main role is played by the Ministry of Agriculture and Forestry (MMM), with its two departments, responsible for the implementation of agricultural policy. MMM also supervised the Agency for Rural Affairs responsible for implementation of EU and national support schemes and payments. There are also regional centres for economic development and the environment. Research institutions are mainly represented by Agrifood Research Finland (MTT). Also, inspections are managed by Evira, which also carries out research, are present and controlled. The main advisory organisation is ProAgria Group – a non-profit and member-owned organisation, including e.g. farmers, rural entrepreneurs and small-scale businesses. It is an organisation partly supported by the Finnish government under a yearly agreement (payment for implementing the priorities of agricultural policy). The evaluation of AKIS in Finland is good. The positive improvement of the agricultural sector is based on the successful existence of AKIS. Knowledge and education among farmers are increasing, production is improving, know-how is leading to better results. However, the trends in agricultural policy and in global economy are changing and in the near future it will be necessary to upgrade the advisory services. For this reason, a more important

issue would be stronger cooperation between different AKIS actors to listen and fulfil farmers' needs.

9. With respect to the AKIS in **France**, it should be highlighted that for the recent years there have been no changes in terms of actors. The same main actors are still present inside AKIS, but there are some important changes in the conception and modalities of public intervention from co-management to the delegation of services (which are sending by Ministry of Agriculture to specific AKIS actors). Before 2000 there were organised institutionalised negotiations between the state and dominant farmers' union about how to spend and spread the income generated by tax on agriculture commodities between AKIS organisations. Now, the role of the Ministry is to sign (or validate) contracts with research and education for applied research or advisory services and to evaluate their activities and control the quality of knowledge available for AKIS actors. Before 2000 there was little competition between AKIS actors providing advisory services, because they specialised in different specific subject matters, and in addition there was very often local institutional arrangements by farmers unions. Now, it is observed that competition has strongly increased, because AKIS organisations specialise in measurement performance. This competitiveness appears mainly in front-office services, where different providers offer the same services, but also in back-office, where knowledge is more and more of a key resource.

10. In **Germany** it is difficult to provide a generalised description of the AKIS system, because of federal structure of the country.

On the national level, the German AKIS has a strong performance. There is quite an extensive range of public, private and third sector (FBO / NGO) institutions which, directly or indirectly, interact with farmers. The federal ministry and its subordinate structures have a political framework and a coordinated self-understanding for the support of the AKIS. In this regard, good bases for a functioning AKIS are given.

However, the actual agency of the federal institutions is insofar limited as the responsibility for the design and the funding of research and education belongs to state ministries. E.g. while the Federal ministry can set favourable framework conditions for policy instruments through the GAK, it is the state level which is finally in charge of the implementation and where priorities are set for state-level research. In this regard the German AKIS reveals a distinct weakness – it seems that there is little cross-state exchange on, and coordination of, the publicly funded applied research in experimental stations.

Innovation policy is strongly influenced by the AKIS actors representing the market-driven, industrial and mostly conventional agriculture (e.g. seen in the constitution of the steering committee of the DIP)

Contradictory approaches of DIP and EIP: while the idea of the EIP is to support bottom-up approaches of many different actor groups, the DIP builds upon the initiatives and existing research groups already funded in the innovation support programme. Here, innovative research projects are selected from the steering group which means that the funding of the DIP is not open to all kinds of initiatives – specifically not those targeted by the EIP.

There is a continuing tendency towards cutting down public funds for public advisory services which is manifested by increased privatisation and commercialisation even in states with a

chamber system or public advisory institutions. Similarly, funding of the relevant research and experimental stations (which are funded by each state) is being significantly cut, or those stations are increasingly privatised.

11. In Greece there is, in fact, neither a national policy framework nor a coordination mechanism and there are no agreements between the aforementioned AKIS actors. During the last 25 years, some changes in terms of the downsizing of the state, decentralization, 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 (i.e. the Ministry of Interior). As a result, nowadays, the overall picture is that of a highly fragmented, uncoordinated and dysfunctional AKIS. It needs to be changed. However, the orientation of change is not clear since stakeholders have divergent aims. A first step was undertaken in 2011, when a new organisation ELGO DIMITRA was established. Now, in 2013 this organisation just started to consolidate its new administrative structure. Nowadays, the restructuring of MRDF is also discussed.

12. Hungary. Transformation of the advisory activities towards being driven by the market would be the best way to contribute to improving their efficiency. There is evidence to support this view from other EU Member States where the privatisation of AKIS and changing demands from the agricultural sector have induced a shift from supply-driven towards demand-driven modes of work. However, whilst any initiative that makes the system more responsive to needs is to be welcomed, experience in Hungary with the EU co-financed Farm Advisory System (FAS) has shown that several associated issues need to be addressed:

The present market potential for a purely commercial advisory service in Hungary seems to be very limited. Very big farms have their own advisors and do not use the FAS which mainly services farms between (very approximately) 30 and 200 ha in size. Very small farms do not seek technical advice. There are very few genuinely independent commercial advisors because farmers do not like to pay for advice. They cannot see the benefits, only the costs. Specialist advisors operating through the FAS are frequently under-employed because demand for their services is low. Commercial advisors, if working for, e.g. input suppliers, can give biased advice.

If paid services are to be subsidised from the Hungarian government or from EU funds, the administrative procedures must be speeded up. For the current subsidised services, the Paying Agency was slow to approve applications for funding.

The lack of trust between farmers and advisors in terms of the inconsistent quality of the advice given has a number of different causes. These include the difficulty in locating the right person to give the advice (there is little possibility to get advice on technical subjects such as plant protection and soil management) and the fact that the best advisors prefer not to be part of the bureaucratic public sector services.

Functioning of the AKIS in Hungary, in terms of knowledge flows, must be improved and makes six recommendations: (a) comprehensive review of the AKIS in Hungary should be conducted; (b) the present system of incentives for knowledge flow through the AKIS should be urgently reviewed; (c) future planning should be based on a state-of-the-art understanding of AKIS as

multi-actor networks rather than simply as a unidirectional linear flow; (d) new models should be developed and tested on the basis of experiences from other EU Member States; (e) monitoring of the performance of the AKIS in Hungary should be improved; and (f) an annual report on the performance of the AKIS should be prepared by the Hungarian government and submitted to the Parliament.

13. Italian AKIS presents a great structural complexity and high heterogeneity, due to the administrative decentralisation and the excessive breakdown of tasks and responsibilities between several institutional levels. In addition, the historical separation between private and public actors and especially the lack of effective governance mechanisms increases the system fragmentation even further.

The regional organisation of the public advisory services responds to the extreme differentiations in the local farming systems, institutional arrangements, market opportunities, and many other contextual factors. In Italy, each Region has its own laws and its own policies on agriculture advisory services, developing 21 different systems that rarely interact with each other.

There are also several examples of excellence of the public AKIS providing advisory services very effectively even for the emerging needs (such as agri-tourism, care farming, etc.). However, in general an important AKIS bottleneck is the lack of sufficient demand-orientation, especially with regard to the agricultural research which is often considered to be self-referent and not adequately linked to the real farmers' needs. Moreover, the research results are not communicated properly and on a large scale to the parties concerned. As demonstrated by several studies, the farmers express demands of innovations that are already available but clearly not well known yet.

Actually, there is a multiplicity of public and private actors accountable for different system components, each with different professional cultures and theoretical frameworks, with different systems of accountability, different financial regimes, working to their own agendas. Moreover there are also different combinations of these actors involved in the delivery process at local levels, giving rise to problems of both vertical and horizontal integration. It is even very complicated to mitigate the resulting organisational complexity.

Finally, the Italian AKIS suffer due to a lack of "systematic knowledge about the agricultural knowledge system", including the absence of common databases about the services delivered and the ongoing research, a systematic collection of information about "who does what", etc. This knowledge is necessary and crucial to improve the system and to support the policy makers.

14. Ireland is unique in having a substantial component of its AKIS within a single organisation – Teagasc, which undertakes research, offers extension services, agricultural education and support structures. This gives the Irish AKIS a coherent core that is absent in other countries with AKIS, where roles are dispersed over a wider range of actors. Teagasc activities are complemented by private agricultural consultants and veterinarians, private research entities, universities and Institutes of Technology, DAFM and other government departments, various public agencies and numerous other actors. Teagasc has been successful in establishing farmer-run demonstration farms (BETTER farms and Monitor Farms) and organising a large number of

farmer discussion groups to enhance peer-to-peer learning. Its 51 local offices make the organisation accessible to farmers.

The role of Teagasc is unlikely to change in the near future. Private agricultural consultants may become more important, but this trend seems to be strongly influenced by government policy and the existence of schemes that require regular farmer advisory services. National regulations regarding the implementation and (access to) financing for FAS also play a role in the viability of the small consultancies.

Over the years, the Teagasc advisory service has contained a strong public good programme. Despite the introduction of fees in 1987 and the application of charges, the majority of farmers continue to use this service. It is possible to note several benefits of fee-based services for Ireland, including that such services focused on client needs, increased adviser confidence, involved more business-like relationships, and achieved cost recovery for specific services thus avoiding unfair competition claims from the private sector, and an improved status of the service. This is in contrast with some negative impacts, which included the perception that the service was only for commercial farmers; a tendency of advisers to resort to schemes to collect targets while ignoring development work; adviser ownership of clients; and struggles by some advisers to adapt to changes.

Previous research on the Food Innovation System (FIS) in Ireland – which would partly overlap with the AKIS – found that the range of actors works well to ensure that research is conducted along the spectrum from basic to applied research. It is possible to notice a considerable change in the FIS in recent years, for example, additional research centres have initiated food research programmes, while increased multi-disciplinary activity has seen diverse specialist areas enter the system. They conclude that the Irish FIS is not yet functioning as a system, largely due to barriers in terms of feedback systems and interactions. To conclude, there is room for improvement in terms of knowledge and information flows to further enhance innovation in Irish agriculture.

15. In Latvia, AKIS remains fragmented, as there are weak single planning and coordinating mechanisms. The traditional public research, extension and educational organisations are governed through agricultural, science and education policies, developed in consultations with farmers' organisations to integrate their needs better; however, they are not well coordinated and there is a lack of a strategic vision for the agricultural knowledge system. Although farmers' education has been set as a priority of rural development, in practice, it is poorly implemented. In addition, the public funding for agriculture is already small, and science, research and education in general have been reduced even further during the recent financial crisis. This results in human, organisational and technical capacity to create and deliver knowledge and innovations to farmers. Recently, the responsible ministries with the involvement of practitioners have launched various measures to improve the coordination and consolidate of the dispersed resources, e.g. the creation of the State Research Centre of Agricultural Resources and Food, transformation of professional agricultural schools into vocational competence centres.

In parallel to traditional knowledge institutions, knowledge and innovation are created and disseminated in various formal and informal, short- and long-term multi-sector and multi-actor learning and innovation networks, which are often primary sources of knowledge and

information for farmers. Involving actors from agriculture and science, education, business and policy in the co-creation of new knowledge and innovations for farmers to fulfil their needs materialised the EIP approach. Still, the problem is that the knowledge is fragmented, because it is the result of short-term projects. Although projects create valuable knowledge, in the long run, it is often poorly used as there are no follow-up activities after a project ends.

16. Lithuanian AKIS is evaluated by country experts as working correctly. Within the system there are 40 public and private organisations providing advisory services. Farmers can select the best organisation to provide advisory services suitable to their needs and are as such rather satisfied with the possibilities. Since the state provides financial support for advisory services, farmers can upgrade their professional qualifications at low cost. The connections between AKIS actors are rather good, but in parallel to open private advisory services, the competition became visible.

17. Luxembourgian AKIS can be considered as relatively pluralistic, consisting of public agricultural institutions, the agricultural chamber and several FBO-based advisory services. In addition private enterprises have a role in AKIS as providers of product-related advisory services. There is also public funding of jointly selected advisory projects, ensuring that other advisory organisations can carry out advisory services according to special topics, which go beyond the advisory scope of public advisory organisations. The selection and consulting process should be highlighted as an interesting and fruitful form of joint decision-making – it is coordinated by the agricultural chamber and involves public, some private and farmer-based organisations likewise. Several advisory organisations seem to carry out advisory services with similar contents (e.g. accounting services, advisory on topics of public relevance), which may carry along the aspect of doubling of structures, particularly in the public sector.

Luxembourg is well connected and, to some extent, reliant on external knowledge sources. While within the country the creation of knowledge is intensely supported through the CRP's, Luxembourg can be considered as a knowledge importer – the cross-border exchange on knowledge and cooperation with agricultural actors from the public, private and research sectors being high. It was noted that this connection (particularly to research institutes and advisory organisations in France and Germany) seems to be a vital linkage for accessing relevant knowledge.

18. Malta – is still facing the transition from a protectionist economy, which had isolated the agricultural sector from the rest of the world, to the EU/international competitiveness. Since 2004, the AKIS in Malta has left a phase of changeover from a de-concentration type, where the national level provided the services through its own departments, to a co-management type, where the Ministry participates in the management of the advisory system together with the professionals (FAS Consortium) and the farmers (cooperatives and POs). In this context, the key concerns for the AKIS are the following:

- a) the lack of a proper national strategy on research and innovation in agriculture or at least an action plan. On this point, even the National Rural Development Strategy for the programming period 2007-2013 does not refer to the research and the innovation; while the “National Research and Innovation strategy 2020”, refers to the opportunity for promoting the value added and innovation in agriculture and rural development just

by addressing the RDP 2014-2020 for the actions to be implemented. This is leading to a few mostly public pieces of research, which are not interrelated, funded by international programmes (i.e. FP7) and without real usability/application at farm level;

- b) the lack of a systemic vision of the AKIS actors. Indeed, the co-management approach seems to be more oriented to determine “what has to be delivered to whom” rather than set the stage for recognising the actors and providing a reorganisation of their roles, functions and relations, thus bringing the resilient fragmentation of the AKIS into very few providers and duties. In this regard, there is need for a major recognition of the role of the system as a whole for increasing the competitiveness in agriculture, by spreading innovative thinking among the farmers and enabling responsive entrepreneurships. Indeed, on the other hand, the research also led to the emergence of a scarce self-acknowledgement of the researchers, of the private consultants and of the trainers, on their specific roles as part of the agricultural and innovation system, within which they should cooperate and dialogue in view of implementing more targeted (useful and usable) research and innovations. At this point, certainly, there is a call for promoting the enhancement of the skills and competencies of the actual actors, the entrance of new subjects, a broad awareness on the AKIS actors among the farmers, bridging the actors and fostering their cooperation for innovation;
- c) The only focus is on cross compliance (FAS) and not on innovation. Indeed, the advisory system designed by the MSDEC is still linked to the compliance and does not offer a service aimed at knowledge transfer and innovation and to enhance general farm management, which are the most important needs to be addressed in view of increasing the competitiveness of agriculture and fostering environmental and social sustainability.

The associative bodies are playing a crucial role in linking the advisors to the farmers and these efforts should be better organised and enlarged to the researchers. Truly, in the actual context, the associative bodies seem to be likely to play the role of innovation brokers, once they reinforce their management skills, in view of reaching more acknowledgment on their potentials and getting to a more systemic view of the AKIS. The renewed CAP, whose major priority is the transfer of knowledge across the farmers, based on the enhancement of the capacities and skills of both farmers and trainers/advisors, is quite challenging and offers a number of opportunities to overtake the actual concerns of the AKIS in Malta. This requires firstly the settlement of a national innovation strategy which should provide a reconstruction of the AKIS based on the concept of interactive innovation, as well as the assumption of the mutual recognition and dialogue of its actors, and the existence of linkages which shape collaborative behaviours, through introducing “innovation to firm”. The responsible body at Member-State level has the difficult task of coordinating a new AKIS approach in order to allow the achievement of cross-linkages between functions and themes, farmers’ accessibility, stakeholders’ networking, as well as the enlargement of the farm advisory service beyond the scope of advice on provisions concerning cross-compliance obligations into an instrument of sustainable development and innovation of farms.

19. The Netherlands – The Netherlands has a world-renowned knowledge infrastructure in agricultural R&D and historically there is an intensive cooperation between the private sector,

scientific institutes and the Government. After the collapse of the Dutch OVO triptych in the 1990s, the Dutch AKIS has experienced a *transition* to a new arrangement that is *still on-going*. The stakeholders interviewed, while working in the field, have demonstrated a "sense of loss" in describing the Dutch AKIS arena, revealing a clear difficulty in tracing its boundaries and in clearly defining the identity and the role of each actor.

The end of the OVO triptych has meant a transition from a stable system, with well-defined actors, bound together by institutionalised mechanisms to a highly dynamic system with great hybridity of actions and functions. In parallel to the changed extension arrangements, other changes have taken place in the Dutch OVO. In education, the transition proceeds towards the so-called OOO network – Education, Research, Entrepreneurship (in Dutch: Onderwijs, Onderzoek, Ondernemerschap), in which academic research, education and industries work together in a network system, to establish effective education programmes. However, this transition is not yet a reality.

In the research the transition is moving towards a public-private partnerships model, involving the so-called Golden Triangle (Government, Private industry, Research and University) with a growing of market-driven research in the context of decreasing public funds and public fiscal crises. A major result of all these changes (that are strictly connected) is the gradual shift from knowledge as a public good to knowledge as a *marketable* product. The creation of a knowledge market has been seen as an opportunity from many actors who have entered this vibrant arena, especially as advisory service providers. At the same time, the more classic AKIS actors have assumed new identities and new features; it is due to the action of different driving forces, including the search for funding which is no longer permanently insured by the government.

To meet the market needs, innovative demand-driven knowledge and services are developed, new arrangements and synergies are defined between the multitudes of AKIS actors. This system is so dynamic that sometimes the existing institutional framework inhibits the innovation processes, like in the case of spatial planning and multifunctional agriculture or in the case of environmental cooperatives.

However, as mentioned above, several market and system failures occurred. Together with the end of the OVO triptych all the public structures previously devoted to the AKIS governance collapsed. This resulted in the disintegration of the knowledge distribution system and a lack of throughput of knowledge towards farmers. Consequently the innovation networks and the figure of knowledge facilitator have emerged to rebuild the ties between the several actors and to promote knowledge creation and transmission within the system. The value of innovation networks and knowledge brokers in the Netherlands has been emphasised by different authors and also by the policy. The Government has funded and supported innovation networks and knowledge brokers considered as valid tools for the Dutch innovation policy. This “innovation model” is considered as the *answer to strengthening agricultural innovation capacity also in the international context* and it has been taken up by the same European Innovation Policy in the definition of the European Innovation Partnerships (EIP).

The existence of private advisory services and market-led mechanisms is not a problem for the majority of Dutch companies, which have the economic dimension and are willing to pay for the advisory services needed. However, also, the advisory service cost in the Netherlands limits the

access to extension services to a large part of SMFs that do not have the economic dimension to pay for it. In addition some sub-sectors/fields are no longer covered by the provision of advisory services because they are considered unprofitable such as the goat and sheep sectors. It results in strong inequities between farmers for the access to cognitive resources that have become more and more vital for the competition and the very survival of farms. This represents a limitation of the Dutch AKIS in supporting Multifunctional Agriculture (MFA) assumed as *the full range of contributions of agriculture to economic and social development as a whole*, because MFA raises needs for new and more complex knowledge, as well as for a diversity of farmers and farming systems. In several cases, the regional or local governments interested in the MFA provision of public goods support and fund the same innovation process. Another weakness of the Dutch AKIS is in the back-office dimension of knowledge access and production. With the growing importance of the market lead mechanisms, the public investments in knowledge infrastructure are decreasing and they are more and more focused on stronger sectors (as evident in the top sector policy). The need for revenues obtained through market mechanisms also applies to public organisations, such as WUR, where the cut-back in stable government funding for research makes it hard to maintain the basic research infrastructure. Another example is the Green Knowledge Cooperative, a platform of all green educational institutes operating as mediators in the knowledge exchange with business, research and other partners. One of the main tasks of GKC is building a database of scientific articles about specific topics, which can be used in the green educational institutes. In 2015 the public funding for the cooperative will end and GKC will have to fund its programmes (using the payment service or through contribution of farmers organisation, private, etc.).

On the other hand, the R&D funded by Agro-Industry (also through Public Private Partnerships) is increasing, but it only covers selected profitable topics with short-term return. This led to the lack of knowledge investment useful to nourish the farms diversity, and again penalising the SMFs that may have specific knowledge needs. In addition knowledge no longer circulates in the system as it did in the past. The more commercial orientation of the AKIS system implies a more protective attitude with respect to innovative knowledge as good with a high market value.

20. In the AKIS in Poland, we can enumerate six main links (stakeholders): agricultural advisory organisations, research and education institutions, agricultural policy administration, sales enterprises, supply services and farmers.

Agricultural advisory organisations are represented by advisors who mainly deal with market information, promotion of agricultural, economics and organisational innovations, constant education and solving the problems of agricultural practice, sometimes in cooperation with representatives of science. This link is also represented by the Agricultural Advisory Centre (CDR) in Brwinow (with divisions in Krakow, Poznan and Radom), 16 Provincial Advisory Centres (ODRs), 16 agricultural chambers (IR), 163 private advisory organisations and numerous NGO's which were created after 1989. They cover a wide spectrum of educational, environmental, ecological, developmental and cultural activities. Most of them work under donor funded projects on rural, agricultural and non-agricultural development, implementing the extension or advisory type activities.

