



Prospects for Farmers' Support:
Advisory Services in European AKIS

PRO AKIS COUNTRY REPORT

ESTONIA

Viola Korpa & Talis Tisenkopfs



Baltic Studies Centre, Riga

July, 2013

Table of Contents

List of acronyms	3
Summary	4
1. Main structural characteristics of agricultural sector of the country	5
2. Characteristics of AKIS	7
2.1 AKIS description	8
2.2 AKIS diagram	13
3. History of the advisory system	14
4. An outline of the agricultural advisory service(s)	17
4.1 An overview of all service suppliers	17
4.2 The main public policies, funding schemes and financing mechanisms	17
4.3 Methods and Human resources	17
4.4 Clients and topics / contents	18
4.5 Linkages with other AKIS actors / knowledge flows	19
4.6 Programming and planning of advisory work	20
5. Characteristic of Farm Advisory System (FAS)	20
5.1 Main organisations forming FAS	20
5.2 Evaluation of the implementation of FAS	21
6. Summary and Conclusions	21
6.1 Summary and conclusions on AKIS	21
6.2 Summary and conclusions on advisory services and FAS	22
7. Acknowledgement of partners and methodological reflections	23
8. References	24
9. Appendices	26

List of acronyms

AKIS	Agricultural knowledge and information systems
ARIB	Estonian Agricultural Registers and Information Board
CAP	European Union Common Agricultural Policy
CC	Cross compliance
ERDP	Estonian Rural Development Plan
ESU	European Size Units
EU	European Union
FADN	Farm Accountancy Data Network
FAS	Farm Advisory System
GDP	Gross domestic product
LAGs	Local action groups
NGO	Non-Governmental Organisation
NRN	National Rural Network
R&D	Research and Development
RDF	Estonian Rural Development Foundation
RDP	Rural Development Plan
RDS	Rural Development Strategy
UAA	Utilised agricultural area

Executive summary

The aim of the report is to provide a comprehensive description of the Agricultural Knowledge and Information System (AKIS) in Estonia, with a particular focus on agricultural advisory services. The description includes main structural characteristics of agricultural sector, characteristics of AKIS, overview of history, policy and funding of AKIS, and outline of Farm Advisory System.

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

Estonian agriculture is characterised by high degree of concentration of production in relatively small number of efficient and modernised commercial farms. There were 19 613 agricultural holdings in Estonia in 2010 and 5% of these holdings accounted for three quarters of the total agricultural output. Plant product output counts for 49 %, and animal product output for 48% of gross value added of agriculture.

In Estonia, the different components of AKIS have been made available to the producers and other interested parties. Agricultural advisory and extension system is decentralised with 15 local advisory centres which since 2010 are coordinated by the Rural Development Foundation. The centres are both publicly and privately funded. The role of advisory centres is to provide individual advisory service and information to local agricultural producers and farmers. As of 1 May 2013, there were 109 certified advisers in agriculture, 67 advisers in forestry, and 8 advisers in community development. Independent private companies and consultants from abroad are also visible on advisory market. Research and education actors include the Estonian University of Life Sciences, several research institutes and 10 vocational agricultural schools which offer also advice to farmers. There are different agricultural and rural organisations and societies engaged in knowledge exchange (Estonian Farmers Federation, Estonian Village Movement Kodukant and other) through regular activities and innovative projects. There are about 100 agricultural cooperatives in Estonia providing information and advice to their members.

The linkages between various AKIS actors are though quite weak and the Ministry of Agriculture as the main governing institution has recently made efforts to stimulate cooperation among various parts of AKIS, especially the links between research, advisory system and active farmers. The stance is to develop advisory system as the main intermediary for transfer of

research results to active farmers and food industry and, vice versa, to communicate the needs and problems of farmers to research organisations.

1. Main structural characteristics of the agricultural sector of the country

The total population in Estonia was last recorded at 1.3 million people in 2012. Estonia's territory is 45 227 square km. Population density is 31 inhabitants per square km. Estonia has 14,331 square km of agricultural land and 20,155 square km of forest. 31% of the population lives in rural areas. Agriculture has been an important sphere of activity and a source of income for Estonians all throughout its history. The agriculture's contribution to employment was 4.2 % in 2010. The GDP per capita has been growing significantly. The data of the last three years shows that the amount has been improved by more than a thousand EUR each year. In comparison it was 10 700 EUR in 2010 and 12 700 EUR in 2012. The percentage of agriculture's contribution to GDP in 2010 was 3.54 %.

The results of the Agricultural Census (Valdvee, 2012) show that Estonian agriculture is concentrating in large agricultural holdings. Also, a significant share of agricultural land is rented. According to the data of the Agricultural Census there were 19 613 agricultural holdings in Estonia in 2010 whereas 5% of these holdings accounted for three quarters of the total agricultural output of Estonia. In 2007 there were 23,257 agricultural holdings, thus in three years the number of holdings had decreased 16%. According to the data of the Agricultural Census 2010, 940,930 hectares of agricultural area was in the possession of agricultural holdings in Estonia. In terms of legal form of ownership of the holdings an increasing number of holdings prefer to operate as legal persons. The number of holdings of legal persons (limited liability companies, public limited companies) has increased twice. In terms of the number and size of agricultural holdings clear regional differences can be observed. The share of small holdings is the largest in South Estonia and on islands. At the same time the share of large holdings is largest in Lääne-Viru, Järva and Viljandi counties. Consequently, the average size of holdings differs by counties. The average area of large holdings is 585 ha. The average area of smaller holdings accounting for three quarters of the holdings in Estonia is only slightly less than 10 ha. The average Utilised Agricultural Area (UAA) per holding is 47.98 hectares. The share of specialist holdings is very large in Estonia – 65% of holdings are specialist holdings and produce 88% of Total Standard Output. Holdings of field crops type of farming and holdings of grazing livestock type of farming account for the biggest share in the total holdings, 35% and 24%, respectively (Agriculture and Rural Life 2012).

Direct payments from the EU budget and complementary direct payments from Estonian state budget are paid to agricultural producers to support their income. The level of direct payments in Estonia is one of the lowest in EU - 42% of the EU average in 2013. The number of agricultural holdings receiving direct payments in 2009 is 20,373 and the received amount in EUR is 190,677,463. There are 7,520 Farm Accountancy Data Network (FADN) holdings in Estonia. More specifically 4,602 holdings < 8 European Size Unit (ESU), 1,057 holdings in the 8-16 ESU group, 857 holdings in the 16- 40 ESU group, 414 holdings in the 40-100 ESU group and 320 holdings in the >100 ESU group.

Managers of agricultural holdings are quite old, only a quarter of them are less than 54 years of age and 52% are more than 55 years of age (of which 28% are more than 65 years of age, i.e. in pension-age). At the same time the age of managers is also related to the size of a holding - the larger the holdings, the smaller the number of pension-aged managers and the higher the number of managers within the age group 35–54. In small holdings a third of the managers is at least 65 years old, in large holdings their share is only 8% (Valdvee, 2012). Most of the managers of holdings (65%) does not have any special agricultural education. 23% of the managers have undertaken formal agricultural training, i.e. agricultural higher education (incl. applied higher educational establishments and technical high schools) and 14% of managers have completed basic agricultural training. Since 2001 the number of persons engaged in farm work, as well as their labour input, has decreased proportionally to the decrease in the number of holdings, almost 60%. In 2001 140,600 persons were engaged in farm work in agricultural holdings whereas in 2010 the respective number was 57,800. Most of them (39,700) were family labour force, 12,900 were regular employees and 5,200 non-regular employees who were only temporarily involved in

seasonal or other temporary work. Thus, family labour force, regular employees and non-regular employees account for 69%, 22% and 9% of the persons engaged in farm work, respectively. As a result of the decrease in the number of holdings family labour force has decreased almost threefold (by 70,000 persons in the last decade). At the same time, the number of regular employees has decreased only by a quarter (by 4,400 persons). Slightly more than a quarter of all persons engaged in agricultural holdings (28%, i.e. 14,700 persons) have a full-time job in the holding. 9,100 persons, i.e. 62% are full-time regular farm workers and the rest is full-time family labour. Other persons engaged in farming work part-time. The share of labour input of regular employees has steadily increased. It can be said that the EU agriculture is mostly based on family labour force; however, it is not the case in Estonia any longer. This can be interpreted as a characteristic of capitalist mode of production in Estonian agriculture.

