

AKIS and advisory services in *Czech Republic*

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

Date: December, 2020

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Project funded under the Horizon 2020 Research and Innovation Programme under Grant Agreement number 863039.



THIS PROJECT HAS RECEIVED FUNDING FROM
THE EUROPEAN UNION' HORIZON 2020 RESEARCH
AND INNOVATION PROGRAMME
UNDER GRANT AGREEMENT N. 863039

Executive summary

This report represents an output of the i2connect project. It is one of the country reports that were produced in the year 2020 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 agriculture and forestry sector in rural areas. AKIS provide farmers and foresters with relevant knowledge and networks around innovations.

The main aim of the report is to provide a comprehensive description of the Agricultural Knowledge and Information System (AKIS) in the Czech Republic, with a particular focus on advisory services in agriculture and forestry. The description includes history, policy, funding, advisory methods, main actors and a section based on survey among the providers of advice. The report updates and expands the PRO-AKIS country report of 2013/2014.

In the Czech Republic, agriculture areas cover approximately 4,203,700 thous. ha of land, i.e. 53,3% of CR area (MZe, 2019a). In the agricultural holdings structure, there is a high share of legal entities with average area 529 ha of agriculture land. While for the natural persons, it is only 26 ha. In addition, 69.3% of land is managed by 10.0% of legal entities, while natural persons, who make up almost 90% of all entities, manage only 30.7% of the land. Agricultural land is mostly rented.

Forest lands currently cover an area of 2,675,670 ha, which represents 33.9% of the total area of the state. The largest share of forests in terms of area (47%) is managed by the state enterprise Lesy České republiky (LČR). This fact strongly influences the advisory services in this sector.

Advisory knowledge and information system in the Czech Republic can be described from more points of view. One of them is strategy point of view, it comprises of 4 levels: Introduction consultation; Professional consultation and Special advisory services; Individual advisory service; Providing information. The other is from the fund point of view, it can be divided into state organizations, state-contributed organizations (Institute of Agriculture Economics and Information, Paying agency), semi-state-funded organizations (Universities,

research institutes), farmer based organizations, NGOs, private advisory organizations (including organization with advisory component and new organization based on the European and national support (Demonstration farms, Technological platforms, Operational groups, etc.). Thanks to the strong EU initiative, the Czech AKIS is developing dynamically.

The results of the survey confirm the outcomes of previous researches and report from PRO-AKIS project. The advisors mostly use face to face methods for giving advice mainly in farms. The personal linkages (of schoolmates) are an additional benefit.

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Abbreviations

AO	Advisory organization
AKIS	Agricultural Knowledge Information/Innovation System
AOPK	Agentura pro ochranu přírody a krajiny (eng. Nature Conservation Agency of the Czech Republic)
CR	The Czech Republic
CAP	Common Agricultural Policy
EU	European Union
FAS	Farm Advisory Services
FBO	Farmer Based Organization
IAEI	Institute of Agricultural Economics and Information
IAFI	Institute of Agricultural and Food Information
LČR	Lesy České republiky (eng. Forest of the Czech Republic)
LPIS	The Land Register by User Relations
MZe/MoA	Ministerstvo zemědělství (eng. Ministry of Agriculture)
MikroAKIS	Farmer personal network of advisory providers
NGO	Non-Government Organization
OWAS	Organizations with advisory component
RDP	Rural Development Plan
SME	Small and Medium Enterprise
VÚMOP	Research Institute for Soil and Water Conservation
VÚRV	The Crop Research Institute
ZPF	Zemědělský půdní fond (eng. Agricultural Land Fund)

1. Main structural characteristics of the agricultural and forestry sector

The Czech Republic (CR) belongs to the temperate climate zone, there is a mixture of coastal and continental climate. The long-term precipitation normal (1981-2010) is 686 mm per year, in 2018 only 522 mm of precipitation fell. The Czech Republic has an area of 78,867 km², of which the Agricultural Land Fund (ZPF) in 2018 accounted for more than half of the total area of the Czech Republic (53.3%), compared to 2017 it decreased by 1.6 thous. ha. The whole agricultural area is divided into 10 916 thous. land plots with an average area of 0.39 ha. Arable land accounts for 37.6%, recorded a slight decrease of 0.2% and a slight increase was identified in permanent grassland by 0.5%, the area of which is represented by 12.72% of the land. The area of forest land remained approximately the same as in 2017, i.e. 33.9%. In the Land Register by User Relations (LPIS) there are about 339 thous. soil blocks of agricultural land. Most of them are registered in the category up to 1 ha (85 thousand), then in the category 2–5 ha (50 thousand). (MZe, 2020a)

Forest lands currently cover an area of 2,675,670 ha, which represents 33.9% of the total area of the state. The largest share of forests in terms of area (47%) is managed by the state enterprise Lesy České republiky (LČR). Other state forests (Military Forests and Estates, National Parks, AOPK, etc.) occupy an area of approximately 10%. Another 19% of the total area of forest land is managed by private owners. (MZe, 2020a)

Employment in agriculture can be considered practically stable in recent years. In 2018, the number of employees in agricultural enterprises was about 100.2 thous. Their share in total employment in the national economy of the Czech Republic was 1.9%. (MZe, 2020a) The proportion of employees in the forestry sector is relatively small, standing at only 0.6% (Toth at all, 2019).

Rural municipalities (municipalities with less than 2,000 inhabitants) represent almost 89% of all municipalities in the Czech Republic, occupying almost ¾ areas of the state (72.5%), but they contribute significantly less to the total population (only about 27%). (MZe, 2020a)

2. Characteristics of AKIS

2.1. AKIS description

Advisory knowledge and information system in the Czech Republic can be described from more points of view. In this report, two of them will be described and illustrated by figures. The first one from the point of view of the official strategic documents and the other from the fund point of view.

According to the Conception of Advisory Services (MZe, 2016) and the Conception of Education (MZe, 2014), AKIS comprises of 4 levels (Education; Methodological transfer and research findings; Certification; Farm advisory system) related to the kind of providing services, however the services are related to each other. For the graphical illustration see Figure 1.

