

AKIS and advisory services in *Lithuania*

Report for the AKIS inventory (Task 1.2) of the i2connect project

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Executive summary

The main aim of this report is to provide a detailed description of Agricultural Knowledge and Information System (AKIS) in Lithuania giving special focus on agricultural advisory services. In addition, forestry advisory service providers are addressed.

The report represents an output of the Horizon 2020 project *i2connect*, Connecting Advisers to Boost Interactive Innovation in Agriculture and Forestry (<https://i2connect-h2020.eu/>). The report is one of 31 country reports prepared in 2020 by project partners providing information about AKIS in their countries. The first inventory on Agricultural Knowledge and Information Systems and advisory systems in the EU countries was set up in the context of the PRO AKIS project in 2015. One of the aims of the *i2connect* project is to update existing AKIS descriptions for the 27 EU member states as well as for Croatia, Switzerland, Montenegro, and Serbia as institutional and structural changes are constantly caused by changes in national and CAP policies.

The report covers main structural characteristics of agricultural and forestry sectors, history of advisory system in Lithuania, overview of service suppliers, public policy and funding schemes, methods of service provision, linkages with other AKIS actors, programming and planning of advisory work and other relevant topics. Furthermore, a detailed description of Lithuanian AKIS is provided and AKIS diagramme is included.



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Abbreviations

AKIS	Agricultural Knowledge and Information Systems
CAP	Common Agricultural Policy
EIP	European Innovation Partnership
FAS	Farm Advisory System
FBO	Farm Based Organisation
GDP	Gross Domestic Product
IKMIS	System of Integrated Plant Protection Information, Consulting and Training
LAAS	Lithuanian Agricultural Advisory Service
NGO	Non-governmental Organisation
USSR	Union of Soviet Socialist Republics
VMU AA	Vytautas Magnus University Agriculture Academy

Introduction

One of the main goals of AKIS is to promote the exchange of knowledge and innovations between interacting organizations, institutions, farmers and foresters, in order to implement innovations as effectively as possible, to link science and to apply the acquired knowledge in practice. The operation of AKIS in Lithuania ensures that persons who participate in agricultural sector activities always receive the knowledge necessary for the development and expansion of their activities, and competitive and profitable establishment in the market.

As the Common Agricultural Policy evolves, so does AKIS of the countries, with new participants entering the system. The interrelationships between the participants in the agricultural knowledge and innovation system itself are also changing, therefore, AKIS of the countries is periodically updated.

In today's market, in order to maintain both the competitiveness of agriculture and the viability of rural areas, it is necessary to apply the latest ways of sharing knowledge and experience. The establishment of AKIS in national institutions, culture and laws is not directly compared between the countries, but is assessed according to two criteria, i.e. strength of institutions participating in AKIS and the level of institutional integration. A strong, direct link between institutions ensures efficient, continuous functioning of the knowledge system, indicating that state investments are available for knowledge dissemination, sharing, consulting and improvement. The level of integration indicates that there are strongly functioning and coordinated knowledge networks, supported by national AKIS policy. In a fragmented AKIS, relationships between some of participants in it may exist, but are often uncoordinated. There are cases when the institutions participating in AKIS compete with each other, acting for the benefit of themselves and not the agricultural entity. The ongoing fragmentation may reduce the capacity of AKIS to meet the needs of farmers, as institutions are more interested in meeting their own needs.

Lithuanian AKIS is shaped by governmental, scientific and study institutions, private sector organizations, farmers' organizations and non-governmental organizations. The Ministry of Agriculture of the Republic of Lithuania is responsible for the execution, implementation and development of agricultural policy. The Rural Business and Market Development Agency provides accreditation to advisory institutions and advisers working for them. The main institutions providing advisory services to farmers in Lithuania are the Lithuanian Agricultural Advisory Service and the Lithuanian Chamber of Agriculture. Science

and study institutions share the latest knowledge and research, help farmers to integrate innovations into their farming activities, providing the latest research information both at the national and international levels. The best cooperation between the institutions of AKIS takes place when the activities of the European Innovation Partnership are implemented, when equal involvement of each country is necessary. It is planned to strengthen the activities of the Lithuanian rural network in the period 2021–2027, to ensure cooperation between participants, greater involvement and mutual dissemination of knowledge, so that all these processes would act more efficiently in terms of AKIS.

1. Main structural characteristics of the agricultural and forestry sector

Lithuania is a land of plains and forests. The forest territory makes up about a third of the territory of Lithuania. This affects the density of population. According to the data of 1 January 2020, Lithuanian population is 2 million 794, 3 thousand, its density in the country is 42.8 people per square kilometre. In the first half of 2020, GDP at current prices amounted to 22.7 billion EUR. Agricultural land accounts for 52.06 percent, forests – 33.02 percent of the country's land area (as of 1 January 2020).

Table 1 Distribution of land fund by arable land area in per cent

Distribution of land fund by arable land area in per cent		
52.06 %	33.02 %	14.92 %
agricultural land	forests (forest land)	other land

The number of agricultural land plots is 102,466, they account for 184,519.3038 ha; the number of forestry land plots is 22,121, which accounts for 1087,781.432 ha.

The average farm size is 15.54 ha. The table below provides information on the distribution of farms by total area (ha).

Table 2 Distribution of farms by total area (ha)

Farm size, ha	Up to 0,5	0,5-1	1-5	5-10	10-20	20-30	30-50	50-80	80-100	100-150	150-200	200-300	300-500	>500
Number of farms	4 877	4 892	31 239	17 023	13 371	5 188	4 106	2 427	777	1 033	419	404	239	72

Holdings with a land area of 1 to 5 ha predominate in Lithuania. Large holdings, i.e. holdings with an area of 300 to 500 ha make the lowest number.

The distribution of farmland use is as follows:

Table 3 Distribution of farmland use

Type			
agricultural, ha	forests, ha	water, ha	other, ha
1 170 254.69	83 240.61	15 799.93	55 965.85

Distribution of holdings by kind of economic activity (as of 1 January 2020):

Table 4 Distribution of holdings by kind of economic activity

Plant production	Mixed agriculture	Forestry	Alternative activities	Animal husbandry	Services	Fishery
80 044	55 118	2 487	841	15 634	233	30

During 2019, the percentage of land use did not change. According to the data of 1 January 2020, the largest holdings are located in Kaunas, Šiauliai and Panevėžys counties. The smallest holdings are registered in Alytus, Vilnius and Klaipėda counties.

Lithuania is characterized by an aging farming community. According to the data of 1 January 2019, the group of holding managers – natural persons – was dominated by holding managers from the age of 41 until retirement age. They accounted for 50 percent of the total holding managers. 38 % of the total holding managers were of retirement age. Holding managers under 40 years of age made the smallest number – 12 %. From 1 January 2019 to 1 January 2020 the number

of young farmers, i.e. persons under 40 age, decreased by 405 farmers in all municipalities. In terms of gender distribution of farmers, according to the data of 1 January 2020, 60.99 % of farmers are men and 39.01 % are women. According to the data of 2020, the agricultural, forestry and fisheries sectors employ 23,300 people.

According to the data of 2019, cereals occupied the largest area sown with agricultural crops:

Table 5 Area sown with agricultural crops, thousand ha

Area sown with agricultural crops, thousand ha		
1 361.40	87.7	245.7
Cereals	Oats	Rapeseed

During the second half of 2019, the number of cattle decreased by 31,720 and that of dairy cows – by 13,283. In Lithuania, cattle herds are also decreasing. From the beginning of 2014 to the end of 2019, they had decreased by 35,083, however, according to the number of cattle per herd, the average herd size is constantly increasing. From the beginning of 2014 to the end of 2019, the average cattle herd size increased from 9.7 to 16.8 cattle.