According to the preliminary figures of the Ministry of Agriculture (Agriculture and Rural Life 2012), total output of Estonia's agricultural sector went up by 10% y/y to EUR 885.5 million in 2012. Plant product output makes up 49%, animal product output 48% and agricultural services 3%. Gross value added of the agricultural sector was nearly 346 million EUR, up by 11 per cent in annual comparison. 68% of the agricultural area is arable land, almost 32% accounted for permanent grassland, 0.3% permanent crops and 0.2% kitchen gardens. 40% of the permanent grassland, i.e. 12% of the total agricultural area was maintained as permanent grassland not used for production purposes. The most important arable crops were cereals and protein crops (30% of the agricultural area), forage crops on arable land (22%) and industrial crops (11%). Compared to 2001, the area of industrial crops (mainly oilseed rape) has increased 2.5 times. At the same time the area of potatoes in agricultural holdings has decreased from 16,000 hectares to 6,000 hectares. Together with the disappearance of smaller holdings there has also been a decline in the area of kitchen gardens, where vegetables, fruits and berries are grown mainly for own consumption (from 12,600 hectares to 1,700 hectares). In 2011 crop production accounted for 46% of the gross agricultural production. Cereal production as the main supplier of livestock production sector contributed 37% of the total crop production, followed by forage crops with 19%, oilseed (oilseed rape, turnip rape, flax) 19%, vegetables 14%, potatoes 8% and other crops of minor importance. The total cereal production in 2011 (1,000 tonnes) was 771.9. The highest indicators have been shown in the production of barley (294 000 tonnes) and common wheat (201 000 tonnes). According to Statistics Estonia (www.stat.ee) as at 31 December 2011 238,000 cattle (incl. 96,000 milk cows), 366,000 pigs, 88,000 sheep and goats and 2,033 million poultry were recorded in Estonia. According to Statistics Estonia 695,000 tonnes of milk was produced and the average milk production per cow was 7,136 kg/year. Although the number of herds, as well as dairy cows has decreased year by year, total milk production has increased as a result of growth in productivity of dairy cows. In 2011 80,600 tonnes of beef meat (deadweight) was produced showing an increase of 7% compared to 2010. Pig meat accounted for 62%, poultry 22%, beef 15% and sheep and goat meat only for 1% of the total meat production. In 2011 185 million eggs were produced in Estonia showing a 2% rise compared to 2010. Organic farming has developed actively over the past years in Estonia. Since the introduction of the support for organic production, the area of organic farmland has grown, also, the share of organic farmland in total utilised agricultural area has constantly been increasing. In 2011 the area of organic farmland was 134,000 ha contributing to 14% of the total utilised agricultural area. Since 2001 the area of organic farmland has increased almost seven times. The number of organic producers has also increased year by year. According to the Organic Farming Register 1,431 organic producers were registered as at the end of 2011 showing almost a fourfold increase compared to 2001 (Palts, 2012).

According to the World Bank data (<http://data.worldbank.org/indicator/AG.CON.FERT.ZS>) in 2009 the use of fertilisers in Estonia was 69.46 kilograms per hectare of arable land. Since 1990, the usage of pesticides has abruptly decreased. In recent years the use of plant protect products has increased in Estonia being 0.62 kg/ha (active substance) in 2005. In the years from 1990 to 2010 Estonia has experienced a drastic change in the ammonia emissions. The change in these years was – 60.0%. Area under management practices potentially supporting biodiversity has grown in the last 5 years. In 2005 it

was 7.2, but in 2010 it had reached a much higher number - 12.8. There has also been a change in the Gross Nitrogen Balance. In 2004 it was 65 kg N per ha agricultural land, but in 2008 it was 78 kg N per ha agricultural land.

2. Characteristics of AKIS

The Estonian knowledge and information system is composed of research, extension and educational organisations, structured and governed by the government through a sectoral agricultural policy.

The *Estonian Rural Development Plan 2007–2013* (<http://www.agri.ee/rdp>) (hereinafter ERDP) plays a significant role in promotion of rural life in general and in the dissemination of research information. The ERDP was prepared to support the regionally balanced development of rural areas through the European Union Common Agricultural Policy (CAP) measures. Through the ERDP a set of measures that include training, information and knowledge dissemination is available to different components of AKIS. An important role in financing the AKIS is the measure called “training and information activities.” This measure enables all AKIS components to apply for a subsidy to bring the necessary state and research information to the agricultural producers (farmers), food processors and private forest holders (Estonia - Agricultural knowledge systems, 2011). According to a study of rural entrepreneurs conducted by the Estonian University of Life Sciences, they listed other entrepreneurs as an important source of information just after the media and the Estonian Agricultural Registers and Information Board. In some regions in Estonia, such regular producer meetings are already held.

The Estonian Agricultural Research Development Plan 2007–2013 foresees continued involvement in the following areas by institutions that fall under the tutelage of the Ministry of Agriculture: plant breeding; developing environmentally friendly and effective plant breeding technologies; rural economy and its sustainable development; research on the protection and monitoring of the agricultural environment; food safety and biological diversity.

Concerning the extension service, Estonia has taken important steps to introduce rules of cross compliance. Various methods to inform agricultural producers in Estonia have been developed, e.g. trainings for advisers and farmers, advisory tools, handbooks, the web-page <http://www.pikk.ee/valdkonnad/nouetele-vastavus>, and booklets. Throughout the years the main objectives have been to ensure the development of an effective agricultural science which involves doctoral students, increases the number of agricultural research programmes, and helps to co-finance and integrate more Estonian researchers in international projects. Another priority has been to ensure a well-functioning farm advisory system to meet the needs of target groups and raise the number of clients. A major priority of the Estonian extension services is the improvement of the competitiveness and sustainability of the agricultural and rural economy sectors. This includes the developing co-operation between FAS and the R&D institutions, assurance of the availability of advisory service, and the dissemination of the state and research information. Nevertheless these priorities have not been communicated effectively over the last ten years. A study issued in 2009, *Possibilities of the development of the Estonian FAS*, in which the system was thoroughly analysed, represented a turn-around. It pointed to possible directions for the development of FAS, advising that the state establishes national priorities and a set of sub-priorities, and clearly outlines the state’s interests concerning FAS.

Changes in the above mentioned areas have made the principles of AKIS more solid and apparent. The co-operative approach is acknowledged among stakeholders. Different parties recognise the sharing of information and combining their competencies as a contribution to an outcome that has more added-value and creates additional synergies. Despite that, the effective functioning of AKIS needs the input of different parties and here the contribution or willingness to participate varies among those involved. The

readiness to be an active player in the AKIS framework depends on the financial resources, working culture and acquired knowledge (Estonia - Agricultural knowledge systems, 2011). In order to address some of these issues and due to the very low expenditure on research and development activities in the whole sector of Estonian processing industry, in comparison with the EU average, the Estonian Ministry of Agriculture has implemented the measure to foster and improve co-operation in the development of new products and technologies in such sectors of agriculture as food and forestry. The measure may be applied to enterprises which co-operate either with R&D institutions, vocational educational institutions, technology development centres or persons having sufficient qualification for participating in the project as a developer or consultant. In addition, the principle of co-operation is promoted via the clause that some support and investment measures are granted to commercial co-operatives and non-profit organisations which must have a certain number of member organisations. The idea and purpose are to improve the position of co-operative organisations and thus create a culture of co-operation.

2.1 AKIS description

In Estonia, the different components of AKIS have been made available to the producers and other interested parties. The Estonian AKIS is organised as follows:

Governmental and coordination actors

- At the government level, *the Estonian Ministry of Agriculture* (<http://www.agri.ee/home-2>) is responsible for the AKIS and governs the extension services and R&D institutions, with the exception of the universities (www.oecd.org/dataoecd/52/17/49150895.pdf). Regarding extension services the roles of the Ministry are as follows: setting legal and financial frames for the advisory system; setting up conditions and selection of the advisory centres; managing measures of the Estonian Rural Development; plan for advisory support and training activities; working out the framework of advisory services and tools on Cross Compliance and Occupational Safety issues; carrying out studies on the FAS.
- *Estonian Agricultural Registers and Information Board* (ARIB) (*Põllumajanduse Registrate ja Informatsiooni Amet*) was established as a government agency working in the area of administration of the Ministry of Agriculture on the basis of the Agricultural Registers and Information Centre. Establishment of the new agency was necessary in order to prepare and implement the SAPARD programme in Estonia. ARIB's functions are to maintain the register of farm animals as well as the register of agricultural supports and agricultural parcels and to allocate different agricultural supports. The aims of the consultation system are to develop agriculture through competent advice, to distribute national information and support measures associated with membership of the European Union. The rural development plan also provides an opportunity to support training and reporting activities. The activities supported include training and information days, training itself and training cycles, courses, conferences and study excursions for those operating in the agriculture, food and forestry industries. Aid can be applied to both organise and participate in activities. The use of supervisors and the gaining of professional qualifications are also supported. The production, purchasing and updating of information and training materials are also included under support. The main target group for consultation and training support is producers involved in the production or processing of agricultural products and their workers or companies and individuals involved in forestry. The number of ARIB employees is in 2013 370 people, from whom 269 people are working in the main office in Tartu and the rest in 15 service-offices in all Estonian counties (<http://www.pria.ee/en/about>).

