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© Ivanova E.V.

Agricultural Consulting in the System of Innovative Agriculture Development of the North



**Elena Valentinovna
IVANOVA**

Institute of Socio-Economic and Energy Problems of the North Komi Science Center, Ural Branch of RAS
Syktyvkar, Russian Federation, 26, Kommunisticheskaya Street, 167982
E-mail: ivanova@iespn.komisc.ru

Abstract. The formation and development of agricultural consulting in Northern and Arctic territories requires consideration of peculiarities of agriculture functioning. The article reviews the essence and specific features of agricultural consulting services. The author presents her definition of the relevant service, justifies the socio-economic background of the agricultural consulting system, explains the key role of this system in innovation development and transfer in the agricultural sector. The article studies the regional features of formation of information-consulting service in the agricultural sector of the Komi Republic influenced by types of agricultural structures, human and scientific-educational potential, innovative activity of agricultural enterprises and private farms. The author analyzes current activities of consulting services and factors constraining its development. To increase the coverage of the information-consulting service for agricultural producers and rural population, disseminate innovation for medium and small agricultural structures, the author has developed directions of the agricultural consulting system development and suggested the scheme of location and maintenance of inter-municipal agricultural consulting centers, their provision with specialist and financial resources. The article reviews the functions of the home office and inter-municipal consulting services. It justifies priority directions of participation of agricultural consulting services in the development and transfer of

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innovation to agricultural production. The research results can be used by the Ministry of Agriculture and Food of the Komi Republic for establishing agricultural consulting services at the regional and municipal levels, as well as implementing measures for increasing innovation activity of agricultural enterprises and private farms of Northern regions.

Key words: agricultural consulting, prerequisites for demand for consulting services, innovative development, peculiarities of formation, state and directions of agricultural consulting development, Komi Republic.

A strategy for innovation development of the agricultural sector is crucial in the modern world. Innovation development is impossible without an innovation system in the agricultural sector and its key link – agricultural consulting. Advisory services that interact closely with other actors of the innovation system are an effective tool in the development and transfer of innovation in the agricultural sector. World experience shows that about 60–80% of agricultural producers are able to master innovation with the help of agricultural consultation services [8].

When establishing a system for agricultural counselling, it is necessary to consider specific features of agricultural development in different regions, these features being shaped by natural, geographic and socio-economic conditions and factors. It may not be the same for all regions. If the models, according to which agricultural consultation is organized in regions with developed agriculture, are simply put to use in the North and Arctic without any relevant adjustments, they will not produce positive results. In these territories, due to

peculiarities of their agriculture, hunting and fishing, the formation and development of agricultural consultation system will be considerably different.

In this regard, it is a very important task to develop the ways of formation and development of agricultural consultation system for northern and Arctic areas with difficult conditions for agricultural production. The author examines the development of information and advisory services in the Republic of Komi from the perspective of enhancing the role of agricultural consultation in enhancing innovation activity in agriculture.

According to scholars, consultation dates back hundreds of years – it existed in Mesopotamia, Egypt, Greece and Phoenicia. In its developed form, consulting as a process of providing farmers with advisory services, was formed in the West in the 1950s –60s. The main reason for establishing this kind of service was the crisis of agriculture that could not develop efficiently on its own, without state support [p. 40].

According to the Food and Agriculture Organization of the United Nations (FAO), agricultural advisory services are successfully developing in 113 countries and employing more than 550 thousand specialists [15]. Russia is one of the first countries where agricultural consulting originated. Consulting service went through a long way of development; its basic steps are associated with the development of agricultural science and education. Reviewing the history of development of information and advisory service (IAS) in pre-revolutionary Russia, the Dutch scientist A.W. Van Den Ban said: “It seems that at that time Russia had the most advanced IAS in the world” [17].

In 1913, the Russian agricultural consultation system employed nine thousand specialists. Their main task was to provide assistance to peasants who had their own farmsteads.

The first theoretical and practical developments in agricultural consultancy (social agriculture) are associated with the name of an outstanding Russian scholar A.V. Chayanov. He believed that rural consultancy must promote the acceleration and rationalization of spontaneously occurring evolution in agriculture toward better compliance with the changing conditions. According to A.V. Chayanov, the rural consultant may be called organizer and facilitator of the ongoing agricultural

development. Willing to create a new agriculture, the consultant creates a new human culture, a new national consciousness [10, p. 14]. The ideas of A.V. Chayanov, the founder of scientific approaches to agricultural advisory services, are widely used throughout the world.