2. Characteristics of AKIS

The Agricultural Knowledge and Innovation System (hereinafter referred to as the AKIS) includes the process of knowledge sharing and information dissemination in the country. This process involves individuals and institutions from the state, public and private sectors. Involved parties are encouraged to jointly develop and share agricultural knowledge and innovations. Farmers and forest owners must have access to reliable and appropriate sources of knowledge in order to analyse and apply innovations in their activities. The aim is to strengthen the ongoing processes of knowledge and information dissemination in order to streamline the processes of knowledge provision, advising and training, increase the dissemination of agricultural innovations, which would contribute to more productive work results in the agricultural sector. Lithuanian AKIS consists of governmental, scientific and study institutions, private and public sector, farmer and non-governmental organizations as well as natural entities (see Table below).

Table 6 Institutions constituting AKIS

Organization status	Type of organization
Governmental institutions	• Ministries of the Republic of Lithuania • Controlling authorities • District municipalities: municipal agricultural divisions, local action groups • State-managed data sources (information systems / registers / databases)
Scientific and study institutions	• Higher education (universities and colleges) • Science, study and business centres, institutes (valleys) • Schools of technology and business
Private and public sector organizations (business)	• Financial institutions (banks, credit unions) • Commercial companies, suppliers of equipment / services / products (engaged in the sale of services, products, equipment or machinery and related advising) • Impartial advisory institutions, impartial advisers, innovation support services, innovation brokers • Digital innovation centres
	• Lithuanian Agriculture Council • Chamber of Agriculture • Organizations uniting farmers and forest owners: - Lithuanian Farmers' Union

Farmers' organizations	- Lithuanian Association of Agricultural Companies - Lithuanian Grain Growers' Association - Lithuanian Milk Producers' Association - Lithuanian Association of Grain Processors and Traders - Association of Lithuanian Dairy Farms - Lithuanian Organic Farms Association - Lithuanian Rural Communities Union • Other members of the Lithuanian rural network
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By interacting with each other, different types of organizations maintain the competitiveness of farms in the market and support the viability of agriculture in rural areas, therefore it is necessary to constantly apply new methods of knowledge sharing and disseminate good practices. AKIS scheme is centred around farmers and forest owners, for whom a network of organizations provides constant access to necessary and reliable sources of knowledge that help to solve emerging problems, providing opportunities for development not only in the national market.

On 19–20 November 2019, Vytautas Magnus University Agriculture Academy (hereinafter – VMU AA) hosted the first such international event organized in Lithuania – the meeting of the Standing Committee on Agricultural Research (SCAR). This committee analyses and presents conclusions on the issues of the Agricultural Knowledge and Innovation System (AKIS). The organizers of the event were VMU AA and PI Lithuanian Agricultural Advisory Service (hereinafter – LAAS). LAAS has been participating in SCAR AKIS activities for several years. The list of SCAR AKIS members include representatives of national ministries of agriculture, scientific and advisory bodies and non-governmental organizations. Representatives of Lithuania also participate in SCAR AKIS meetings: specialists of the Ministry of Agriculture of the Republic of Lithuania, Vytautas Magnus University AA research scientists and representatives of LAAS.

After 2020, every EU country will have to be ready with AKIS. According to Vaida Jankauskaitė, a specialist of Science and Innovation Division of the Ministry of Agriculture of the Republic of Lithuania, in 2021–2027, AKIS strategic plan envisages strengthening the links between research and practice, promoting interactive innovation, strengthening farm advisory services and supporting the digitalization of agriculture.

It has been observed that digitalization and other innovations have significantly increased the speed of information transfer and communication. LAAS Director, Dr. Edvardas Makelis, notices that new knowledge and innovations reach farms not only through advisers, but also through researchers and agribusiness companies. Innovation is no longer linear, it becomes interactive, which means that innovation can occur not only in science, but also in business or may be created by the farmer himself.

Independent advisers will play an important role in the implementation of the post-2020 CAP. In order to improve the quality and effectiveness of advice, Member States will need to involve advisers in AKIS in order to provide up-to-date information on technology and science based on research and innovation.

2.1 AKIS description

Lithuanian AKIS consists of institutions of various fields of activity and subordination. The Ministry of Finance of the Republic of Lithuania, the Ministry of Economy and Innovation of the Republic of Lithuania, the Ministry of Health of the Republic of Lithuania, the Ministry of Education, Science and Sports of the Republic of Lithuania, the Ministry of Environment and the Ministry of Agriculture of the Republic of Lithuania. They are marked in blue in the diagram. Lithuanian farmers do not have a direct connection with ministries, but members of farmer organizations, i.e. representatives of the country's farmers, as social partners, regularly participate in discussion groups and meetings organized by ministries and other authorities to discuss the situation and try to find appropriate solutions. Direct communication with farmers is maintained by institutions subordinate to ministries (administrative) such as the National Paying Agency under the Ministry of Agriculture of the Republic of Lithuania, the National Land Service under the Ministry of Agriculture, the State Food and Veterinary Service, the State Tax Inspectorate under the Ministry of Finance and others. The activities of the administrative institutions include environmental, financial (including tax), agricultural and forestry activities. There are about ten institutions under the Ministry of Agriculture of the Republic of Lithuania that perform monitoring or control. Institutions such as the State Enterprise Agricultural Information and Rural Business Centre, GIS-Centre, and the State Plant Service under the Ministry of Agriculture of the Republic of Lithuania are subordinated to the Ministry of Agriculture of the Republic of Lithuania. The Lithuanian Hydrometeorological Service reports to the Ministry of Environment of the Republic of Lithuania, and

the State Enterprise Centre of Registers reports to the Ministry of Economy and Innovation of the Republic of Lithuania. GIS-Centre, State Plant Service, State Enterprise Centre of Registers, Lithuanian Hydrometeorological Service, National Paying Agency, State Enterprise Agricultural Information and Rural Business Centre are collectively referred to as data sources, as according to their functions they are information systems, registers and databases. LAAS also falls into this category with the System of Integrated Plant Protection Information, Consulting and Training (IKMIS (<https://www.ikmis.lt>)). There are seven data sources. The link between ministries, administrative institutions and data sources is strong. Ministries of the Republic of Lithuania issue laws, procedures and other documents, the institutions responsible for monitoring and control check compliance with laws and procedures. This connection is indicated by a solid line in the diagram. The pointer indicates the subordination of these institutions to the ministries. These institutions communicate directly with farmers and forest owners; therefore the connection between them is also marked by a solid line. As farmers have to report to the monitoring and control authorities, they receive requests from these institutions; farmers themselves usually do not initiate the dissemination of information and knowledge with these authorities, so a one-sided line is marked and a line leaving the farm block is marked with a dotted line.

The link between farmers and data sources (information systems, registers and databases) is strong, marked by a continuous two-way line, as farmers themselves are data providers, users of data sources, and data sources collect, process and store farmers' data. The situation is similar with the relationship between data sources and impartial advisory institutions, innovation support services, innovation brokers and impartial advisers. The relationship between these two blocks is marked by a continuous two-way line, as providers of impartial advice are the providers of the data stored in data sources, but at the same time the users of databases, registers and information systems. A direct contact with farmers is maintained by municipal agricultural departments, which operate in every Lithuanian municipality and provide services to farmers. They provide information to agricultural entities about support opportunities, implement the structure of agricultural production, which promotes production of competitive products, implements the state policy of rural development, market, investment, transformation of farming activities and promotes the application of science and new technologies in agriculture.