- *Agricultural Board of Estonia (Põllumajandusamet)* is a governmental authority active in the area of government of the Ministry of Agriculture, which possesses the management function and executes state supervision and applies the enforcement powers of the state in the areas of land improvement, plant protection, plant health, plant variety rights, seed and plant propagating materials, organic farming, fertilisers and horticultural products pursuant to and in the scope prescribed by law. The Board is financed from the state budget (<http://www.pma.agri.ee/index.php?id=102&sub=174>).
- *Estonian National Rural Network (Eesti maaeluvõrgustiku üksus)* aims to facilitate flexible, open-minded and gradual development, with bottom-up initiatives based on needs and developed through cooperative activity among rural actors. The Estonian Rural Network Unit was established by the Rural Economy Research Centre (an authority under the administration of the Ministry of Agriculture) in 2008. The membership is not formal but involves bodies representing programme beneficiaries and organisations and authorities engaged in rural development including RDP implementation - Chamber of Agriculture and Commerce, numerous agricultural bodies and associations, Private Forest Union, council of environmental NGOs, Ecological Engineering Centre, rural village movement Kodukant, Association of Rural Municipalities, rural tourism, non-profit organisation networks, association of small- and medium enterprises, EUROPEA, Estonian University of Life Sciences, University of Tallinn, Pärnu College (University of Tartu), and associations including agricultural and forest management advisers, environmental protection, cultural heritage protection, social inclusion organisations and Local Action Groups (LAGs). In the years of Rural Network start-up, leader activities make up ca 90% of the action plan activities, now also the extension of the activities directed to farmers, environment and village improvement (axis 1, 2 and 3) are wider involved. Rural network operates in the form of interactive web-environment and organise meetings, seminars and workshops on a regular basis for the participants of rural network. The duties of the National Rural network include the following: exchange of the relevant expertise, support for the implementation, monitoring and evaluation of rural development policy, co-ordination of information flow between the local, national and European levels: identification and analysis of positive experience gained and innovative approaches applied in the implementation of Rural Development Strategy (RDS) and Rural Development Plan (RDP), exchange of information; organisation of rural network activity and of the exchange of experience and know-how; establishment of a training programme for local action groups; support for internal and trans-national co-operation (incl. the establishment and administration of a relevant website, organisation of seminars and other events, finding co-operation partners, the establishment of the database of experts, advice to local action groups, etc.) (<http://www.maainfo.ee/index.php?page=3441>).
- *Estonian Rural Development Foundation (RDF) - Coordinating Centre (Maaelu Edendamise Sihtasutus, MES)* was founded by the Government of the Republic of Estonia in 1993. The foundation issued guarantees to banks for credits granted to farmers and other entrepreneurs in Estonian rural areas. Today the purpose of the Foundation is to support economic development in Estonian rural areas via specific programmes implemented for promoting business activities in those areas. The Foundation's specific programmes are aimed at expanding the availability of financial resources, supporting balanced development in rural areas, disseminating information on rural life, maintaining cultural traditions, supporting vocational education, and building the image of rural life with a view of improving the business environment and creating better living conditions in rural areas. From the beginning of 2010, the RDF coordinates the system of agricultural and rural advisory services in Estonia. The Farm Advisory System is being coordinated by the Agricultural and Rural Economy Advisory Coordinating Centre, which has been designated to ensure the functioning of the Farm Advisory System, including the

dissemination of information on state measures and the availability of quality advice. The Coordinating Centre provides occupation for area coordinators (crop farming, livestock farming, finance and rural development), whose responsibility it is to give local advisory centres information, organise trainings and in-service trainings for advisers etc. The centre prepares action and training plans, analyses advisers' work, applies a simplified advising system, organises the payment of advisers' basic fee, implements a mentoring system and maintains the www.pikk.ee portal. It also develops advisory tools and advertises advisory services, seeks possibilities to cooperate with other organisations, looks for new advisers, etc. (<http://www.mes.ee/en>).

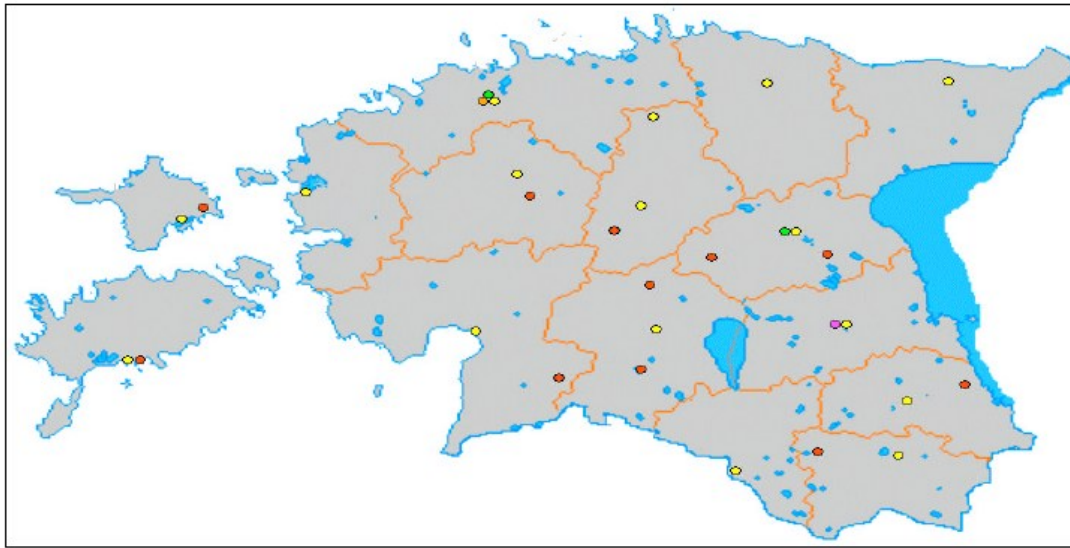
Advisory and extension actors

- ❑ The history of extension services in Estonia dates from 1989 and has evolved since. Several changes have been made in extension services (co-ordinating and financing). In Estonia there is a decentralised system with 15 local advisory centres which was initially coordinated by Estonian Chamber of Agriculture and Commerce, but since January 2010 there have been a new coordinator – the Rural Development Foundation. The role of advisory centres is to provide individual advisory service and information to local agricultural producers and farmers. As of 1 May 2013, there were 109 advisers 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 were 67 and in the field of community development 8 advisers with a valid professional certificate. Responsibilities of the advisory services are as follows: guarantee the access to individual advisory; service and information distribution in the area; organise informational events – training days; collect feedback from the producers and forward it through Coordinating Centre to politicians, ministry, researchers, etc.; teamwork to develop the whole system.
- ❑ Independent private advisers and consultants from Estonia and abroad also offer advisory services for farmers and agricultural producers.

Research and Education Actors

- ❑ In Estonia, agricultural research is carried out mainly by the Estonian University of Life Sciences (Eesti Maailikool), Jõgeva Plant Breeding Institute (Jõgeva Sordiarituse Instituut), the Estonian Research Institute of Agriculture (Eesti Maaviljeluse Instituut), The Rural Economy Research Centre (Maamajanduse Infokeskuse), Agricultural Research Centre (Põllumajandusuuringute Keskus), the University of Tartu (Tartu Ülikool) and Tallinn University of Technology (Tallinna Tehnikaülikool)
- ❑ Regarding agricultural education in Estonia, it is possible to study the specialties related to agriculture, handling of food and rural life in 10 vocational educational institutions (e.g. Olustvere School of Service and Rural Economics, Järvamaa Vocational Education Centre, Räpina Gardening School, Luua Forestry School, Pärnumaa Vocational Education Centre, Põltsamaa Occupational School, Hiiumaa Vocational Schools, Kehtna Economy and Technology School, Kuressaare Regional Training Centre, The Vocational Education Centre of Tartu) and at the Estonian University of Life Sciences and at the Tallinn University of Technology. All vocational schools have created continuing education and retraining possibilities for adult learners. The Estonian Rural Development Foundation pays a scholarship to students of agricultural study programmes

Map 1.1 Research and development institutions, advisory centres and educational institutions



●	Research institution		
●	Vocational school		
●	Advisory centre		
●	Estonian University of Life Sciences		
●	Agricultural Research Centre		

Source: *Estonian Rural Development Plan 2007-2013*

Associations, unions and co-operatives

There are different associations, unions and societies that unite the farmers and producers working within the same field of agriculture (dairy, animal breeding, beekeepers, etc.). Different kinds of co-operation are also promoted through ERDP, e.g. LEADER and producers' cooperatives in general. Organic food producers have their own co-operative network.