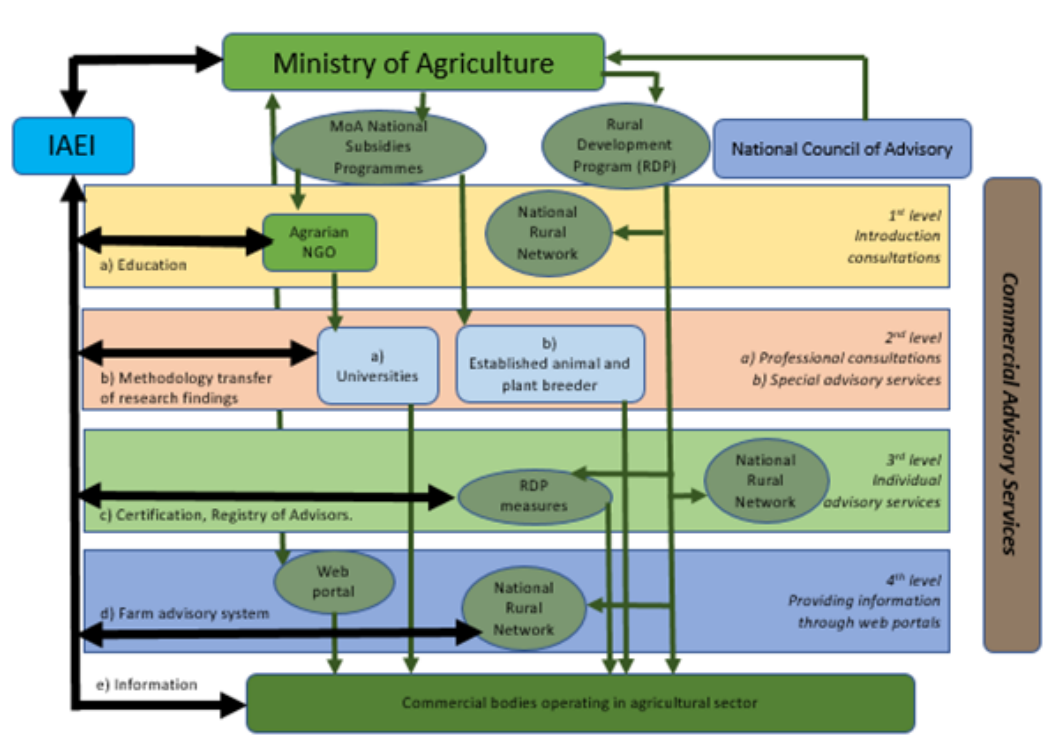


Figure 1: Advisory and Knowledge Information System in the Czech Republic (actualization of Pulkrábek, J., Pazdera, K. (2014) in Mrnušík Konečná (2018))

The supporting level is the Ministry of Agriculture (hereinafter referred to as the “MoA”), Paying agency and Institute of Agricultural Economics and Information (hereinafter referred to as the “IAEI”) which are responsible for the preparation

and implementation of rules (laws and subsidies). The first level - *Education and introduction consultation* - ensure the widespread awareness and knowledge base in the agriculture and forestry. The second level – *methodology transfer of research, professional consultation and special advisory services* – is represented by the research and education sector (universities and research institutes), which produce and transfer new knowledge into AKIS. The third level - *system certification and accreditation* - identify those who prove the state requirements on knowledge in the agricultural and forestry topics. The fourth level – *FAS and web portals* – provide actualities and information to wide range of clients.

The official bodies of the advisory system of the Ministry of Agriculture are the National Council for Advisory and Education for Agriculture and Rural Development and the Institute of Agricultural Economics and Information. The conceptual and managing body of the advisory system is a professional department of the Ministry of Agriculture, which is responsible for counseling. The task of this department is to create conditions for the provision of advisory services and to connect the professional activities of individual professional departments of the Ministry of Agriculture and the programs managed by them. To create a comprehensive system of counseling, the Ministry of Agriculture proposes and administratively provides support programs from national subsidies and further methodically directs and supports the activities of individual elements of the system. The National Council for Guidance and Education for Agriculture and Rural Development (hereinafter referred to as the "National Council") is an advisory and initiating body of the Ministry of Agriculture. The activities of the National Council are governed by the Statute and Rules of Procedure. The Ministry of Agriculture uses the provided recommendations, suggestions and comments of the members of the National Council for its activities and thus ensures the participation of representatives of professional and agricultural non-governmental organizations in the creation and setting of advisory and educational goals, procedures and evaluations. The Institute of Agricultural Economics and Information is a state-subsidized organization of the Ministry of Agriculture and its activities include education and counseling, among others. The Institute is responsible for keeping the Register of Advisors accredited by the Ministry of Agriculture and checking the accuracy of the data stated in it, administrative acts connected with the accreditation procedure and fulfilling the duties of an advisor, and also provides control activities for advisers accredited by the Ministry of Agriculture. If necessary, it organizes educational events for

lecturers and consultants of the advisory system of the Ministry of Agriculture and prepares methodological materials. To ensure this goal, it also coordinates the professional activities of scientific research institutions; The consulting activity of these institutions is an important means of transferring the results of science and research into practice. In the programming period 2014–2020, within the RDP operation 16.1.1 - Operational groups, the training department IAEI trains and consults selected innovation intermediaries (so called innovation brokers), whose task is to establish operational groups in the field of agriculture or food and to develop a joint project in cooperation with individual members of these groups.

From the fund point of view, AKIS can be divided into state organizations (Ministries, Paying agency, AOPK), state-subsidized organizations (Institute of Agriculture Economics and Information), semi-state-funded organizations (Universities, research institutes), Farmer based organizations, NGOs, private advisory organizations (including organizations with advisory component and new organizations based on the European and national support (Demonstration farms, Technological platforms, Operational groups, etc.). List of AKIS actors see in chapter 4.1.

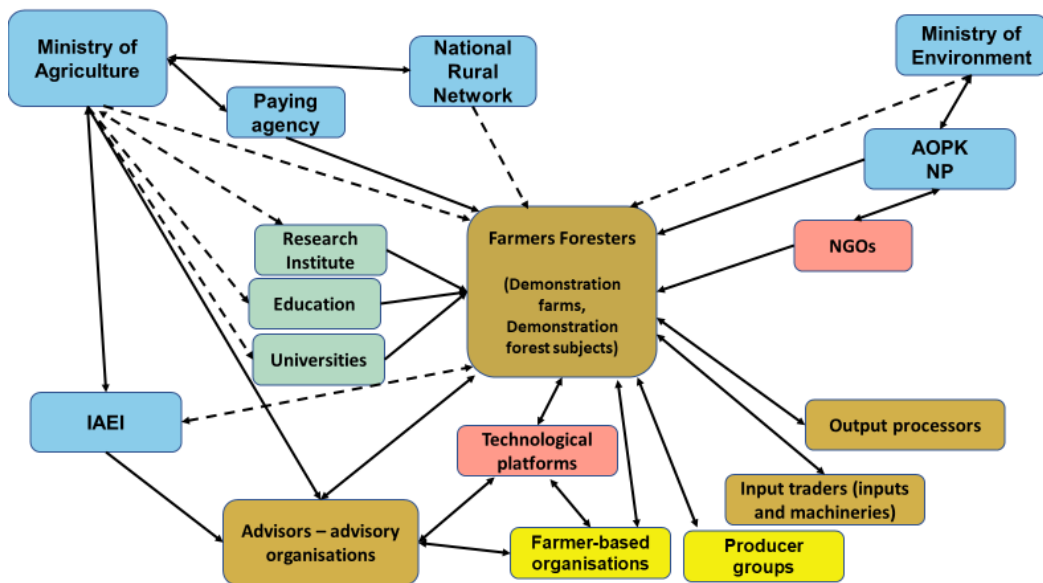
Thanks to the strong EU initiative and new technology boom, the Czech AKIS is in transition to ensure the spreading of new information and knowledge. MoA tends to subordinate the responsibility for quality of advisors supported from public money to organization closer to farmers. Therefore, the Institute of Agricultural Economic and Information went through the process of accreditation by Czech Accreditation Institute to get state accreditation rights. The process was finalized at the end of the year 2020. This change should facilitate flexibility of advisory environment.

The coordination of forest management is largely influenced by the fact that the state is the majority owner. The Ministry of Agriculture supports forest management in the form of services for forest owners and in the form of financial contributions. The services for forest owners include fire-fighting services, both aerial and terrestrial. Then there is the Forestry and Game Management Research Institute, which provides an advisory service, for example, in the field of forest protection, called the Forest Protection Service. Aerial liming and fertilizing are also included in the category of services.