Research and Education: scientists, lecturers and teachers deal with generating new knowledge to consistently strengthen the system in the scope of innovation, with analysis of efficiency of the applied production technologies, developing new management systems in particular links of AKIS, as well as comprehensive and specialist education of new staff for all AKIS links. There are 13 Agricultural research institutes, 10 University of Life Sciences or Agriculture, 15 Colleges and 45 Secondary Agricultural Schools.

Agricultural Policy: politicians, state and self-governmental administration officials and inspectors are responsible for the shape of the agricultural policies, the binding law and exercising it in terms of quality, health, safety, environmental protection etc.: Ministry of Agriculture and Rural Development, Ministry of Environment, Ministry of Finance, Ministry of Science and Higher Education, 2 parliamentary committees for agriculture, 3 state agencies (Agency for Restructuring and Modernisations of Agriculture - ARiMR), Agricultural Market Agency - ARR), the Agricultural Property Agency - ANR), 5 state inspections, 16 provincial governors, 16 provincial marshall offices, 314 country districts and 1571 rural municipalities.

Sales/marketing is represented by natural and legal persons, producers organisations, enterprises, which purchase agricultural products, store, sort, process, transport and sell them in wholesale and retail sales.

Supply is represented by organisations or institutions, natural or legal persons, providing farmers with means of production and services, thus supplying them with fertilizers, pesticides, seeds, farm animals, machines, and also grant loans and credits and pay subsidies and donations.

Production and users: the most important link is production, represented, above all, by farmers being owners or tenants of agricultural farms (1 506.6 thous. in 2010). The latter category of land users appeared along with the implementation of the market economy and restructuring state agricultural farms. Farmers are perceived in the Polish rural advisory system, along with their families and the entire local community, as clients of advisory services. Many farmers work together in producers' groups (1306) and branch organisations (49) in 2013.

Each of these elements is more or less strongly related to the others. Advisory services cooperate more closely with research institutions, whose activity is mainly financed from the budget of the Ministry of Agriculture and Rural Development. Cooperation with universities is scarce. This is caused, above all, by the currently valid system for assessment of academic employees – they are assessed and awarded for scientific work, resulting in publications in scientific magazines with a high impact factor, and to a smaller extent – in didactic effects, while scientific cooperation with production practice – apart from patent solutions – is not appreciated in any way, both in individual assessment of academic employees, and, most of all, in the assessment of didactic units and universities. In parametric assessment of scientific unit, no account is taken of: popular science publications, expert reports, business plans, agricultural-environmental plans, economic and marketing analyses, lectures and trainings for advisors, farmers and entrepreneurs, or participation in educational projects for various target groups, implemented by advisory and non-governmental organisations.

21. In Portugal – the AKIS involves a set of actors performing a variety of functions, namely: policymaking; regulation, monitoring and evaluation; research; education; training; information,

extension and consultancy work. These actors are both public and private, and the former may or may not have profit-making objectives. The public actors are mostly linked to such areas as policymaking, regulation and monitoring, research, information, education and training. The non-profit actors are farmers' organisations of different types that, besides lobbying and policy concerns and administrative roles, are involved in training, information exchange and extension.

In 1990, a major programme - PROAGRI - was launched, reflecting the prevailing privatisation views, with the objective of strengthening the capabilities of farmers' organisations in the areas of management and advisory work. Meanwhile, hundreds of agents in the public agricultural services at the regional and local levels were asked to perform administrative and regulatory tasks. The existence of public agricultural extension after PROAGRI is questionable. After this period and in spite of this measure, technical support to agricultural development became a function of many institutions and services, especially cooperatives and farmers' associations, in a more or less fragmented and dispersed fashion, the exception being the existence of networks or some form of articulation and coordination.

The private actors can be linked to industries providing farm equipment and inputs, or consultancy firms, usually small, delivering services in such areas as project development (and farm investment plans), farm accountancy and training.

With the future CAP in mind, as well as the challenges faced by farmers and farmer's organisations, the interviewed actors stressed the importance of: reinforcing the linkages with farmers at the field level; giving more attention to extension work; developing the interaction and cooperation with research and education; qualifying the human resources; gaining financial sustainability; and having more active extension role for public services, in order to serve more farmers.

22. In Romania, AKIS bears the imprint of his history. It experienced successive modifications in order to face the new challenges and realities. There are no coherent policies targeting AKIS, and its subsystems are largely under the influence of certain sectoral policies. The current system is inefficient in assisting the farmers: the existing subsystems – research, consultancy and agricultural education are weakly prepared to support Romania's approach in implementing the CAP 2014-2020. There is a limited integration of the consultancy, agricultural research and agricultural education activities. Furthermore, there is a lack of collaboration between farmers and the staff of the three subsystems, and this leads to farmers' lack of confidence in the activities performed by these subsystems. Throughout the period of transition and integration of Romania's agriculture and rural area into the EU structures, the place and position of the agricultural advisory services have experienced ups and downs, formations and transformations. The current situation of the public advisory service is quite uncertain.

23. In Slovakia – Within the Agricultural Knowledge and Information System (AKIS), people and institutions are inter-connected in order to generate new knowledge, share experiences and transfer it among themselves with the aim of introducing it into agricultural and rural practices. This kind of system only functions well in a situation where farmers, teachers from universities and secondary schools, support services and vendors/mediators are well integrated, with the objective of obtaining new knowledge and information from different sources about more sustainable land management, sustainable use of natural resources, and for improving the living

conditions of farmers and the rural populations. Despite this fact, the integration of people and institutions in relation to research and extension, as well as links among the farmers' community, were not successfully developed during transition after EU accession. Regrettably, it should be highlighted that this unfavourable situation continues and no significant changes materialized with regard to the effectiveness of the agricultural extension system.

24. In Slovenia – the structure of institutions that form AKIS is diverse. In general, they can be classified into six groups, according to their mission and contribution to agriculture. First three groups form the public sector with the Ministry of Agriculture and affiliated bodies as national governmental institutions, research and education institutions and a group of public institutions that provide public services. Private interest driven institutions form the second group that consists of farmer-based organisations, private advisory organisations and companies and NGOs. The third group is a supply chain of interdependent stakeholders.

25. In Spain – the AKIS is diverse and complex, because of three reasons: (1) the variety of organisations and administrative model, based on the regions, which have the competencies in establishing the agricultural policies and (2) different models of organisation of their regional AKIS systems; and (3) although since 2007 the FAS system should have existed, some regions have still not currently built it. In addition, there is no general coordination body on a national level. For that reason there are difficulties in evaluating the AKIS as a whole chain of knowledge and information system. There are a large number of formal and informal knowledge and information channels fulfilling farmers' needs. The initiative is from both sides – but regional centres played the main role in this subject. Farm Advisory Services (in the regions, in which they already exist) are also offering advisory services, usually with some cooperation of regional centres.

26. In Sweden – the AKIS has a simple structure, and consists of three groups of knowledge processors: knowledge producers, transmitters and users. Between them there are facilitators that bind different actors together in order to facilitate the transmission of knowledge between AKIS actors. For a long time the linkages between AKIS actors in Sweden have been very weak (with the exception of the linkages at the local level). At present, Swedish agricultural advisory organisations (around 30 companies) have formed a group to improve their cooperation. It works as a confederation led by a board and managed by the director. Consideration is given and discussion is devoted to the following questions: how to build a more independent advisory service (having in mind public support); what is the way to find and keep new advisory staff; what should be the advisor's role in a very fast-changing environment, politics, market requirements etc.

27. United Kingdom – the current AKIS and advisory system in the UK is characterised by diverse and increasingly separated arrangements in the four UK countries, e.g. for setting SMRs and GAEC, education and training, rural development, and much research. Only in theory is there a UK AKIS. In practice, there are four quite separate knowledge systems, governed by discrete sets of policy, government departments and agencies, and to a large extent, also discrete sets of NGOs, farmer organisations and private commercial actors. The links between the individual AKIS have not been measured but based on similarities in their establishment of advisory services, activity range of providers, evolution of advisory services and current political

links, we assume stronger links between the AKIS in Scotland and Northern Ireland, as well as between the English and Welsh AKIS. There are only a limited number of organisations which link across two or more UK-countries in terms of their work and subsequently their knowledge flows. Among them are the levy boards; NGOs such as LEAF and RSPB; the National Farmers Union to some extent; larger consultancies such as ADAS; Lantra as the sector skills council for the UK; the Science and Technology Boards; as well as food chain actors such as supermarkets or large agricultural input suppliers. Both governmental and private advisory actors are likely to develop their knowledge and skills based on the regional context they work in, specialising e.g. in the respective rural development programmes and legislation, the markets and networks, and various formal and informal rules that apply only to ‘their’ UK-country. The devolved responsibilities for agriculture and subsequently the separate policy frameworks and agency competencies can explain the separate AKIS. There are high transaction costs in transferring knowledge due to organisational and institutional boundaries.

Generally, as it has been mentioned above, there is no unified AKIS structure (in terms of its consistency, management and funding). Despite many common features, there are also some significant differences related to the history of advisory services, forms, types and groups of advisory clients, sources of support, internal policies, economic goals and objectives, priorities and importance of agriculture in the national economy, the interrelationship between education, science, research and practice economy, and finally, the organisational structure of the state. For these reasons, analysing the AKIS systems in the surveyed countries and extracting findings cannot be generalised for whole EU, but the most interesting and the most important facts and findings presented in this chapter are the basis for the formulation of final conclusions and recommendations.

Schemes for AKIS for all EU-27 surveyed countries are presented in Volume II (Appendix).

Table 1. Overview of the AKIS organisations in surveyed EU countries³

1a. Public sector organisations

Country	Dep. of Advisory in MoA (or similar)		Local / regional agencies and authorities		Other advisory organisation	
	No of organisations	Number of advisors	No of organisations	Number of advisors	No of organisations	Number of advisors
Austria	14					
Belgium			10	50		
Bulgaria	1		28		291	
Cyprus	1	80				
Czech Republic	1	6	13	10	1	
Denmark						
Estonia	1		15	109		
Finland	1	2				
France						
Germany	6					
Greece						
Hungary	1	687				
Italy			21	879		
Ireland	1	300	36	8	0	0
Latvia	1		26	125	110	1 000
Lithuania					1	
Luxembourg	3					
Malta					5	
The Netherlands						
Poland	4		3		23	3 546
Portugal	2		7			
Romania	3	9	500			
Slovakia	1					
Slovenia						
Spain			17		2	2 350
Sweden	1	15	1	40		
United Kingdom	4	not known	20+	not known	9 ⁱ	not known

Source: Country reports, 2013

³ Please note that these figures were not similarly available for all countries investigated

1b. Research and education sector

Country	Universities		Research institutes		Other education bodies	
	Number	Number of advisors	Number	Number of advisors	Number	Number of advisors
Austria	3		7	20	4	15
Belgium	5		2			
Bulgaria	5		25			
Cyprus						
Czech Republic	3		3			
Denmark	5		3	660	18	
Estonia	3		4	45	10	
Finland	1		1		5	
France						
Germany	24		10		2	
Greece						
Hungary	7		16			
Italy	38		6			
Ireland	7	0	7	0	4	0
Latvia	6	304	40		10	
Lithuania	1	39	1		6	24
Luxembourg	1		2		3	3
Malta	1		3		1	
The Netherlands	2		6		48	
Poland	10		7		62	
Portugal	17		15		18	
Romania	5		17		4	
Slovakia	4	9	5	12	2	4
Slovenia						
Spain					17	
Sweden	1		3			
United Kingdom	13+	0	10+	Not known	8+	Not known

Source: Country reports, 2013

1c. Private sector

Country	Upstream industries		Downstream industries		Independent consultant		Private agri-advisory companies		Farmers-owned advisory company		Other	
	Number	No of advisors	Number	No of advisors	Number	No of advisors	Number	No of advisors	Number	No of advisors	Number	No of advisors
Austria												
Belgium					NA	NA	≥ 20	≥ 100	3	40		
Bulgaria							540					
Cyprus												
Czech Republic					260		4					
Denmark	8	60					15					
Estonia	10				40				10			
Finland							24	100	2	700		
France	400	2 600					30	60				
Germany												
Greece												
Hungary							97	500				
Italy		5 000		734		81 267						
Ireland	30+	Approx. 50	20+	Approx. 50	169-250 ⁱⁱ	1-3 ⁱⁱⁱ	Included in figures for consultants		0	0	n/a	
Latvia												
Lithuania					19	19					119	119
Luxembourg												
Malta							3	10			3	
The Netherlands					500	500						
Poland						271	163	185				
Portugal												
Romania												
Slovakia	14	14	9	12	27	37	14	33				
Slovenia												
Spain											1	
Sweden	10	50	5	10	35	80			3	1 300		
United Kingdom	Not known		Not known		55 ^{+iv}	410 ⁺	Included in figures for consultants		Not known		10 ^{+v}	30 ⁺

Source: Country reports, 2013

1d. Farmer-based organisations and NGOs

Country	Farmers' cooperative		Chambers of agriculture		Farmers' groups		Other		NGOs	
	Number of cooperatives	Number of advisors	Number of chambers	Number of advisors	Number	Number of advisors	Number	Number of advisors	Number of organisations	Number of advisors
Austria	40		9	600	284		61		20	60
Belgium	≥ 2	≥ 100	0		NA		NA		60	200
Bulgaria	1 200				2				22	
Cyprus										
Czech Republic			2		2					
Denmark									1	12
Estonia	100		1		10					5
Finland	1	45					10	40		
France	3 500	7 500	115	5 000	800	3 500	1500			
Germany			7							
Greece										
Hungary			1	202						
Italy	5 901						46			
Ireland	14+	0-15	0	0	n/a		n/a		5+	n/a
Latvia	115		1		62				616	
Lithuania	1	257	1	59			14	42		
Luxembourg			1	10	2				3	2
Malta	18						19		3	10
The Netherlands	205									
Poland			16	136			49		ca. 97 000	
Portugal	56	595					106			
Romania			41		205					
Slovakia	1	1	2	2	2	2			4	5
Slovenia			1	330						
Spain	1						5			
Sweden	4	400					1	30		
United Kingdom	5+	Not known	0	0	Exist but number not known		13+ ^{vi}	do not usually employ agr. advisors	10+	not known

Source: Country reports, 2013

3. History of advisory system

The advisory systems have different backgrounds in the individual EU-27 countries and are deeply embedded in history, economy and social relations.

Regarding the history of advisory systems, the starting points have deep roots in the history of individual country's policies and economy, e.g. the start-up of advisory services was as early as the 18th century (i.e. in: Denmark, Finland, Sweden), at the beginning of 19th century (in: Poland), at the beginning of 20th century (Austria, Germany, The Netherlands, Lithuania – till 1945, United Kingdom), in the middle of 20th century (in: Cyprus, Greece, Ireland, Italy, France, Malta, Portugal, Slovenia, Spain), as well as at the end of 20th century (in: Bulgaria, Czech Republic, Estonia, Germany - Eastern FS after re-unification, Latvia, Lithuania, Slovakia, Romania).

Dates of foundation of agricultural advisory services in EU-27:

- before 1900 – Austria, Denmark, Finland, Poland, Sweden, UK, Germany,
- 1900-1918 – The Netherlands, France,
- 1919-1945 – Lithuania (only to 1945),
- 1946-1989 – Cyprus, Greece, Ireland, Italy, Malta, Portugal, Slovenia, Spain,
- from 1990 – Bulgaria, Czech Republic, Estonia, Germany (Eastern FS after re-unification), Hungary, Latvia, Lithuania, Romania, Slovakia.

The crucial points in the development and changes of advisory systems in the surveyed countries are shown in table 2.

Table 2. The crucial dates and events in the development of advisory systems in surveyed EU-27 countries

Country	Crucial points in development of agricultural advisory			Remarks
	Type of organisation	Date	Events	
Austria	Agricultural chambers	1922	First agricultural chamber was established	under the jurisdiction of regional governments
		1923	Federal organisation of agri-chambers	
		1953	Reorganisation of agri-chambers	
		2012	Agri-chambers provide 75% of advisory services	
	Cooperatives	XIX c.	First coops erased	
	Machinery pools	1970s	First machinery pools / rings / circles erased	
	Research institutes	1950s	National and federal institutes and agencies were founded	As the providers of knowledge, information and assistance
		1972	The Rural Training Institute (LFI) was founded	Training institution of Agri-Ch
	State (in general)	1990s	Several changes in political and economic system, having impact on agriculture and advisory services (under CAP)	Connected with Austria accession to EU
			New providers of advisory services erased	According new regulations
	2007	FAS system introduction	9 regional Agri-Chambers were designated by government to manage FAS	
Belgium	Collective organisations	Long history	Parallel history, connected with advisory services	
	Federal institutions	Before 2003	Advisory services were essentially under federal responsibility;	Some state agronomists within Ministry of Agriculture
		Until 1995	Public advisory system mostly provided individual advice	
	Wallonia – Centre pilote; Flanders – experimental stations;	Between 1995-2003	A radical shift , and focus had been put on group advice; Civil advisors – became provider mainly of collective operation; Private and third sector – provided mainly individual advice; Trend to develop experimental stations at the lower level within the regions;	In Wallonia creation of “centre pilote” specialized in sub-sectors; In Flanders – drastic reduction of staff in public advisory; Pilot centres and experimental stations received status of associations.
	Wallonia – associations (centre pilote); Flanders – experimental stations;	2011	Reorganisation: The advisory system has evolved differently in two regions; In Flanders – applied research institute and experimental stations; In Wallonia – associations (pilote centres) are mostly funded by regional and farmers’ contributions;	So called “fifth state reform” Experimental stations are co-funded by provinces and farmers;

Country	Crucial points in development of agricultural advisory			Remarks
	Type of organisation	Date	Events	
Bulgaria	Collective	Before 1989	Advisory system had a clear top-down structure;	Agricultural sector was a part of state-planned economy
	State holdings	1968	Huge collective organisations Agro-Industrial Complexes – (AIC)	AICs were producers, and providers of input and services to farmers
	Research	1989	Reform of education, and many engineers	
	State	1989-2000	Agrarian policy concentrated on land restitution and privatisation of the collective farm assets;	
	State	1990	Many cooperatives – used as demonstration farms (with objective to establish private advisory);	Not success
	State	1995	National System of Agricultural Extension was created;	With technical and financial support of the PHARE
	NAAS	After 2000	National Agricultural Advisory Services (NAAS) officially founded.	Built on the base of experts involved in PHARE
	NAAS	2007-2013	NAAS started to be provider of services under Rural Development Programme	Measure 143 "Provision of farmers advisory and extension services in Bulgaria and Romania"
Cyprus	Extension Section of the Dept. of Agriculture	1960	Extension Section within Department of Agriculture was established;	
		2009	FAS	
Czech Rep.	Periodical meeting of agronomists	Before 1990	Extension system does not exist	Central steering of economy
	Ministry of Agriculture	1990-1992	Advisory services started	Changes in ownership of land;
		1997-1998	Advisory services and advisory programmes DIGIT I & II	Topics: building business plan
		1999	Conception of farm advisory services – non-commercial, in public interest	
		1998-2002	Development of extension – advisory assistance through advisory groups	System led to farmers associations
		2004-2010	Conception of FAS	Czech Rp accession to EU
		2007	Complex Advisory System	
	2008	Delegation part of extension tasks to Institute of Agricultural and Food Information and Forest Management Institute	With function of the operator of the Register of Consultants	
Denmark	Roots of advisory system	1788	Farmers became independent	According political events and decisions
	Farmer associations	1800s	The farmer associations began to form a structure towards a national organisation.	

Country	Crucial points in development of agricultural advisory			Remarks
	Type of organisation	Date	Events	
		1850s	Local farmer associations involved first advisors	First high vocational schools
		1860-1870	Most Danish farmers joined farmer associations; Farmer associations began to take control of them vis-à-vis the local landowners.	Danish agriculture changed from plant to animal production
		1900	The smallholders joined associations; The number of advisors grew rapidly.	
	Institutional setting	1915-1920	Political institutional setting representing Danish farmers and small holders was established;	Danish agriculture was thus thoroughly organised in the period up to the First World War.
	Co-operatives	1915-1920	The institutional organisation of farmer and smallholder owned co-operatives was in place.	This institutional setting regarding the associations and the various farmer political nongovernmental organisations would last without many changes until the turn of the millennium.
	FBO	Beginning of 20 th century	The ownership and control with agricultural advisory services came into the hands of farmers	The attempt of the Danish Ministry of Agriculture to take control of all advisers was rejected by the farmers
	DAAS	Nowadays	30 farm-owned advisory companies created in 2013 national DAAS, and dominate advisory services in Denmark;	
Private independent advisors	Exist, but their role is rather marginal;			
Estonia	State agricultural administration / Extension agencies	1945-1989	During the Soviet period, extension activities were based on the activities of agricultural and veterinary research institutes and experimental stations.	
		1989	The roots of advisory services;	Period of transition of Estonian economy into market economy
	Farmer associations / farmer unions / training centres	1989-1992	Initiating a new institutional set-up for advisory services	Five phases of building the Estonian advisory systems are the milestones in its development
	Tested different European models of FAS	1992-1995	Building user-oriented advisory systems	

Country	Crucial points in development of agricultural advisory			Remarks
	Type of organisation	Date	Events	
	Development of the national AKIS – undertaken activities: (a) advisory concept group (2000-2001); (b) agricultural and rural information flow coordinating centre (2001-2002); (c) network of information centres at the county level (2002); (d) network of rural information centres in communities (2001-2002)	1995-2002	Initiating a free market for advisory services	
		1999-2005	Fluctuating between privatisation and public sector reform	
		2005-2013	Building the Farm Advisory System and making extension services more effective;	
		2005	The role of the Coordinating Centre of the Farm Advisory System was transferred to the Estonian Chamber of Agriculture and Commerce	
	Estonian Chamber of Agriculture and Commerce	2007	FAS was established and given to the Estonian Chamber of Agriculture and Commerce as a coordinator	
	Rural Development Foundation	2010	Co-ordination of the Estonian FAS was transferred to the Rural Development Foundation with a goal to make the extension services more effective	
		end of 2010	A market strategy was developed to make advisory services more effective (through distributing informational booklets, updating and spreading the lists of the advisory centres and advisors etc.)	
Finland	Roots of history of advisory system	1797	The first “Economic Association of Finland” was established.	
	Association	1798	The association got King Gustaf Adolf’s protection and at that time the customers were priests, professors and higher officials. The first agricultural advisory themes were inter alia potato farming, hay and flax cultivation and farming tools.	The Economic Association operated throughout the whole country, but at the same time special regional advising organisations were needed.
		1828-1905	Many regional agricultural and economical associations were established.	22 Rural Regional Centres did not meet the expectations of being a national leading and organising system.