The Bank of Lithuania is independent of the Government of the Republic of Lithuania and other state institutions; according to the Constitution of the Republic of Lithuania, the Bank of Lithuania is owned by the State of Lithuania. The Bank of Lithuania reports on its activities to the Seimas of the Republic of Lithuania, the founder of the Bank of Lithuania. The Bank of Lithuania supervises and controls the Lithuanian banking market. Currently, there are seven banks, eight branches of foreign banks and forty-five credit unions in Lithuania. Financial institutions provide services directly to farmers as well as individual information on financial issues, they organize information seminars for target groups of farmers and participate in discussions, therefore, the connection between these two blocks is strong, marked by a continuous one-way line. Bank smart apps are especially popular among young farmers, they facilitate the processes of delivering the services provided by banks, and operations are usually performed remotely. Financial institutions not only provide individual consultations to farmers, but also invite farmers to seminars, and actively participate in events and discussions organized by farmers. Farmers especially use the services of credit unions in Lithuanian regions. It is easier for small farmers to get credit from credit unions as their main customers are smaller farms, which increases the chances of getting a loan. Partnerships between credit unions and farms contribute to the stability of the agricultural sector.

At the initiative of the Ministry of Economy and Innovation and industrial communities, digital innovation centres have been established in Lithuania. These centres act as centres of excellence. Regional multilateral cooperation between partners is crucial, not only between digital innovation centres across Europe, but also involving universities, industry associations, chambers of commerce, business incubators, regional development agencies and even governments. These centres have strong links with the latest technology and service providers. As the digital innovation centres were established at the initiative of the Ministry of Economy and Innovation, the connection between them is marked by a continuous one-way line. Weaker links exist between digital innovation centres and research and study institutions. A dotted line is marked here. Digital innovation centres typically bring together organizations from science, education, business, the public sector and governmental institutions. There are also links between digital innovation centres, impartial advisory institutions and impartial advisers. This link is also not particularly strong, it is marked by a dotted one-way line, as impartial advisory institutions and impartial advisers do not directly influence the activities of digital innovation centres. Research and study institutions, in cooperation with digital

innovation centres, pass on the latest knowledge to impartial advisory bodies, which in turn share innovations with farmers and forest owners. Farmers and forest owners also do not directly affect the activities of digital innovation centres, they can find information about the innovations promoted by these centres, therefore, the connection between these two blocks is marked by a dotted one-way line.

Institutions of science and studies, marked in green in the scheme, are subordinated to the Ministry of Education, Science and Sports of the Republic of Lithuania. In order to encourage the interaction between the science and study system and the farm, and the development of promising technologies and their implementation into knowledge-intensive business, the creation of integrated science, study and business centres (valleys) has been started in Lithuania. The main goal of one of the valleys operating in Lithuania is to mobilize the potential of agricultural, forestry and food research, studies and knowledge-open business (the totality of entities), having a common and networked research and experimental development infrastructure and purposefully contributing to agricultural, forestry and food economy development, creation of knowledge economy, and an increase of competitiveness of the Lithuanian farm. Science, study and business centres (valleys) contribute to increasing farm progress by providing farmers with the latest research information. Science, study and business centres (valleys) are subordinated to the Ministry of Education, Science and Sports and the Ministry of Economics and Innovation of the Republic of Lithuania. The link between research and study institutions and authorities is strong, marked by a solid line. In addition, science and study institutions are related to institutions providing impartial advice and impartial advisers, as Lithuanian higher education institutions and schools of technology and business train agricultural specialists. The arrow between these blocks is continuous, indicating a strong connection. Consequently, impartial advisory institutions, whose specialists come from higher, technological and business schools, will be directly involved with farmers and forest owners, as these specialists will provide advice to farmers and forest owners.

Research institutions have the opportunity to publish the results of research and innovations in the Applied Innovation Research and Results Information System TITRIS (<https://titris.lzukt.lt/>), which is administered by the LAAS Innovation Support Service. TITRIS collects, stores and disseminates data on applied

innovation research and its results, which can potentially contribute to more efficient, sustainable and environmentally friendly farming.

The European Innovation Partnership is joint activities of farmers, forest owners, researchers, agricultural and forest advisers and other actors of the rural development sector supported by EU support measures to develop competitive and sustainable agriculture and forestry through knowledge and innovation. In other words, the European Innovation Partnership Action Group must be composed of natural and / or legal persons from business, agriculture or forestry, science and advising. Consequently, the EIP block will be closely linked to the blocks of science and studies, impartial advisory institutions, farmer and forest owner organizations, and farmers / forest owners themselves, and is therefore connected with a two-way continuous line.

In the case of farmer organizations, marked in yellow in the scheme, it should be noted that the members of farmer and forest owner cooperatives, associations or unions are farmers and forest owners themselves, therefore, the link between these blocks is particularly strong and marked by a continuous two-way line. Farmers and forest owners participate in the activities of the European Innovation Partnership action groups, therefore, there are also close links between these blocks, i.e. a solid line. The activities of the Lithuanian Union of Rural Communities, whose members are farmers and forest owners, are especially beneficial for people living in rural areas, as they contribute to making rural areas a safe and attractive place to live. One third of the country's population lives in rural areas of Lithuania. The membership of farmers in organizations ensures that rural areas become more advanced and innovative, and the agricultural, forestry and fisheries sectors are developed. The Union of Lithuanian Rural Communities contributes to even development of rural regions by coordinating social and economic policies.

With regard to the business sector, suppliers of products and equipment and those who provide advice on the use of equipment and products are distinguished. The business sector is marked in brown in the diagram. Farmers and forest owners are in direct contact with suppliers of products or equipment, therefore, the link between these two blocks is strong, marked by a solid line in the diagram. The line is a two-way one as both farmers and suppliers of products and equipment are the beneficiaries, i.e. farmers and forest owners receive products, equipment and / or advice, while for the business sector, farmers and forest owners are potential customers. The business sector is also involved in data sources, as for example, SE Centre of Registers collects and stores information on legal and natural persons.

Thus, you can find information on suppliers of products and equipment, and advice providers in databases, registers and information systems. The relationship between data sources and business blocks is strong, marked by a solid line in the diagram. Suppliers of products and equipment are controlled by the Ministries (of Finance, and Economy and Innovation) of the Republic of Lithuania. Suppliers of equipment and products, as well as providers of advisory services, are also related to institutions providing impartial advice, impartial advisers, and innovation brokers. The connection is not strong, in the diagram it is marked with a dotted line. Both of these blocks are linked by farmers and forest owners as they are potential customers of both.

The media is also included in AKIS. The press, radio, television and the Internet not only inform farmers and forest owners about today's issues, but also create new perspectives for constantly obtaining up-to-date information both nationally and internationally, helping to share experiences that farmers can achieve in order to address complex challenges. Farmers and forest owners have access to smart tools-apps to manage their farms. Farmers and forest owners can get advisory services with the help of a mobile application, it is enough to have a mobile phone or tablet. LAAS has developed the System of Integrated Plant Protection Information, Consulting and Training (IKMIS), the mobile application of which is available to every farmer. With a mobile IKMIS application, a farmer can access meteorological station data at any time, which is linked to new disease and pest forecasting modules to help calculate the likelihood of disease or pest occurrence. It is also possible to observe the situation of various agricultural crops throughout Lithuania or participate in distance learning. The smart app simplifies the work process of farmers, reduces time and financial costs of searching for necessary information. The already mentioned LAAS advisory tool TITRIS is also available online. TITRIS is a knowledge repository, a free platform for practical and scientific innovation, where users can find information on applied innovation research, its data and results.

To receive support from EU funds, farmers and forest owners fill in applications online. In addition, farmers and forest owners can report to monitoring and control authorities through online applications administered by these authorities. For example, the National Paying Agency under the Ministry of Agriculture of the Republic of Lithuania uses the "NMA agro" mobile app. With the help of the app, farmers and forest owners can provide information on the activities carried out or

problems related to the support obligations and can report improperly maintained fields or other violations.