Financial contributions from the MoA budget are provided for the restoration of forests damaged by emissions, skidding or dragging by horse and for processing forest management plans. In the area of game management, financial contributions are provided for users of hunting grounds and for breeding and training national breeds of hounds and birds of prey. (MoA, 2020)

In chapter 2.2, there is diagram of the Czech AKIS based on the analysis for new RDP (MZe, 2020a), the Country report AgriLink (Mrnušík Konečná et al., 2019), and the discussions with representatives of AKIS actors.

2.2. AKIS diagram



Legend

- | | |
|--|------------------------------------|
| ■ Public authorities | — Strong Linkage |
| ■ Research and education organisations | - - - Weak linkage |
| ■ Private sector (for profit) | → Unilateral knowledge flow |
| ■ Third sector farmer/farmer-based organisations | ↔ Bilateral knowledge flow |
| ■ Third sector NGO (non-profit) | |

Figure 2: AKIS model

3. History of the advisory system

As mentioned in the Pro-AKIS report (Pulkrábek J., Pazderu K., (2014) “before 1990, farm advisory services practically did not exist in the Czech Republic. Professional activities were carried out by state farm and agricultural co-operative specialists. Information transfer and space for the exchange of experience were provided through district and regional consultation meetings of agronomists, zootechnicians, etc.

Advisory services, as we understand them in their present state, were established in the years 1990-1992. In view of large changes in ownership of land and farm buildings legislative advisory and solving of transformation problems prevailed in advisory services. At the same time, the subsidies granted by the Ministry of Agriculture since 1992 to the advisory services sector fulfilled several purposes. Initially they supported the establishment and future development of the advisory sector which did not exist at that time and the initial activities of the first specialist advisors. ... In 1999 the Ministry of Agriculture prepared, from existing experience, the Conception of farm advisory services. It was created as an instrument for system-based consultative activities and for regulating provisions of means from public sources on the base of sector advisory programmes. At the same time the necessity to disseminate information and spread non- commercial advisory services formulated the so-called advisory services in public interest provided by employers from agriculture sector research institutions. Later these people worked as methodologists in advisory systems. An important stage in the advisory system development was the provision of advisory assistance through advisory groups (1998-2002), widely accepted by the agricultural public and later highly appreciated in the following EU evaluations. The system led to the creation of a farmer association with the objective to solve similar production problems. ... After the Czech Republic joined the European Union advisory system was harmonized with EU law. The Council Regulation established new priorities for granting aid in the framework of CAP and led to the creation of a new Conception of Farm Advisory Services for the period of 2004-2010. The aim of that conception was to prepare the Ministry of Agriculture and the whole agriculture sector on obligatory establishment a complex agriculture advisory system from 1st January 2007, minimally for the scope of legal requirements relating to farm management with regards to proper agro-environmental conditions. ... A part of the implementing powers was delegated to the Institute of Agricultural and Food

Information (IAFI, after 2008 as IAEI), which was also charged, in addition to the function of an inspection authority (in cooperation with the Forest Management Institute) with the function of the operator of the Register of Consultants kept within the Ministry of Agriculture Registry of Advisers, and with performing administrative acts connected to the certification or accreditation of advisors. The requirements relating to the preparation of the advisers and the professional competence thereof were established by the Accreditation Directive of the Ministry of Agriculture in 2002.

The Ministry of Agriculture also established the broad National Council of Advisory Services for Agriculture and Rural Development as a consultative institution and used its keynotes, recommendations and remarks arising from regions and agri-business participants for the optimization of their decisions. On a regional level MoA supported the Regional Information Centers, mostly originated in the frame of NGO institutions for directing information flow to final users.

Conception put emphasis on the creation of advisory programmes and its realization. From 2004, advisory programmes were directed to the support of legal requirements in the sectors of water protection, animal welfare, transitional farming and organic farming methods, optimization of farming. The interest in the advisory services oriented in this way was constantly growing. “

In 2013, the Regional Agricultural Agencies were absorbed by Regional centers of Paying Agency. Nowadays, the main information sharing is provided by the farmer-based organizations, benefited from state and private sources.

Up to 2020, only personal advisors could be accredited.

In 2020, the IAEI got certification right and prepared the system of organization accreditation. The Organization accreditation is focus on approving process of the of the organization's advisory plan and its compliance.

4. The agricultural and forestry advisory service(s)

Resources for this chapter are based on the strategic document (mainly prepared for new CAP), opinions of the Czech experts (including representatives of government, advisors, researchers, academic, farmers) from the working group for Knowledge Transfer, research papers, and finally from the online survey among advisory bodies.

In the survey, we addressed 190 advisory bodies (only 20 responses came back). The 18 Advisory bodies are focus on agricultural topics and 2 Advisory bodies give advice for forest providers. The number of responses is not representative for the Czech Republic, however, the main results are in harmony with the strategic documents, research papers and experts' opinions.

The Czech Republic is consistent in its advisory environment in terms of rules and financial support.

4.1. Overview of all service suppliers

As mention in Chapter 2.1, according to fund point of view, the Czech AKIS can be divided into

- State organizations
 - o Ministry of Agriculture
 - National rural network
 - o Paying agency
 - o Ministry of Environment
 - o AOPK
- State subsidized organizations
 - o Institute of Agriculture Economics and Information
- Semi-state-funded organizations
 - o Universities,
 - o Research institutes
 - VÚMOP
 - VÚRV
 - others
- Farmer based organizations
 - o Association of private farmers
 - o Agricultural Association of the Czech Republic
 - o Agrarian Chamber

- Producers group
 - o Association of Oilseed Growers and Processors
- NGOs
 - o Czech Society for Ornithology
 - o Daphne or Juniperia
- Private advisory organizations
- Organizations with advisory component
 - o Supplier with advisory services or research department
 - o Private research organizations
- new organizations based on the European and national support
 - o Demonstration farms (supported from 2017)
 - o Technological platforms
 - Czech technological Platform for Agriculture (supported from 2016)
 - o Operational groups (supported in RDP)

The accredited advisors can be freelancers as well as employees of some of the organization listed above.

In general, in the farmers MikroAKIS (Mrnušík Konečná et al., 2019) the most frequent advisory service providers are the input and machineries suppliers (where the advice is included into the price of service), other are the peers, then the active accredited advisors and researchers.

In our survey we have 3 organisations with advisory component (including 2 private and 1 university); 3 advisory organisation (including 2 private and 1 research organization) and 14 advisors – freelancers (including 3 women and 11 men).

4.2. Public policy, funding schemes, financing mechanisms, advisory service providers

There are two significant resources of funding scheme, the RDP measures and national subsidies.

RDP measures

Particular RDP measures are M01 (Knowledge transfer and information events) and M16 (Cooperation). The measure M02 (Advisory services) was prepared, but never running by the Ministry of Agriculture.

M01 Knowledge transfer and information events

The aim of the measure is to strengthen the knowledge base and support the transfer of knowledge in agriculture, food and forestry.

M01 is divided into two operations:

1.1.1 Educational events

1.2.1 Information events

M16 - Cooperation

The common objective of the measure is to strengthen research, technological development and innovation, increase the competitiveness of small and medium-sized enterprises in the agricultural sector and aim to contribute to competitive agriculture, food and forestry and the sustainable development of natural resource management.