Country	Crucial points in development of agricultural advisory			Remarks
	Type of organisation	Date	Events	
		1907	The Central Association of Farming Advising Centres (MSKL) was set up to control and lead the regional centres.	
		At the beginning of 1900	The Rural Women's Advisory Organisation was founded.	Exist up to now as an one of the biggest nationwide organisations with 60 members and 70 advisors; belongs to the ProAgraria Group;
		1993	There was a clear segmentation between the Association of Rural Advising Centres and nationwide Rural Advising centres.	
		2001	ProAgraria Group was established.	
		2002	ProAgraria Group for consulting in agriculture and rural development started to operate. The founder organisations Association of Rural Advisory Centres and The Finnish Animal Breeding Association started to use an equal logo. The actual advisory work at that point occurred at 16 national Regional Centres, which operated in connection with the Association of Rural Advisory Centres.	
	non-profit and member-owned organisation	2013	16 national regional centres were shrunken into the existing structure of 11 regional centres.	The aim of shrinking the amount of regional centres was to reduce the administrative burden and to improve the specialization inside a bigger regional centre.
France	Chambers of Agriculture	1960s	Farmers advisory board; System of co-management of services; National Fund of Agricultural Development; National Association for Agricultural Development (ANDA)	Support from public funds and target to public mission
		2002	The funding system reformed;	
		2005	ANDA shut down; CASDAR (a special account of MoA) replaced ANDA; Diversification the beneficiaries of the policy – 10% funding was convert into competitive funding schemes; and funding of new actors, i.e. NGOs ; Established ONVAR (federation of NGOs);	This reform has affected the diverse actors of AKIS and advisory services;
	Chambers of Agriculture		Chambers of Agriculture mission was reoriented towards new topics (environment, local development, territorial issues;	Result: Chambers are less active in providing technical advice
		2001	Created INVIVO (federation of 241 cooperatives)	

Country	Crucial points in development of agricultural advisory			Remarks
	Type of organisation	Date	Events	
Germany	Roots of history	Before 1980s	The three main organisational forms for agricultural advisory services in the western part of Germany before the reunification were: Chambers of Agriculture, Official extension by the public agricultural office, Advice circles and farmers, working groups as an additional offer in several states. In east part of Germany was an integral part of an overall system promoting socialist agricultural development under the direction of party and state officials.	Organised extension has always been decentralized.
		1990	The reunification of the two German states in 1990 and the strong impulse for a fourth organisational form for agricultural advice resulted in private consulting companies. Three of the five new states established a privatised system subsidised by the state (partly supported by EU funds), one established a private consulting company owned by the state, two adopted advisory services provided through public authorities on district level.	
		since the late 1990	In most states, private advisory services have been established, frequently in parallel with the public or the farmer-based systems.	
		2005-2007	Introduction of FAS in combination with existing advisory services.	But the main systems in each state still prevail, now complemented by private advisory companies.
Greece	MoA - Directorates of Agriculture (DA) with Prefectural Directorates (PF)	In the past	Prefectural Directorates became a branch of DA with Extension Offices in major towns and villages and were also responsible for the local Training Centres (KEGE)	
	Extension Offices	1981	Extension Offices were changed and became more bureaucratic (responsible for distribution and control of subsidies (in fact the extension function was abandoned)	Access to EU
	NAGREF	1989	Research institution established to promote research in Greece	This institution involved mainly MoA staff (the idea of own extension was never realised)
		1997	Prefectural Extension Offices cut off MoA and implemented to Ministry of Interior and controlled by a prefect	Kapodistrias plan of decentralisation
	Semi-autonomous organisation	1997	OGEEKA DIMITRA was established for farmer training (young farmers and farmer women)	
		1997	OPEKEPE, the Greek Payment Authority of CAP was established for the control and payments of subsidies, grants, etc.	Operated since 2001
	Ministry of Rural Development	2004	Ministry of Agriculture transformed into Ministry of Rural Development (MRDF)	There is still a lack of extension services in the countryside

Country	Crucial points in development of agricultural advisory			Remarks
	Type of organisation	Date	Events	
		2005	Local Centres for Rural Development (TOKAA) established as an extension organisation employed high qualified agronomists	Actually operated from 2008
		2010	TOKAA was closed (because never got off the ground)	
	Public service	2010	Under Kallikratis plan – the public regional services in two levels: regional and sub-regional; in parallel various DA were amalgamated into Directorates of Agricultural Economy & Veterinary at sub-regional levels	Decentralisation plan
		Nowadays	MRDF comprises seven general directorates, within one is GD of Agricultural Extension and Research (with six sections)	According to a presidential decree from 1990
Hungary	State	Before 1990	State agricultural extension for large scale farming	
	First phase of privatisation	1999	First agricultural advisors listed on the MoA register; Advisory service was linked to firms;	Advisory paid by farmers on a contract basis. Farmer was obliged to apply service for state subsidy according to his annual income
		2003	Implementation of EU CAP goals with EU subsidies; Agricultural advisory service could be subsidised, too;	After accession to EU
	Public	2006	Establishing the FAS for cross-compliance implementation; Rearrangement of advisory service; Establishing (legal status) territorial advisory centres (TAC);	
		from 2007	Financial support for advisory service is mainly from EU through farmers as a beneficiaries (up to 80% of total sum, but max. 1500€/service) under contract farmer/advisory service;	
		nowadays	Advice becomes more and more covered by farmers	
Ireland	History	Until 1980	The Irish AKIS was mainly operated by agricultural colleges and local training centres throughout the country	mostly financed by county committees of agriculture funded via an agricultural land tax
		1980	A new semi-state organisation, the national advisory and training body (ACOT), was set up to provide training and advisory services for farmers.	It took over the functions and personnel of the five state colleges, and also the state funding of the private colleges.
		1981	ACOT initiated the Certificate in Farming, a comprehensive training programme for young entrants to farming.	This has recently been replaced by the Vocational Certificate in Agriculture, Level 3, which places emphasis on the development of business and management skills and in developing proficiency in dairy, dry stock or crop production.

Country	Crucial points in development of agricultural advisory			Remarks
	Type of organisation	Date	Events	
	Teagasc	1998	Teagasc was established as the national agency with overall responsibility for the provision of research, training and advisory services to the agriculture industry.	It subsumed the training functions of ACOT, so that benefit could be derived from the co-ordination and integration of the training service with the research and advisory services.
		1987	It was decided to operate a basic charge for a standard annual advisory contract (all advice was previously free), and to offer a variety of advisory packages in addition to the basic service.	
Italy	State	1948	Decentralisation of agricultural advisory services	By the Italian Constitution
		1977	In fact, decentralisation was only launched in 1977	
		1979	First structure of the Italian advisory Service (Mediterranean package)	Under Council Regulation EEC No 2720/79
	Regional advisory services	1978	The funds allocated; involvement of 3500 extension agents; Regional laws on advisory services, defined type of organisations, actors and subject matters; Common framework was established by Interregional Committee for Agricultural Advisory (CIDA), including five centres for agricultural training (CIFDA);	EEC No 2720/79 – was a cornerstone of Italian advisory services giving an impulse to development;
			Over the years each region has followed its own path in the structure of advisory service systems;	It was resulting in a strong regional heterogeneity;
		1990s	The Northern and Southern Regions involved a minority of public institutions as advisory organisations	
		2000s	The Northern Central Regions involved 50% of private bodies and public institutions; Southern Regions involved more public institutions (64%);	
		Recent years	Pluralism and privatisation have continued to grow; Participation of farmers in funding and planning the advisory services is growing;	
		2000-2006	Italian public system experienced a drastic reduction of investment in extension services	
		2004-2007	INEA coordinated the Interregional Programme for agricultural and rural development advisory services;	
		2005	FAS establishing	
Latvia	Roots of AKIS	19 th century	Education and research institutions were established	
		1990	Re-establishment of current Latvian AKIS; Many new farmers without agricultural background.	Parallel to re-establishment of independent Latvia

Country	Crucial points in development of agricultural advisory			Remarks
	Type of organisation	Date	Events	
	Rural Advisory and Training Centre (LRATC)	1991	Ministry of Agriculture and Latvian Farmers' Federation established Latvian Rural Advisory and Training Centre with an extensive advisors' network all across the country.	
		1993	Agricultural advisors at the parish level	Introduction of national subsidies for agriculture
		1999	Establishment of many agricultural cooperatives, and Farmers' Saeima, Consultative Council of Agricultural Organisations	According adoption of 1 st National Innovation Programme
		1999	Privatisation trends of privatisation of Rural Advisory Centre (LRATC)	Pre-accession support to agriculture
		2004	Reorganisation of LRATC into a limited liability company and its self-financing part has increased.	But it is retaining strong influence of MoA, which contracts LRATC for implementation of specific rural development programs.
	Private sector: industrial input, professional organisations and farmer cooperatives	From 2004	Supplied services of these organisations are often more specific and better focused to farmer needs	
	Public	2007	Establishment of Technology Transfer Centre at Latvian University of Agriculture	According to the Rural Development Programme
		2008	National Rural Network launched	Reduction of budget for public advisory
		2010	Collaborative state research programme "sustainable development"	Structural reform, outcome migration, small concentration of farm
	Resent trend (from 2010)	A recent trend in Latvian AKIS – trans-disciplinary platform (e.g. knowledge transfer centres, industry innovation clusters, Platform of Food technologies) – where collective knowledge creation, exchange and learning are taking place.	It is a part of the newly formed national innovation policy aimed at facilitating knowledge exchange between scientists and practitioners.	
Lithuania	Chamber of Agriculture and Central Alliance of Lithuanian Milk Processing Companies "Pienocentras"	Before 1939	Main advises: how to develop dairy industry	
		1940-1990	No advisory system	Soviet Union policy "central planning"
	LAAS – Lithuanian Agricultural Advisory Service	1993	Established LAAS, governed by the consumers: farmers and agricultural holdings;	Cooperation with Danish Agriculture Advisory Centre

Country	Crucial points in development of agricultural advisory			Remarks
	Type of organisation	Date	Events	
	CARL – Chamber of Agriculture of the Republic of Lithuania	1990s		
	ARDBA – Association of Rural Development and Business Advisors		Some of private advisory institutions merged into the ARDBA	The members are only professional and experienced organisations in the consulting of agricultural holdings
	AVDBC – The Association of Village Development and Business Consultations	2006	Association established to coordinate the activity of its members and represent and define their interests	
	LAAS	Nowadays	Main goal of LAAS: Provide support to farmers to understand and comply with the EU requirements;	Such system allows every farmer appeal and receive necessary pieces of advice.
Luxembourg		1920	The history of public bodies and agricultural chambers in Luxembourg have a long history;	
		1964	SER was founded	Goal – providing data on situation of agriculture and viticulture
		1976	Agricultural chamber and advisory services were legally established by rules;	
		2011	New tasks were incorporated according to EU requirements;	
		During last 10-20 years	New advisory players (9) emerged in Luxembourgian AKIS;	
		1987-2005	2 Nature Parks became new players within AKIS (serving agricultural services); 2 FBOs (association of young farmers and winegrowers); Research Institute for Organic Agriculture IBLA;	Each park involved one advisor;
Malta	Cooperatives	1946	Cooperative Societies Ordinance allowed to set-up cooperatives in different economic sectors	The major farmer cooperatives are organised for selling products on the market
	MSDEC	Until recently	MSDEC offered a free of charge extension service;	Extensionists were workers of Ministry, and many of them were assigned to research and extension
	Institute of Agriculture (IoA) and University of Malta	1993	Establishing of Agri-business Institute for education in agriculture;	
	Cooperatives	2001	Set-up national organisation of Maltese Cooperatives - the Koperattivi Malta	Under the Cooperative Society Act
	Producer Organisations	2002-2007	Set-up the producer organisations	Under national and European framework;
	Public	2006	Five extension service offices of MSDEC were established as formal advisory services for farmers (reduced at present to two)	As a consequence of EU accession

Country	Crucial points in development of agricultural advisory			Remarks
	Type of organisation	Date	Events	
		2011	FAS establishing	
The Netherlands	Government	1906	Dutch government founded the public rural extension service DLV and OVO;	Investment in public education and creating close interrelations between education and research;
		After the 2 nd World War	DLV and OVO were strongly financed by government;	
		1980s	Government decided to privatise extension services through gradual; transition	
	DLV - independent	1990	DLV became an independent service of the Ministry of Agriculture	
	DLV - Foundation	1993	DLV was converted into a Foundation	Farmers started to pay for services;
		1993-1998	60% of the DLV budget was financed by farmers; 40% by Ministry of Agriculture on contract;	
	DLV Ltd.	1998-2004	DLV became a limited company, with 82% share of Ministry of Agriculture (later by Finance Department) and 18% of shares by personnel;	
	DLV	1993-2005	During the privatisation period personnel declined from 700 till 400;	
Poland	Hrubieszow Agricultural Association	1816	First farmers group was organised as a form partly as an individual ownership, partly as a co-operative (with one common advisor, own bank, own education system)	The arable land was individual ownership, but forest, fish-ponds, timer- and agri-processing were common manage and they had one advisor
	Great Poland Agricultural Society	1883	The first agricultural extensionists was hired as an advisor; The first farmers groups were organised, which became a base for agricultural extension organisation;	
	Different form of extension	Till 1 st World War	The main goal of the advisory service was agricultural education	
		Between 1 st and 2 nd World War	Rapid development of forms, methods and topics of advisory services	
	Different types of organisations	1918-1926	The main goal of extension was bridging of three parts of Poland territory in terms of agrarian structure and agrarian culture as well as farmer education and levels of farmer organisations; The advisors were mainly employed in Agricultural Associations, Agricultural Chambers, Farmers' Groups and Industrial Processing Units;	Poland gained independence of Austria, Prussia and Russia

Country	Crucial points in development of agricultural advisory			Remarks
	Type of organisation	Date	Events	
		Till 2 nd World War	The development of advisory services was strongly connected with social agronomy, whose philosophy was education of farmers and work on social and economic fields in rural areas, based on initiative of farmers organisations, supported by experts in advisory work;	Andragogy has played the main role in farmer and rural people education
	Chamber of Agriculture	First period after the 2 nd World War	The base ideas and the goal of agricultural extension activity remain; The advisors were employed by farmers organisations;	In spite of economy changes, 82% of land remains in private ownership;
	FBOs and public organisations	1957	Re-activation of farmers groups, farmers' processing industry and rural co-operatives; First advisor employed by farmers' group; Parallel Agricultural Experiment Stations were established;	The tasks of Experimental Stations was complex work in scientific and research fields in agronomy, animal production and farm organisation
		1958	The milestone in the process of the creation of the advisory system - minister of agriculture in decree described professional and social status of agricultural advisors;	By Minister of Agriculture decree
		1959	New decision of Minister of Agriculture – in each district (smallest administrative unit) one advisor-agronomist was employed by farmers' groups;	
		1963	Another decision of Minister of Agriculture – in each county one zoo-technician was employed;	
	Experimental stations	1968-1975	Important point in advisory system development – the advisors (specialists in narrow agricultural knowledge) were employed in each district to cooperate with agronomist and zoo-technicians;	Other advisory organisations (farmers' unions, farmers' coops, etc.) were working according to their tasks and plans;
	Public teams of advisors	1973	The teams of advisors were organised and employed in each district to deliver professional advices and organise experimental farms (as the examples for other farmers);	
	Province Advisory Centres (public)	1975	The basis for them were Experimental Stations, agricultural professional schools and state farms;	
		1982	The Province Advisory Centres took over the district team of advisors, and their function became much wider;	
		1989	Parallel to introducing market economy, many private advisory companies and free lancers opened their services for farmers;	
	Province Advisory Centres (public)	1994	The mile stone in development of advisory system was Act on Agricultural Advisory (Parliament Law, October 2004) giving legal status for advisory organisations and employed advisors; At the beginning the supervisor was Province Governor; later Province Parliament, and at present Province Self-Government;	

Country	Crucial points in development of agricultural advisory			Remarks
	Type of organisation	Date	Events	
		Since 2009	Polish agricultural advisory system is semi-autonomous; year by year farmers pay for more type of advice (currently nearly 60% of annual income of Province Advisory Centres is coming from paid advisory services);	
Portugal		Before 1974	The agricultural advisory services were reachable only for few farmers;	
		1974	Possibility to introduce new models in advisory services	As the result of revolution and democratic orientation of state
		1975-1977	Regionalisation and creation of Regional Agricultural Services; Launched extension through Rural Extension Services; Creation of General Directorate of Rural Extension (a central level department of extension);	As a result of various laws
		1978	The first extension programmes (under T&VS);	Implemented only in a few sub-regions;
		1982	The National Institute for Agricultural Research was transformed into the National Institute for Agricultural Research and Extension;	
		1983	Programmes to Support Regional Agricultural Development includes initiatives in the fields of extension;	
		Late 1980s till early 1990s	Universities (i.e. UTAD) played a role in up-grading the qualification of advisors;	
	Public	1986	Launched Program PROAGRI – with objective of strengthening the capabilities of farmers' organisations (with the role of extension);	As a result of accession to EU
		Mid 1990s	The government created 300 "agricultural zones" (with own team of extensionists) and "family technicians" (belongs to particular zone team of extensionists);	
Romania	State	Before 1989	Prevalence of the technical agricultural consultancy	Services had mainly formal nature and were orientated towards the technical aspects of production;
		1989-1998	"invisible" agricultural consultancy - Restitution of agricultural land to former owners; Small farmers became own-account workers"; They introduced own strategies with informal help of neighbours or friends;	
	Public	1998	"Birth" of public agricultural consultancy; National Agency of Agricultural Consultancy (NAAC, County Agricultural Consultancy Offices (CACO) and Local Agricultural Consultancy Offices (LACO) were created;	It was a centralised advisory system;

Country	Crucial points in development of agricultural advisory			Remarks
	Type of organisation	Date	Events	
		2001	Decentralisation of agricultural consultancy service was done – CACOs and LACOs came under local administrations;	
		2005	Recentralisation of agricultural consultancy service;	
	Chambers of agriculture / public	2009	Establishing of chambers of agriculture at county level; CACOs were transformed into County Agricultural Chambers (CAC) under subordination of county councils	NAAC was separated from its structures in the territory;
		2010	Liquidation of NAAC; Establishing Consultancy, Extension and Vocational Training Department;	NAAC activity was taken by Ministry of Agriculture and Rural Development (MARD)
	Chambers of agriculture / public	2013	Return to “invisible” agricultural consultancy	There is a process of establishing new Chambers for Agriculture, Food Industry, Pisciculture, Forestry and Rural Development at county level, and National Agricultural Chamber as private, non-profit institutions of public interest.
Slovakia	Government	Up to 1990	Agricultural services were developed under the supervision of the national Ministry of Agriculture; Responsible institution for agricultural advisory was the Institute for Systems Management in Agriculture; In parallel there was sector of research and education e.g. Agrocomplex located at large scale production units;	Former Czechoslovakia
	Public agency	1990	Establishing the first agency Agroservis dealing with agricultural extension	
	state	1991-1992	Training programme for Slovak experts organised by British ADAS and British Know-How	
	state	1993	The first 12 Slovak experts received certificates to be advisers	
	public	1998	Establishing of public extension system in Slovakia, with 22 extension centres;	In parallel there were agricultural chambers, research institutes
	state	1998	Agroinstitut – responsible for education in food and agri-sector also became responsible for education and certification of advisors	
	public	2007	FAS was introduced	After accession to EU
Slovenia	state	1970s	Organisation of 3-levels extension service	During period of Slovenia was the republic of Yugoslavia
	FBOs	1972	Advisory service within agricultural co-operatives, co-financed by municipalities (20%); Establishing the Cooperative Union;	

Country	Crucial points in development of agricultural advisory			Remarks
	Type of organisation	Date	Events	
	Extension under public administration	1972	Transition of the advisors from co-operatives to regional agriculture institutes; Advice became available to all farmers;	
		1999-2000	Establishing of CAFS (Centre for Farm Advisory Service)	
	Chambers	May 2000	Establishing of Chambers of Agriculture and Forestry;	In fact CAFS is an umbrella of natural and legal persons in Slovenia involved in agriculture, forestry and fishery
		2007	FAS introduction	After the accession to EU
Spain	Central government	Mid of 1950s	Emerged the Agricultural Extension Service (AES);	
		1978	AES began to be transferred to the recently created administrative structure of regional governments;	
		1980	Creation of Coordinating Boards for Agricultural Extension; Extension and Research were put under Directorate General of Ministry of Agriculture; Ministry driven up by the National Technology Dissemination Plan,	As a body connecting regional AES with Central government
		1988	Dependency the Agricultural Extension Service and INIA of Directorate General of Agricultural Research and Training; after dependency of the Secretariat of Agrarian Structures;	Government Decree 1532/1988
		1991	Agricultural Extension Service disappeared definitely as autonomous body;	Government Decree 654/1991
		currently	The traditional public extension service is not being offered after the transfer the competencies to the regions	
Sweden	(RAES) The Rural, Agricultural and Economical Societies	1791	Roots of history of FAS: First RAES erased; Payment by membership fees;	
		Middle of 19 th century	RAES in majority of regions;	
		1855	Parliament establish a tax on alcohol production and 20% was given for RAES activity	
		Beginning of 20 th century	RAES services became more specialised (public financed); Introduction of field trials (financed by own assets, funds and donations and not depended on public financing)	
		1967	Swedish Parliament decided that the publicly financed advisory services should be taken over by the Country Administrative Boards and the objective of the advisory work was to make Swedish agriculture more efficient and rational.	
	Cooperatives / producers' and farmers' organisations	Beginning of 1970s	Advisory services opened up for other actors such as cooperatives, producers' organisations and farmers' organisations to strengthen advisory service.	In parallel to the weakening of the Rural Agricultural and Economical Societies'

Country	Crucial points in development of agricultural advisory			Remarks
	Type of organisation	Date	Events	
		1990s	End of the public production advisory service; Open up for more commercial advisory organisations to enter the market of production advisory work;	
		At present	18 RAES all over the country; 60-70 advisory actors on the market;	Currently, more and more actors within the Swedish AKIS talks about management, leadership, and to evolve the farmers from being producers to becoming entrepreneurs.
United Kingdom	State	Until 1980s	State funded organisation exists as a primary agricultural service organisation.	
	ADAS (MAFF)	1992	ADAS became increasingly commercial	Levy bodies expanded their activities
	ADAS (MAFF)	1997	the privatisation of ADAS; AKIS became laissez-faire;	Research became more near-market (founded by private sector)
	MAFF	2001	MAFF became part of a new DEFRA;	The concentration on environmental sustainability objectives rather than food production;
		2001	BBSRC reduced the number of their Research Institutes;	More recently some institutes remain, others have been merged with Universities;
		2001	Diversification in providers from the private and NGO sectors;	
		2001	Vertically the AKIS became fragmented;	The traditional research-extension links and advisory practices become less relevant to end users;
		Currently	The advisory system in the UK is characterised by diverse (and increasingly separated) arrangements in the four UK countries, e.g. for setting SMRs and GAEC, education and training, rural development, and much research; Overall, and especially in England, there has been an organisational evolution towards the privatisation and commercialisation of knowledge production and transfer. NGOs, public and private actors compete for the provision of agricultural advice;	

Source: country reports, 2013

4. The agricultural advisory services

The chapter describes agricultural advisory services provided by the surveyed organisations. The full description of all providers seemed difficult to achieve for different reasons. First of all, there are many types of providers, and official census or accreditation is not required for all of them. Another reason is strong dynamism in an advisory field, changing extremely fast, becoming increasingly globalised and creating a lot of hybrid, multi-function organisations, which are becoming new actors in AKIS (improving their number) or becoming new players on the market of advisory services, competing with traditional actors, and replacing them.