The main objectives of AKIS include the activities of various institutions that facilitate knowledge sharing, learning, ensure the exchange of good practices between farmers, advising and the activities of innovation-creating networks. The role of all organizations operating in AKIS is understood as an aid that helps to attract the farmer to the latest market trends, encourages their implementation and use on their farms to make the processes more profitable and productive. The exchange of knowledge ensures that farmers can overcome emerging challenges more easily and learn useful solutions to problems. The workshops organized by the institutions of the agricultural sector contribute to the fact that farmers can try out new technologies, feel tangible benefits and see how all this can be applied to their farming activities. By communicating with experts and receiving their advice and assistance, farmers can process the necessary resources for farm development faster and improve work processes. Advice on agricultural services can contribute to the establishment, management and maintenance of each farm, as well as create opportunities for learning and improving by developing their professional and managerial competencies. Using information technologies such as various smart apps on phones, you can faster access the necessary information, receive agricultural news from different locations not only at home but also from abroad.

AKIS diagramme

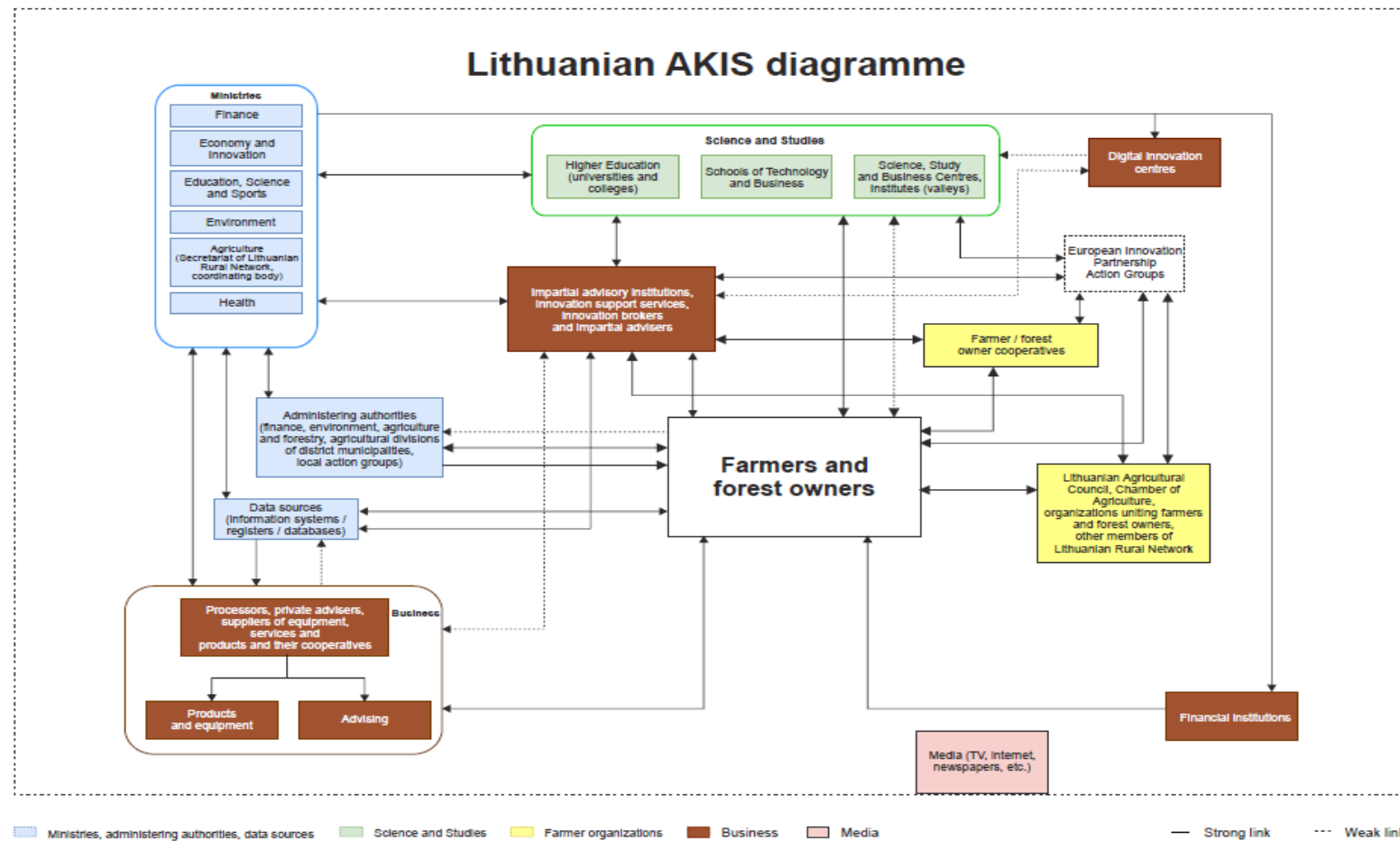


Figure 1 AKIS diagramme

3. History of the advisory system

Advising is described differently in different sources, but in summary, advising is a process in which an adviser in a particular field helps to solve a problem by providing professional help or simply by providing the necessary information to guide an effective decision. Agricultural advice has become necessary today as fast-paced innovations have become essential for every farmer to make the farm profitable, remain competitive and expand. Constantly updated technology and the integration of information technology into farm processes naturally encouraged every farmer to learn and improve in order to maximize yields and economic benefits.

In view of the emergence of the advisory system, it is necessary to mention that in September 1991, a land reform was launched in Lithuania, aimed at restoring private land ownership, returning land to former owners and their heirs confiscated during the USSR occupation, and transferring state land to rural residents free of charge, through sale or lease. Until 2014 property rights to land, forest and water bodies were restored to 762,300 persons, i. e. 97.5 % of applicants. Animal husbandry and plant production has fallen sharply as a result of the agricultural reform. This was due to the emergence of many smaller agricultural producers instead of large farms, for whom scientific institutions were unable to provide assistance. Many citizens without agricultural education received the right to own land and started farming, and a large part of the rural population lacked the knowledge to develop a modern farm profitably. With this situation in agriculture, the need to advise and train farmers, and improve their qualifications greatly increased.

After Lithuania regained its independence, in 1991, the Chamber of Agriculture, which had operated in interwar Lithuania, was restored. It is one of the oldest institutions in Lithuania providing consultations to farmers. Later, as the problem of farmers' lack of knowledge grew, on 1 June 1993 the Lithuanian Agricultural Advisory Service was established, the shareholders of which are the largest farmers' organizations – the Lithuanian Farmers' Union, the Lithuanian Association of Agricultural Companies and the Ministry of Agriculture of the Republic of Lithuania. LAAS works both as an instrument for the implementation of agricultural policy and as an institution meeting the individual needs of farmers. LAAS is the main and the first agricultural advisory institution with a developed network of services throughout Lithuania. The advisory network operating

throughout Lithuania allows to be close to the farmer, to solve emerging problems here and now, to provide qualified assistance and integrate advanced processes onto the farm, as well as perform complex studies. LAAS currently provides advisory services from forty-eight offices, employing a total of more than four hundred employees. Customers are provided with comprehensive accounting, business economy, plant production, animal husbandry, forestry, occupational safety and fire safety services. Training is provided for farmers and non-agricultural customers. LAAS implements national and international projects in order to take over good practice from foreign partners and implement constant innovations in its services.

There is no common agricultural advisory system in Lithuania, but there are several individual institutions providing individual advisory services to agricultural entities and other rural residents. According to the data of 2020, there are 13 accredited advisory institutions in the country and 282 accredited advisers. Since Lithuania became a full member of the EU and acquired the right to use the support mechanisms applied to the Member States, the number of advisers and advisory institutions has increased.