The M16 is divided into 6 operations:

16.1.1 Support for EIP operational groups and projects

16.2.1 Support for the development of new products, processes and technologies in primary agricultural production

16.2.2 Support for the development of new products, processes and technologies in the processing and marketing of agricultural products (Food Innovation)

16.3.1 Sharing devices and resources

16.4.1 Horizontal and vertical cooperation between actors in short supply chains and local markets

16.6.1 Horizontal and vertical cooperation in the sustainable provision of biomass for energy production, food production and industrial processes

The national subsidies

The national subsidies offer the whole range of measures. The rules of national subsidies are described in Principles Setting the Conditions for the Provision of Subsidies for the Year 2020.

Particularly:

9.A Special advice

- 9.A.a. *Special advice for animal production in relation to Act No. 154/2000 Coll. It is support for organization of seminars and training.*
- 9.A.b. *Special consultancy for crop production.*

9.E. School competitions

Support for the connection of practice and vocational education.

9.F. Support for agricultural advice

- 9.F.e. *Regional transfer of information*
- 9.F.i. *Professional consultations*
- 9.F.m. *Demonstration farms*

9.H. Support for participation in international fairs and exhibitions abroad

- 9.H.a *Support for participation in international fairs and exhibitions abroad under the auspices of the Ministry of Agriculture*

9.I. Support for the improvement of practical training in productive fisheries

9.J. Improving practical training in beekeeping

10.D. Support for European integration of non-governmental organizations

10.E. Support of technological platforms within the competence of the MoA

- 10.E.a. *Support of the Czech Technology Platform for Food*
- 10.E.c. *Support of the Czech Technological Platform for Organic Agriculture*
- 10.E.d. *Support of the Czech Technological Platform of Plant Biotechnologies (Plants for the Future)*
- 10.E.e. *Support of the Czech Technology Platform for Agriculture*

A detail description of subsidies is in the appendices.

In our survey, all organizations are receiving the „Cost-recovery from farmers (fee for service financing)“. Three organizations have “National/Regional government funds (public funds)“. One has „Contribution (membership fee)“. One organization receives funding for research project of innovation. Two organization increase their budget by expand to new regions or activities or by implementation of research/innovation on the farm.

4.3. Human resources and methods of service provision

Human resources in organisation get from the survey have in average 42 employees (including 19 women), in which 6 are advisors (including 2 women). 4 of 6 organizations have person in back-office activities (approx. 6 per organization).

The organisations with advisory services have significantly more of high educated advisors with PhD. degree (in range 1-9) than the advisory organisations (the range 0-1 of employee with PhD degree). Advisors from one organization must have the Integral forest cultivating, due to forest orientation of organisation.

Majority of advisors (30 from 37) have more than 10 years' experience.

Just for clarification, organizations as such are not certified, but their advisors are. In case the organization is small or almost everyone in the organization are certified (they have a certificate in their part) then it is considered certified (but it is not an official status). According to the new proposal for strategic plan CAP 2021+ (MZe, 2020a), it will be possible to certify the organization in the future, but the process has not started yet.

In our survey, all organizations have at least one accredited advisor (in average they have three accredited advisor per organization).

Three organizations have the staff development strategy.

One advisory organization have a trainer/training unit responsible for developing staff capacity. The training of advisors in almost all organizations are ensured by external education and training events. They attend the at least 4 days of compulsory trainings to keep the accreditation. One organization has one-month course for their advisors. In average it is 10 days per year per advisors.

One organisation has reward system for their advisors according to the economic results.

From our 6 organizations in the survey, only 4 organization were evaluated for this question of proportion of time dedicated to the advisory activities, one

organisation do not fill-in the question and one organisation spread only 30 % of its capacity.

From 4 evaluated organization, the most frequent area of advice are “Information dissemination (face to face, via digital tools)” and “Targeted consultation services (business plans, credit/subsidy application, etc.)”

4.4. Clients and topics

The number of clients vary from 2 to 50 for freelancers and from 50 to 120 clients for organizations. In average the freelancer has 20 clients and organizations about 80 clients. Clients have long-term contracts, so the number of newly concluded contracts varies in units per year.

The most frequent target groups are “Farmers with small/medium-scaled farms” following by “Farmers with large commercial farms (>100ha)” and “Small and Medium Enterprises (SMEs)”. Further client group are the foresters.

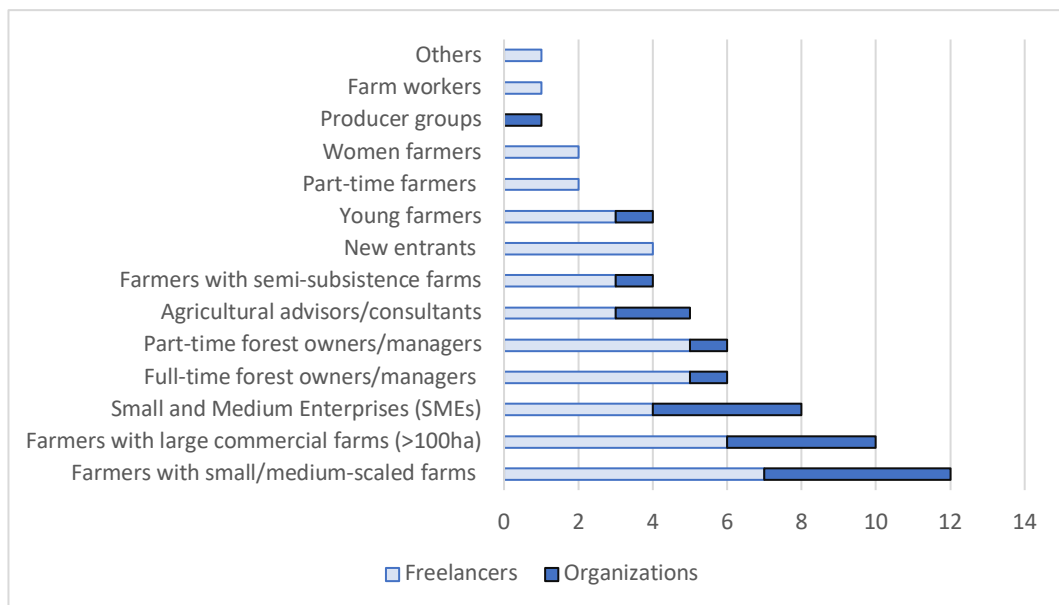


Figure 3: Type and frequency of client groups

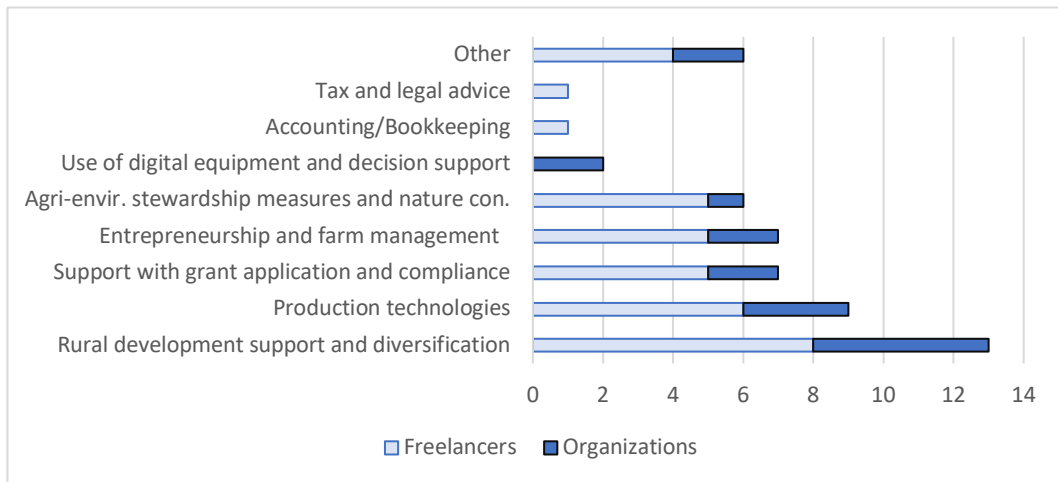


Figure 4: Type and frequency of cross-cutting advisory topics demanded by client

The most frequent are “Rural development support and diversification (farm/forest)”(13), “Production technologies”(9), “Support with grant application and compliance with regulation and standards”(7) and “Entrepreneurship and farm management”(7).