As mentioned above, summary findings will be given below in connection with the described subject matter and individual countries.

1. General overview on advisory services provided by surveyed institutions

In **Austria** the results and outputs of research institutions are in most cases disseminated through the chambers and other advisory organisations which facilitate information transfer. The chambers are the backbone of the Austrian AKIS. Otherwise the LFI (Further Training in Rural Areas) is the biggest adult training centre in rural areas. It carries out around 14,000 courses with over 300,000 attendees every year, cooperates with European projects and is involved in regional development activities. The role of private companies is marginal in the Austrian AKIS. Very few individuals work on a commercial basis and advise their clients on specific topics. Up- and downstream industry cooperate and advise farmers on issues concerning product quality and logistics.

In **Belgium**, there are different approaches for AKIS in Flanders and Wallonia, but in both regions a major supplier of services for farmers are upstream and downstream stakeholders of the supply chains. The most important role in AKIS is played by two companies related to farmers' unions, i.e. AVEVE in Flanders and AWE in Wallonia. Providers of advisory services in Belgium are also *non-profit organisations*, which share some common features in two areas: they are non-profit organisations, and their members and boards are often composed of a diversity of actors, including farmers and researchers. There are also other organisations, but some of them are often disconnected from public funding schemes. Another category, difficult to describe, are *private advisory services companies*, which are often less related to public administration or to any other form of monitoring publicly available. Similarly, *companies providing technical advice* are more difficult to identify, as they often do not belong to any frame of public policy. Comparing the current situation to 15 years ago, when advice was provided by agronomists from the Ministry of Agriculture, *the public sector* nowadays plays a very limited role in the direct provision of services in both regions.

In **Bulgaria** the farm advisory services are currently delivered by *the National Agricultural Advisory Services* (with its 27 regional offices). The staff of NAAS benefits from different 'twin projects' and programmes to prepare for the new duties related to CAP. Although public advisory services exist, private advisory services also emerged due to an increasing need for the farms to gain support from them through rural development measures. Their activities vary from writing applications for financial support to technical assistance. These private services are used mainly by large-scale farmers. Non-governmental organisations (farmer associations and

foundations) at the national and regional levels advise their members on farming and participating in different development measures.

In **Cyprus** the main advice provider is the Extension Section of the Department of Agriculture. It employs 120 officers (63% of staff concerns university graduates). Currently, the Section's staff activities are divided between advisory work (50%) and other tasks. There are also input shops (private companies) selling inputs to farmers (advice is not paid for). They transfer new knowledge related to their products to farmers. The most relevant knowledge source as expected are private (input) companies followed by private consultancies. The companies' owners are agronomists (university graduates) and employ agronomists (on average 10). Public authorities and public research hold a prominent position. Private inputs and processing companies are also referred to along with universities and the internet. Currently, the research institute has no strong links within the AKIS players, because they are not involved in advising and in the process of implementing the results of their research, and in fact they do not know farmers' needs. They would like to build a bridge to have direct connections with farmers and they also want to provide advice (if paid).

In **Czech Republic** advisory services are provided in various forms representing individual levels, from general informative advisory services to professional advisory services, individual field advisory services, up to synthetic information provided through inter-connected websites. All these levels are inter-connected, complete, and support one another thereby making up an integrated system, which is financially secured through supporting programmes. Advisory services are provided by various bodies. The advisory system has 4 levels. For each provider levels are designated or registered, who supply free advisory services as part of main activities or in return for payment.

In **Denmark** the supply of advisory services mainly happens within the farmer-based, owned and controlled advisory system known as the Danish Agricultural Advisory Service (DAAS). The Knowledge Centre for Agriculture is a part of DAAS, but acts as the national research and knowledge facilitator. The DAAS-cooperation dominates the market for advisory services. It consists of 30 advisory centres with approximately 2,800 advisors. These *do not* form and *are not* to be seen as forming one unified structure with an overall centralised management where each centre forms a subdivision of DAAS. Each centre is *independent* of one another, *but* on the other hand they are all members of DAAS.

In **Estonia** there is an open advisory service market in Estonia, which has resulted in a fragmented advisory system. Advisors who provide advisory services for farms operate mostly through county advisory centres, and the activities of advisors and advisory centres are assisted by an advisory service coordination centre. Every county has an approved advisory centre and every centre has professionally certified agricultural advisors at least in the fields of plant production, animal husbandry and financial management.

In **Finland**, ProAgria is the leading agricultural advisory organisation in Finland, serving members as well as other rural entrepreneurs. ProAgria advisory service covers all of Finland and the organisation gets about 80% of the state subsidy directed to agricultural advising. ProAgria Group consists of three main sections; animal breeding and artificial insemination, IT-technology and services and advisory services and consultation. Furthermore, a greater portion

of ProAgria Group consulting is provided by consultant teams rather than individual consultants. This means that the customer benefits from more extensive expertise. Besides ProAgria there are seven special agricultural advisory organisations in Finland which are independent organisations, but have a cooperation agreement with the ProAgria Group. In Finland there are also some other private agricultural entrepreneurs. About half of them belong to the Association of Private Rural Advisors. The association has 50 members and all the members work independently, with many topics of advice. The Association of Private Rural Advisors supplies general information for members and some material production.

In **France**, the first very important stakeholder for the provision of advisory services and information to farmers are the organisations in direct relations with farmers for *the supply of input or the purchase of agricultural commodities*. There are two types of organisations providing such services: farmers' cooperatives or private traders. The second major actor is the *chambers of agriculture*, which are present at different geographical levels: national, regional and departmental. The third group of actors is composed of various farmers' associations that provide services to their farmers. There are two other federations of *non-profit organisations*. The last group of actors are *private advisory companies*.

In **Germany** the provision of advisory services lies within the responsibility of each federal state. The advisory services of every state feature individual characteristics and have evolved historically, so that basically, 16 more or less different advisory systems exist in parallel. Five major advisory systems can be identified in Germany: (a) *Public advisory services* exist in the states of Baden-Württemberg and Bavaria; and Hessen and Rhineland-Palatine; (b) *Agricultural chambers* prevail in Rhineland-Palatine, Saarland, North Rhine-Westphalia, Lower Saxony, Hamburg, Bremen and Schleswig-Holstein; (c) *private advisory companies*, in Mecklenburg-Vorpommern, Brandenburg, Saxony-Anhalt, Thuringia and Saxony; (d) *FBO's*, e.g. the German Farmers Association, advisory circles – in Lower Saxony and Schleswig-Holstein they have a long tradition; (e) Advisory services offered by *NGO* tend to be fragmented.

Greece is undergoing a process of implementing the decentralisation project. In general, currently no institutions on the national level play a role in the agricultural advisory system. The new sub-regional Directorate does not include an Extension Section (only indirectly, i.e. by implementation of programmes relating to the quality of produces. At the sub-regional (and local) level, private agronomists (shops) and private consultants-agronomists are the main supporters of advices for farmers. All the agronomists mainly provide advice on plant production (new varieties, plant protection, fertilisation, with mainly commercial farmers also being interested in machinery). 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 are made at a local level with no coordination or 'lessons learned' to be further disseminated. Additionally, they all claim that farmers are dependent on subsidies and are not willing to pay for advice.

In **Hungary**, advice and consultancy are currently offered via a very fragmented, un-coordinated system. There are four main types of actors/institutions: (a) free advisory services at the national level, funded by the EU and domestic resources; (b) the Hungarian application of the Farm

Advisory System (FAS), a consultancy service with 80% support under the CAP; (c) commercial consultancy; and (d) free consultancy by input providers.

In **Ireland**, the national body – Teagasc has retained a strong, largely publicly-funded advisory service integrated into its research and education functions based on a model. Teagasc – the Agriculture and Food Development Authority – is the national body providing advisory services to the agriculture and food industry and rural communities. It has been founded by public and private sources. In addition, Teagasc's important role is to provide a specific professional product, namely commercial advice and services to support and influence innovation and change in agriculture and rural areas.

In **Italy**, agricultural advisory services are provided by diverse suppliers, presenting different objectives and organisational patterns. It follows an overview of the most important providers, differentiating between the private sector, farmer-based organisations, public sector and other actors. Among others there are the following: (a) Upstream industry provides agriculture input and also advisory services; (b) Downstream industry may provide agriculture advisory service to the farmers under contract farming, with the aim of allowing farmers to meet the quality standards and delivery schedule set by the purchaser; (c) Private professional advisors - e.g. agronomists or veterinarians working as professional advisors, who have to be registered with a professional order; there is a growing demand for highly specialized experts in soil, animal health, private advisors work individually or in companies; the FAS application has pushed hard to increase the professional associations; (d) Farmer-based organisations, which can be grouped into three types: farmers unions, farmers cooperatives, producer organisations. The public sector is represented by regions. Regions have jurisdiction over agricultural extension services. Each Region establishes, by virtue of regional law, the organisation of regional agricultural extension, the actors involved, the competence fields, the fund allocation. Usually the regional authorities provide strategic direction, coordination and planning, while the implementation is delegated to the provinces, to other local government structures, to farmer-based organisations, to private or NGO advisors. Some regions have dedicated regional agencies or foundation providing directly specific services or dealing with external providers, organising calls for tenders, managing funds, etc.

In **Latvia** the agricultural advisory service is diversified and decentralised as an increasing number of public, private and third sector organisations are involved in providing advice to farmers, and there are no strong coordinating mechanisms among them. Advisory is a major task for LRATC, private consultancies, and farmer organisations, for others it is only a supplementary activity, e.g. for research, education, business etc.

In **Lithuania** advisory activities are carried out by accredited advisory agencies. There are 13 public agencies, the Chamber of Agriculture, 6 scientific and educational institutions, 4 associations, 14 private companies and 1 sole proprietorship.

In **Luxemburg** there are four main organisations providing advice on agriculture (three public and one chamber). Public extension services are available to every farmer in Luxembourg at no cost or for a small fee.

In **Malta** there are three major types of suppliers: public (mainly represented by governmental departments, and playing a relevant role in delivering information and advice to farmers on matters

mainly relating to compliance with relevant legislation on health and safety of agro-food products, water and waste management, veterinary services, including the use of governmental abattoir premises, soil and nitrates), private (basically represented by the FAS Consortium, which is the only organisation officially recognised as a FAS institution, at the moment, it basically provides advisory services to farmers who have been charged with penalties for not being compliant with the cross compliance requirements) and semi-public (fully owned by private entities or individuals, offer a variety of services to their members/clients, by employing their own staff and external advisors). In recent years, it was possible to observe the emergence of new private actors, such as NGOs and a few private companies, which provide various forms of technical advice (business plan, application forms, credit questionnaires, renewable energies, etc.).

In **the Netherlands** – DLV Advisory Group is the largest Dutch consultancy company, providing technical, economic and management advice to farmers and other agri-food business as well as consultancy services to private and public institutions. Currently, DLV is a holding with limited company corresponding to the five business units (plant production, animal production, chain management, construction, technology and environment, countryside), employing 200 advisors and researchers, and is active in 50 countries with 8 international subsidiaries. In addition to DLV, there are also individual professional advisors and several other private consultancy companies, mainly smaller and specialised in different sectors (such as dairy farming, construction) and/or target groups (such as organic farming). Some private companies have been created as an offshoot of historic farm-based associations, such as Arvalis, which has four offices and employs 60 people, working also in Belgium and Germany. Many extension providers also operate outside the Netherlands, while others provide their services only to developing countries, e.g. HVA International. There are also other advisors companies working on the market, and on ICT.

Another AKIS player is LTO (organisations for agriculture and horticulture), which represents and supports the economic and social interests of almost 50,000 farmers and growers on a local, regional, national market, has its own consultants and specialists who provide tailored advice for individual farmers, especially on business succession, changing to different products and production methods, expansion, specialisation, new business opportunities and business discontinuation.

In **Poland**, among the suppliers of agricultural extension services in Poland there are many institutions and organisations, state and public, as well as private and NGOs. They have different functions in the advisory system. However, currently the most important is public advice provided by Provincial Advisory Centres. Within the AKIS system in Poland, similarly to other countries, it is possible to distinguish some main players: agricultural advisory service; research and education; rural policy, legislation and inspection; upstream and downstream industries; and farmers.

In **Portugal**, there are three Confederations, as umbrella organisations, active at the national and European levels, developing various lobbying functions, and organising and promoting the delivery of a variety of services to their affiliates and farmers, some of which relate to AKIS; interventions in the territory and at the field level are conducted by its local and regional members. There is also a very large number of diverse organisations providing some kind of

support and advice to farmers, in a very fragmented and not necessarily articulated fashion. In many instances, this work is primarily linked to applications for grants and financial support available through the Common Agriculture Policy.

In **Romania**, there are many AKIS players providing advisory services. Among these, the public service is best known and most important. The public consultancy service aims at promotion and implementation of MARD strategy and programmes; organisation of extension, consultancy, technical assistance, vocational training actions; support to agricultural producers in accessing the EU funds and other internal and external funding sources; support to agricultural producers in the establishment of association forms.

In **Slovakia**, there are more than 100 organisations recognised as suppliers of extension services. The largest group are research institutions followed by academic institutions/universities and secondary professional schools and apprentice schools.

In **Slovenia**, the main organisation providing advisory service in Slovenia is the Agricultural Chamber, within which FAS is also localised.

In **Spain** the strength of AKIS is in the presence of two national centres which conduct basic and fundamental research, and constitute one of the bases and a fundamental pillar of the Spanish knowledge system. Participation of stakeholders in their governing councils should ensure a design of a research policy taking into account the needs of the sector. The crucial pillar of knowledge transfer is in the highly autonomous regional technological centres with their two functions – applied-oriented research and training programmes addressed to the final users. They also have an important link with the National Institute for Agricultural and Food Research and Technology (INIA) through a restricted research programme and the call for proposals just for researches of the system INIA-regional centres.

In **Sweden** the agricultural advisory services are diverse. In general, there are three groups: commercial advisory services that have agricultural advisory services as their main occupation, the sales advisory services where advisory service is not a product on its own but a part of the sales strategy when selling input goods, and the free advisory services where all of the advisory service is paid by the public. The Rural Economy and Agricultural Societies, Växa and LRF Konsult are leading national suppliers of commercial agricultural advisory service. There are quite a few actors that could be defined as “selling” advisory service, as they sell input goods to farmers and act as advisors. In some regions the County Administrative Board offers free advisory services.

In **United Kingdom**, regarding the way advisory services are delivered and to what extent the state is involved, there is considerable diversity. In England the approach is fully privately-driven extension. In Wales there is a strong publicly-driven approach, and extension is provided by various private advisory networks. In Scotland and Northern Ireland extension is managed publically (but some services are outsourced to accredited advisors).

2. Public policy, funding schemes and financing mechanisms

In **Austria**, extension is financed by various sources, while public funding constitutes an important share, followed by membership contributions and fees. Mixed-funding of advisory services prevails in Austria with both federal and regional governments providing financial

assistance. Most organisations depend on several sources of income: public subsidies, membership fees and chamber contributions, EU funding and income from sale of services and products. Farmers receive general advice free of charge (directly subsidised by the Governments and with member contributions), for some more specific services a cost contribution is charged. Few organisations charge on an hourly basis. Private advisors operating on a commercial basis provide specialised and personalised advice at full cost to farmers.

In **Belgium**, in both regions, the principle of public intervention regarding advisory services could be described as a *delegation of services*. In Wallonia, besides financial support of CRA-W, the government has organised its support by creating it within its public administration. In Flanders, the situation seems to be more stable after the intensive reorganisation that followed the regionalisation in 2002. The reform of public intervention regarding agricultural advisory service is nowadays an expression of broader transformations of regional innovation policies, targeted towards better integration of science policy, innovation policy and economic policy in a context of further decentralisation and the growing role of provinces.

In **Bulgaria** the main EU funding schemes for the period of 2007-2013 were: (1) direct payments which were complimented by national payments, and (2) measures under the Rural Development Programme and the Fisheries Programme.

In **Cyprus**, there is no specific policy framework or formal agreements between the AKIS actors. The Extension Service covers, as a coordination mechanism, more or less, actors' binding needs.

In **Czech Republic** advisory services are financed from different sources in the case of each individual AKIS level. The financing of the 1st and 2nd level are designed in the form of programmes included in *national subsidies*. Public funds in the case of the 2nd level are aimed at supporting putting research results into practice; providing consultations on highly scientific and professional levels at universities, research institutions and designated professional associations as holders of professional knowledge. The third level of AKIS is financed from RDP, measure I.3.4. For the purpose of financing the delivery of information through specialised web portals (4th level), the Ministry of Agriculture (MoA) financial means designed for building the MoA information system shall be used.

In **Denmark**, financing of the Danish Agricultural Advisory Service has gone through several changes over time and there is a complex set of sources and mechanisms involved. The government support (payment for advisory services) stopped in 2004. So, today no public policies exist in Denmark for funding agricultural advisory services. The Knowledge Centre for Agriculture's services and advice is primarily user financed. The income is from sale and user payments. The main sources of financing for the entire Danish Agricultural Advisory System (DAAS) are generated as payments for services from farmer clients to the local advisory centres and from services provided by the Knowledge Center for Agriculture (KCA) to local advisory centres.

In **Estonia**, the farm advisory system, advisory services and dissemination of knowledge-based information are financed by the state budget, the Estonian Rural Development Plan (ERDP) and farmers. The state budget is for financing information activities and publications, information

distribution through advisory centres, coordinating activities (free services for farmers, basic salary for new advisors, support for practice and training, including information-days, study-trips, etc.).

In **Finland**, the structure of advisory services in Finland is based on public-private partnerships. The Ministry of Agriculture and Forestry (MMM) defines annual goals together with representatives from the advisory services sector. An annual agreement is drawn up between the MMM and service providers, based on which the ministry partly finances the service provision. Other private agricultural advisory entrepreneurs are supported by the state subsidy, because they do not operate nationwide, which is one of the biggest preconditions to get the state subsidy for advisory services. Private rural advisors typically get their revenues from service paid by farmers.

In **France**, the CASDAR is the central element of a public policy characterised by procedures of delegation of services, where the state funds and regulates the supply of services without being directly active in their provision. Besides CASDAR, there is a second major fund to support advisory services: a tax collected on “non-built” land.