4. The agricultural and forestry advisory service(s)

The growth of agricultural advisory services is influenced by the fact that only about a quarter of those working in agriculture have finished agricultural studies, the multi-enterprise farms that predominated before are changing their structure, however, there are still farms with worn-out machinery, insufficient qualifications of employees and lack of farm management skills. Public and private institutions, as well as impartial advisers provide agricultural advice in the country. Suppliers of equipment, services and products, i.e. representatives of the business sector, advise on agricultural topics too.

In order to obtain more accurate and detailed information on the advisory services provided, clients of advisory services and institutions providing advisory services were asked to participate in an anonymous survey, answer questions about their advice and organization of the advisory process and thus contribute to the preparation of the Lithuanian AKIS description.

Ten national institutions providing advisory services took part in the survey, including public institutions, private limited companies, science and study institutions operating on a regional (3 of them), national (5 of them) and international (2 of them) level.

4.1 Overview of all service suppliers

Almost half of Lithuania's forests are state-owned. They are supervised and the right of trust is managed by the State Forestry Enterprise under the Ministry of Environment of the Republic of Lithuania. Most forest owners are not foresters. Most of them are not familiar with the legislation governing private forest management. Specialists of the State Forestry Service under the Ministry of Environment of the Republic of Lithuania are tasked with advising forest owners on all issues of private forest maintenance and controlling economic activities in private forests. Unfortunately, due to the large amount of work, they are not able to perform the functions assigned to them in time.

Specialists of regional offices of SE Lithuanian State Forests also provided advice for private forest owners, but after the reform implementation at the beginning of 2018 the advisory activities of SFE became non-priority.

Forest owners are also advised by specialists from commercial companies however, the consultations usually end with an offer to buy their services or sell the forest, and thus the forest owner receives biased advice.

Quality consultations are provided by the Forest Owners Association of Lithuanian, but its capacity is small and the advice is given online.

According to the 2020 data, 14 accredited advisers in Lithuania can provide professional consultations on forestry issues. There are 7 accredited forestry advisers at Kaunas College of Forestry and Environmental Engineering, 3 at LAAS, 2 at Vytautas Magnus University and 2 at the Chamber of Agriculture of the Republic of Lithuania.

Advice on forestry is also provided by LAAS advisers. The institution does not carry out economic activities in forests, does not cut, buy or sell them, therefore the provided consultations are impartial. Forestry advisers provide services and advice to all private forest owners and others interested in forestry development. The advice provided by LAAS specialists is paid, but private forest owners who have not received education on forestry, have an opportunity to use the project “Individual consulting of forest owners in their forest holdings” implemented by the Ministry of Environment of the Republic of Lithuania. It is a free 1-2 hour consultation on the management, maintenance, restoration, protection and use of the specific holding performed in the actual forest holding.

The main provider of agricultural advice in the country is LAAS. It is a network organization with advisory offices and professional advisers working in all districts of the country. In 2019, the Innovation Support Service was established in the Lithuanian Agricultural Advisory Service, the main objectives of which are to ensure constant cooperation with advisory, business, scientific and innovation institutions in Lithuania and abroad, to provide professional and responsible advice to agricultural entities, natural and legal persons on innovations, their trials and application in practice. The development of commissioned services in LAAS is significantly influenced by the Common and Lithuanian Agricultural Policy. The range of services is constantly changing; their development directly depends on the need for services.

According to the 2020 data, there are thirteen accredited advisory institutions in the country – scientific institutions, public institutions, private limited companies providing advisory services.

Suppliers of equipment, services and products also provide consultations to farmers. Compared to the advice provided by LAAS specialists, their consultations are of a narrower range and focused on a specific product or device they sell.

4.2 Public policy, funding schemes, financing mechanism, advisory service providers

Agriculture is almost exclusively a sector supported at European level, in contrast to most other sectors of the economy for which national authorities are responsible. It is therefore important to establish and implement a common public policy in the sector that ensures our food security and plays an important role in the use of natural resources and the economic development of rural areas. Support for farmers is essential in an unpredictable economic environment. It is a stable source of income independent of market fluctuations and changes. Recently, there has been an increasing emphasis on agricultural and environmental cooperation, as the agricultural sector has a significant impact on the EU environment and landscape. Regulation of agricultural activities is becoming one of the means to combat climate change, soil erosion, and conservation of endangered species. Farmers throughout the EU are encouraged to engage in environmentally friendly farming activities.

In 2004, after Lithuania's accession to the EU, the measures of the EU Common Agricultural Policy are administered by the National Paying Agency under the Ministry of Agriculture of the Republic of Lithuania. The activities and policy of the Lithuanian agricultural sector are determined by the common EU agricultural policy and the macroeconomic situation of our country. Although two large groups of economic entities can be distinguished, i.e. family farms, agricultural companies and enterprises, the country's agricultural sector remains fragmented, as 40 % of farms are smaller than 5 ha.

During the CAP period 2014-2020, it was planned to invest about 4.7 billion euros in the Lithuanian agricultural sector and rural areas. Prior to the start of this support period, key policy priorities were identified: job growth, sustainability, modernization, innovation and quality. At the same time, Lithuania has the opportunity to adapt direct payments and rural development programs to its specific national needs. In total, Lithuania's direct payments budget includes more

than 3.1 billion euros (according to 2018 data). Compared to the previous period 2007-2013, Lithuania has significantly increased its direct payments budget.

Agriculture is supported through the CAP. In Lithuania, as in the whole of Europe, its population is aging, therefore the involvement of new farmers in agriculture is extremely important. Support for young farmers is mandatory throughout the EU.

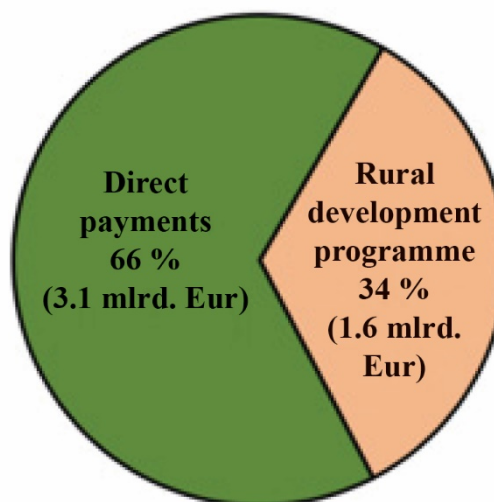


Figure 2 Distribution of CAP support in Lithuania

As the CAP period 2014-2020 is ending, there is a growing debate of the CAP future after 2020. The aim is to continue supporting agriculture under the CAP after 2020. One of the key objectives is to make the CAP simpler and more efficient in order to avoid unnecessary administrative burdens. The CAP importance for Lithuania is obvious – in period 2007-2020, 8.3 billion euros came as support for the agricultural sector. This support not only helps our country's economies to develop and modernize, but also to remain competitive in the European market.

In 2019, the White Paper on Lithuanian Rural and Agricultural Development was prepared and published by the Ministry of Agriculture of the Republic of Lithuania. The document describes the challenges, tasks and actions of the national policy until 2030. Rural and agricultural development strategy, development of competitive rural agriculture and other important issues are discussed. The solutions proposed in the document use technological and social innovations, and the latest applied scientific knowledge.

On 13 February 2015, the European Commission approved the Lithuanian Rural Development Program for the period 2014-2020. The Ministry of Agriculture of the Republic of Lithuania is responsible for the efficient and effective management of the Program and its implementation. The National Paying Agency under the Ministry of Agriculture of the Republic of Lithuania is the only accredited institution that administers support measures for agriculture, rural development and fisheries. The call for proposals is published by the National Paying Agency.