Among other topics the respondents mentioned: Growing technologies of crops, diagnostics of plant nutrition, innovation of crops and technologies of agricultural primary production; Consulting service includes representing the client in legal and technical matters in the fields of energy, environment, health and safety, fire protection, or. others (based on accreditation certificates); Animal nutrition, animal, RV, organic farming; Plant protection (2x); Consulting in the field of occupational safety.

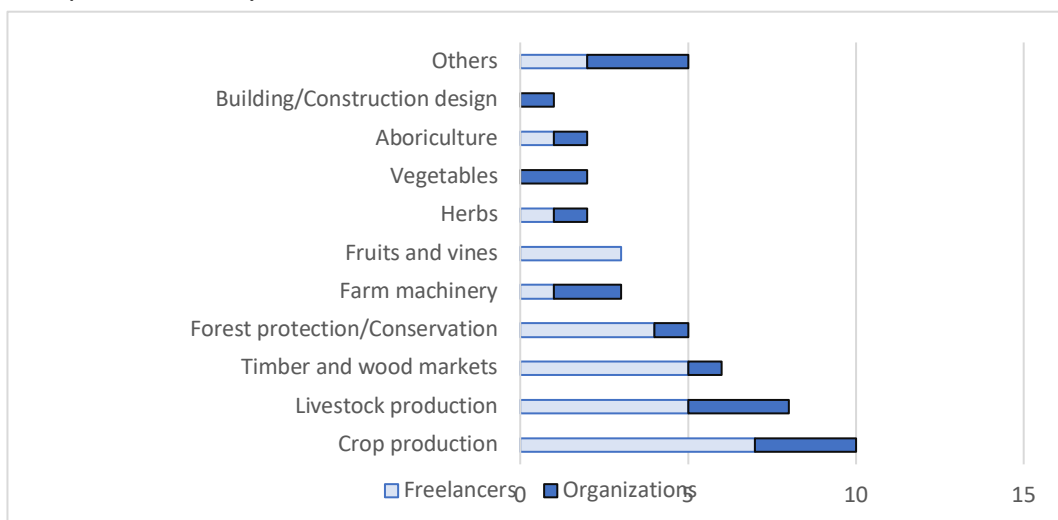


Figure 5: Type and frequency of topics provided by organizations

The most frequent topics are “Crop production”, “Livestock production” and “Timber and wood markets”.

Among other topics the respondents mentioned: Forest cultivation; Integrated forest management; Subsidy conditions, basic valid operating legislation; consulting service includes representing the client in legal and technical matters in the fields of energy, environment, health and safety, fire protection, or. others (based on accreditation certificates); work safety; soil and water conservation.

There are no outsourced topics.

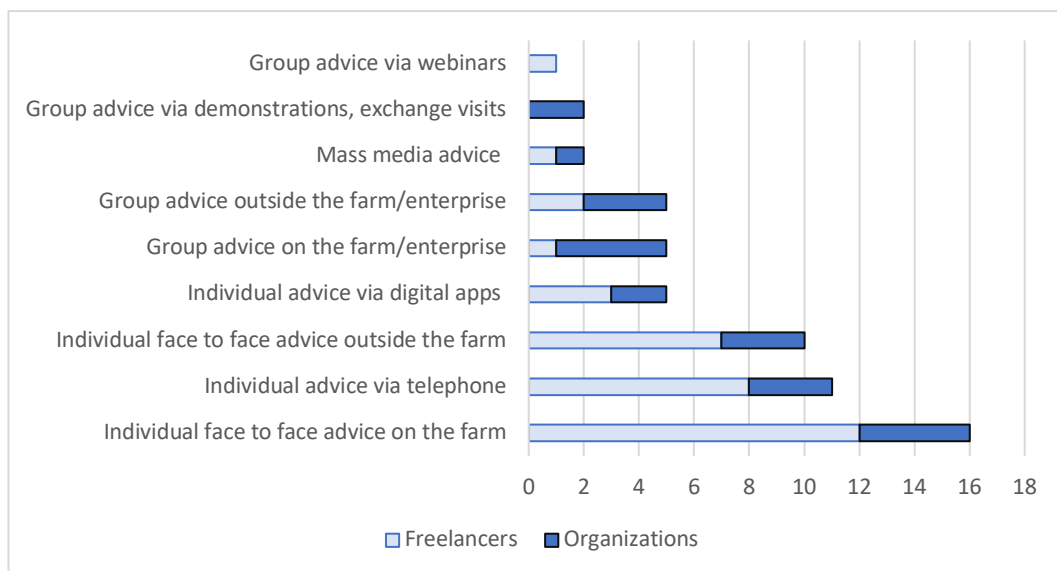


Figure 6: Type and frequency of methods

The most frequent advisory method is „Individual face to face advice on the farm/enterprise“. Further advisory methods are „Individual advice via telephone,“ and „Individual face to face advice outside the farm/enterprise (e.g. advisory office)“.

The proportion between individual and group method are for organization almost equal. For freelancers are the individual methods more frequent. Interesting is that all 3 women from sample are fully for Individual method of advice.

The COVID 19 situation cause that 7 freelancers and 4 organizations change their providing of advice. Particularly, due to the COVID 19, 11 advisory providers had to decrease the personal meetings with farmers and on the farm and increase the use of mail, phone media to communicate with farmers.

4.5. Linkages with other AKIS actors/knowledge flows

To evaluate the cooperation among survey respondents and other AKIS actors, we calculated the weighted average by express the importance of each level of cooperation. We assign to each of cooperation level the coefficient (i.e. no cooperation - 0; weak cooperation - 1; medium cooperation - 2; strong cooperation - 3). Finally, we count the weighted average by freelancers, organizations and the total sample.