In **Greece**, as it was mentioned before, none of the national level organisations are involved in the provision of advisory services, with the exception of PASEGES. MRDF is primarily occupied with the CAP implementation. Extension service at all levels is pressed to intensify their duties, in parallel with restrictions: not to increase the numbers of advisory staff (at the same time there is a large number of retiring advisors). All of these requirements and restrictions curtail contact between advisors and farmers. 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 (being thought of as ‘entrepreneurs’) was not deemed ‘necessary’.

In **Germany**, due to federalism, every state has its own policy and regulations, which determine the organisation of advisory services in terms of their provision and funding.

In **Hungary**, Sub-regional Advisory Centres have a yearly quota for a certain number of individual contracts with producers. Producers pay for the service, then can claim back 80% of the contract value. One farmer may receive a maximum of EUR 1,500 during a seven-year period (with a limit of EUR 700 per year) and may use the service up to three times during seven years.

In **Ireland**, the state largely finances agricultural advisory services in the form of a subsidy to the cost of advice. Farmers can become Teagasc Advisory Service members in order to avail themselves of a variety of services, including club packages, options planning for the future, farm partnerships services or a profit monitor. Advice is offered on a range of themes. Around 75% of Teagasc's yearly budget comes from the Irish exchequer and EU funding, with the balance generated from earned income. Some 40% of the budget is devoted to research, with the remainder split half and half between advisory and education services.

In **Italy**, there are three main sources of funding the extension services – public, farmers unions and private (mainly in the north of country). Others play a smaller role (excluding the central

part of country). The publicly funded advisory services include a wide range of fields, with a great diversification among the Regions. The structure of public advisory services is still influenced by the effects of the already mentioned Reg. 270/79, so the role of public actors in the South and Islands is more important than in the remaining part of Italy.

In **Latvia**, the organisations providing advisory services are financed from public, private and mixed sources. Public funding is assigned for budget institutions (like educational and research institutes) and on a contract and project base for others. The very advisory services are financed from the state budget, EU funds, and contracts with the state, local authorities and to a lesser extent, with NGOs. Farmers' and entrepreneurs' fees also constitute a considerable part of financing for advisory organisations. In some situations advice is provided for free on a voluntary basis, this is the case for public educational establishments whose functions do not formally involve advisory services.

In **Lithuania**, in general, advisory services are financed from a variety of sources: (1) private advisors are paid for the documents prepared for the EU and national support (based on individual projects), for advice on fertilisers, accounting management and other; (2) advisors from Universities are hired under individual projects financed by private funds, associations and structural funds; (3) private advisors are paid by farmers themselves. The state finances advisory services provided by Chamber of Agriculture of the Republic of Lithuania (CARL) and partially (about 13%) by Lithuanian Agricultural Advisory Service (LAAS). LAAS receives 87% funding from the private sector paying for services. The state mostly provides funding at the national level: under individual advisory projects (e.g., conducting seminars in municipalities of the country). Funding mostly goes to seminars and the procedures for conducting courses. The Ministry of Agriculture calls for tenders involving various (usually big) individual advisory organisations and their partners (ASU, LIAE, LAAS, Advisors Associations), who are usually awarded the contracts.

In **Luxembourg**, advisory services are financed (depending on the advice provider) mainly from the national budget and mixed funding with a state contribution. Parts of the services are paid by clients (especially delivered by private companies); some services for farmers are free of charge (the bills are covered by agricultural chambers or public organisations).

In **Malta**, funding of advisory services is strongly connected with FAS. However, other national funding schemes are applied to cooperatives and producer organisations, which, in providing extension services to their own members, are financed by the national budget, by the common marketing organisation (CMO) funding schemes (applied only to POs), by the RDP measures 124 and 142, and by the membership fees paid by the associates. Still, for the case of the cooperatives, by the central cooperative fund (CCF) which is financed by the cooperatives themselves with a contribution of 5% of the surplus of each financial year. In a few cases, some advisory companies are also financed by the fees paid by the farmers for the provision of specific extension services.

In **the Netherlands**, before the privatisation the matter of services was mainly related to government policy, all the services were free, with a great emphasis on group activities. Every extension officer guided several study groups, while individual advice was not very important. After the privatisation the DLV's scope was also gradually broadening in terms of clients,

activities and expertise. The services started to be addressed to all agribusiness actors, including suppliers, producers, wholesalers, processors, retailers. Thus, the Government became a client.

In **Poland**, there is no special funding scheme to cover advisory work. At present, the majority of purpose-driven subsidies to advisory services provided by Provincial Advisory Centres (16 decentralised units) is covered by government (in 2012 around 50% of the total cost of advisory services). The amount of funding coming from other sources depends on a well-developed plan and programme of advisory services, the needs of farmers and rural residents, entrepreneurs, facing the challenges of today's market, and often also on the ability of ODR to co-operate with local stakeholders and to compete with other professional advisory organisations in the competition for EU funds. The basic funding of advisory services provided by Provincial Advisory Centres in 2012 was: subsidies from the state budget, funds from other public sectors, EU funds, and service takers (beneficiaries – farmers, businessmen and farmers' organisations). The common trend (not only in Poland) is a charge for more advisory services, and the financial burden is transferred to the producer (farmer). In Poland, we can observe year by year less financial support from government to agricultural advisory services and the necessity to look for other sources of funds (i.e., commercial services, EU funds). It is expected that Polish farmers will pay for the majority of services received from advisory staff. The problem is that owners of small farms (dominated in Poland) may not afford for such paid services.

In **Portugal**, there is no public extension service or national extension structure. The State initiated a process of transfer of extension functions to farmers' organisations in the early 1990s and today a vast set of associations and cooperatives are involved in this area, coordinated or under umbrella organisations, with fragmentation and a lack of national coordination as the two major weaknesses. Each organisation makes efforts to attract funding, through contracts with the government, training programmes supported by public money or charging for service delivery.

In **Romania**, the funding level for the agricultural advisory service is quite limited. There are severe financial constraints that hinder the conduct of basic activities. Financing of the activity of county agricultural chambers is from the state budget and from their own incomes coming from specific services for farmers and other clients. The types of services, the fees that are asked for each type of service, as well as the modalities of cashing and utilisation of funds are approved each year by the county council decision, while the legislation comes into effect.

In **Slovakia**, there is no special funding scheme, apart from the co-financing farmers or rural businessmen, in addition to the provided EU funds. The support from this funding may be granted to farmers if the services cover accredited organisations – SMRs, GAECs and occupational safety standards based on Community legislation as a minimum (art 24 of Council Regulation (EC) No. 1698/2005). The Slovak Government through the Agricultural Paying Agency has earmarked 8.57 million EUR for farmers in the planning period for 2007-2013. As was already mentioned, the national coordinating units for agricultural extension are Agroinstitut Nitra and IFEE. Both of these institutes are intensively cooperating with research and academic institutions, professional organisations and unions, as well as with commercial advisory agencies and certified agricultural advisors.

In **Slovenia**, similarly to Luxembourg, the main role in advisory services is played by FAS. It is funded from different sources according to an annual plan of services agreed by the government.

Nevertheless the majority of funds are provided from national funds, though its share and total amount for public services is gradually lowering (compared to 2010, the present budget is 28% lower). In 2013, the advisory activity under FAS was financed from following sources: public funds (62.9%), users (subsidy campaign) – 11.8%, commercial activities (projects and others) – 25.3%.

In **Spain**, national or regional governments participate in the functioning budget of its respective centres. However, funding for research for those public AKIS organisations comes mostly from the central government, mainly through the National R+D+I Plan.

In **Sweden**, the only public policy that covers the agricultural advisory service is the Rural Development Programme, funded by EU and Sweden. A large part of the public financing of knowledge transfer lies within the “Skills acquisition support” programme that has ten focus areas for the programme of 2007-2013.

In **United Kingdom** – similarly to Germany – due to federalisation, there are different AKIS in each country and for this reason there are different sources of funding. In England the advisory services delivered under pillar 1 of the CAP are contracting independent commercial advisors; under pillar 2 they are divided between DEFRA (Axis 1, 3 and 4) and Natural England (Axis 2), and these organisations can also contract specific packages of services. In Wales, Farming Connect subsidises 80% of the cost of advice. This applies to the Whole Farm Plan, Farm advisory service and skills development programme. In Scotland, the Scotland’s Environment and Rural Services (SEARS), a partnership between eight public bodies aims to improve the experience among land managers by working together to provide an efficient and effective service. The Scottish Government provides a wide range of advice through its Public Good and Veterinary Advisory Services (VAS). These are delivered by the Scottish Agricultural College (SAC) on a generic free basis. The contracts for advice delivery between Scottish Government and SAC follow government policy objectives. In Northern Ireland, the farm advisory service is wholly funded by DARD through CAFRE which is an integral part of DARD. There are not many private sector advisors within NI.

The main factors of advisory services (methods and clients) in surveyed EU countries are presented in table 3. As regards to this data, it can be noticed there are different dominant advisory organisations in individual surveyed countries, e.g. agricultural chambers are significant in Austria, France, Luxembourg, in some states of Germany, Czech Republic, and Romania (identified in the first place as a main provider of advisory services); private organisations play the main role in Denmark, Finland, the Netherlands; public organisations – in Poland, Latvia, Slovakia, UK – Northern Ireland and Scotland; FBOs – among others in Belgium, Cyprus, Malta; NGOs – however present in all countries (in some a huge number) – their role as a provider of agricultural services is very small or absent altogether. In general, in all the surveyed countries there are different types of organisations providing advisory services for agriculture and small enterprises. Their role depends on the types of services they provide (or specialise in), types of clients (large, medium or small commercial farms, semi-subsistence or subsistence farms, part-time farmers, producers’ group, young farmers, female farmers, farm employees etc.). The surveyed organisations were asked for their opinion as to which particular clients benefit from their advisory work (in table 3 these are ranked 1, 2, 3). Some advisory

organisations are providers of advisory services for a few different groups, for some only one or two from the aforementioned. The major target group of clients are small commercial farms. The major target group of clients for the surveyed organisations are medium commercial farms (identified 47 times in total, but 23 times as the most important clients). Large commercial farms are the most important clients mainly for private organisations (identified 8 times in the first place. Young farmers are in general a less interesting group for advisors (although 17 organisations cooperate with them, they were only identified as the most important client 4 times). Probably, they have a higher level of education, full energy and better motivation for work, they are more open to innovations, and have better communication skills, easy use of modern tools for communication and management, and they are open to cooperating with others – and for these reasons their needs or expectations towards advisors are low.

3. Human resources, and methods used in advisory work by the main surveyed organisation providing advisory services

In **Austria**, where the main providers of agricultural advisory services are agricultural chambers there are around 700 advisors in 9 chambers. The number of extension staff has been shrinking continuously over the years, which is most probably linked to decreasing public support. Globally, women make up a little less than half of all advisory staff. The general degree of experience and level of education among advisors in Austria is high. Many advisors run a farm themselves. A large part of all advisors have graduated from universities.

In the topics and subjects of consultation two trends are visible. On one hand training courses on technical and factual issues are frequently attended (i.e. fruit and vegetable production, rare species, organic farming, renewable energies, plant and animal production, pasture management, IT). On the other hand, “soft” skills and social and methodological issues are increasingly being demanded (i.e. methodology and didactics, coaching, time management, personal skill development, management of difficult situations in advisory work, general advisory techniques, communication, project management).

Advisors generally work for a very long time with their organisation. More than half of all extension staff stays with their organisation for more than 10 years. Most of the available time in advisory organisations is spent on advisory services. Cooperation between different organisations and their staff is good.

Individual contact accounts for the largest share of all interactions with clients. As the second – group advice is very popular method (mainly outside the farm). There is a strong trend towards providing specific and tailor-made advice using electronic means in extension.

In **Belgium**, Associations (centres pilotes, filières in Wallonia) and experimental stations (in Flanders) and provincial public services implement more collective methods of advice (group or mass-media). Independent consultants and bookkeeping companies are based more upon individual advice.

In **Bulgaria**, the total number of the extension staff in the public organisation NAAS for 2012 is 87, with average age of between 31 and 50. 99% of the staff have university degrees and 62% are female. In the *private sector*, extension staff numbers are small, similar to the universities and Agricultural Academy (10-15 persons). The percentage of dominant working methods used

by NAAS extension staff for farmers is 70% for individual extension, 12% for group extension (small group advice on the farm – 3% and small group advice outside the farm – 9%) and 18% for mass media extension. Private advisory companies mainly provide individual consultations on the farm and through telephone consulting. Universities and Agricultural Academy staff are mostly involved in group methods and individual consulting.

In **Cyprus**, individual methods are most frequently used by the extension staff of the Extension Section (60%), group extension accounts for 20% of extension work, and mass media accounts for the remaining 20%. The Extension Section of Department of Agriculture currently employs 120 officers (42% women); 63% of the staff are university graduates. The extension staff have a lot of work experience in extension (estimated average: 30 years). The shops'/companies' owners are agronomists (university graduates) and employ agronomists (average 10, ranging from 3 to 15) as well as other staff (average company staff – including agronomists – 42 persons, ranging from 4 to 65).

In **Czech Republic**, the Registry had a total of 260 active accredited advisors. Advisors mostly use the individual model of advisory work on farm, sometimes in the case of similar problems, they use group (two or three) consultation.

In **Denmark** about 28% of all employees at DAAS including the Knowledge Centre for Agriculture have a university degree (master level or PhD). Of the total number of employees of 3,300, 1,300 are women. When looking at the educational background and gender, the number men with a university degree is twice as high as the number of women. There are a large variety of advisory methods used by the advisors. This includes face to face and visits at the farm (40%), meetings with groups of farmers (10%), conducting demonstrations, workshops and field days for farmers and meeting with farmers at the office (30%), and other methods (using mainly ICT).

In **Estonia**, there are 109 advisors with a valid professional certificate in fields related to agriculture, some of whom have been awarded a profession in two or more fields. In the field of forestry there are registered 67 and in the field of community development there are 8 advisors. Various working methods are used by extension staff to provide advice for particular groups of clients. Individual extension (especially one to one on the farm or outside the farm) is the most often applied and appreciated form of receiving advice from the clients. Also telephone helpdesks, small group advice outside the farm are being used quite often. Although there is an increasing tendency nowadays to use the internet and web-tools more and more for various purposes, it is still among the minor applied working methods in the provision of farm advisory services.

In **Finland**, there are 17 organisations involved in the Advisory sector working under the ProAgria Group. Altogether there are 670 advisors working for the ProAgria Group (2013) and the number of advisors varies between different rural advisory centres. Besides the ProAgria advisors there are about 100 independent private rural advisors. There are different advisory methods used, and it is difficult to tell which one is most frequently used. The issue of gender is not important in the Finnish agricultural and rural advising. The share and distribution of women is over half of the total personnel. Although the majority of the board and management team are men, the Rural Women's Advisory Organisation is a powerful development agent in the women's rural network area.

In **France**, it was not possible to collect data on this subject. We can only speak of tendencies in methods used in agriculture advisory. According to a few researchers there is a tendency to use participatory methods based on farmer groups and observed developments in individual methods served directly at the farm level.

In **Germany**, due to federalisation, it is not possible to state a correct number of advisory staff. According to the research, 100% of advisors in the surveyed organisations have an academic degree, and the number of staff for the last few years stayed at the same level. Concerning the advisory methods, some trends could be identified. Individual advice has a strong advantage over group methods and mass media. In particular on-farm and telephone advisory methods are proportionately 4 to 5 times more frequently used than group methods and mass media tools. Also, it can be noticed that group advisory services outside the farm tend to be slightly more common than on farm group advice while the internet and specialist press are more frequently utilized than advice via website tools.

In **Greece**, the main method of advisory work is individual contact (90%). Local consultants are agronomists (university graduates with further training and certifications), with experience (3-10 years). They are employed (full- or part-time) as agronomists (very few women are involved).

In **Hungary**, the number of professional and technical extension personnel in 2012 was 679 in total, including 419 women. The majority of them have a bachelor's degree (500), then engineering (98), masters (48), PhD (24), and secondary vocational school degree (8). All of them have experience in extension services (the majority with more than 5 years).

In **Ireland**, the total number of advisors employed in Teagasc in 2012 was around 250. Teagasc client services are organised around club packages (office), advice on technology (visits), facilitation of business and technology discussion groups.

In **Italy**, in recent years, the vision of services for rural development has been put into practice more. In addition there are several attempts to introduce innovative and more participative methodologies in the delivery of advisory services, like the use of ICT or the communities of practice.

In **Latvia**, in general, the number of advisors is stable or increasing, which reflects the true demand for agricultural advice. The vast majority (up to 94% in some organisations) of advisors are women, which may reflect the general trend that less paid occupations are mainly fulfilled by women. A considerable number of advisors have university or college degrees and they are experienced employees rather than newcomers, though the qualifications of advisors are not always satisfactory. Specifically the representatives of commercial farmers express their discontent with the quality of public and local advisors who can inform rather than provide professional advice.

Advisory organisations combine various methods in order to provide advice to their clients. The main ones are conventional individual consultations on or outside farm. Also telephone helpdesks, small group advice and traditional media of publications, radio and TV are quite popular. More modern ICT tools like the internet and website tools are comparatively less often applied which may reveal the situation of comparatively lower internet access in rural areas and also a lack of computer skills among farmers. LRATC representatives witness that since

competition has increased in the agricultural advice market, the centre has tried to respond to farmers needs and organise its educational activities on demand. The main forms of knowledge provision that it proposes are demonstrations, training seminars, exchange visits and individual consultations. Consultations are more market demand-driven and oriented towards farmers' problem solution.

In **Lithuania**, there are around 400 consultants. The biggest consulting organisation is the Lithuanian Agricultural Advisory Service with 257 accredited consultants. The second in size by the number of accredited consultants is the Chamber of Agriculture of the Republic of Lithuania – 49 accredited consultants, the third – Aleksandras Stulginskis University – 39 consultants. Consultants are accredited in the Lithuania Ministry of Agriculture (more precisely, the Centre for the LEADER programme and agricultural training and methodology). The average number of consultants from other accredited organisations is 2-3 consultants. Private organisations and individual consultants operate in the market without an accreditation and it is difficult to tell how many advisors they employ. One of more advanced consulting methods used in Lithuania is discussion groups, created in different regions of the country. The groups usually consist of 15-20 farmers.

In **Luxembourg**, the total number of advisors employed at the advisory organisations amount to 30 and 20% of these are female. The number of advisors per organisation ranges from 1 to 10, the median being 1 advisor per advisory organisation. Staff numbers of advisors in the recent past has stagnated in 6 advisory organisations and rose in 2 advisory organisations. Regarding the qualification of the advisors the survey revealed that in 5 organisations (n=8) all advisors possessed an academic degree. In 6 advisory organisations all advisors received professional training in 2012; in 2 organisations none of the advisors received training. The more frequent advisory methods in Luxembourg are direct contacts to farmers either on farm, outside the farm or via telephone. The latter was mentioned by more than half of the responding organisations, the Internet sources, agricultural press releases or group advice are used less often during advisory work.

In **Malta**, the approach to the delivery of farm advisory services is changing in line with the increasing involvement of associative and other private bodies. In the case of the NRDN, more participative methods (focus groups) are in use, along with brochures, websites, manuals and technical documents, and even documentary films both in English and in Maltese. In all cases, the approach for advisory services is one-to-one, often on farm. Off farm groups are also implemented mainly through training courses, technical seminars and other events. With regards to human resources, the FASC encounters a total number of 10 part-time officers. The number and qualification of the extension staff of private providers varies depending on the organisation of the entity and the number and dimension of clients. The number, in general, is between 1 and 5; in some cases, the provider employs a full-time specialist and subcontracts others. Similarly, the percentage of extension staff with university or college degree varies a lot, depending on the entity: some employ only graduates, others hire personnel with experience only in the field; female staff engaged are practically absent.

In **the Netherlands**, a full description of the providers is very difficult to formulate for various reasons: they are private actors for which there is no official census, for the strong dynamism of

the advisory arena changing extremely quickly and becoming increasingly globalized, for the hybrid identity of many AKIS actors performing different functions from the original tasks and for breaking into the advisory market of new actors traditionally active in other areas/sectors. Finally the severe competition of the advisory market may make the players less inclined to give out internal information.

In **Poland**, individual extension is the most common method applied (this form occupies 56.2% of working time of extension agents). Most often, this form is implemented by direct contact with the agricultural producers, i.e., by meetings with farmers in advisory centres (district or county office) or at farms. One quarter of working time (26.0%) constitutes group extension services, implemented most often in the form of shows, seminars, demonstrations, workshops, etc. With respect to mass extension service (17.8%), the most commonly applied extension method is mass media, i.e., TV, radio, website. In the period of 2005-2012 the number of advisory staff at Provincial ODRs declined. At present the number of advisors employed in ODRs is 3454, of which 31.9% are women. Since 2006, the number of full-time posts in provincial ODRs has declined (reduction by 18%). The reason for the declining number of advisors is due to the tight budget, limited year by year by the government, but also many advisors decided to open their own advisory practices. Most advisors (90.1%) have university degrees, (advisors with only secondary education are usually older employees, but they have a lot of good experience and many certificates).

In **Portugal**, the main extension activity is training. The major organisations, CAP, CONFAGRI and CNA, have training plans developed at the top level and implemented by the affiliated ones. Besides training, individual advisory methods tend to dominate, usually through office visits. Farmer meetings, seminars, workshops, and other group activities are promoted by most organisations, as well as by public services, including the Ministry offices, education and research institutions.

It is impossible to provide a reliable account of human resources, given the high number and fragmentation of this field. AJAP alone has a staff of 45 in its different offices, all with access to a car or a mobile phone. CAP, CONFRAGRI and CAN certainly represent a much higher number of human resources. CNA alone has a body of 21 people specialized in the training area. The local development associations linked to LEADER have an average number of 16 people, mostly women.