- ❑ *The Estonian Chamber of Agriculture and Commerce (Eesti Põllumajandus-Kaubanduskoda)* has united agricultural producers and their unions, processors of agricultural products and their unions and companies providing services to the agricultural sector since 1996. Its activities are aimed at ensuring balanced development within the agricultural production sector, the processing industry and the sector providing services to rural life. In order to achieve this, support is given to cooperation between local producers and processors and to trade in agricultural products in internal and external markets, and members are represented within a range of structures both national and international (http://www.epkk.ee/index.aw/set_lang_id=2)
- ❑ Local advisory services have founded a *NGO named the Estonian Rural Advisory Service (MTÜ Eesti Maaelu Nõuandeteenistus)*

- ❑ There are about *100 agricultural co-operatives in Estonia* (e.g. *Kevili Agricultural co-operative (Põllumeeste ühistu KEVILI)*, *Talukartul*, *Aiavili MTÜ*, *Eesti Mahe*, *Epiko (Eesti piimatootjaid koondav tulundusühistu)* - the umbrella co-operative in dairy sector, *E-piim*)
- ❑ *Associations: Estonian Horticultural Association (MTÜ Eesti Aiandusliit)*, Estonian Dairy Association (Eesti Piimaliit), *Estonian Seed Association (Eesti Seemneliidu)*, Estonian Pigs Breeding Association (Eesti Tõusigade Aretusühistu), *Estonian Beef Breeders Association (Eesti Lihaveisekasvatajate Selts)*, *Viru Meat Association etc.*
- ❑ *Unions: Central Union of Estonian Farmers (Eesti Põllumeeste Keskliit)*, *Estonian Farmers Federation (Eestimaa Talupidajate Keskliit)*; *Union of Estonian Young Farmers, Valga County Farmers Union (Valgamaa Põllumeeste Liit Valga)*, *Viru Farmers Union (Virumaa Põllumeeste Liit)*, *Türi Farmers Union (Türi Talunike Liit)*, *Farmers Union of Tartu County (Tartumaa Põllumeeste Liit)*, *Farmers Union of Rapla County (Raplamaa Põllumeeste Liit)* *Estonian Organic Farming Foundation (Eesti Mahepõllumajanduse Sihtasutus) etc*
- ❑ Regarding forestry there are several important actors in Estonia: *The Estonian Private Forest Union (Eesti Erametsaliit)* - an umbrella organisation for local forest owner associations. Forestry advisers' activities are coordinated and financed by *the Foundation Private Forest Centre (Erametsakeskus)*

Some other actors should be mentioned regarding Estonian AKIS

- ❑ *Estonian Village Movement Kodukant (Eesti Külaliikumine Kodukant)*
- ❑ *The Estonian Environment Information Centre (Keskkonnaagentuuri)*,
- ❑ *The Estonian Council of Environmental NGOs (Eesti Keskkonnaühenduste Koja)*
- ❑ *Estonian Association of SMEs (Eesti väike- ja keskmiste ettevõtjate assotsiatsioon)*_____

2.2 AKIS diagram

ESTONIA

RESEARCH

Agricultural research is mostly carried out by:

- Jõgeva Plant Breeding Institute (plant breeding)
- Estonian Research Institute of Agriculture (plant production and protection, soil, feed and food quality and safety)
- Estonian University of Life Sciences (EMÜ) - (animal husbandry, veterinary, economy, sociology, environment, plant sciences, food sciences)
- University of Tartu - (environmental sciences, biology)
- Tallinn University of Technology - (biotechnology, food sciences)
- Agricultural Research Centre (state agency)

The instruments of the **Estonian R&D funding system** are:

- funding of research and development infrastructures
- targeted financing in fundamental research
- baseline funding
- research grant funding for short term study projects and innovative projects
- national research and development programs
- Rural Development Plan 2007-2013 – cooperation in the development of new products, processes and technologies in the sectors of agriculture, food and forestry

Ministry of Agriculture finances agricultural applied research through national programmes:

- Applied Research and Development in Agriculture 2009-2014
- National programme for plant breeding 2009-2019
- Conservation and Utilization of Plant Genetic Resources for Food and Agriculture 2007-2013

EXTENSION SERVICE

Decentralised Farm Advisory System

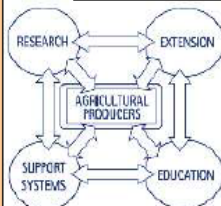
- 15 local advisory centres
- coordinating centre – Rural Development Foundation
- ca. 200 qualified advisors (incl. animal husbandry, crop production, financial advice, forestry, etc)

The system is **financed** by

- the state budget and Rural Development Plan
- the agricultural sector

The **history** of the extension services

- goes back to 1989
- is in changing process ever since



EDUCATION

Higher Education (agriculture, forestry, food industry, etc):

- Estonian University of Life Sciences (EMÜ) - (animal husbandry, veterinary, economy, sociology, environment, plant sciences, food sciences);
- University of Tartu - (environmental sciences, biology);
- Tallinn University of Technology - (biotechnology, food sciences).

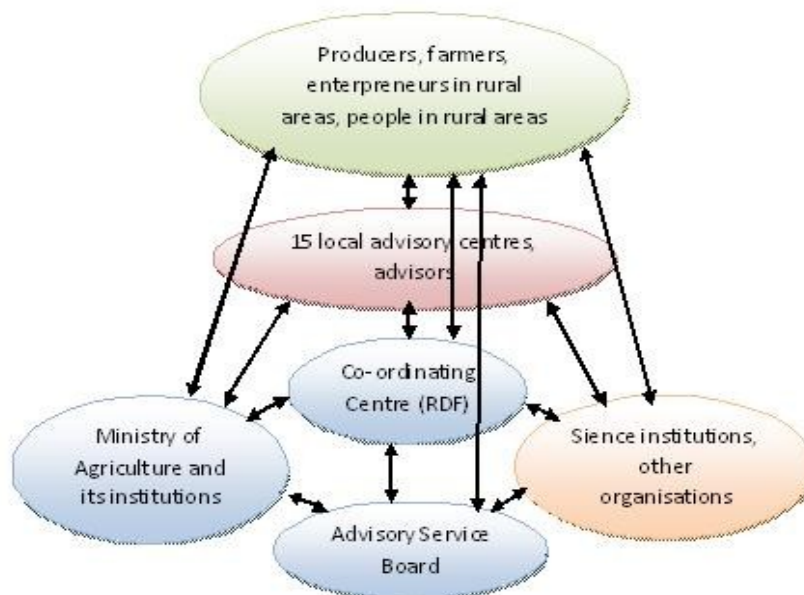
Vocational Education

- 10 vocational schools providing education in the fields of agriculture, horticulture, forestry, food industry (30 in total)
 - vocational education without the requirement for basic education
 - vocational education based on a basic education
 - secondary vocational education studies - based on basic education, a secondary education is acquired in addition to the vocation
 - vocational education based on secondary education
 - vocational study in basic schools and upper secondary schools

SUPPORT SYSTEMS

- Estonian Museum of Agriculture
- Estonian Dairy Museum
- The Farm Museum of C.R.Jakobson
 - organize activities for families and children to promote the rural life and agriculture
 - organize conferences in cooperation with research institutes
- Laboratories, inspectorates, boards, centres and offices within the jurisdiction of Ministry of Agriculture
- Farmers Unions and associations
- Agencies and organisations in the field of agriculture
- Societies and cooperatives
- Commercial agencies and firms (trainings, consultations, etc)

Source: Updated version from www.solinsa.org/fileadmin/Files/Int_diss_seminar.../AKIS_Estonia.pdf



Source: <http://www.balticdeal.eu/advisory/estonia-3/>

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 make advisory system as a link between research and active agriculture, where through advisers the research results could be transferred to active farmers and food agents. And vice versa that through advisers the problems of active agriculture also could reach the researchers and organisers of training. The advisory system must ensure both an effective information flow from producers to researchers and feedback from researchers to producers. 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 the 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.

3. History of the advisory system

During the Soviet period, extension activities were based on the activities of agricultural and veterinary research institutes and experimental stations. The extension units called Agricultural Administration, located at regional administrative bodies, served as the main extension agencies, and the people working there used to be more administrators than specialists (Kreen, 2000). Estonia experienced an economic transition and reform of the agricultural sector at the end of the 1980s and in the early 1990s. Restructuring the economy and agricultural sector required new types of services which included advisory services. The history of extension services in Estonia dates from 1989 and has evolved since. It is possible to distinguish several phases in the development of the Estonian Advisory System. Kreen and Loolaid (Kreen & Loolaid, 2004) in 2004 proposed classification of four subsequent stages: (1) Initiating a New Institutional Set-up for Advisory Services (1989-1992); (2) Building User-oriented Advisory Systems (1992-1995 and later); (3) Initiating a Free Market for Advisory Services (1995-2002); (4) Fluctuating Between Privatisation and Public Sector Reform (1999-2003). The mentioned stages underpin the classification described below. From the perspective of 2013 one more phase should be incorporated in the classification – current phase: Building of the Farm Advisory System and making extension services more effective (2005-2013). Each of the phases represents key milestones in the development of the Estonian Advisory System.

First phase: Initiating a New Institutional Set -up for advisory services (1989-1992)

After the establishment of new family farms, the most innovative farmers realised the need for associations of their own. The very first Farmers' Federation was established in 1989 and by 1991 the Farmers' Federation organised the first advisory services system in independent Estonia. This system included regional advisory stations of farmers' unions, training centres located at two farmers' unions, and the Jäneda Advisory and Training Center (Kreen & Loolaid, 2004).