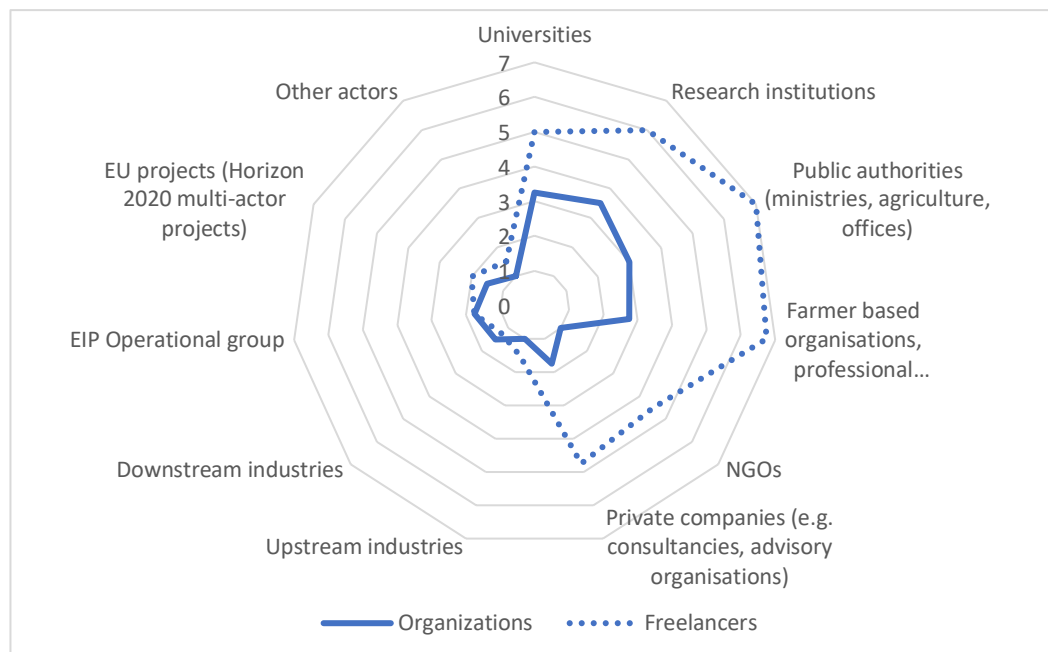


Figure 7: Type and frequency of cooperation among actors

The Figure XY demonstrate that the freelancers are more cooperative than organizations. The reason for that could be the incorporation of many back-office activities in organization structure, therefore lower need for cooperation outside the organization.

4.6. Programming and planning of advisory work

In our survey, three organizations have the staff development strategy. Only two organizations specified the strategies. One is a Private/Commercial advisory organization and its strategy is target “areas of energy, safety and health at work,

fire protection, inspection activities and agricultural programs under discussion”. The other is University-based/Research-based advisory organization its strategy is focus to “complex land consolidations, pedology, formation and exploitation of landscape”.

According to the expert opinion, the Czech company do not support the staff development strategy beyond the compulsory ones (such as fire security, work security).

One advisory organization has a trainer/training unit responsible for developing staff capacity. The training of advisors in almost all organizations are ensured by external education and training events. They attend at least 4 days of compulsory trainings to keep the accreditation. One organization has one-month course for their advisors. In average it is 10 days per year per advisors.

One organisation has reward system for their advisors according to the economic results.

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

Accredited advisors are an important part of AKIS. Their professional quality is proved through accreditation. The aim of accreditation is to make a qualification background for the functional agriculture advisory system and guarantee the professional competence of agricultural advisors registered in the public database - the Registry of Advisers MoA. Generally, efforts are aimed toward maintaining the wide reach of FAS, but with rules regarding a basic minimal frame. Advisors in FAS are educated as universal, broadly oriented and professionally qualified to help farmers with their problems.

Accredited advisors are a compulsory part of AKIS. Their professional quality is proved through accreditation. In the previous program period RDP 2007—2013, thanks to the support of the Advisory services, there were about 300 accredited advisors. Due to no implementation of Measure 02 - Advisory services in RDP 2014-2020, the current number in Register of accredited advisors is lower, about 191 accredited advisors. In 2013, there were 260 active accredited advisors.

Accredited advisors are mostly private natural bodies; the percentage of female advisors from the Registry of Advisors was on average 22%. More females work at corporate bodies in administrative positions.

Most of the advisors in the Registry are advisors for Plant production rather than animal production (figure 8). Some advisory bodies are accredited in two or three advisory subareas. Advisors mostly use an individual model of advisory work on farms, but sometimes, in case of similar problems, they use group (two or three) consultation.

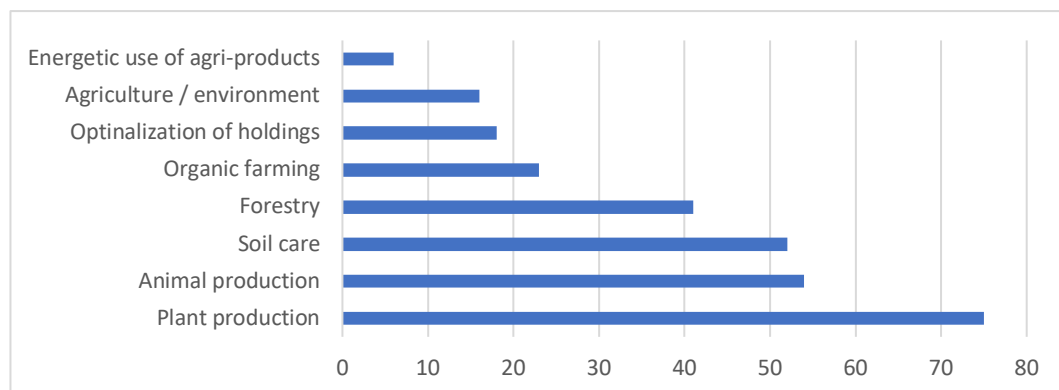


Figure 8: Numbers of accredited advisors from the Registry of Advisors in 2020

5. Summary and conclusions

5.1. Summary and conclusions on sections 1 – 3

This report updates and expands the PRO-AKIS country report of 2013/2014 in history, policy, funding, advisory methods, main actors of current Czech AKIS.

The modern advisory environment in the Czech Republic has become established after 1990 and were strongly influenced by the entrance to the European Union in 2004. However, actually means to support advisory services are mainly from national subsidies.

In national subsidies, there are supported the whole range of activities: Special advice for crop and animal production, the connection of practice and vocational education, Regional transfer of information, Professional consultations, Demonstration farms, Training in productive fisheries, in beekeeping and the Czech Technology Platform for Food, for Organic Agriculture, Platform of Plant Biotechnologies (Plants for the Future) or for Agriculture.

In RDP, there are supported the group knowledge transfer like seminars, information events and different kinds of cooperation among different type of AKIS actors. Unfortunately, the support by M02 advisory services was not implemented in RDP 2014-2020 and it cause the lower willingness of advisors to be accredited.

Most of the advisors in the Registry are advisors for Plant production rather and animal production. Some advisory bodies are accredited in two or three advisory subareas. Advisors mostly use an individual model of advisory work on farms, but sometimes, in case of similar problems, they use group (two or three) consultation.

The AKIS structure and actors were described from two point of views, according to strategic documents or financial resources.

According to previous research, the most frequent advisory service providers are the input and machineries suppliers (where the advice is included into the price of service), other are the peers, farmer-based organizations, then the active accredited advisors and researchers. The accredited advisors can be freelancers as well as employees of some of the organizations.

5.2. Summary and conclusions on sections 4

The summary of section 4 based on the survey among the providers of advice.

Our survey was filled in by 3 organisations with advisory component, 3 advisory organizations and 14 advisors – freelancers (including 3 women). Proportion of women in the Survey is in harmony with the total percentage of female advisers from the Registry of Advisers, approximately one fifth.