Each organisation has a more or less defined target group of clients. CNA, for instance, tends to work more closely with small, medium, subsistence, part-time and female farmers. CAP directs more attention to medium and large commercial farmers indirectly through their affiliates, and CONFAGRI to a very heterogeneous group of clients, representing the associates of the Portuguese agricultural cooperatives, who generally tend to be small and medium farmers. None of the concerned organisations pays particular attention to farm employees, who tend to be an underestimated group. AJAP gives special attention to young farmers. The LEADER associations also work with a diverse clientele, including farmers, rural entrepreneurs, public institutions like local governments, other associations and cooperatives.

In **Romania**, in the year 2012, the number of staff of the public agricultural consultancy service was 850 persons, of which 500 were employees of LACCs and 350 of CACs. Thus, compared to

the great number of localities (about 3000 communes) and the volume of activities, the number of consultants active at the local level is inefficient. The level of qualification of consultants is low and there is lack of possibilities to be promoted in the conditions of the system instability. In their activity, agricultural consultants use a wide range of advisory methods. As the Romanian consultancy system is in charge of a great number of farmers, the most common method is *group consultancy*. In this way, a greater number of farmers are involved, even though the technical endowment and the staff are limited. The main constraint of this method is related to consultants' methodical and organisational skills.

In **Slovakia**, in 2012, 131 advisors were registered, of these 77 are qualified as generalists and 54 listed as specialists. In this respect, there is an essential distinction between Slovakia and other EU countries. Furthermore, out of 75 non-certified advisors, 30 are generalists and 45 are specialists. This situation is obviously irrelevant to the requirement to ensure a more effective and high-quality agricultural and food processing sector. Moreover, it is not ensuring a sufficient absorption capacity for the utilisation of EU funds which are assigned to agricultural extension, rural development and for other fields. A single advisor covers 9,370.38 hectares of agricultural land and 44 entrepreneurial units. Another problem affecting extension services in the Slovak Republic is the high average age of advisors. About 60% of advisors are older than 51. From 131 of certified advisors, 38 of them are specialised in forestry extension service and 93 in agriculture. From all the certified advisors 33 are women. It is difficult to tell which methods of advice are more frequently used. In fact, advisors use mixed methods to be more relevant to the subject matter, and to the farmer needs.

In **Slovenia** advisory service is working under FAS. In total, there are 330 advisors employed, including 4 with PhDs, 12 with master degrees, 180 with university degrees, 55 with higher education, 78 college degrees and 1 with a secondary school degree.

In **Spain**, human resources in the two major national research centres (CSIC and INIA) are governed by similar guidelines. Both organisations have a senior staff scientist (senior researchers, although with different categories) supported by a more numerous group of technical support staff. CSIC is a great size, with about 13,000 employees including scientific staff. The INIA carries out R+D+I activities has staff of 950 people, 24% of which are researchers and technologists, 40.5% are technical support, 28.5% are contracted researchers and 6.7% are fellows doing training –temporary- stays. With respect to the gender aspect, the proportion of women working as researchers is lower than 40% on average. With regard to topics and clients, regional research centres focus more on applied research, due to their greater proximity to the end users and therefore more focused on their demands and needs (farmers, stockbreeders, cooperatives, etc.). In these cases centres try to solve many – frequently daily – problems affecting a product or sector (wine, cereals, fruits, etc.), and to bring improvements to cope better with those problems and/or to improve their competitiveness. In this sense, we may say that regional centres are more problem-solving-oriented.

In **Sweden**, advisors are in general experienced and have worked in their profession for several years. There are many female advisors as well as many female employees, and gender issue is not considered a concern among the advisory organisations. Advisory organisations consider education and in-service training to be important. The most common method of advisory work is

individual extension, often on-farm, but also off-farm and by telephone. Group advice is arranged in some organisations, more often off the farm than on the farm. Social media and new technology are still not very well used tools for Swedish advisors, but traditional media like journals are still quite a common way of spreading knowledge among farmers. According to the survey, the mean number of farmers per advisor is 40-50 and an average farmer has 100-200 ha. Full-time farmers are the major target group in Swedish advisory services, whereas part-time farmers are the target group of some organisations but are generally considered a minor target group. Employees are quite rarely considered to be a target group, although some consider them to be the major target group. Female and young farmers are not considered to be specific target groups in Sweden, as they are integrated in other target groups.

As to the most frequent topic of advice for full-time farmers, crop production and economy, and to some extent the environment and renewable energy, are the most common topics of advice. When it comes to part-time farmers it is primarily crop production and economy that are most often discussed. It is less common to consult on specific advisory topics like stable design, machinery and environment to part-time farmers. For young farmers the focus is not so much on the knowledge of production, but the advisory topic is often focused on the economy, the environment, renewable energy and on how to develop the enterprise.

In the **United Kingdom**, it is not possible to comment on the total number of advisors in advisory organisations due to the specific structure of how advice is provided in the UK. For small consultancies, 1-3 advisors will all carry out advisory activities. For larger organisations, a number of staff have mainly advisory functions but others will also carry the title of ‘advisor’ (e.g. policy advisor), making it difficult to determine the share of advisors (of the total staff in an organisation) exactly and correctly. It is also not easy to describe which advisory method is most frequently used. Advisory methods used range from one-to-one or group advice both on and off farm to on-line portals and newsletters. Farm visits and demonstrations are continuing to be popular advisory methods.

4. Clients and topics of advisory providing by the main surveyed organisations

In general, the type of clients and type and subject matter of advice depend on the advice provider (its specialisation, competencies and target groups), as well as the needs of a client. Below, there is a short description of target groups and types of advice. The set of essential information on advisory services is presented in table 4.

Austria – Medium and small commercial farms are the prime target groups of most advisory organisations. Young farmers, start-up farms and women in agriculture followed by large holdings and subsistence farms are further important clients. Producer organisations and cooperatives are rarely advised. Farm employees are not served at all and are represented by the chamber of agricultural workers. This survey shows that plant and animal production are the most relevant topics for farmers when seeking advice.

Belgium – There is hardly any monitoring of the beneficiaries of the services in the two regions, apart from data available from FAS. There is thus a clear lack of information about which farms benefit (or not) from what service. Moreover, there seem to be very few political discussions about the target recipients of advisory services, in terms of farm structure (small farms) or social

characteristics (gender, employees), except for a few specific operations for young farmers (when starting new businesses), or for farmers facing difficulties. When we look at the results of the survey, it is striking to observe that specific social groups who are the subject of discussion within EU development and cohesion policies, such as small farms, part-time farms, women or farm employees, are almost not targeted by any advisory organisations, should they be public, private or third-sector organisations.

Bulgaria – The major clients for NAAS are small-commercial farms, semi-subsistence farms (1-5 ha) and young farmers. They provide the following types of services to its clients: (1) vocation training, (2) extension activity focused on providing and updating information for farmers, knowledge and experience exchange and others; (3) preparation of farmers' applications for the RDP and (4) technical assistance in crop and livestock production.

The main clients of the private advisory companies are large and medium-commercial farms, but they also work with small-commercial farms, subsistence farms and female farmers.

Cyprus - In terms of the clients the principle is that all farmers are eligible to request advice/information. However, large commercial farmers as well as producer groups with their own advisors are groups of rather minor importance for the service. The main target groups are thus medium and small commercial farms, young and part-time farmers. The topics that are frequently delivered relate to plant (vegetables, grapes, potatoes, fruits) and animal (sheep and goats, pigs, poultry, cattle) production, rural development and cross-compliance. Of less importance (averagely delivered) are topics on diversification and environment.

Czech Republic – generally, advisory services are used mostly by holdings in LPIS, which represents about 26 thousands clients. The results from the questionnaires specify that professional advisory services (3rd level) are used mainly by large farms (above 100 ha) whilst smaller farms (5-50 ha) use advisors less frequently. Farmers need advice on plant production and plant protection areas.

Denmark – the Danish advisory system - both the DAAS-centres and the private advisors - is capable of delivering services including all topics within organic farming demanded by the Danish farmers, including large, small, full-time and part-time farmers. This includes young farmers (less than 40 years old) and young farmers are perceived as one of the most important groups. Beside these new trends, Danish farmers are always demanding advisory services within the classical topics of animal, crop and pig production. The DAAS-centres have cultivated and managed to get 8,000 new customers outside the agricultural sector.

Estonia – the clients of advisory centres vary to a considerable extent. Out of the range of services offered, the most popular service concerns the types of available subsidies – both, general information and specified advice. The second and third most common inquiries concern production and market, and accounting, taxation and legislation, respectively. Advisory services in the fields of crop production and cross compliance are also quite popular.

Finland - Types of clients and farms vary a lot. ProAgria offers services for farmers on milk, crop, pig, poultry, environment, business, management and leadership sectors, but also for entrepreneurs working in the rural areas. On the other hand, services to entrepreneurs are based

on decision making and increasing goals, concentrating and focusing on better results, recognising new opportunities and using them and controlling the whole business.

France – the main clients depend on advice providers, and for FBOs these are: (1) large commercial farms, groups of producers; (3) medium commercial farms; for chamber of agriculture this is the same, but in a different range: (1) large commercial farms; (2) medium commercial farms; (3) groups of producers.

Germany – It can be seen, that among all organisations, there is a tendency towards providing advisory services particularly to large and medium farmers. This applies particularly to private advisory companies and FBOs. On the other hand, subsistence farmers and farm staff play a minor role as target groups. Topics of advisory: plant and animal production, machinery and cross-compliance.

Greece – The main clients of advisory organisations are: (a) firstly, for public organisation, young farmers, and also medium and small commercial farms; (b) for FBOs – medium and small commercial farms; (c) for private organisations – medium and small commercial farms and semi-subsistence farms. Even, when the main clients are the same, usually they rank particular providers differently. The main topics of advisory services depend on the advisory provider – e.g. public provider services concern plant and animal production, cross-compliance, renewable energy and rural development; FBOs – the same topics and additionally book-keeping, taxes and business diversification; private organisations – like FBOs and additionally stable design.

Hungary – The most demanded topics in order of popularity were: enterprise improving consultations, making business plans, supporting market information, financial consultations, taxation consultations, strategic planning, and public accountancy consultations.

Ireland – Advice is provided on the following themes and topics: herd and flock management; business and financial planning; farm management; grassland management; breeding; nutrition and ration formulation service; advice on farm buildings and paddock layout; department of agriculture schemes/ rural environment protection scheme; options planning for the future; alternative enterprise development; environment; soil and grass analysis.

The main farms covered by advisory services are dairy and cattle farms. Young farmers and new entrants are specifically targeted in order to ensure that an adequate number of well-trained young people will take up careers in farming and possess the right skill sets.

Italy – The type of clients depends on the advice provider, i.e. for FBOs providers – mainly small commercial farms, groups of agricultural producers and medium commercial farms; for private organisations – large commercial farms, agricultural producer groups, and medium commercial farms; for public organisations – medium and small commercial farms and agricultural producer groups. Even, when there are the same clients, usually they rank particular providers differently. The main topics of advisory depend on a client and a service provider, i.e. FBOs deliver services concerning plant and animal production, environment, book-keeping and taxes; public organisations – on business and business diversification an environment; public – on environment, rural development, business and business diversification.

Latvia – Depending on advisory organisations' profile, specialisation and capacity, they serve anywhere from ten to several thousand clients. Various types of farmers are targeted, but,

according to the survey results, most often they are small commercial and young farmers, also producer groups - commercially oriented farmers in knowledge needs.

Farmers' knowledge needs are diverse, covering a wide range of topics of production, legislation, regulations, farm and project management, book-keeping, marketing.

Lithuania – The main clients for consultations are large and medium commercial farms (10 -100 ha), as well as small commercial farms (1-5 ha, semi-subsistence farms), agricultural producer groups (cooperatives and agricultural companies).

Consulting topics are: Questions related to agrarian environment protection and farming in protected areas; Training of plant protection consultants; Basics in ecological farming; Planning of the economic activity and financial opportunities; Usage of the fumigation products; Assurance of the livestock health and milk quality; Settlement of the new farmers; Stimulation of rural tourism; Reduction of cows' morbidity of mastitis and milk quality improvement; Development of requirements for complex support and competences of environmental protection; Cooperatives in the farming; Issues related to the implementation the of the LEADER project; Forestry; Support to the rural communities; Quality experts of fresh fruits and vegetables; Basics in farming; Issues related to the bookkeeping of the agricultural activities; Questions related to the management, requirements of good agrarian and environmental condition and work safety requirements; Questions related to the business plans and other documentation necessary to receive ES support; Perspectives and actuality of informing, training and consulting of farmers within the period of the year 2014-2020; Accounting of the farming and foods sales by using cash registers; Development of competences in accounting taxes for agricultural activity and declaration of income; Analysis of the agricultural area activity subject's (farmer, agricultural company) activity.

Luxembourg – The average holding size of farms participating in agricultural advisory system ranges from 7 to 110 ha (n=6), while 7 ha refers to holding sizes of winegrowers only. All of the surveyed respondents (n=7) provide advice mostly to young farmers, followed by large farms with 6 mentions, and medium farms with 5 mentions. The topics of advice are usually: plant and animal production, stable design and agro-environmental topics. In contrast, topics of machinery issues, renewable energies and energy efficiency, rural development and Cross-Compliance play a lesser role.

Malta – The clients and topics of advisory services vary greatly depending on the type of service providers, topics/contents of advice, costs of the service, agricultural sector in which the provider operates. Indeed, based the topics they ask for advice on and the types of extension and advisory services, the clients can basically be categorised into two groups: users of the formal FAS and other clients, who are mainly represented by the members of the associative bodies and the beneficiaries of RDP measures on capital investments and innovation.

The Netherlands – the topics of advisory services depend on the clients and organisations which provide particular services. For example private professional advisors (DLV Advisory Group) provide technical, economic and management advice to farmers and other agri-food businesses as well as consultancy services to private and public institutions. DLV also provides thematic training and study group meetings for producers, organisations and extension officers.

Poland – The most important group of clients for Polish advisors are small and medium farms. Looking at the main topics of advisory it can be noticed that there is not big difference between the groups of clients. The main topics of advisory for medium commercial farms are: plant production, animal production, book-keeping, taxes, cross-compliance and environment protection. For small commercial farms topics are similar, excluding environment protection, but including rural development. For young farmers these are the first four topics and renewable energy.

Portugal - Each organisation has a more or less defined target of clients. CNA, for instance, tends to work more closely with small, medium, subsistence, part-time and female farmers. Farmers' needs cover a wide range of subjects, from production to farm facilities and equipment, bookkeeping, cross compliance and business diversification. Environment and energy issues tend to attract less attention. The use of phyto-pharmaceuticals, taxes and new production areas (berries, mushrooms, honey) represent, according to CNA, some of the new knowledge demands.

Romania - The main *beneficiaries/clients* of the consultancy services are various categories of farmers and rural inhabitants. But the major client target group are medium commercial farms.

Slovakia – Clients are represented by individual farmers, managers of cooperative farms, shareholding companies, food processing enterprises, rural leaders and other stakeholders operating in the field of primary production, food processing and in countryside. Advice and consultancy is provided in the following fields: financial, taxation and accounting consultancy; development of human resources; organic farming; education, training, skills courses in agriculture, food processing and rural development; rural development; development of farm and rural tourism; crop nutrition; livestock nutrition; inputs and outputs quality standards; horticultural production; fruit production; animal breeding and livestock registry; information technology; the development of agribusiness activities; EU project design; quality standards and finalization of products; formulation of marketing strategies and others.

Slovenia – FAS provides advice to all types of farmers and forest owners, but the target group are small commercial farms. The main topics are: technology, farm management, environment protection.

Spain – The clients depend on a service provider, but for FBOs the main clients are: medium and small commercial farms, and subsistence farms. The main topics of advisory depends on the client, i.e. for medium commercial farms there is advice on stable design, renewable energy, cross-compliance, book-keeping, taxes; for small commercial and subsistence farms – it is mainly book-keeping, taxes and cross-compliance.

Sweden – Full-time farmers are the major target group of Swedish advisory services whereas part-time farmers are the target group of some organisations, but they are generally considered to be a minor target group. Employees are quite rarely considered to be a target group, although some consider them to be the major target group. Female and young farmers are not considered to be specific target groups in Sweden, as they are integrated in other target groups.

When it comes to full-time farmers, crop production and economy, and to some extent, environment and renewable energy, are the most common topics of advice. When it comes to

part-time farmers it is primarily advice on crop production and economy that are most often delivered.

United Kingdom – The demand for agricultural knowledge is constrained by farmer demand, much of which is focused on income and profit, rather than on the environment or social objectives. The main clients are: group producers, and large commercial farmers.

Broadly speaking, two kinds of advice can be distinguished: market-oriented advice concerning increased production (and to some extent improved marketing for higher prices and added value) and greater efficiency (cost savings), and environment-oriented advice concerning public goods, such as anti-pollution methods, landscape and wildlife (bio-diversity).

Within the environment-oriented advice, topics cover all four areas of environmental priority for the (English) Government, namely soil/land use, water, biodiversity and air (as well as animal health).

Advisory topics in order of frequency of delivery among survey respondents are: agri-environmental programmes, environment (water, biodiversity, climate change, soil), cross-compliance, livestock production, rural development, crop production, bookkeeping, taxes etc., business diversification / processing / new products, agricultural building design (stable, silo, etc.), renewable energies (bio-energy production, energy efficiency, wind, solar), machinery.

5. Linkages with other AKIS actors / knowledge flows

Austria

Cooperation between AKIS actors is going well, but the transfer of information is rather slow as only few organisations have direct contact with farmers (chambers of agriculture).

However – some institutions are well connected and in some cases even integrated i.e. public research, education and extension bodies.

Belgium

There is a long history of collaboration between universities, extension, applied research institutes and the Ministry. Experimental stations (associations) are really important in bridging science and practice in terms of the implementation of new programmes (innovation focus) – some debates about technological lock-in are noticed.

Bulgaria

The linkages between actors are rather weak and informal; only inside NAAS are the linkages strong, because of internal dependency.

Cyprus

Cooperation between AKIS actors is going well.

Czech Republic

There is a strong and rather formal cooperation between actors at particular levels, formal and informal cooperation between levels, personal linkages are an additional benefit.

Denmark

Cooperation is going well, although the DAAS cooperation dominates the market of advisory services.

Estonia

The linkages between AKIS actors are rather weak. It is necessary to develop co-operation further in the near future.

Finland

The linkages and cooperation between ProAgria and Universities and Research are active and going well.

France

Besides informal exchanges, the relations within the AKIS are partly embedded in formal partnerships. These partnerships play different roles regarding knowledge flows, e.g. in programming the applied research activities, or in their implementation.

Germany

In the cooperation between AKIS actors the following points were noticed:

- There is intensive cooperation of organisations within the public sector, and between public authorities and private advisors;
- There is noteworthy cooperation between private advisory companies and upstream and downstream industries;
- There is no cooperation between up-/ downstream industries and public authorities,
- There is competition among private advisory companies and between FBO and private advisory companies.

Greece

The current picture of AKIS and, in particular, of advisory/extension services in Greece is that of a highly fragmented and ineffective system.

The cooperation between AKIS actors is very weak. The only channel for the transfer of new technology and practices in Greek agriculture are private companies (branches of transnational companies) through private agronomists. It is interesting to note that some of these agronomists also try to organise farmers in order to introduce new, innovative cultivations or to carry out small-scale on-farm trials. An exception to this picture concerns producer groups certified under the Integrated Management System. In this case the groups' agronomists provide continuous advice to farmers (group-members) as well as assist farmers with the records demanded by the system. The Greek situation clearly relates to extension systems in which agronomists have the role of experts who disseminate technical information to highly dependent upon farmers.

Hungary

The AKIS in Hungary has a rather fragmented and uncoordinated structure; research institutes and universities usually deal with theoretical issues and basic research; commercial companies focus on their business (e.g. marketable products and linked innovations); the National Rural Development Training and Advisory Institute (NAKVI) co-ordinates agricultural secondary schools and provides general professional supervision on adult education and lifelong learning

within agriculture and rural development; the NGOs focus on many courses. The co-operation within AKIS is weak.

Ireland

Overall there are good levels of cooperation, although there are some strong (e.g. Teagasc advisors with Teagasc research) and some weak connections (e.g. external research-stakeholders and Teagasc extension service) between stakeholders.

Italy

In cooperation between AKIS actors the following points were noticed:

- strong variability across Regions;
- very high number of actors and degree of fragmentation;
- lack of structures or pathways to bridge the gap between the separate entities;
- there are formal mechanisms to connect research and advisory services planning in only a few Regions.

Latvia

In general, advisory organisations operate rather independently from each other, but there is various common formal and informal points of cooperation, e.g. projects, education, seminars, consultations, etc.

Lithuania

In general, relations among individual AKIS participants exist, however it could be said that they are not always coordinated and/or synchronized.

Luxembourg

In the cooperation between AKIS actors the following points were noticed:

- linkages between AKIS actors are formal (thanks to Coordination Committee - established by Agricultural Chamber),
- there are also informal links between them, in spite of regular meetings, between public institution the cooperation is formal and intensive,
- cooperation with public service centres for some institutions and organisations is intensive for some and less intensive for others,
- for some downstream companies it is necessary to improve cooperation with public advisory services.

Malta

The AKIS is characterised by a very low level of mainly informal coordination and interaction between the actors; the linkages of the FAS Consortium with the Ministry of Agriculture and other private associative bodies are set upon internal dependency; the producer organisations support the farmers on a regular basis; the linkages between other actors are based on project partnerships and lack of frequency.