Second phase: Building of User-oriented Advisory Systems and Initiating a Free Market for Advisory Services (1992-2002)

The action taken during the period from 1992 to 1995 reflected a trend to apply different advisory models in Estonia borrowed from different countries (Kreen, 2000). A number of projects financed by different donors were initiated to support the development of extension services. These included the Advisory System of Farmers' Federation (Denmark), Advisory Cooperatives (Germany), the Knowledge and Information Center of the Estonian Agricultural University (Sweden), the dairy farming improvement project (Netherlands), and others. Projects proved not very sustainable, because most failed to 'implant' the advisory model from the country of origin. The government of Estonia recognised the need for proper

agricultural services and allocated some additional budget to the Agricultural Training and Advisory Centre at Jänedä for advising farmers. The government also supported the farmers' unions, but the advisers of the farmers' unions were not able to give adequate advice to large-scale agricultural enterprises, and farmers complained about the quality of advice they received. In line with its free market policy, the government of Estonia wished to see the development of a competitive free market for advisory services, where producers would be free to buy the kind of advice they need at a mutually agreed price. However, considering the situation in agricultural sector the government realised that because the capacity of farmers to buy advice was very low, there was a need to subsidise the advice. The objective was to encourage farmers to use advisory services in a way that would increase production efficiency. As a result, the government initiated an advisory subsidy scheme and a programme for certification of advisers (Kreen & Loolaid, 2004). The implementation of an advisory programme and subsidy scheme provided better access to advisory services and information for farmers, initiated a proactive approach of advisers in order to provide information and training for farmers, developed local training and advisory skills, and certified 175 advisers (Loolaid, 2002).

Third phase: Fluctuating Between Privatisation and Public Sector Reform (1999-2005)

This period is characterised mainly by Estonia's joining the EU and the need for harmonisation of the Estonian legislation with that of the EU and for establishing new governmental institutions. Easy access to trustworthy information on regulations concerning agricultural production or the environment significantly increases farmers' marketing ability and competitiveness. Therefore, it was in the interest of the government to disseminate information that would facilitate introduction of new legislation and support schemes for farmers. At the same time, many agricultural producers lacked awareness of existing information sources and, as a result, did not get the information they needed. There was a strong need for development of new infrastructure for information dissemination. There were two major forces behind the advisory services market development: (a) the need for structures and institutions to improve the advisory services market performance and (b) the need for structures and institutions to support new agricultural policy. Changes in priorities and increased interest in information delivery have resulted in competition between various extension and advisory activities and have caused unplanned disturbances in the advisory services market (Kreen & Loolaid, 2004). To improve the flow of information, Estonia needed an integrated information programme that could make the needed information available as close as possible to the ultimate consumer in all rural areas. Information must be relevant and up-to-date and this required that in addition to the dissemination of information, there needs to be good monitoring to follow-up on information use and get rapid feedback for programme adjustments. The following activities were undertaken to develop the national AKIS and improve cooperation and infrastructure support: (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); and (d) network of rural information centres in communities (2001-2002) (Kreen & Loolaid, 2004).

Current phase: Building of the Farm Advisory System and making extension services more effective (2005-2013)

Several changes have been made in extension services (mainly regarding co-ordination and financing aspects), and a number of studies have been undertaken to evaluate those changes. In 2005 the role of the Coordinating Centre of the Farm Advisory System was transferred to the Estonian Chamber of Agriculture and Commerce (<http://www.g-fras.org/en/knowledge/world-wide-extension-study/98-world-wide-extension-study/europe/northern-europe/370-estonia>). EU Member States had to establish the Farm Advisory System (FAS) before 1st January 2007, but in Estonia the role of the co-ordinating centre of FAS had already been given to the Estonian Chamber of Agriculture and Commerce. However, in 2010

co-ordination of the Estonian FAS was transferred to the Rural Development Foundation with a goal to make the extension services more effective. At the end of 2010, a marketing agency developed a market strategy to make these services more effective than the actions undertaken thus far: distributing informational booklets, updating and spreading the lists of the advisory centres and advisers etc. The aim of this market strategy is to inform certain target groups in particular and the public in general of the advisory service, its activities and the potential to assist in various domains (www.oecd.org/dataoecd/52/17/49150895.pdf).

According to the information obtained via interviews with representatives of the Ministry of Agriculture the advice that the agricultural producers use most is the kind that helps them quickly solve problems of finances and plant production; however, there is also a need for more strategic and specific advice, such as developments in the agricultural product market, product quality requirements, environmental requirements, the development of information technology, etc. One of the reasons for lack of usage of advisory services is the lack of specialists in the specific fields and the lack of previous experience in using the service. To improve the situation, more attention should be paid to the distribution of information, the availability of the advisory services in specific fields and the training of the advisers.

Over the years, the activity of the advisory centres has demonstrated a chaotic cooperation between the coordinating centre and the R&D centres. During the years there was a search for a joint Estonia-wide agricultural and rural economy organisation that unites advisers and which could take the central role in developing the advisory system, providing exchange of information, collaborate with stakeholders, provide support services to advisers, would be in charge of organising even workloads. Experts from the Ministry of Agriculture indicate that given the size of Estonia and the private interest advisory centres, the advisory system needs to be optimised by the state. The main task of a joint advisory system is the development of advisory services with additional support services and establishment of the effective adviser training system. The discussions concerning the future of the Estonian AKIS are still going on. The Estonian advisory system will be modified in the foreseeable future.

4. An outline of the agricultural advisory service(s)

This section gives an overview of the agricultural advisory services in terms of their governance, funding schemes, financing mechanisms, human resources, working methods, clients and interactions with other AKIS actors. It is based mainly on the information obtained via internet based resources, expert interviews and data provided by the Ministry of Agriculture. For the building up this part of the report there were planned to use the Pro-Akis Survey data, but a really low response rate and partially answered questionnaires in online survey significantly limited the possibilities to make use of these data.

4.1 An overview of all service suppliers

There is an open advisory service market in Estonia, which has resulted in a fragmented advisory system. Advisers who provide advisory services for farms operate mostly through county advisory centres, and the activities of advisers 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 advisers at least in the fields of plant production, animal husbandry and financial management. Lists of eligible advisers are available in each county office and on the Internet. Advisory services for people and enterprises can be obtained through forestry groups, Kodukant village movement network, county development centres operated by Enterprise Estonia, research institutions and universities, sellers, processors and buyers of inputs for agricultural products and through other advisers.

4.2 The main public policies, funding schemes and financing mechanisms

The Estonian farm advisory system, advisory services and dissemination of knowledge-based information (e.g. specialised advisory service, training and information activities, clarifying the state and research information to rural entrepreneurs, etc.) are financed by the state budget, the Estonian Rural Development Plan (ERDP) and farmers. The state budget contribution to the extension services is about EUR 550 000 per year. The state budget is for financing of information activities and publications, information distribution through advisory centres, coordinating activities (free service for farmers, basic salary for new advisers, support for practice and training, including information-days, study-trips, etc.). The ERDP contribution to support the advisory services is ca. EUR 3.6 million and for training and information activities about EUR 4.2 million in the programme period (2007-2013).

4.3 Methods and Human Resources

As of 1 May 2013, there were 109 advisers 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 were 67 and in the field of community development 8 advisers with a valid professional certificate. Most of the advisers in fields related to agriculture had a profession in the fields of rural entrepreneurship and finance (54). There were 24 advisers in the field of plant production, and 21 in livestock farming and its subfields. The number of advisers in specific fields is low: there are only two advisers in environmental protection and nature conservation, one adviser in land improvement and none in handling of food. The vast majority of advisers work with a part-time load: only 30% of the advisers fulfil their professional duties mostly with advising. If all agricultural advisers were employed as full-time advisers, the estimated number of applicants for single area payment per adviser would be approximately 160 (by way of comparison, there are 290 farms per adviser in Poland) but according to actual working load, the estimate number in Estonia is 450 farms per adviser.

An adviser can be (1) a person who has a professional or agricultural university diploma and at least three years of work experience within the last five years or (2) a person with vocational/secondary professional or agricultural education and five years of work experience within the last seven years. In the case of specific and new subjects, a certificate proving relevant training can be required. Although the advisers of advisory centres participate in trainings in the average volume of 70 hour per year, practical and comprehensive trainings are needed, including at an international level. Trainings provided for advisers have mostly been one or two-day trainings; there is a lack of study cycles that last several days that raise a person's qualification.

Various working methods are being used by extension staff to provide an advice for particular groups of clients. Agricultural advisers give advice to single clients, as well as groups, organisations and interest groups. Individual extension (especially one to one on the farm or outside the farm) is the most applied and appreciated form of receiving an 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 internet and web-tools for various purposes more and more, it is still among minor applied working methods in provision of farm advisory services.

4.4 Clients and topics / contents

Advisory support may be applied for by: (a) the agricultural producer active in the territory of a village, a town or a small town, owning or using on legal basis at least 0.3 ha of profit yielding land; (b) the private forest holder, owning or using on legal basis at least 0.3 ha of profit yielding land on the territory of a village, town or small town. The advisory subsidy is mostly applied by the self-employed persons and the private limited companies.