All these organizations receive the „Cost-recovery from farmers (fee for service financing)“. Three of them have “National/Regional government funds (public funds)“. One has „Contribution (membership fee)“. One organization receives fund for research project of innovation. Two organizations increase their budget by expand to new regions or activities or by implementation of research/innovation on the farm.

All organizations in the Survey have at least one accredited advisor. Three organizations have the staff development strategy. One advisory organization has a training unit responsible for developing staff capacity. The training of advisors in almost all organisations are ensured by external education and training events. They attend at least 4 days of compulsory trainings to keep the accreditation. In average it is 10 days per year per advisors. Only one organisation has reward system for their advisors according to the economic results. The most frequent area of advice are “Information dissemination (face to face, via digital tools)” and “Targeted consultation services (business plans, credit/subsidy application, etc.)“. This results are supported also by previous researches.

The number of clients vary from 2 to 50 for freelancers and from 50 to 120 clients for organizations. Majority of clients have long-term contracts, so the number of newly concluded contracts varies in units per year.

The most frequent client groups are farmers and SMEs, then foresters. The most demanded topics are Rural development support and diversification for farmers as well as for foresters, then Production technologies in crop production and livestock production or timber and wood markets. There is no outsourced topics. According to expert opinion the Czech organizations like to be independent in their field and they are not used to outsourcing any activities.

The most frequent advisory method is the individual face to face advice on the farm/enterprise, via telephone or individual outside the farm. The proportion between individual and group method are for organization almost equal. For freelancers are the individual methods more frequent.

The COVID 19 situation cause that 11 advisory providers had to decrease the personal meetings with farmers and on the farm and increase the use of mail, phone media to communication with farmers.

From cooperation point of view among the survey respondents and other AKIS actors, the freelancers are more cooperative than organizations. The reason for that could be the incorporation of many back-office activities in organization structure, therefore lower need for cooperation outside the organization.

In our survey, three organizations have the staff development strategy. According to the expert opinion, the Czech companies support only the compulsory activities like fire security, work security.

Only one advisory organization has a training unit responsible for developing staff capacity. The training of advisors in almost all organizations are ensured by external education and training events. In average it is 10 days per year per advisors. Only one organisation has reward system for their advisors according to the economic results.

In our survey, all organizations are receiving the fee for service financing. Three organisation have national/regional government funds and other resources are contribution (membership fee), fund for research project of innovation.

The responses in survey are supporting the fact from previous research that just a small part of advisors is actively searching for the new information and cooperation. Therefore, they are willing to participate in such a survey. They are actively searching information about new project and its outcomes. The rest of advisors are passively waiting for information which will approach them from traditional resources.

6. Acknowledgement of partners, information sources and gaps

Thanks to all experts participating in the working group for Knowledge Transfer, the working group for Transfer of Knowledge and Practices to Implement Agricultural and Forestry Measures to Reduce the Effects of Climate Change and the Effects of Drought, the Regional Multi-actor Group and Andrea Pekárková.

Finally, the H2020 AgriLink project (no 727577), which conducts research to enhancing the role of agricultural advice and associated advisory services in farmer decision-making and the transition towards more sustainable European agriculture.

All these sources helped me to process the most up-to-date information in the field of consulting in the Czech Republic. And ensure the quality and informative value of the processed report, despite the low number of responses to the survey by consultants.

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Appendices

Annex 1: Description of subsidies

The annex 1 describe the details of Czech subsidies supported the AKIS (MZe, 2020b).

RDP measures

Particular RDP measures are M01 (Knowledge transfer and information events) and M16 (Cooperation). The measure M02 (Advisory services) was prepared, but never running by the Ministry of Agriculture.

M01 Knowledge transfer and information events

The aim of the measure is to strengthen the knowledge base and support the transfer of knowledge in agriculture, food and forestry. Support for lifelong education and training in the agricultural, food and forestry sectors will lead to its fulfillment.

To this end, activities in the field of vocational training, skills acquisition and information events will be funded. Educational projects in this measure will be able to be implemented only by entities accredited by the Ministry of Agriculture. The participant in the action may be an agricultural entrepreneur, a food producer processing agricultural products, the owner of agricultural and forest land or a person managing forests, or their employee and other persons working for operators who are small or medium-sized enterprises operating in rural areas. In the case of an agricultural entrepreneur - a natural person - a participant may also be a cooperating person who participates in the management of the agricultural entrepreneur.

The Knowledge Transfer and Information Action measure is divided into two operations:

1.1.1 Educational events

1.2.1 Information events

M16 - Cooperation

The common objective of the measure is to strengthen research, technological development and innovation, increase the competitiveness of small and medium-sized enterprises in the agricultural sector and aim to contribute to competitive agriculture, food and forestry and the sustainable development of natural resource management.

16.1.1 Support for EIP operational groups and projects

This is a completely new form of support under the Rural Development Program for the period 2014-2020 (RDP). The support is based on the European Innovation Partnership initiative "Agricultural Productivity and Sustainability" (hereinafter "EIP"). The aim of this initiative is to support the functioning of the operational groups covered by the EIP. At the same time, the operation will provide support for direct expenditure related to the introduction of innovation in business operating in the agricultural and food sectors.

The topics are:

- increasing agricultural productivity, economic viability, sustainability, performance and resource efficiency
- opening new products and market opportunities for primary producers

The results of the project of the operational group are disseminated mainly through the EIP-AGRI network, resp. Nationwide rural networks, only then can the project be reimbursed.

The operating group can use the so-called Innovative Broker. The task of innovative brokers is to facilitate the establishment and, where appropriate, the subsequent functioning of operational groups. The facilitator plays a key role in identifying an appropriate incentive that would lead to the development of a specific innovative project.

16.2.1 Support for the development of new products, processes and technologies in primary agricultural production

The operation is focused on the development of innovations in agricultural primary production. These are projects that introduce new or significantly improved products, processes or technologies with regard to their properties or intended use. Therefore, technologies, products or processes must be at least new (or substantially improved) for the company. This includes significant improvements in technical features, components and materials, software, user friendliness or other functional features. The new technology, product or process must be developed in collaboration with a research entity or applicant that has demonstrably sufficient resources in the form of qualified staff and production resources to develop the new product, process or technology. In the case of company-only innovations, the cooperating entity (the applicant's research / development team) must play a significant role in applying (adapting) the already existing technology, product or process to the specific conditions of the company. The innovativeness of the project will be assessed by an expert commission before

the project is approved. The aid is provided as a total amount covering the operating costs of the cooperation as well as the direct investment costs associated with the introduction of the innovation in the applicant's company.

16.2.2 Support for the development of new products, processes and technologies in the processing and marketing of agricultural products (Food Innovation)

The operation is focused on the development of innovations in the processing of agricultural products and their marketing. These are projects that introduce new or significantly improved products, processes or technologies with regard to their properties or intended use. Therefore, technologies, products or processes must be at least new (or substantially improved) for the company. This includes significant improvements in technical features, components and materials, software, user friendliness or other functional features. The new technology, product or process must be developed in collaboration with a research entity or applicant that has demonstrably sufficient resources in the form of qualified staff and production resources to develop the new product, process or technology.