The Netherlands

Together with the end of the so-called OVO-triptych, Education (“Onderwijs”), Extension (“Voorlichting”) and Research (“Onderzoek”), all the institutionalized mechanisms which were previously devoted to the AKIS governance collapsed. This resulted in a highly fragmented AKIS.

Innovation networks and knowledge facilitators have emerged (partly supported by the government) to rebuild the ties between the several actors and to promote knowledge creation and transmission within the system. Their effectiveness is a debated topic.

Poland

In cooperation between AKIS actors the following linkages were noticed:

- very strong: farmers <-> advisory service,
- strong: farmers <-> supply, farmers <-> sale, advisory service<-> research/ education, advisory service <-> agricultural policy, agricultural policy <-> research/education
- weak: research <-> supply/sales, research <-> farmers, advisory services <-> supply/sales, agricultural policy <-> supply/sales/farmers, supply <-> sales.

Portugal

Cooperation between AKIS actors is very weak.

Romania

The agricultural advisory system is organised according to a pyramid-like structure, the linkages between AKIS actors are rather formal.

Slovakia

The specific national agreements about knowledge exchange do not exist among the AKIS players. There are agreements on the targeted budgetary allocations. Paragraphs are incorporated into these agreements referring to the responsibility of the respective institutions towards the support and facilitation of agricultural extension, knowledge and information exchange sharing and transfer of innovations and new technologies within the existing institutional frameworks.

Slovenia

Cooperation is rather unsatisfactory. Some bilateral written agreements on co-operation between institutions exist but they are not fully implemented in practice; at least there is no long-term systematic tool. Most cooperation in research is done between faculties and research institutes. As far as support to FAS advisors in solving farmer's problems is concerned, all faculties and institutes provide support, if they are asked for. Also it is common practice that each year researchers prepare seminars for FAS advisors.

Spain

Collaboration between AKIS actors (institutions, organisations, public and private) is based on formal agreements or contracts for establishing joint projects as well as through the creation of organisational structures formed for better, more flexible management.

Sweden

In general, all is going well. Between the producers and transmitters there are two facilitators: Partnership Alnarp and the Royal Swedish Academy of Agriculture and Forestry – which usually arrange meetings, seminars, discussion platforms; between transmitters and farmers – facilitators are usually producers' and farmers' organisations (LRF) organise meetings and trainings.

United Kingdom

There are many partnerships between the various AKIS actors: vertical, i.e. designed to improve the flow of new knowledge to farmers; and horizontal, i.e. aimed at broadening the scope (geographical, technical) of the joint effort – often in order to maximise the chances of obtaining state funding but also to achieve scale economies of personnel and facilities.

A diverse range of linkage mechanisms are used to connect the AKIS vertically. However, some studies highlight the fragmented nature of the AKIS.

6. Programming and planning of advisory work

One of the important tools in managing any organisation is planning and programming. The analysis of country reports in terms of planning and programming of advisory work shows that all surveyed organisations use planning in their activity. Some of them work according to long-term planning, other work instead according to short-term plans or annual plans. For some organisations advisory work is part of the programme of their supervisors. The differences in the methods used for building the advisory plan have been noticed – some organisations use participatory methods (introduced farmers into planning process). In general, the question which remains unanswered is how far advisory plans/programmes can fulfil clients' needs in terms of recognising them in advance, or rather – is it possible to plan for the farmers' needs in advance?

Table 3. Target groups and main methods of advisory services in surveyed EU countries

COUNTRY	Type of dominant advisory organisation	Major target groups of advisory (1 – the most important, 2 – important, 3 – the less important)											Main methods of advisory work		
		Large commercial farms (gross margin >48000€)	Medium commercial farms (gross margin < 48000€ and > 19200€)	Small commercial farms (gross margin < 19200€)	Semi-subsistence farms (producing slightly beyond own needs, approx. 1-5 ha)	Subsistence farms (producing mainly for own needs (< 1ha))	Part-time farmers	Agricultural producer groups	Young farmers	Female farmers	Farm-employees	Other	Individual	Group	Mass
Austria	chamber of agriculture	1	2	3								✓	✓	✓	
	research institutes		1	2	3							✓	✓	✓	
	NGOs		1	2	3							✓	✓	✓	
Belgium	farmer-based organisations	1	3				2					✓	✓		
	private organisations	1	2									✓			
Bulgaria	public organisations			1	2				3			✓		✓	
	research institutes	1	2	3								✓	✓	✓	
	Other		1	2					3			✓	✓		
Cyprus	farmer-based organisations	2	1		3							✓	✓		
	private organisations		3	1					2			✓	✓	✓	
	public organisations		1	2					3			✓	✓	✓	
	research institutes		1	2					3				✓	✓	
Czech Republic	chamber of agriculture	2	1	3								✓	✓	✓	
	private organisations	1	2	3								✓	✓		
	private organisations	1	2									✓	✓		
Denmark	private organisations	1	2						3			✓	✓		
Estonia	public organisations		1	2		3						✓	✓	✓	
Finland	private organisations	1	2				3					✓		✓	
France	farmer-based organisations	1	3				2					✓	✓	✓	
	chamber of agriculture	1	2				3					✓	✓	✓	

COUNTRY	Type of dominant advisory organisation	Major target groups of advisory (1 - the most important, 2 - important, 3 - the less important)											Main methods of advisory work		
		Large commercial farms (gross margin >48000€)	Medium commercial farms (gross margin < 48000€ and > 19200€)	Small commercial farms (gross margin < 19200€)	Semi-subsistence farms (producing slightly beyond own needs, approx. 1-5 ha)	Subsistence farms (producing mainly for own needs (< 1ha)	Part-time farmers	Agricultural producer groups	Young farmers	Female farmers	Farm-employees	Other	Individual	Group	Mass
Germany	public organisations	3	1	2									✓	✓	✓
	chamber of agriculture	2	1	3									✓	✓	✓
	farmer-based organisations	1	2	3									✓	✓	✓
	private organisations	1	2	3									✓	✓	✓
Greece	public organisations		3	2				1					✓	✓	✓
	research institutes		2	3				1					✓	✓	✓
	farmer-based organisations		1	2									✓	✓	✓
	private organisations		1	2	3								✓	✓	✓
Hungary	public organisations		1	2									✓	✓	
Italy	farmer-based organisations		3	1				2					✓	✓	✓
	private organisations	1	3					2					✓		
	public organisations		1	2				3					✓	✓	✓
Ireland	public organisations	3	2					1					✓	✓	
Latvia	public organisations			1				3	2				✓	✓	
Lithuania	farmer-based organisations		1	2					3				✓	✓	
	chamber of agriculture		1						3	2			✓	✓	✓
	private organisations		1	2						3			✓	✓	
Luxembourg	chamber of agriculture	1	2	3											
	farmer-based organisations	1						2	3				✓		✓
Malta	public organisations										1		✓	✓	
	farmer-based organisations	1	2	3									✓	✓	
The Netherlands	private organisations	1	2	3									✓	✓	
Poland	public organisations		1	2					3				✓	✓	

COUNTRY	Type of dominant advisory organisation	Major target groups of advisory (1 - the most important, 2 - important, 3 - the less important)											Main methods of advisory work		
		Large commercial farms (gross margin >48000€)	Medium commercial farms (gross margin < 48000€ and > 19200€)	Small commercial farms (gross margin < 19200€)	Semi-subsistence farms (producing slightly beyond own needs, approx. 1-5 ha)	Subsistence farms (producing mainly for own needs (< 1ha)	Part-time farmers	Agricultural producer groups	Young farmers	Female farmers	Farm-employees	Other	Individual	Group	Mass
Portugal	farmer-based organisations	2	3					1				✓	✓		
Romania	chamber of agriculture		2	1	3							✓	✓	✓	
	research institutes	3	1	2								✓	✓	✓	
	public organisations	3	1	2								✓	✓	✓	
	NGOs		1		2	3						✓	✓	✓	
Slovakia	public organisations	2	1	3								✓	✓		
Slovenia	chamber of agriculture			1	2		3					✓	✓	✓	
Spain	farmer-based organisations		1	2		3						✓	✓	✓	
Sweden	farmer-based organisations	1	2						3	3		✓	✓		
United Kingdom ^{vii}	public organisations	1	2						3			✓	✓		
	private organisations	1	2	3								✓	✓		
	farmer-based organisations and NGOs		1				3	2				✓	✓	✓	

Source: Country reports, 2013

Table 4. The essential information on advisory services in the surveyed EU-27 countries

Country	Main supplier of advisory services	Main clients	Main topics	Main methods	Main sources of funding
Austria	Chambers of agriculture (78% of total farmers' contacts with advisory organisations)	<ul style="list-style-type: none"> - large - medium and - small commercial farms 	<ul style="list-style-type: none"> - plant and animal production - business diversification - rural development - environment and - cross compliance 	<ol style="list-style-type: none"> 1. general 2. individual 3. group and mass methods 	<ol style="list-style-type: none"> 1. Public funding constitutes the largest share followed by membership contributions and fees 2. Mixed-funding of advisory services prevails in Austria with both federal and regional governments providing financial assistance 3. Most organisations depend on several sources of income - public subsidies, membership fees and chamber contributions, EU funding and income from the sale of services and products 4. Basic services are generally free of charge. 5. Individual advice is paid for directly by the farmers
Belgium	<ul style="list-style-type: none"> - Farmer-based organisation and private organisations are the key actors. - Growing importance of upstream and downstream industries. 	<ul style="list-style-type: none"> - There is a lack of data about who benefits from the advisory services. - According to the PRO AKIS questionnaire, large and medium commercial farms = targeted clientele for most of the suppliers in both regions. - In Flanders, the farms that receive more subsidies are the first beneficiaries of FAS services. 	<ul style="list-style-type: none"> - Depends on the client and service providers. - A segmentation of topics according to supply chains and regulations (standards...). - Alternative views about how to integrate environmental issues. - A competitive sector emerges at the intersection of environmental issues and technologies (renewable energy, sustainable farm buildings...) and financial issues (tax refund and fiscal optimisation, compliance with standards and quotas...) 	Diverse methods according to the situations and providers.	<ul style="list-style-type: none"> - Important institutional support to AKIS sector (e.g. research institutes ILVO, CRA-W). - Contractualisation with several advisory organisations – mainly FBOs. - Introduction of competitive calls. - Mixed funding for most of the advisory organisations.

Country	Main supplier of advisory services	Main clients	Main topics	Main methods	Main sources of funding
Bulgaria	National Agricultural Advisory Service (public organisation);	depends on service provider, but for NAAS are (1) small commercial farms; (2) semi-subsistence farms; (3) young farmers; for research institutions are large, medium and small commercial farms; for private providers mainly medium and large commercial farms; for FBOs – in general their members, but usually semi-subsistence farms and producer groups	depends of clients and provider, but NAAS usually provides plant and animal production, stable design, book-keeping, taxes, machinery, rural development, cross compliance, business diversification and renewable energy, and help farmers to prepare business plans for the RDP	depends on clients and service provider, but for NAAS – individual and mass; for others mainly individual and group	(a) public funding for services provided by NAAS; (b) mix-funding for services provided by research and education institutions; (c) private funding for services provided by private and other advisors;
Czech Republic	Private advisory organisations, agrarian NGO's, universities, research institutes	depend on advisory level and service provider; for private organisations – large and medium commercial farms, for agrarian NGOs medium, large and small commercial farms	Plant and animal production, cross-compliance, environment, stable design and renewable energy; Depend on client and topic, for general information farmers use websites or NGOs, for direct problems use private advisors	depend on clients and advisory provider, educational bodies are using individual and group as well as mass methods; private organisations – individual and group methods	for both main advisory providers – mixed funding; generally, different sources in each individual AKIS level (on 1st and 2nd level are designated in the form of programmes, included in national subsidies, 3rd level from RDP, 4th level from Ministry of Agriculture)

Country	Main supplier of advisory services	Main clients	Main topics	Main methods	Main sources of funding
Cyprus	depends on client and provider, but mainly public and research institutions, and private and farmer based organisations	depends on service providers (a) public and research institutions – medium and small commercial farms and young farmers; (b) private organisations – small commercial farms, young farmers and medium commercial farms; (c) FBO – medium and large commercial farms and semi-subsistence farms	depends mainly on client – for young farmers and small commercial farms the topics are usually stable design, machinery and business diversification; for large and medium commercial farms – usually plant and animal production, cross-compliance, environment and renewable energy	in general individual and group methods, but in fact the method depends on the topic of advice and the client	for public provider – public funding; for private – private funding; for other – mixed funding
Denmark	DAAS-cooperation (KCA as main co-operator)	(1) large commercial farms; (2) medium commercial farms; (3) young farmers	book-keeping, taxes, plant and animal production, renewable energy (for all three target groups) and additionally business and diversification production for young farmers	large variety of methods are being used, but mainly individual and group, e.g. face-to-face and visits in the farm (40%); demonstrations, workshops, and field days, meeting with farmers at the office (30%); meeting with groups of farmers (10%);	private funding; public support to farmers education; agricultural sector's own funds, membership fees, direct user payments, production levies (11) and taxes on pesticides (15% in total)
Estonia	public organisations – 15 Local Advisory Centres	(1) medium commercial farms; (2) small commercial farms; (3) subsistence farms	cross-compliance, plant and animal production, environment	various methods are being used, but mainly individual (especially one-to-one on the farms and outside the farm) and group (outside the farm) and also telephone helpdesks, internet and website-tools	mixed funding, but mainly the state budget and farmers
Finland	private organisation ProAgria Group (consists of 17 organisations)	(1) large commercial farms; (2) medium commercial farms; (3) part-time farmers	plant and animal production, environment; business diversification	various methods are being used, but mainly individual and mass	mixed funding, but state budget covers 14% of services costs

Country	Main supplier of advisory services	Main clients	Main topics	Main methods	Main sources of funding
France	FBOs and Chamber of Agriculture	for FBOs service provider: (1) large commercial farms, (2) group of producers; (3) medium commercial farms; for Chamber of Agriculture – the same, but in different rang: (1) large commercial farms; (2) medium commercial farms; (3) groups of producers	for FBOs service provider: plant and animal production, environment, business diversification; for Chamber of Agriculture: rural development, business diversification, environment	all classic traditional methods are used	The AKIS in France is characterised by public investments at national scale in various research and education organisations, and by arrangements and delegation of services with farmers associations, non-profit organisation and private actors for advisory services and applied research. In general the AKIS organisations have mixed funding. The support of AKIS organisations: about 28% of the total budget of the Ministry of Agriculture, 12% comes from CASDAR (special account of tax of agricultural gross income) – its expenditures consists mainly in funding schemes (diversity of calls) and institutional funding (benefits mostly NGOs). Besides these sources of support, there are other public initiatives (e.g. vouchers systems, contracts with chambers of agriculture) for specific projects.
Germany	Depends on German states: 1) general public organisation, 2) agricultural chambers, and 3) private advisory enterprises	Depends on service provider: <ul style="list-style-type: none"> • For public – medium and small commercial farms • For chamber – medium and large commercial farms • For FBOs and private organisations – large, medium and small commercial farms 	Depends on client and service provider: <ul style="list-style-type: none"> – For public – cross-compliance and environment – For chamber – animal and plant production, and rural development – For FBOs – animal and plant production and accounting, and taxes – For private organisations – animal production, stable design and plant production – For NGOs – accounting, taxes, machinery and cross-compliance 	Depends on client and advisory provider: 1) for public, chamber, FBOs and private organisations – mainly individual, group and mass methods, 2) for NGOs – individual methods	Due to federalism, each state has its own policies and regulations which determine the organisation of advisory services in terms of their provision and funding; Generally, for public provider of advisory services – the source of funding is mainly public, for agricultural chambers – mixed funding, for FBOs and private – private funding, for NGOs – mixed funding

Country	Main supplier of advisory services	Main clients	Main topics	Main methods	Main sources of funding
Greece	(a) public organisation; (b) FBOs; (c) private organisation	(a) for public organisation in first place are young farmers, and also medium and small commercial farms; (b) for FBOs – medium and small commercial farms; (c) for private organisation – medium and small commercial farms and semi-subsistence farms; Even, when there are the same clients, usually the range for particular provider can be different	depends on advisory provider – e.g. public provider services concern on plant and animal production , cross-compliance, renewable energy and rural development; FBOs – the same topics and additionally book-keeping, taxes and business diversification; private organisations – like FBOs and additionally stable design	all providers use individual, groups and mass methods	depends on organisation, but in general, for services provided by public organisation it is public funding, by private funding; by FBOs – mixed funding; The approach adopted under FAS specific service, in which farmers are supported up to 80% of advisory cost (maximum to 1500€)
Hungary	there are four main advisory providers – free consultancy (village extension service and Hungarian Chamber of Agriculture), subsidised consultancy (Farm Advisory System), commercial consultancy; input providers (private sector); but the dominant is public organisation (free consultancy)	depends on agricultural service provider, in general medium and small commercial farms	depends on client and advisory provider, but for medium commercial farms the main topics of advisory are: cross compliance, plant and animal production; for small commercial farms – plant and animal production	mainly individual and group	mixed funding, but depends on service provider, i.e. Sub-regional Advisory Centres have a yearly quota for a certain number of individual contracts with producers; producers pay for the service, then can claim back 80% of the contract value; one farmer can receive max. EUR 1,500 during a seven year period (with a limit of EUR 700 per year) and can use the service up to three times during the seven years
Ireland	Teagasc	commercial farms, semi-subsistence and part-time farmers, young farmers	cross-compliance, (agri-) environment, livestock production	various, but mainly group and mass advisory methods; e.g. advice in office, farm visits, group discussions	mixed funding: around 75% of Teagasc's yearly budget comes from Irish exchequer and EU funding, other from own earned income

Country	Main supplier of advisory services	Main clients	Main topics	Main methods	Main sources of funding
Italy	<ul style="list-style-type: none"> - Public organisations (Regional agencies, other local authorities), private organizations, FBOs. - Local networks mainly related to the quality of production. - A greater pluralism and privatisation, emerging new players and different organisations /configurations of the traditional actors 	<ul style="list-style-type: none"> - for private organisations: large commercial farms, agricultural producer groups, and medium commercial farms; - for public organisations: medium and small commercial farms and agricultural producer groups; - for FBOs: the main clients depend on organizations. 	<ul style="list-style-type: none"> - for FBOs: plant and animal production, environment, book-keeping and taxes; - for Private: plant and animal production, business and business diversification an environment. - for Public services: increasing attention to environmental issues and rural development 	<ul style="list-style-type: none"> - FBOs and public organisations use a set of methods – individual, groups and mass; - Private organisations usually use individual methods. - Several experiences of innovative and more participative methodologies. 	<ul style="list-style-type: none"> - The system suffers from a heavy dependence on EU funds, resulting in a lack of continuity without a coherent medium and long-term strategy. - In recent years the economic crisis has led to further cuts in public spending with a downsizing of human resources and facilities, creating further disparities between the Regions. - The services mobilise public funding, private funding and mixed source of funding, depending on the providers.
Latvia	Latvian Rural Advisory and Training Centre (LRATC)	<ul style="list-style-type: none"> (1) small commercial farms (2) young farmers (3) agricultural producer groups 	plant and animal production, book-keeping, taxes	various methods, but the main are conventional individual consultations on or outside far; also telephone helpdesks, small group advices and traditional media: publications, radio and TV; and group discussions	mixed: state and other public and private funding; there is introduced fee for advisory services, too
Lithuania	Lithuanian Agricultural Advisory Service (LAAS), Chambers of Agriculture and Aleksandras Stulginskis University	<ul style="list-style-type: none"> (1) large commercial farms (2) medium commercial farms (3) group of producers 	in general: plant and animal production, cross-compliance, book-keeping, taxes; business diversification	groups discussions, each time in different farm	mixed – (a) in LAAS 13% from state, 87% from private sector: in general, private advisors are paid for the documents prepared for the EU and national support (based on individual projects), for advice on fertilizers, accounting management and other; advisors from Universities are hired under individual projects financed by private funds, associations and the structural funds; private advisors are paid by farmers themselves; (b) in Chamber of Agriculture – advisory services are paid by state

Country	Main supplier of advisory services	Main clients	Main topics	Main methods	Main sources of funding
Luxembourg	three main providers of advisory services: (1) public, (2) Chamber of Agriculture, (3) FBOs	Depending on service provider: (1) public (in general all tax-payers), (2) Chamber of Agriculture mainly large, medium, and small commercial farms, (3) FBOs – large commercial farms, agricultural producer groups, and young farmers	Depending on client and service provider, – general: plant and animal production, book-keeping, taxes, environment, – Chambers of Agriculture provides advisory on plant production for large commercial farms, and cross-compliance for medium commercial farms; rural development for small commercial farms, – FBOs – plant production for large commercial farms and producer groups of animal production (for young farmers – cross-compliance)	Depending on client and service provider, Agricultural Chambers and FBOs are using mainly individual methods	For public – public funding (available for each farmer free); For Agricultural Chamber and FBOs – co-funding (partly public and private and other sources)

Country	Main supplier of advisory services	Main clients	Main topics	Main methods	Main sources of funding
Malta	The public bodies are mainly represented by governmental departments of the Ministry that operate through their own civil servants. The FAS Consortium is the only semi-public bodies and it's officially recognized as a FAS provider. The private (associative) entities or individuals which provide services through their own staff and external advisors.	They can be basically categorized by: the users of the formal FAS, the members of associative bodies and the beneficiaries of RDP measures on capital investments and innovation.	Cooperatives and PO/PGs deliver advice on marketing, innovation and internationalization; Private providers deliver TA, and advice, book-keeping, taxes, renewable energies, waste and water management, RDP access and economic efficiency. The FAS CFAS delivers advice on Cross Compliance.	The public organisations delivery is mainly through wide-open information campaigns on common issues; the semi-public and private entities provide more targeted services through individual and groups methods.	The funding schemes are mainly based on EU/RDP and National Public funds. The budget allocated on knowledge and information transfer is almost 3% of the total allocations on the RDP 2007-2013 of Malta. Very few private advisory companies are paid by farmers and, in some cases, are directly contracted by the Ministry. The associative bodies access to different sources of funding: the RDP, the membership fees paid by the associates, the ordinary national budget, the common marketing organisation (CMO) and the specific funding schemes applied only to POs, and the central cooperative fund (CCF). The FAS Consortium's setting up was supported under the measure 115 and its use is financed through the measure 114.