According to the data provided by the Ministry of Agriculture a total of 2,281 farmers used advisory support in the period 2008–2012. According to the data of the Agricultural Census the total number of agricultural holdings in Estonia in 2010 were (19,613). This means that about 12% of all agricultural holdings or 31% of the so called Farm Accountancy Data Network (FADN) holdings had used advisory support. This indicates that only up to 1/3 of professional farmers are active clients of advisory service. According to the information of the Rural Development Foundation (Laur, 2010) in Estonia, the number of agricultural companies, which could potentially be interested in using the advisory system, is approximately 6,000. However, the survey results show that only 60% of potential clients are familiar with advisory services. The client survey (RDF, 2010) revealed that only 8% of those farmers who replied did not know what the Advisory Centre is, about 66% have used advisory service at least once. The largest part of farmers has used the advisory services 1-2 times in a year, but also a significant part of farmers (29%) has used the advisory services more than 3 times in a year. 61% of the farmers surveyed have had positive experience with the service. Farmers generally have knowledge about the advisory system. According to the data the knowledge of specific services is not very good.

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 service in the field of crop production and cross compliance is also quite popular. Although farmers use advice coming from different sources there is a growing need by the farmers for professional and up-to-date advice. On the one hand, this is caused by the diversification of agricultural production, on the other hand, the enlargement of farms that brings about the need for well organised management, marketing, logistics and waste management. Therefore, the task of the advisory system is to promote, in addition to the distribution of know-how and information, also a suitable way of thinking among agricultural entrepreneurs that fits with market trends. Agricultural producers mostly need advice in preparing support applications and business plans connected to them (Raudla, 2010). The Estonian University of Life Sciences - the permanent assessor of the ERDP – has concluded that the advice which the agricultural producers use most is the kind that helps them quickly solve problems of finances and plant production. There is also a need for more strategic and specific advice, such as developments in the agricultural product market, product quality requirements, environmental requirements, the development of information technology, etc. Taking into account that certain knowledge is more necessary to the society than to enterprises for performing their direct economic activities, the availability of advisory services for such topics should be fostered.

There are several factors that impede making use of advisory services more widespread and effectively. Interviewed experts revealed that one of the reasons for lack of usage of advisory services is the lack of specialists in specific fields and the lack of previous experience in using the service. Studies done by the Rural Development Foundation indicate the poor awareness of the availability of various advisory services. About 20% of agricultural entrepreneurs who had not used the advisory service before admitted that they do not know where and how advice could be obtained. Also it should be noted that a big obstacle for a wider use of the advisory service is the price of the service. Personal consultation methods are based on the specific needs of customer and are therefore more expensive. One more impeding factor for using the service is the payment procedure mechanism according to which the customer has to pay 100% of the service before receiving support.

4.5 Linkages with other AKIS actors / knowledge flows

Before recognised advisory centres were established, advisers worked either individually or through farm associations or private enterprises in order to provide advisory services. From 2000, the state has contributed to the establishment of advisory services and today advisers providing supported advisory services operate through county advisory centres. In Estonia the linkages between AKIS actors are quite

weak. Various advisory organisations operate rather independently from each other and perceive themselves as competitors. The stakeholders admit that over the years, the activity of advisory centres has demonstrated a chaotic cooperation between the coordinating centre and R&D centres. There are certain expectations from various stakeholders regarding the necessity of stronger collaboration and networking among different AKIS organisations. Although there are projects, conferences or other events where stakeholders participate and collaborate, there is still a need for a system especially regarding exchange of information and knowledge.

Analysis of the information chains (Kreen & Loolaid, 2004) found two weak elements in the information chains in the Estonian AKIS. These were (a) processing of information and putting it into format most understandable for target group; and (b) collection of feedback information on target group needs and message quality, and the use of feedback for decision-making and programme adjustments. These are challenges many advisory systems deal with constantly and Estonia is not the exception.

4.6 Programming and planning of advisory work

Advisers who provide advisory services for farms operate mostly through county advisory centres, and the activities of advisers and advisory centres are assisted by an advisory service coordination centre. The Coordinating Centre of the Rural Development Foundation is the main actor in strategic planning of advisory system. Responsibilities of the Coordinating Centre are: developing the Advisory System and Service; collecting and analysing feedback; communicating with the research institutions; training and in-service training for advisers; disseminating research information; developing of advisory tools (programs, risk analyses etc.); updating the portal www.pikk.ee for agricultural and rural information. The role of the county level advisory centres is to provide individual advisory service and information to the local producers and farmers. They collect feedback from the producers and develop the whole system. They also direct farmers to specialised advisers, according to the needs of the producer and organise informational events and training days. Only those advisory services are subsidised that are provided by qualified advisers.

Planning of advisory work differs among organisations. Mainly advisory organisations operate according to annual plans and defined priorities in relation to ERDP. Some advisory service providers apply proactive strategies; others use more reactive strategies to respond to the market demands more accurate as well as to use the opportunities of various funding schemes.

5. Characteristic of the Farm Advisory System (FAS)

5.1 Main organisations forming FAS

Estonia was among those EU countries which established the Farm Advisory System (FAS) first. The FAS was integrated into existing services as an overall advisory system integrating a wider range of farm advice and extension services. In 2005 the Ministry of Agriculture certified 15 county advisory centres. Most of these centres are related to producers' and farmers' unions. The basic duty of an advisory centre is to advice on cross-compliance and on other agricultural problems, to offer broader information and trainings, to help finding the necessary information and to "read" legal acts, introduce and distribute printed material and organise information events (http://ec.europa.eu/agriculture/eval/reports/fas/report_des_en.pdf). The role of the advisory centres is to provide individual advisory service and information to local agricultural producers and farmers. Advisory centres direct farmers to specialised advisers, according to farmers' needs. The centres provide farmers with both advice and information in their respective counties. It is mandatory for each centre to have at

least five advisers who hold a professional certificate in the areas of crop and livestock farming and finance. Besides, each centre must have at least one adviser who has passed cross compliance training and one adviser who has passed occupational safety training (<http://www.g-fras.org/en/world-wide-extension-study/98-world-wide-extension-study/europe/northern-europe/370-estonia>). Each centre has agricultural advisers who have earned a professional certificate at least in crop and livestock farming and finance. Only the advisory services provided by qualified advisers are subsidised through the Estonian Rural Development Plan.

Agri-environmental support is not free. Farmers have to pay for the agri-environmental advice themselves but they can use subsidy for the advice, and each farmer is entitled to the sum of 1,279 euro as advice subsidy per year. Agri-environmental advice is mainly given by plant advisers who have special certificate of the cross-compliance. Farmer can order cross-compliance audit in farm, but they have to pay by themselves. Every year in winter and spring different authorities together with the advisers organise seminars with the purpose to discuss the environmental rules and control issues with farmers. These seminars give an opportunity for farmers to receive advice on how to handle correctly in line with different EU regulation and rules (<http://www.balticdeal.eu/advisory/estonia-2/>).

Farm advisory service is coordinated by the Estonian Rural Development Foundation that fulfils the role of the Coordinating Centre of the Estonian Agricultural and Rural Economy Advisory Service. The Coordinating Centre has been designated to ensure the functioning of the agricultural advisory system and to give information about state measures and the availability of advice. The Coordinating Centre prepares action and training plans, analyses the work of advisers, applies the simplified advisory system, organises the payment of basic salary to new advisers, organises practical training for new advisers, implements the mentoring system and maintains the www.pikk.ee portal. The Coordinating Centre also develops advisory tools and advertises advisory service, seeks possibilities for cooperation with research institutions and other organisations, looks for new advisers, etc. (Laur, 2011).

The Estonian Farm Advisory System is interconnected with other advisory activities and extension services. The system is evolving in close compliance with the joint agricultural advisory and information system.

5.2 Evaluation of the implementation of FAS

The experience shows that the largest demand in the farm advisory services in Estonia is for such type of advices that helps farmers quickly solve problems of finances and plant production. There is also a need for more strategic and specific advice, such as developments in the agricultural product market, product quality requirements, environmental requirements, the development of information technology, etc. Currently the Estonian FAS deal with a challenge on how to make advisory services more available for farmers. It encompasses several issues, such as the lack of specialists in specific fields, the prices of the service, the provision of the service, image of advisory system among the farmers etc. It is clear that 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 Estonian FAS. It can be assumed that even a few advisers in very specific fields could cover the needs.

6. Summary and Conclusions

6.1 Summary and conclusions on AKIS

In Estonia, the different components of AKIS have been made available to the producers and other interested parties. The information and knowledge system is composed of research, extension and

educational organisations, structured and governed by the government through a sectoral agricultural policy. The linkages between various AKIS actors are quite weak and it is necessary to further develop co-operation and collaboration.

Experience with different advisory models has shown that a foreign advisory model cannot be implanted directly into another socio-economic situation. Development of various extension models has provided experience and wider understanding of different possibilities for extension setup. This knowledge and practical experience has been the basis for development of Estonia's own extension model (Kreen & Loolaid, 2004).

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, and (3) the possibilities to integrate research, advice and production.