16.3.1 Sharing devices and resources

Support for cooperation between at least two entities in the joint sharing of equipment and resources. The intention is to help small operators in rural areas to work together to find economies of scale that they do not achieve if they operate independently. Joint investments will be supported, i.e. machines for the performance of their activities or the modernization or construction of storage and production premises or the execution of construction works necessary to enable the efficient use of resources.

16.4.1 Horizontal and vertical cooperation between actors in short supply chains and local markets

Support for cooperation between at least two entities, leading to the creation and development of short supply chains (LDCs) and local markets.

16.6.1 Horizontal and vertical cooperation in the sustainable provision of biomass for energy production, food production and industrial processes

Support for cooperation between at least two entities to set up sustainable provision and use of local biomass resources in energy, food and industrial processes.

The national subsidies

The national subsidies offers the whole range of measures. The rules of national subsidies are described in Principles Setting the Conditions for the Provision of Subsidies for the Year 2020 (MZe, 2020b).

Particularly:

9.A Special advice

- **9.A.a. Special advice for animal production in relation to Act No. 154/2000 Coll. It is support for organization of seminars and training.**

- **9.A.a.2. Support for educational activities in animal production. Including Publication of results of breeding work (9.A.a.2.a.), Arranging exhibitions and shows of livestock (9.A.a.2.b.)**

- **9.A.b Special consultancy for crop production. Including Publication of recommended varieties and related information (9.A.b.1.), Support for the organization of exhibitions of cultivated plants (9.A.b.2.), Support for the organization of seminars and training for the growing public (9.A.b.3.), Support for the provision of separate varietal tests of registered field crop varieties, in order to ensure the acquisition and dissemination of information on the characteristics of registered field crop varieties, which are subsequently published to the agricultural public (9.A.b.4 .)**

All these supports are in order to raise awareness of the general public about agricultural products of plant production.

9.E. School competitions

Support for the connection of practice and vocational education in the form of cooperation of business entities that have received the status of School Plant, with secondary schools and vocational colleges providing training for future employees of the ministry, creation of conditions for practical teaching of pupils of secondary schools and higher vocational schools of determined departmental disciplines at workplaces of business entities appointed by the School Plant.

9.F. Support for agricultural advice

9.F.e. Regional transfer of information

Purpose of the grant Consultative and methodological assistance to agricultural holdings in the form of dissemination of information on the measures of the Rural Development Program and on current problems in the implementation of the common agricultural policy; transfer of research and development results into practice. Support is provided according to Article 21. Commission Regulation (EU) No 702/2014 Subject of the subsidy Support in the field of agriculture aimed at targeted transmission of general information in the Czech Republic Implementation of the common agricultural policy in accordance with regional

priorities, initial consultations (telephone, e-mail, personal), websites, professional / teaching materials, seminars, workshops and courses.

9.F.i. Professional consultations

Purpose of the subsidy Consultative and methodological assistance to agricultural enterprises in the form of dissemination of information on the measures of the Rural Development Program and on current problems in the implementation of the common agricultural policy 22 and / or Article 39 of Commission Regulation (EU) No.702 / 2014.2 Subject of the subsidy Support of agricultural and forestry advice focused on professional consultations in the form of telephone, electronic, written contact at the workplace of a consultant for a limited time an individual professionally focused inquiry of an operational nature

9.F.m. Demonstration farms

Purpose of the grant is to support consulting and methodological assistance to agricultural holdings through the sharing of experience, transfer of information on the latest knowledge and technologies and their use in precision agriculture, dissemination of information on Rural Development Program measures and current problems in implementing the common agricultural policy.

Support for agricultural knowledge transfer to help farmers through practical demonstrations of comprehensive sustainable farming practices, such as practices and technologies to reduce water and wind erosion, soil compaction, practices that contribute to water retention in the country or present climate change adaptation and mitigation measures , integrated plant protection organic farming.

9.H. Support for participation in international fairs and exhibitions abroad

9.H.a Support for participation in international fairs and exhibitions abroad under the auspices of the Ministry of Agriculture

Purpose of the grant Support of participation of exhibitors, their products or services at selected international fairs and exhibitions abroad travel costs and payment of registration fee to entities participating in foreign fairs and exhibitions (agricultural, food, forestry and horticulture), where the Ministry of Agriculture has an official exhibition in the period from 1.6.2019 to 31.5.2020. List of international fairs and exhibitions for which an application can be submitted on the subsidy, is listed under point 9 List of international fairs and exhibitions, where the Ministry of Agriculture has an official exhibition

9.I. Support for the improvement of practical training in productive fisheries.

Purpose of the subsidy Increase in functionality, technical equipment and operation of water works in order to improve the conditions for providing training in the fisheries industry.2 distribution facilities, handling bridges, broths and dam fortifications.

9.I.c Purchase of vehicles, machines, tools and technological lines intended for the service of water works.

9.J. Improving practical training in beekeeping

Support of practical training in beekeeping combined with the presentation of various beekeeping technologies in the conditions of large-scale and small-scale farming. 2Subject subject Rate per beehive, one location (apiary), one additional beekeeping operation. Education will be provided in the form of the study field Beekeeper (41-51-H / 02). The funds must be used for costs associated with training hives, habitats (apiaries) and ancillary beekeeping operations (e.g. acquisition and processing of bee products, analyzes of bee product quality, diagnosis of bee diseases, production and maintenance of beekeeping supplies and equipment) and will not be used for farming activities.

10.D. Support for European integration of non-governmental organizations

Aim of support is to Improve the effectiveness and professional level of NGO activities by supporting integration within the EU. Supporting entry, membership, membership representation and activities of Czech State Agricultural Agrarian Non-Governmental Organization with significant national competence of the agricultural-food complex, which is a full or associate member in the selected international organizations.

10.E. Support of technological platforms within the competence of the MoA

10.E.a. Support of the Czech Technology Platform for Food

The purpose is ensuring information and promotion activities used to promote the objectives, activities and results of the platform's work and involvement in national and European structures, in particular the European Technology Platform Food for Life.

10.E.c. Support of the Czech Technological Platform for Organic Agriculture

Support of the technological platform activities aimed at strengthening functionality, building internal structure, staffing and involvement in national European structures and fulfilling professionally relevant objectives of the Czech Action Plan for Organic Agriculture Development in 2016-2020. Information and promotion activities used to promote the objectives, activities and results of the platform's work, including ensuring the transfer of information between science, research, agricultural and business practice in the field of organic farming and production.

10.E.d. Support of the Czech Technological Platform of Plant Biotechnologies (Plants for the Future)

Purpose is to support of the technological platform activities aimed at strengthening functionality, building internal structure, staffing and involvement in national and European structures, and fulfilling professionally relevant goals of the Strategic Research Agenda. Information and promotion activities used to promote the goals, activities and results of the platform's work, including ensuring the transfer of information between science, research and agricultural and business practice in the field of biotechnology. Professional activity will take place on the basis of the Strategic Research Agenda.

10.E.e. Support of the Czech Technology Platform for Agriculture

Support of the technology platform, stated in the Implementation Action Plan (IAP), aimed at disseminating the latest scientific and research findings, sharing and using professional information and strengthening communication between business and academia through public-private partnership principles, fulfillment needs of agricultural entrepreneurs in the Czech Republic and the related processing industry. Promoting a long-term sustainability strategy, taking into account the development of the European agricultural sector. Connection with the European Technology Platform, in the field of applied research and agricultural practice and strengthening the positive impact of agriculture, including benefits for consumers.