4.3 Human resources and methods of service provision

In Lithuania, the number of farms is significantly decreasing. This indicates a declining interest of the population in agricultural activities, which, compared to other activities, are more exposed to uncertainties related to climatic conditions, volatility and price fluctuations. In Lithuania, farms do not manage their risk sufficiently – in some years, especially when unfavourable climatic conditions or low purchase prices of agricultural products prevail, a large part of farms experience more than 30% decrease in net value added. Targeted advice from professional agricultural advisers can help plan farm activities, forecast and assess potential risks.

Currently, advisory services in the country are provided by 13 accredited institutions. Accreditation of advisory institutions and advisers is carried out by the PI Rural Business and Market Development Agency under the Ministry of Agriculture of the Republic of Lithuania. Accredited institutions include 4 public institutions, 6 science, training and study institutions, 1 state institution, and 2 limited liability companies. They employ 282 advisers. The readiness of an adviser to provide advice and training services is assessed on the basis of his / her education, advisory work experience and professional development. The advisory body and the adviser are accredited for a period of 3 years.

Agricultural advice, in particular on agricultural machinery or products, is provided by private advisers. They represent specific companies trading in agricultural machinery and products. Their advice is focused on marketed production. Consultations on the requirements of EU regulations and directives to ensure good agricultural and environmental condition, and similar issues are usually not provided by private advisers.

The total number of employees of the institutions participating in the survey is 1,177. The distribution of employees by number, gender and profession (advisers) is shown in the table below.

Table 7 Distribution of employees in institutions providing advisory services

Institution	Number of employees	Of which women	Number of advisers	Of which women
Institution 1	25	12	25	8
Institution 2	110	70	10	7
Institution 3	10	5	8	3
Institution 4	18	9	8	6
Institution 5	50	35	20	12
Institution 6	107	72	6	4
Institution 7	350	200	150	70
Institution 8	400	300	180	90
Institution 9	100	45	8	3
Institution 10	7	3	3	0

The table shows that the number of employees in institutions varies from 7 to 300 – 400. Institutions with a significantly higher number of employees than the number of advisers working in them mean that advising is not the main activity of these institutions. For example, the institution is engaged in scientific or study activities, but also provides advisory services to farmers.

Regarding staff turnover in the institutions, the six institutions surveyed said that the number of employees had remained the same over the last five years, two respondent institutions indicated that the number of employees had decreased over the same period, and two others said that the number had increased. One of the reasons for the reduction in the number of employees was the decision of employees to change jobs. The second reason was the reduced funding for R&D activities (R&D – research and experimental development), which were the main activities of the organization.

In terms of professional experience of advisers, the largest number of advisers have 10 years or more of professional experience, slightly fewer advisers have lower expertise, reaching 3-9 years. Those with only 1-2 years of experience and those with no advisory experience make up the smallest number. The distribution of the number of advisers is shown in the table below. Five out of ten institutions surveyed stated that their organization had a department, division or other structural unit responsible for strengthening staff competencies.

Table 8 Distribution of advisers by professional experience

Advisory experience (years)	0-3	3-10	more than 10
Number of advisers	23	85	128

Institutions were also asked to indicate the percentage of total advisers' time spent on learning / training. The results are presented in the table:

Table 9 Employee time allocated for training (%)

Institutio n 1	Institutio n 2	Institutio n 3	Institutio n 4	Institutio n 5	Institutio n 6	Institutio n 7	Institutio n 8	Institutio n 9	Institutio n 10
30%	30%	<i>not specified</i>	20%	<i>not specified</i>	5%	10%	<i>not specified</i>	40%	<i>not specified</i>

Advising takes place through direct contact with farmers, their visits to advisory offices or visits of agricultural advisers to farms or forest holdings, field days, seminars, discussion groups, and training using digital technologies (digital tools, apps, etc.).

Based on the survey data, it can be stated that the institutions use various methods and tools of advice. The most popular method of advising used by nine of the ten institutions surveyed is individual face-to-face communication with a client on the farm. The majority of institutions (seven) also indicated that they provided one-to-one telephone consultations. In addition, six institutions noted that the advice was provided through the Internet, various programs and mobile applications.

The year 2020 is different due to the global COVID-19 pandemic. All sectors, not just agriculture, have faced difficulties. In order not to lose customers, service providers had to take measures and try to adapt to the current situation. Advisory service providers are no exception. Recently, face-to-face communication with clients has been replaced by remote advising. In Lithuania, as in other countries of the world, consultations are provided, trainings and seminars take place remotely, organizing teleconferences using Skype, Skype for Business, Zoom Video Communications tools and various communication platforms such as Microsoft Teams and others. If necessary, agricultural advisers, following the

recommendations and safety requirements, go to farms, fields, and forestry specialists visit forest holdings, where they provide professional consultations.

4.4 Clients and topics / contents

Advising influences and shapes one or another attitude of farmers, helps to increase the competitiveness of farms, to promote the supply of high-quality agricultural products to the market, to increase the skills of farmers, and to deepen their professional knowledge.

According to the information provided by the surveyed advisory institutions, on average about 46 clients (farmers or agricultural institutions) apply for advisory services each year.

Based on other statistical surveys, advisory services and financial support tend to be used by younger farmers and forest owners with high or higher education having medium or large farms.

Similar trends can be observed when analysing the data provided by the institutions participating in this survey – advisory services are mainly used by younger farmers with small or medium-sized farms, as well as small or medium-sized enterprises. According to the statistical data of 2020, 60.94 % of the country's farmers are men, and 39.06 % – women. Four out of the ten institutions surveyed included women running farms among all their clients.

After 1991 land reform farmers mostly needed information on the management of farm enterprises. Later, there was a need to help understand the EU requirements, the specifics of business project preparation. If in the past there was enough advice on how farmers could develop their business profitably without harming nature, produce competitive products, survive and lead in a market economy, there has been a need for advice on precision and sustainable farming in recent years. Due to the digitalization process in agriculture, changes are taking place very rapidly, and due to the use of information technologies in agriculture, new ways of advising and knowledge transfer are emerging. A modern approach to modern agricultural technologies and advisory methods, effective communication with research and training institutions, and participation in the activities of international organizations such as the European Innovation Partnership (EIP) network are now crucial.

According to the information provided by the surveyed institutions, most of their advice is on plant production and animal husbandry. Consultations on forestry, vegetable growing and horticulture are in the second place, in terms of popularity.