Concerning the extension service, Estonia has taken important steps to introduce rules of cross compliance. There has been developed various methods to inform agricultural producers in Estonia, e.g. trainings for advisers and farmers, advisory tools, handbooks, the web-page <http://www.pikk.ee/valdkonnad/nouetele-vastavus>, and booklets. Throughout the years the main objectives have been to ensure the development of an effective agricultural science which involves doctoral students, increases the number of agricultural research programmes, and helps to co-finance and integrate more Estonian researchers in international projects. Another priority has been to ensure a well-functioning farm advisory system to meet the needs of target groups and raise the number of clients. This is possible through consistent training of advisers and keeping the information materials (booklets, brochures, web-page www.pikk.ee, etc.) up to date. A major priority of the Estonian extension services is the improvement of the competitiveness and sustainability of the agricultural and rural economy sectors.

Despite the several extension and information schemes underway to support the development of viable farms and farmer capacities, there is still a need for urgent measures to strengthen the country's overall advisory capacity (Kreen & Loolaid, 2004).

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

6.2 Summary and conclusions on advisory services and FAS

The development of Estonian agriculture and rural advisory system has made a long and complicated journey after the Estonian re-independence. The advisory and information system of a small country like Estonia has been dependent on political directions, as well as personal viewpoints of different decision-makers.

There is an open advisory service market in Estonia, which has resulted in a fragmented advisory system. Advisers who provide advisory services for farms operate mostly through county advisory centres, and the activities of advisers and advisory centres are assisted by an advisory service coordination centre. In Estonia FAS was integrated into the existing services as an overall advisory system integrating a wider range of farm advice and extension services. Every county has an approved advisory centre and every centre has professionally certified agricultural advisers at least in the fields of plant production, animal husbandry and financial management. Lists of eligible advisers are available in each county office and on the Internet. The basic duty of an advisory centre is to advice on cross-compliance and on other agricultural problems, to offer broader information and trainings, to help finding the necessary information and to "read" legal acts, introduce and distribute printed material and organise information events. Advisory services for people and enterprises can be obtained through forestry groups, Kodukant

village movement network, county development centres operated by the Enterprise Estonia, research institutions and universities, sellers, processors and buyers of inputs for agricultural products and through other advisers.

The Estonian farm advisory system, advisory services and dissemination of knowledge-based information (e.g. specialised advisory service, training and information activities, clarifying the state and research information to rural entrepreneurs, etc.) are financed by the state budget, ERDP and farmers.

Over the years, the activity of the advisory centres has demonstrated a chaotic cooperation between the coordinating centre and the R&D centres. A joint Estonia-wide agricultural and rural economy organisation that unites advisers should be the central role in developing the advisory system, ensuring exchange of information and facilitate cooperation between stakeholders.

Given the size of Estonia and the private interest advisory centres, the advisory system needs to be optimised by the state. One of the crucial mistakes of the current advisory system in Estonia is the lack of a comprehensive approach that covers a whole company: the main advisory activities include advice on a single problem or concerning the 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. Given the size of Estonia, even a few advisers in very specific fields can cover the needs.

The mentioned aspects are going to be taken into account in the planned reorganisation of the overall state advisory system.

7. Acknowledgement of partners and methodological reflections

The report is based on literature review, analysis of published researches, online questionnaire survey of AKIS workers and expert interviews. Original data were collected in June-July 2013.

A really low response rate and partially answered questionnaires in the online survey significantly limited the possibilities to provide a full picture of the agricultural advisory in Estonia. Therefore this analysis has been done mostly on the basis of published researches, literature review and information obtained via interviews with experts from the Ministry of Agriculture.

We thank the Ministry of Agriculture, the Agricultural Research Centre and the Jõgeva Plant Breeding Institute for their participation in the Pro Akis survey.

We would like to give special thanks to the interviewed experts from the Research and Development Department of the Ministry of Agriculture.

We are especially grateful to the Chief Specialist of the Research and Development Department of the Ministry of Agriculture Diana Laur for the valuable review comments on the draft version of this report.

8. References

1. Agriculture and Rural life 2012. Compiled by Rural Economy Research Centre. Available at: www.agri.ee/public/.../2012/trykis_aastaraamat_2012_ENG.pdf
2. AKIS Estonia. Available at: www.solinsa.org/fileadmin/Files/Int_diss_seminar.../AKIS_Estonia.pdf
3. Bremse A. Estonian National Rural Network. The LEADER TNC and the activities of the National Network in Estonia Presentation 27. February, 2013 Karksi
4. Cross Compliance 2010. Ed. By A. Peepson, M. Mikk, M. Karjatse. Centre for Ecological Engineering. Ministry of Agriculture.
5. Estonia. Agricultural knowledge systems. 2011. Available at: <http://www.oecd.org/agriculture/agricultural-policies/49150895.pdf>
6. Estonian Research and Development and Innovation Strategy 2007-2013 “Knowledge-based Estonia”. Ministry of Education and Research. Available at: www.hm.ee/index.php?popup=download&id=6175
7. The Estonian Rural Development Plan 2007–2013. Ministry of Agriculture 2008. Available at: <http://www.agri.ee/rdp>
8. Estonian Rural Development Strategy 2007–2013 Ministry of Agriculture of the Republic of Estonia. Consolidated version. 2010. Available at: <http://www.agri.ee/rdp>
9. Evaluation of the Implementation of the Farm Advisory System. Final Report – Descriptive Part. December 2009. Available at: http://ec.europa.eu/agriculture/eval/reports/fas/report_des_en.pdf
10. Henriksson A. (2007) Agri-environmental extension services in Estonia, Latvia, Lithuania and Poland Report 32 Available at: www.ab.lst.se
11. Kreen H. & Loolaid Ü., 2004., Estonia: Fluctuation Between Privatisation and Public Sector Reform. Agriculture and Rural Development Discussion Paper 9. Extension Reform for Rural Development. Volume 2. Privatisation of Extension Systems. Case Studies of International Initiatives. William Rivera & Gary Alex (editors)
12. Kreen O., 2000. Restructuring of extension and advisory services in Estonia: expectations and outcomes. Structural change in the Farming sectors in Central and Eastern Europe. Ed. by Csaba Csaki & Zvi Lerman. World Bank Technical paper 2000. No 465 pp.230-244
13. Laur D., Estonia. Global forum for rural advisory services. Available at: <http://www.g-fras.org/en/knowledge/world-wide-extension-study/98-world-wide-extension-study/europe/northern-europe/370-estonia>
14. Laur D., 2011., Extension Service in Estonia. Available at: http://www.nbu.gov.ua/portal/soc_gum/nvnau_eamb/2011_168_3/111d.pdf.
15. Laur D. 2009, Agricultural extension and advisory services in Estonia. Available at: <http://www.worldwide-extension.org/europe/estonia>

16. Laur D., Õunmaa A. Farm Advisory Service in Estonia. Presentation. Available at:
http://baltic.cdr.gov.pl/index.php?option=com_rd_download&view=download&task=dl&id=38&lang=pl
17. Laur D. 2010 Estonian approach on FAS. Available at:
mars.jrc.ec.europa.eu/mars/content/download/2039/.../diana_laur.pdf
18. Loolaid Ü., 2002 Estonia: the role of contracting for private agricultural advisory services. Contracting for agricultural extension: international case studies and emerging practices. Ed. by Rivera, W. M. & Zijp, W. 2002 pp. 29-35
19. Oopkaup A. Structural changes in Estonian agriculture Presentation prepared by Estonian University of Life Sciences Kaunas, 04.05.2012 Available at:
http://www.laukutikls.lv/images/stories/Andres%20Oopkaup_Structural%20changes%20in%20Estonian%20Agriculture_Kaunas.pdf.
20. Palts E. Development of Organic Farming in Estonia. In Agriculture and Rural life 2012. Compiled by Rural Economy Research Centre. Available at:
www.agri.ee/public/.../2012/trykis_aastaraamat_2012_ENG.pdf
21. Raudla H. Estonian Agriculture Rural Life and Fisheries. Published by the Ministry of Agriculture. Tallin 2010
22. Rohtma I. Agricultural co-operatives in Estonia. Estonian Farmers Federation. Available at:
www.llka.lv/attachments/article/568/Estonia.ppt
23. The advisory service systems in Estonia. Available at: <http://www.balticdeal.eu/advisory/estonia-3/>
24. The Estonian Rural Development Foundation. Annual report for the financial year ended 31 December 2012
25. Valdvee E. 2012. Results of the Agricultural Census. In Agriculture and Rural life 2012. Compiled by Rural Economy Research Centre. Available at:
www.agri.ee/public/.../2012/trykis_aastaraamat_2012_ENG.pdf
26. Veeväli L. Agricultural Advisory Services: approaches in Estonia. Available at:
www.laukutikls.lv/images/stories/.../GD_D_4_Lehti_Veevali_EE.pdf
27. <http://www.stat.ee/agriculture>