Country	Main supplier of advisory services	Main clients	Main topics	Main methods	Main sources of funding
The Netherlands	<ul style="list-style-type: none"> - Several private consultancy firms mainly small and specialized in different sectors and/or target groups. - DLV Advisory Group is the largest one (about 500 employees). - Individual professional advisors, 500 are associated in VAB (Ambitious Agricultural Consultants) - LTO Netherlands - Farmers study groups 	<ul style="list-style-type: none"> - Advisory clients are private firms, public institutions and NGOs, including all the agribusiness chain. - The characteristics of main clients depend on advisory provider: for DLV: large and medium commercial farms and subsistence farms. 	<ul style="list-style-type: none"> - Increasing specialization. - Growing offer of non strictly technical advice (e.g. construction, nature management, rural recreational activities, real state,...) and economic advice (including tactic and strategic planning). - Focus on the entire production chain. 	<p>The importance of <i>one to one</i> and <i>tailor made</i> advisory is increasing, however their role depends on the nature of provider (for instance in DLV it accounts for 50% of all business).</p>	<ul style="list-style-type: none"> - The Dutch AKIS is a very dynamic system, presenting private extension services with direct payments from farmers, coupled with state funding for research and with different forms of <i>Public Private Partnership</i> and actors networking. - Growing importance of market mechanisms also in public organizations, such as WUR. - Public investments in knowledge infrastructure decrease and they are more and more focused on key sectors (as evident in the "<i>Top sectors policy</i>").
Poland	Provincial Advisory Centres (ODRs) – public organisation	<ul style="list-style-type: none"> (1) medium and small commercial farms (2) young farmers 	medium and small farms – plant and animal production, book-keeping, cross-compliance, taxes, environment and rural development; young farmers – plant and animal	individual and group	mixed funding – state budget (approx. 56%), funds from other provincial units of public sector (15.2%), EU funds (1.2%), and from service takers – 25.0% (beneficiaries – farmers, businessmen and farmers' organisations)
Portugal	FBOs	depends on service provider, but each organisation has more or less defined target client, i.e. for FBOs: young farmers, small and medium commercial farms	depends on clients and service provider, but for FBOs, as a main provider plant and animal production, cross-compliance book-keeping, taxes, business diversification, environment	mainly individual and group	mixed funding; but each organisation involved as a provider of agricultural advisory, develops efforts to attract funding, through contracts with the government, training programmes supported by public money or charging for service delivery

Country	Main supplier of advisory services	Main clients	Main topics	Main methods	Main sources of funding
Romania	Chamber of Agriculture	depends on service provider, i.e. for Chamber of Agriculture the main clients are: medium and small commercial farms, semi-subsistence and subsistence farms, part-time farmers, agricultural producer groups, young farmers and female farmers	depends on type of client, i.e. for medium and small commercial farms, semi-subsistence farms, producer groups, young and female farmers there is full range of advices; for subsistence farm – only advices connected with rural development; for part-time farmers – business diversification and renewable energy	in general, individual, group and mass methods	mixed funding; the financing of the activity of county agricultural chambers is from the state budget and from own chambers' revenues, coming from specific services provided to farmers and economic operators; The types of services, the fees that are asked for each type of service, as well as the modalities of cashing and utilisation of funds are approved each year, by the county council decision
Slovakia	public organisations (Agroinstitut and Institute for Forestry Extension and Education)	(1) medium commercial farms (2) large commercial farms (3) small commercial farms	depends on client and advisory provider, and mainly topics of advisory concerns: cross-compliance, plant and animal production, environment, rural development	depends on clients, but mainly there are using individual and group methods	in general advisory services are mixed funding; in Slovak Republic does not function any special funding scheme, a part of the services is co-financing by farmers or rural businessmen, in addition to the provided EU funds
Slovenia	Chamber of Agriculture	Small commercial farms, semi-subsistence farms and part-time farmers	Depends on client 1. For small commercial farms – cross-compliance, plant and animal production and environment; 2. For semi-subsistence farms and part-time farmers – stable design, business diversification, and cross-compliance	Individual, group and mass methods	FAS is founded from different sources according to annual plan of service agreed by government. Nevertheless majority of funds is provided from national funds, though its share and total amount for public service is gradually lowering down
Spain	FBOs	It depends on service provider, but for FBOs the main clients are: medium and small commercial farms, and subsistence farms	It depends on client, i.e. for medium commercial farms there are advices on stable design, renewable energy, cross-compliance, book-keeping, taxes; for small commercial and subsistence farms – mainly book-keeping, taxes and cross-compliance	in general individual, group and mass methods	mixed funding

Country	Main supplier of advisory services	Main clients	Main topics	Main methods	Main sources of funding
Sweden	FBO – LRF Konsult, and in some counties CAB	(1) large commercial farms; (2) medium commercial farms; (3) young farmers	book-keeping, taxes; rural development, business diversification, environment	various methods, but the main are individual and group	mixed funding: a large part of public funding comes from the program “Skills acquisition support” and Rural Development Programme and few other programmes, but around 50% advisory costs are paid by farmers
UK	different providers in individual UK countries	large medium and small commercial farms	Varies by service provider and clients, but primarily market-oriented and environment-oriented topics	various methods, but focus on individual consultations and group discussions	State extension service was commercialised in 1980s, privatised in 1990s, now mixed sources of funding

Source: Country reports, 2013

5. Characteristics of Farm Advisory System

Each Member State was legally obliged to set up a national FAS offering advice to farmers. The FAS had to cover at least the statutory management requirements and the ‘good agricultural and environmental condition’ (GAEC) referred to in Articles 4 to 6 of Council Regulation (EC) No 73/2009. However, the field of advice was not limited to cross-compliance standards: the Member States could decide to include other issues. Each national FAS may be run by one or more designated authorities or by private bodies. Since the 2008 CAP Health Check, each Member State was free to decide (on the basis of objective criteria) which categories of farmers will have priority access to the FAS, without any further criteria being laid down at EU level. Farmers use the FAS on a voluntary basis and remain responsible for acting on the advice they receive. The FAS as laid down in the first pillar of the CAP may be funded under the second pillar through two measures (Articles 24 and 25 and recitals 18 and 19 of Council Regulation (EC) No 1698/2005).

From the country reports we learned that in around half of the Member States the FAS specific service was set up as complementary to the existing extension services. In the other cases the FAS was interwoven with the existing extension services.

Generally (in 23 MS), the FAS is coordinated and supervised by public bodies, except Slovenia and Estonia (table 5). Most Member States have established a system for the accreditation of FAS operating bodies and a system for certification of advisors. This role is played in most countries by the Ministry of Agriculture (national or regional) or its subordinate unit or regional authorities.

The cost of consulting services is partially refundable (up to 80% of reimbursement of eligible costs) and the maximum amount is 1,500 euro per household throughout the programming period. The beneficiary (farmer) is required to pay 20% of eligible costs of advisory services and ineligible costs, which include VAT. Farmers had free access to one-to-one on-farm advice (4 MS – Austria, Bulgaria, Latvia, Slovenia), or partially (mixed) contributed to the costs of that advice (20% to 80% of the full cost - 17 MS), entirely covered these costs (real costs, 2 MS - Denmark, Ireland).

In Germany, Italy and Spain cost for farmer differ dependent upon the region.

According to EC regulation no. 1782 of 2003, the official launch dates of FAS the system in EU countries was in 2004-2007.

In 17 Member States the FAS started operating in 2007 but in the rest it was later (10 countries, e.g. Bulgaria, Germany and Slovenia in 2008, Cyprus, Latvia, Poland and UK in 2009, Romania in 2010, Malta and Portugal in 2011).

The Farm Advisory System in EU-27 includes one or more operating organisations e.g. one FAS organisation operates in Austria, Luxembourg and Slovenia – as a Chamber of Agriculture and in Finland – ProAgria Group.

In other countries FAS is created by a set of different operating bodies such as public or semi-public agricultural advisory organisations, research institutions and colleges, private non-profit

and profit firms, individual consultants, farmers' unions, associations, cooperatives, agencies. Because of this reason we identified countries with five different operating body status:

- public – Austria, Bulgaria, UL - Scotland and North Ireland,
- private non-profit - Latvia,
- private profit – Belgium Fl, the Netherlands, UK - England,
- private mixed – Portugal, Denmark, Estonia, Finland, Greece, Malta,
- mixed (private/public) – Belgium Wa., Cyprus, Czech Republic, France, Germany, Hungary, Ireland, Italy, Lithuania, Luxembourg, Poland, Slovakia, Slovenia, Spain, Sweden, UK – Wales.

Measure 114 “Use of Farm Advisory Service” co-financed farmers in 20 MS except: Austria, Belgium Wa., Bulgaria, Finland, France, Ireland and Slovenia.

Additionally measure 115 “Setting up of Farm Advisory Services” was used by two federal states of Germany, some regions in Italy, in Malta, Portugal and Spain.

FAS is an important instrument of the Common Agricultural Policy to support farmers to meet cross-compliance requirements and to create modern and competitive agriculture more quickly. However, it requires organisational and legal changes that will make better use of public funds allocated to subsidise the cost of advisory services to farmers. The surveyed organisations put forward the following suggestions for further legal provisions of FAS at the EU level and at the national level: beneficiaries of consulting services should be advisory entities, and not farmers and forest owners (as it is now); the method of financing the advisory services should be changed to move away from the contribution of farmers; the catalogue of services available to farmers should be expanded to cover all the activities of the RDP or service offers available in the advisory centres and to reduce the complicated process of applying for support; the procedures for applying and for assistance should be simplified and the administrative burden should be reduced; the equality advisory service providers (public and private) should be respected; it would be appropriate to introduce the same requirements for all advisory entities as to qualifications of personnel, material base, the internal service quality control and management control.

Table 5. Organisations and specific features of the FAS in the EU-27

EU-27 Member State	Start-up date of FAS operation (dd-mm-yy)	Name or type and number of operating organisations	Operating body status*	Institutions responsible for FAS		Number of certified advisors	Use of EAFRD measure 114**	Maximum amount per farm in Euros	Cost for farmer ***	Participation of farmers in cross-compliance costs of services %
				Coordinator	Accreditation or certification					
Austria	01.01.2007	9 regional Chambers of Agriculture with 22 district	private non-profit	Federal Ministry of Agriculture, Forestry, Environment and Water Management	MAFEWM	22	No	-	free (in special cases 10-20 Euros)	-
Belgium – Fl.	17.11.2006	10 organisations (SME-s – 9, experimental agricultural station – 1)	private - profit	Regional Ministry of Agriculture and Paying Agency	Regional MA	na.	Yes	1500 1 st request 750 2 nd request	mixed	80 40
Belgium – Wa.	12.12.2007	54 organisations (associations, laboratories from universities, private companies, farmers' unions, brokers supported by the public service of the region)	mixed (private/public)	Regional Ministry of Agriculture	Regional MA	na.	No	-	mixed	-
Bulgaria	03.04.2008 (measure 143) 01.01.2010 (measure 114)	NAAS – National Agricultural Advisory service with 27 regional AAS	public	Ministry of Agriculture and Food, NAAS	MAF	1	No	-	free	-
Cyprus	01.05.2007	Agricultural Extension Service and 6 private consultancy companies	mixed (private/public)	MA, Dept. of Agricultural / Extension Sections	MA, Dept. of Agricultural / Extension Sections	72	Yes	1500	mixed	20
Czech Republic	12.02.2004	260 private advisory companies, 13 local*/regional agencies 3 universities, 3 research institutes 4 farmer based organisations	mixed (private/public)	Ministry of Agriculture	MA and IAEI (Institute of Agricultural Economics and Information)	260	Yes	1500	mixed	20

EU-27 Member State	Start-up date of FAS operation (dd-mm-yy)	Name or type and number of operating organisations	Operating body status*	Institutions responsible for FAS		Number of certified advisors	Use of EAFRD measure 114**	Maximum amount per farm in Euros	Cost for farmer ***	Participation of farmers in cross-compliance costs of services %
				Coordinator	Accreditation or certification					
Denmark	01.01.2006	DAAS and 32 independent local advisory centres in partnership with DAAS, private companies, individual private advisers	private non-profit / private profit	Ministry of Agriculture, Food and Fisheries (MAFF)	Knowledge Centre For Agriculture (KCA)	na.	Yes	na.	real cost	-
Estonia	17.06.2005	15 county advisory centres related to producers' and farmers' unions	private mixed	The Coordinating centre of the Estonian Agricultural and Rural Economy Advisory Service of the Estonian Rural Development Foundation	MA	na.	Yes	1279	mixed	na.
Finland	01.01.2007	ProAgria Group with 210 advisors and 23 individual private advisors	private mixed	Agency for Rural Affairs (MAVI)	MAF	240	No	165 for advice max. twice a year	mixed	na.
France	2007	over 100 of networks in 21 regions with more 300 organisations (farmers associations mainly from the CER France, chambers of agriculture, farmers' cooperatives which also supply inputs to farmers and private firms)	mixed (private/ public)	Regional Authority	DRAF – Regional Directions in Charge of Agriculture	NA	No	-	mixed	-

EU-27 Member State	Start-up date of FAS operation (dd-mm-yy)	Name or type and number of operating organisations	Operating body status*	Institutions responsible for FAS		Number of certified advisors	Use of EAFRD measure 114**	Maximum amount per farm in Euros	Cost for farmer ***	Participation of farmers in cross-compliance costs of services %
				Coordinator	Accreditation or certification					
Germany	01.01.2007	private consultancy firms, chambers of agriculture and government institutions depends on particular federal state	mixed (private/public)	Federal State Authorities	State Ministries of Agriculture	na.	differs upon region (only 2 states Lower Saxonia and Baden-Württemberg) also with measure 115	1500	differs upon region	0-20% (varies among states)
Greece	01.11.2008	30 advisory structures such as agricultural cooperatives or agronomists' companies or advisers and 638 independent agronomists	private mixed	MADF	OPEKEPE (Payment and Control Agency for Guidance and Guarantee Community Aid)	16 structures with 58 advisers and 39 indep. advisers	Yes	1500	mixed	20
Hungary	01.07.2007	51 Technical Advisory Centres which employ or have subcontracts with private advisors, 7 Regional Advisory Centres, based in universities, Agricultural Chamber with regional chambers, NGO's, non-profit and profit enterprises	mixed (private/public)	Ministry of Agriculture and Rural Development (MARD)	MARD	800	Yes	875	mixed	20

EU-27 Member State	Start-up date of FAS operation (dd-mm-yy)	Name or type and number of operating organisations	Operating body status*	Institutions responsible for FAS		Number of certified advisors	Use of EAFRD measure 114**	Maximum amount per farm in Euros	Cost for farmer ***	Participation of farmers in cross-compliance costs of services %
				Coordinator	Accreditation or certification					
Ireland	01.01.2007	Teagasc with 224 approved advisers and 169 private bodies from one-man units to association of 3-5 advisers	mixed (private/public)	MAF	Teagasc	572	No	-	real cost	-
Italy		21 Regional FAS (19 regions and 2 autonomous provinces) operate as private firms, farmers' associations and cooperatives	mixed (private/public)	Regional Authority	Regional Authority	NA	Yes (17 regions) also with 115 measure	differ upon region	NA	NA
Latvia	01.01.2009	Latvian Rural Advisory and Training Centre (LRATC) with Rural Advisory Offices (RAO) in each of 26 regions	private non-profit	MAF	MA	33	Yes	1500	free	20
Lithuania	2009 (A part) 2011 (B&C parts)	Lithuanian Agricultural Advisory Service (LAAS) – 67 advisers, Chamber of Agriculture – 30 Farmer's Training and Consulting Information Centre (FTCIS) - 8	mixed (private/public)	MA	Centre of Leader Programme and Farmers' Training Methodology	105	Yes	1500	mixed	20
Luxembourg	01.12.2008	Agricultural Chamber	mixed (private/public)	MA	NA	NA	Yes	1500	mixed	20
Malta	01.02.2008	Consortium: Ministry for Sustainable Development, Environment and Climate Change, Development Network, private operators	private mixed (profit and non-profit)	MSDEC	MSDEC	NA	Yes and 115 measure	1500	mixed	20

EU-27 Member State	Start-up date of FAS operation (dd-mm-yy)	Name or type and number of operating organisations	Operating body status*	Institutions responsible for FAS		Number of certified advisors	Use of EAFRD measure 114**	Maximum amount per farm in Euros	Cost for farmer ***	Participation of farmers in cross-compliance costs of services %
				Coordinator	Accreditation or certification					
Poland	01.03.2009 (A) 01.01.2011 (B) 01.01.2013 (C)	Agricultural Advisory Centre, 16 provincial advisory centres, 16 agricultural chambers, 16 veterinary inspections, 185 private providers of service for farmers, 271 private and public providers for forest holders	mixed (public/private)	Ministry of Agriculture and Rural Development	Agricultural Advisory Centre (CDR)	3735 + 382 forestry advisers	Yes	1500	mixed	20
Portugal	29.12.2008	150 organisations of which 140 have partnership led by national or regional organisations (CAP, CON FIAGRI, CNA, FATA, CNJ), 10 individual operating bodies (AATM, AJAP, ANPEMA, ATEVA, ANCRA)	private mixed	The National Management Authority of MA	NA	521	Yes and 115	1500	mixed	20
Romania	01.01.2007	has not been operated								
Slovakia	25.01.2007	102 advisory agency advisers acting individually	mixed (private/public)	MARD – National Council for FAS	Agroinstitút Nitra and IFEE in Zvolen	131	Yes	1500	mixed	20
Slovenia	01.12.2006	The Chamber of Agriculture and Forestry (CAFS) with 8 regional agriculture and forestry institutes and 59 local units	mixed (private/public)	Chamber of Agriculture	Chamber of Agriculture	688 forestry experts	No	-	free	-
Spain	01.01.2006	171 non-profit organisations, 21 private profit firms, 2 public	mixed (private/public)	MA and Regional Councils' for Agriculture	NA		Yes and 115 measure	1500	several system	NA
Sweden	01.01.2007	The Rural Agricultural and Economical Societies in 18 regions, Vaxa and LRF	mixed (private/public)	Swedish Board of Agriculture	Swedish Board of Agriculture	150	Yes	1500	mixed	30

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				Coordinator	Accreditation or certification					
the Netherlands	01.11.2005	45 accredited private operating bodies in 2013	private profit	Ministry of Economic Affairs (MEZ)	MEZ	NA	Yes	1500	mixed	50
UK - England	2005	Natural England	private profit	DEFRA (Department for Environment, Food and Rural Affairs)	Natural England	na.	Yes	1500	mixed	20
UK – North Ireland	01.01.2007	College of Agricultural, Food and Rural Enterprise (CAFRE)	public	DARD (Department for Agricultural and Rural Development) through committee the “Helping farmers Comply Forum” (HFCF)	DARD	na.	Yes	1500	mixed	20
UK – Scotland	01.01.2007	SAC / SRUC	public	The Scottish Government	The Scottish Government	na.	Yes	1500	mixed	20
UK – Wales	01.01.2007	Welsh Government	mixed (private/public)	Welsh Assembly Government	Welsh Assembly Government	na.	Yes	1500	mixed	20

* public, private non-profit, private profit, private mixed, mixed (private/public)

** measure 114 – co-financing farmers’ “Use of Farm Advisory Services”, measure 115 - co-financing “Setting up of Farm Advisory Services”

*** real cost, free of charge, mixed (farmer and EAFRD), several systems (including participation of national or regional funds)

List of tables

Table 1. Overview of the AKIS organisations in surveyed EU countries.....	35
Table 2. The crucial dates and events in the development of advisory systems in surveyed EU-27 countries	40
Table 3. Main factors of advisory services in surveyed EU countries	83
Table 4. The essence information on advisory services in surveyed EU-27 countries.....	86
Table 5. Organisations forming FAS in the EU-27	99

ⁱ E.g. parastatal organisations such as Agri-Food and Biosciences Institute, Technology Strategy Boards, and some National Park Authorities employ advisors

ⁱⁱ Different numbers provided by different informants. Includes figures for private advisory companies. 169 is the number of advisors registered as FAS private operating bodies

ⁱⁱⁱ Number of advisors per consultancy

^{iv} This figure is based on the number of responses in the survey of advisory organisations. There were 55 responses who classified themselves as private organisations and who employed 410 advisory staff in total (range from 1 to 70). This is therefore the minimum number of consultants and companies that exist across the UK.

^v Includes levy bodies and trade associations

^{vi} Includes land manager representative bodies such as farmers unions, associations for crofters, young farmers, organic producers etc.

^{vii} The information for the UK is based on the survey carried out for the country report with a total of 80 responses over all categories of advisory organisations. The results are NOT representative for each of the four UK countries