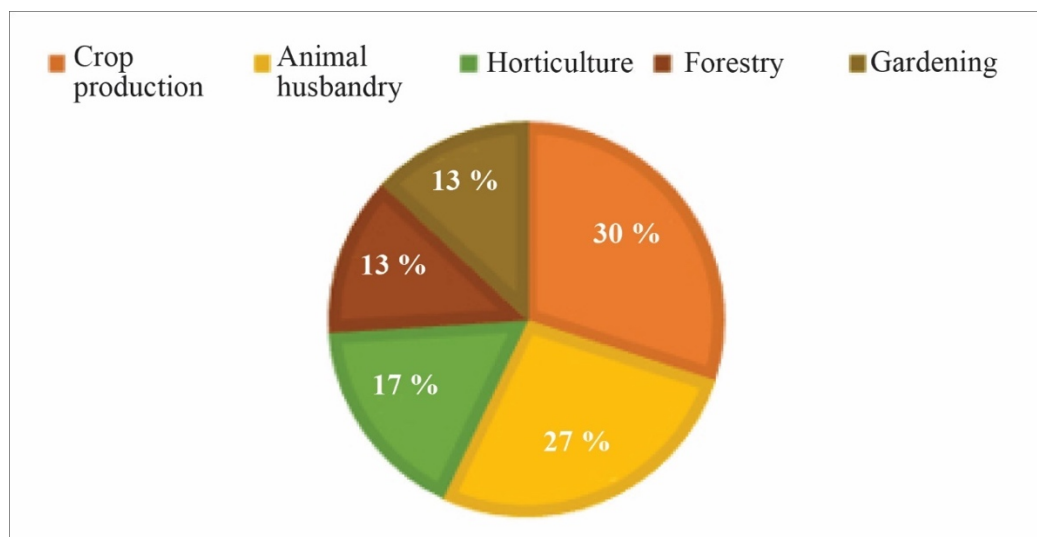


Figure 3 Distribution of advisory services by categories

Farmers address the institutions providing advisory services in the country also for advice on farm management, accounting, business economy, compliance with the requirements of good agricultural and environmental condition, application of technologies and other issues. Training services are also popular among farmers and forest owners, as farmers in the country, like farmers around the world, face challenges related to increasing farm competitiveness, adapting to climate change, implementing innovations, etc. LAAS is one of the largest providers of training services in the country, organizing classroom and distance learning courses. According to Dr. E. Makelis, Director of LAAS, “Farmers and their needs have grown. A new generation is coming. While evaluating this and following the examples of foreign advisers, we are looking for new ways to involve farmers in discussion groups, thinking about what they know and what they do not.”

In the near future, the role of organizations providing advisory services will remain to provide necessary information as clearly and widely as possible, to cooperate with scientific institutions in creating and implementing innovations, and to participate actively in the development of AKIS.

4.5 Linkages with other AKIS actors / knowledge flows

The activities of an adviser are based on constant cooperation with both clients – farmers and forest owners, and other advisers. Advisers are encouraged to participate in discussion groups where they have an opportunity to share their experience, learn from other advisers, participate in conferences, seminars and projects where not only new information can be obtained, but also contacts can be made at both national and international levels.

The links between the institutions involved in AKIS are illustrated in the diagram, which is described in great detail in sections 2.1 and 2.2 of this description. Institutions providing advisory services work closely with study institutions. For example, LAAS closely cooperates with VMU AA in various activities – they initiate and implement projects useful for agricultural development and farmers and cooperate in the development of future agricultural specialists together. Institutions providing advisory services also cooperate with scientific institutions, they participate in project activities with researchers, help farmers to transfer and implement the latest technological solutions on their farms, and apply innovations in practice.

In order to rationalize the development of innovations, disseminate new knowledge and accelerate the implementation and application of innovative products in practice, ensure more transparent cooperation and division of functions between the country's science, study and advisory institutions, in 2019 the methodology of inter-institutional cooperation was prepared by LAAS, VMU AA, the Lithuanian Research Centre for Agriculture and Forestry (LRCAF) and the Institute of Animal Science of the Lithuanian University of Health Sciences (IAS LUHS). Recognizing the importance of the latest research and innovation-based technologies, knowledge and innovation, all these institutions strive to provide farmers with the information they need in the most acceptable, fastest and cheapest way, and to provide better and more effective advice.

The institutions providing advisory services that participated in the survey were asked to indicate the intensity of their cooperation with other institutions (studies, science, public authorities, non-governmental organizations, etc.). The results are shown in the table below.

Table 10 Intensity of interinstitutional cooperation

	Intensity of cooperation		
Cooperation is carried out with	Strong	Medium	Weak
Study institutions		●	
Research institutions	●		
Authorities		●	
Farmers' organizations		●	
Non-governmental organizations		●	
Private organizations			●
EIP operational groups		●	

Based on the survey results, it can be seen that medium-intensity cooperation between different institutions of the country dominates. Cooperation is limited to what is necessary to ensure the quality of service provision and to perform all other functions performed by the institutions. In Lithuania, AKIS is fragmented, knowledge and innovations do not always reach farmers in the fastest and most efficient way. In recent years, however, the country's authorities and farmers have become increasingly involved in EIP action groups. In this way, farmers have an opportunity to work directly with researchers, business companies and advisers, can apply the latest technologies on their farms, receive scientific advice on how to make more effective use of innovation to increase farm output.

As the majority of the surveyed institutions are study and science institutions, they constantly cooperate with each other, implement joint projects and other joint activities, therefore the table of survey results shows that the cooperation between these institutions is strong.

4.6 Programming and planning of advisory work

Technological and structural changes are constantly taking place in agriculture. Farmers' decisions are influenced by the changing agricultural policy of the country, rural development goals, and the economic situation, which increases the need for information and advice. Agricultural advisory institutions encourage the advised farmers and other economic entities to seek knowledge and help to form decision-making skills.

The success of advising is determined by several factors such as competence and experience of an adviser, openness of a client, and mutual trust, but the most important factor is choosing and suitable application of a correct advisory method. The goal of institutions providing advisory services is long-term cooperation. The aim is to gain the trust of customers through competent work and regular communication. Specialists must take full responsibility for the advice and services provided, therefore they must constantly improve their qualifications, work closely with public authorities inspecting farms, constantly delve into farm requirements and the legal framework, and strive to ensure financial and economic security of clients' businesses.

Some institutions providing advisory services have administrative units responsible for enhancing the competencies of advisers. They are called differently in different organizations – human resource or human resource development departments, human resource services, training departments, etc. For example, LAAS has a Human Resource Development Division, which is responsible for identifying the need for training. In other words, this division collects information on which competencies need to be developed by the specialists. Then it plans and organizes relevant training sessions and seminars. The institution also has a Training Service Division, which is responsible for organizing training courses for advisers, farmers and forest owners.

According to the survey data, half of the institutions providing advisory services, which participated in the survey, have administrative units responsible for improving the competencies of specialists. The specialists of the institutions that do not have departments or services responsible for increasing the competencies of specialists improve competencies by participating in seminars, training courses, conferences, agricultural exhibitions both in Lithuania and abroad.

The table below shows the average number of days per year that advisers attend training on advisory topics.

Table 11 Number of training days a year

Institution	Number of training days (on average a year)
Institution 1	40
Institution 2	5
Institution 3	Not specified
Institution 4	80

Institution 5	Not specified
Institution 6	10
Institution 7	20
Institution 8	Not specified
Institution 9	5
Institution 10	30

The table shows that, on average, advisers spend 27 days a year on professional development. Despite the fact that some advisers spend more time on professional development and competencies, others – less, however, in order to keep up with constant changes and digitalization process, advisers are compelled to constantly deepen their knowledge, innovate to provide farmers and forest owners with quality advice. Farmers themselves are interested in innovations and innovative technological solutions, they visit exhibitions both in the country and abroad, communicate with farmers in other countries, therefore the specialists providing consultations cannot afford to lack behind.

The institutions surveyed were asked to indicate how much of their working time and what activities the advisers devote to. The results of the survey are presented in the table.

Table 12 Distribution of activities

Institution	Activities			
	Development of innovations	Consulting	Information dissemination	Training
Institution 1	20%	10%	10%	20%
Institution 2	10%	10%	10%	10%
Institution 3	not specified	not specified	not specified	not specified
Institution 4	20%	20%	20%	20%
Institution 5	not specified	not specified	not specified	not specified
Institution 6	5%	3%	37%	5%
Institution 7	10%	10%	10%	20%
Institution 8	not specified	not specified	not specified	not specified
Institution 9	40%	not specified	30%	30%
Institution 10	not specified	not specified	not specified	not specified

The data in the table shows that the distribution of time between different activities is quite similar. The remaining part of the time not indicated in the table is devoted to other activities not specifically mentioned.