9. Appendices

List of AKIS institutions in Estonia

Name	Website	Address
Governmental and coordination actors		
Ministry of Agriculture	www.agri.ee	Lai St 39//Lai St 41, Tallinn 15056
Estonian Agricultural Registers and Information Board	www.pria.ee	Narva mint 3, 51009 Tartu
Agricultural Board of Estonia	www.pma.agri.ee	Teaduse 2, Saku, 75501 Harju County
Estonian National Rural Network	http://www.maainfo.ee/index.php?page=3441	Jäneda, Tapa vald 73602, Lääne-Virumaa
Estonian Rural Development Foundation - Coordinating Centre	http://www.mes.ee/en	R.Tobiase 4 10147 Tallinn
Advisory and extension actors (15 approved local advisory centres: some are independent organisations, some are departments of local farmers organisations)		
NGO Harju Farm Union Advisory Centre	www.hot.ee/htlnk	Aasa 1, Saku 75501
NGO Hiiumaa Advisory Centre	http://www.hiuteave.ee/	Mäe st. 2, Käina 92101
NGO Ida-Virumaa Farmers Union, Viru Advisory Centre	http://www.ivtl.ee/	Rakvere 14, Jõhvi 41533
NGO Jõgeva Producers Union	http://www.jogevatl.ee/	Aia st 2, Jõgeva 48306
NGO Help for the Farmer	www.janeda.ee/apm	1) Jäneda 73602; 2) Pärnu rd 56, II floor, Paide 72712
NGO Läänemaa Advisory Centre	http://www.hot.ee/hplnouanne	Tehnika 2, Uuemõisa small town, Ridala parish, Läänemaa 90401
NGO Viru County Farmers Union, Lääne-Viru County Agriculture Advisory Centre	http://www.virumaapml.ee/	Vahtra 8, Roodevälja village, Sõmeru parish 44207
NGO Põlva County Farmers Union	www.hot.ee/polvapl	Jaama 83, Põlva 63308
Pärnu County Farmers Advisory Centre Plc	http://www.nouanne.ee/	P. Kerese 4, Pärnu 80010
NGO Rapla Advisors Union	http://www.rny.ee/	Kuusiku rd 6, Rapla 79511
NGO Islands Advisory Centre	http://www.saartenk.weebly.com/	Tallinna rd 27, Kuressaare 93811
NGO Tartu County Farmers Union, Tartu Rural Advisory Centre	http://www.tartufarmer.ee/	Jalaka 48, Tartu 50109
NGO Valga County Farmers Union, Valga County Advisory Centre	http://www.valgapl.ee/	Aia 17, Valga 68203
NGO Viljandi Agriculture Advisory Association	http://www.vpnu.ee/	Vabaduse square 4, Viljandi 71020
NGO Võru County Farmers Union, Võru County Farmers Union Advisory Centre	http://www.taluliit.info/	Liiva 11, Võru 65609

Research and Education actors		
Estonian University of Life Sciences	https://www.emu.ee/en/	Kreutzwaldi 1 Tartu 51014
Jõgeva Plant Breeding Institute	www.sordiaretus.ee	J. Aamisepa 1, Jõgeva alevik 48309,
Estonian Research Institute of Agriculture	http://www.eria.ee/www/en/	Teaduse 13 Saku 75501
Rural Economy Research Centre	http://www.maainfo.ee	Jänedä, Tapa vald 73602, Lääne-Virumaa
Agricultural Research Centre	http://www.pmk.agri.ee	Teaduse 4/6, 75501 Saku; Harjumaa,
University of Tartu	http://www.ut.ee/et	Ülikooli 18, 50090 Tartu
Tallinn University of Technology	http://www.ttu.ee/en	Ehitajate tee 5, 19086 Tallinn
Järvamaa Vocational Education Centre	http://jkhk.ee/pages/uudised.php	Tallinna 46 72720 Paide linn
Räpina Gardening School	http://www.ak.rapina.ee/vana/Rapina_Gardening_College.htm	64505 Põlva maakond, Räpina, Pargi 32
Luuu Forestry School	http://luua.edu.ee/	49203 Luua küla Palamuse vald Jõgeva maakond
Pärnumaa Vocational Education Centre	http://www.hariduskeskus.ee/component/content/article/66-english/578-introduction-in-english.html	Niidupargi tn 8//12 Pärnu 80047
Põltsamaa Occupational School	http://www.pkpk.ee/	Väike-Kamari küla, 48030 Põltsamaa vald, Jõgeva maakond
Kehtna Economy and Technology School	http://www.kehtna.edu.ee/	Kooli 1 79001 Kehtna alevik Kehtna vald Rapla maakond
Kuressaare Regional Training Centre	http://www.ametikool.ee/	Kohtu 22 93812 Kuressaare linn Saare maakond
Associations, unions and some other AKIS actors		
The Estonian Chamber of Agriculture and Commerce	http://www.epkk.ee	J.Vilmsi 53G, 10147 Tallinn
Estonian Farmers federation	http://www.taluliit.ee/	Teaduse 1, Saku 75501 Harjumaa
NGO Estonian Rural Advisory Service		Üksnurme tee 8, Saku alevik, Saku vald, 75501
Central Union of Estonian Farmers	http://www.eptk.ee/	J.Vilmsi 53G, 10147 Tallinn
Estonian Organic Farming Foundation		
The Estonian Private Forest Union and Private Forest Centre	http://www.eramets.ee/eng/	Mustamäe tee 50 (II korrus) 10621 Tallinn
Estonian Village Movement Kodukant	http://www.kodukant.ee/	Sirge 2, Tallinn 10618
The Estonian Environment Information Centre	http://www.keskkonnainfo.ee/main/index.php/en	Mustamäe tee 33 10616 Tallinn

Table 1: Overview of organisations creating the Estonian AKIS¹

Provision of service				Source of financing								
Status of the organisation	Type of organisation	Number of organisations	Number of advisers	Public funds			Farmers			Private	NGO	Other (specify)
				EU funds	National funds	Regional funds	Farmers' levies	Farmers' contribution	Billing services	Other products (inputs, outputs)	Foundation	
Public sector	Advisory department of the Ministry of Agriculture (The department responsible for farmer education and rural advisory is the Research and Development Department of the Ministry of Agriculture)	1	189 ²	49%	38%				13%			
	Rural Development Foundation	1 ³	14 ⁴⁺ ₅		661 360 ⁶							889 157 (Net income)

¹ The source of data presented in the table is Estonian report for PROAKIS if not referenced otherwise. The data from the Proakis survey regarding financing were not usable as the few responses were reported in agglomerated manner which did not let to identify which type of organisation has answered what. In the table's section 'Provision of service' "na" is used when no information is available and it is difficult to make sound estimations; in the section 'Source of financing', "X" is used in cases when it is known that corresponding source of financing is used, but there is no more precise information available about its share or amount (empty box does not obligatory mean that there is no particular source of financing used, but rather that there is no information about it – this is especially for private and farmer organisations and NGOs). All precise financing numbers are given in euros.

² This is the Ministry's staff, they are not advisers

³ This is the number of local advisory centres under the supervision of the Rural Development Foundation

												from financial investment) 123 612 (Income from Baltic Deal Project, income from authorisation agreements)
	Estonian Agricultural Registers and Information Board	2+15	370 ⁷		X							
	Agricultural Board of Estonia				X						X	
	Estonian National Rural Network			X	X			X	X			X
	Other (specify)											
Research and Education	University - the Estonian University of Life Sciences	3	na		X				X	X		X

⁴ This is the Rural Development Foundation staff

⁵ This is the number of advisers with a valid professional certificate in the fields related to agriculture

⁶ Source: The Estonian Rural Development Foundation. Annual report for the financial year ended 31 December 2012

⁷ This is the Estonian Agricultural Registers and Information Board staff

on	- the University of Tartu - Tallinn University of Technology											
	Research Institute	4		X	X				X	X		X
	- Jõgeva Plant Breeding Institute - the Estonian Research Institute of Agriculture - The Rural Economy Research Centre - Agricultural Research Centre		28 ⁹ + 17 ¹⁰									
			na									
			na									
	Other education bodies vocational educational institutions	10	na		X				X			X
Private sector	Upstream industries	~10							X	X		
	Downstream industries	na							X	X		
	Independent consultant	~40							X	X		
	Private agricultural advice company	na							X	X		
	Farmers' owned advice company	~10					X	X				
	Local/regional agencies	15	109 ¹¹	x	x			x	x	x		

⁹ Source: <http://www.sordiaretus.ee/?pid=55&leftMenuItem=55&pageHeader=Contact>

¹⁰ Source: <http://www.sordiaretus.ee/?pid=56&leftMenuItem=56&pageHeader=Advice>

¹¹ This is the number of advisers with a valid professional certificate in the fields related to agriculture

	15 local advisory centres (some of them are independent organisations, some are departments of local farmers organisations)											
	Other (specify)											
Farmer based organisations	Farmers' cooperative	100	na	X				X	X	X	X	
	Chambers of agriculture The Estonian Chamber of Agriculture and Commerce	1	na	X	X			X				
	Farmers' circles/groups Estonian Farmers federation <i>Central Union of Estonian Farmers</i>	~10	na					X			X	
	Other											
NGO	NGO named Estonian Rural Advisory Service							X	X		X	
	Estonian Village Movement Kodukant		5+	X	X			X	X	X		Charity