The organizations have an incentive mechanism in their human resource development plan. Incentive procedures vary across institutions. In some institutions, advisers are paid salary bonuses depending on the number of contracts an adviser has entered into with clients over a period. In other institutions, the remuneration of advisers consists of two parts – a fixed part of the remuneration is paid, and the other part is earned by the adviser by providing services to clients, i.e. at the beginning of the year, the adviser plans how many services he intends to sell (to provide advice) and at the end of the year it is estimated how well he has performed. If the plan is fulfilled, the adviser receives the intended portion of remuneration. In some organizations, the adviser receives an incentive from each contract with the client. In still other organizations, advisers sell services to clients, and clients pay for the services provided. The adviser receives a portion of each payment for services from clients. Some of the institutions surveyed also mentioned the way of encouraging advisers with letters of thanks. In summary, the most popular way of incentive for activities is bonus pays.

4.7 Advisory organizations forming the FAS and evaluation of their FAS implementation

In Western European countries, farmer advising and education are supported by the state and considered one of the priorities. The provision on Lithuanian agricultural advising is prescribed in the strategic agricultural and rural development documents. Advising agricultural entities aims to increase the ability of farmers and other rural residents to benefit from EU structural fund subsidies and to improve environmental conditions. The goals and priorities of the advisory activities are determined by the changing agricultural policy of the country, goals of rural development, economic situation and needs of farmers related to these processes.

Advisory institutions and other institutions accredited by the Ministry of Agriculture of the Republic of Lithuania carry out advisory activities for farmers

and forest owners. Some advisory institutions provide advisory services to farmers in a comprehensive manner, while others focus their activities on the preparation of business projects and consulting on economic issues. High level of participation of farmers in submitting applications under various programs and measures shows that advising on the possibilities of EU support, on the implementation of projects and compliance with EU requirements is necessary. The success of support absorption depends on how farmers are informed about the requirements, therefore farmers need regular advice.

All EU countries have farmer advisory systems in place, which vary from country to country, depending on the country's economic and political situation, traditions and specific farm characteristics. In Lithuania, the advisory system is coordinated by the Ministry of Agriculture of the Republic of Lithuania. An institution under the Ministry is responsible for the accreditation of agricultural advisers. Institutions providing advisory services are responsible for information provision and organization of training to farmers.

5. Summary and conclusions

While summarizing the main structural elements of the agricultural and forestry sectors, it can be seen that the largest number of farms in Lithuania are from 1 to 5 ha of land. Farms with more than 500 ha of land make up the lowest number. In Lithuania, in terms of gender distribution, there are more farmer men than women and their age is over 41. In this context, the aim is to increase the number of young farmers, which will help to develop the agricultural sector and ensure continuous innovation. In terms of preparation for farming according to the education available, both men and women have more practical preparation for farming than the required vocational training in agriculture. In order to increase the number of specialists, i.e. the number of qualified farmers who would have the necessary knowledge for farm development and integration of innovations, institutions operating in AKIS organize qualification improvement courses and training sessions. One of such institutions is LAAS, which organizes various types of training courses taking into account the needs of farmers and today's market trends.

Regarding AKIS in Lithuania, the main communicators of information to farmers and forest owners are advisers who respond to ongoing changes in the agricultural sector and work with interactive tools to contribute to farm progress and convey professional, efficiency stimulating and innovation-friendly information. Consultations are provided by impartial and private advisers; impartial advisers do not represent one service or company, they provide advice that is necessary for the farmer, they do not seek to sell a specific service and take into account current needs of the farmer. Private advisers represent the business sector and provide a single service or a package of services, representing a particular company.

Effective co-operation of institutions interacting within AKIS can help to ensure the successful functioning of this system and the implementation of intended goals. It also determines what knowledge, innovations and necessary support farmers and forest owners will receive. It is important that a modern approach to modern agriculture and its opportunities are formed for farmers and participation in the activities of international organizations encouraged. In summary, it can be said that for farmers, the continuous acquisition of the latest knowledge provides a competitive advantage, helps to accept the challenges arising with the possibility of modernization, helps to improve qualifications and strengthen competencies.

In order to update the description of AKIS in Lithuania, a survey of institutions providing advisory services was conducted. The information obtained during the survey helped to identify the advisory services provided, client groups of advisory service providers, the nature of advice, etc. 10 accredited institutions providing advisory services participated in the questionnaire survey.

While taking into account the market analysis, it can be stated that consultations on forest issues are provided to forest owners by public authorities such as the Lithuanian State Forests, the State Forest Service, the Lithuanian Agricultural Advisory Service and private company advisers. Most of forest owners have no forestry education and have inherited or acquired forests for commercial purposes. The network of farmer advising is more developed, providing various types of consultations necessary for the development, profitable functioning and modernization of the farm. Great attention is also paid to raising the qualification of the farmer and his farm employees. One of the main advisory institutions in the country is LAAS, which provides complex services.

In order to keep the agricultural sector stable, funding schemes and public policy plays a very important role. The agricultural sector in Lithuania is supported by EU funds; agricultural policy is determined by the EU common agricultural policy. During the CAP period 2014-2020, support was provided to the Lithuanian agricultural sector in order to increase the modernization and stability of farms by encouraging young people to start farming. EU funding support also encourages farmers to contribute to the improvement of climate change, practice organic farming and sustainable use of necessary resources, and involve specialists from various sectors in farm activities in order to make the farm competitive and profitable. Within the country, the Ministry of Agriculture of the Republic of Lithuania is responsible for the formation and implementation of agricultural policy.

In Lithuania, institutions providing advisory services employ qualified specialists who can provide professional assistance to farmers, as advisers are accredited every three years. Accreditation ensures the ability of a specialist to provide high quality and competent services that meet the standards, which gives the farmer, as a client, more confidence not only in the institution where the required adviser works, but also in the adviser himself. After the survey, it was found out that in Lithuania, more women than men work in institutions providing advisory services, and they have many years of working experience. The analysis of service provision methods revealed that mostly individual consultations are provided to farmers,

less often – group consultations. The global pandemic is changing the situation in the labour market; institutions need to make new work organization decisions. Advisory services are no exception. Switching to remote services is taking place.

The survey results showed that the main clients of advisory services are young farmers. It can be assumed that they are motivated by a lack of experience in agriculture, and they seek to make the most effective decisions, not only with minimum time costs, but also with respect to finance. Young people are more flexible to innovation, change, and can therefore more easily accept the challenges of digitalization or robotics, which can often seem like a normal process. Older farmers have more experience, which also determines their willingness to rely on their experience in making various decisions. The main enterprise regarding which farmers apply for advice is plant production.

In Lithuania, the cooperation between the institutions participating in AKIS is of medium intensity. Institutions providing advisory services work closely with academic institutions as they train the necessary professionals who later become service-providing advisers. Another important aspect is that scientific institutions provide the latest research information, and transfer scientific and technological innovations. Strong cooperation with scientific institutions also ensures that the adviser can form a modern approach of the farmer to economic activities, make sustainable decisions, as today the farm does not cover only soil, water and air. Digitalization and robotization processes are beginning to “bring” robots, drones, autopilot tractors, etc. to farms, and advisers as well as scientific institutions are helping to speed up the adoption and implementation of these processes.

Professional qualification of advisers is of special concern in the institutions providing advisory services; a certain number of hours per year is set, which are allocated for participation in various training courses. Advisers are encouraged to participate in international project activities in order to acquire good practice from advisers from other countries, to strengthen their existing competencies with new knowledge and advisory methods. Both professional competencies and general ones are developed, which allows the adviser to provide comprehensive assistance to the farmer. According to the survey, the most commonly used form of incentive is a salary bonus.

Institutions providing advisory services in Lithuania receive funds necessary for their activities from the EU structural funds, the budget of the Republic of Lithuania and from those farmers who purchase the services. While assessing the



advisory system in the country, it can be stated that the help of the farm advisory system is effective and useful for farmers, it covers many areas of agriculture and helps the farm to expand and adapt to various environmental changes

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