Unfortunately, the development of this sphere in our country was interrupted for many years. It was only in 1993 that the Ministry of Agriculture and Food of the Russian Federation began to restore the information and advisory service.

The most important works of foreign researchers on the theory and methodology of consulting include the works of A.V. van Den Ban, H. Hawkins [18], J. Christensen, D. Pedersen, B. Jacobsen [12], V. Hoffman [14] and others. Significant contribution to the development of scientific bases for agricultural consultancy system in the post-Soviet period was made by domestic agricultural economists. Some definitions of consulting are given in the *table*.

Consulting is the interaction between the consultant and the client aimed to solve problems and implement changes that bring benefit to agricultural producers. The users of advisory services are agricultural and agri-food organizations, peasant (farm) enterprises, rural population (owners of private subsidiary plots, gardeners and vegetable growers), public authorities in agriculture and local government.



Defining the term “agricultural consulting”

Authors, source	Definition
G.M. Demishkevich [2, p. 14]	Agricultural consulting comprises the work of consultants providing professional advisory services and helping rural producers and households in implementing the goals and objectives by allocating different problems, identifying and using new possibilities, introducing changes and training.
V.V. Kozlov [3, p. 77]	Counselling is a special kind of information, design and training activities related to the elaboration of solutions and decision-making, in the process of which consultants provide methodological and practical support to clients, encourage them to take appropriate and decisive action to eliminate any current or emerging issues.
I.M. Mikhailenko [5, p. 16]	Extract of relevant information from the system of available knowledge and databases, this information is the combination of these information sources, it is the essence of information and advisory support to clients.
Organizational and economic aspects... [7, p. 15]	We define the system for agricultural consulting as a set of interrelated and interacting structural elements (actors) involved in the task of providing advisory support to agricultural producers and rural population, functionally integrated into a single system, which is based on agricultural consultation centers at the federal, regional and district levels.
Cit. ex.: M.Ya. Veselovskii [1, p. 7]	According to John Russell, agricultural consultation service can be defined as a representation of the knowledge and skills required by farmers in the adoption and application of more efficient practices in crop and livestock production with the aim of increasing productivity and improving the standard of living.
Cit. ex.: Consulting in agro-business ... [4, p. 94-95]	K.N. Fisher believes that the service for consulting and training farmers aims to transfer information and practical skills for the purpose of a more efficient use of available resources.
K.E. Khilek [9, c. 89]	Information and advisory service in agriculture is seen as a form of governmental participation in the development and transformation of rural areas.
L.E. Greiner, R.O. Metzger [13, p. 37]	Management consulting is an advisory service working under contract and providing services to organizations by specially trained and qualified persons who help the customer organization to identify management problems, analyze them, make recommendations to address these problems and contribute, if necessary, the implementation of solutions.
F. Steele [16, p. 9]	I understand consultation process as any form of assistance in relation to the content, process or structure of the tasks or series of tasks in which consultants themselves are not responsible for the execution of the task but help those who are responsible for it.
A.W. Van Den Ban, H.S. Hawkins [18, p.10]	Agricultural advisory service is a conscious use of information in order to help people develop a correct opinion and perform the appropriate action.

In modern conditions, agricultural consulting system is the main tool for the transfer of innovation from its manufacturers to agricultural consumers. Advisory service helps disseminate information about innovation via printed media, the

Internet, radio and television, and by organizing training events. Consultants share new knowledge and technology on the experimental fields and farms and implement innovation projects in agricultural production.

Summarizing existing definitions of agricultural consulting, taking into account its role in boosting innovation, we can give the following definition. Agricultural consulting is the work of consultants to provide services required by agricultural producers and rural population in order to master new knowledge, technology, innovation in breeding, genetics and marketing, organizational, economic and socio-ecological innovation and to gain economic, social and environmental benefits.

The need for agricultural consulting system is due to the following reasons.

1. Shortage of qualified specialists in the agricultural sector and their outflow from it. If at the end of the 1980s in the Republic of Komi there were an average of 11 specialists with higher education and 28 specialists with secondary vocational education per farm, then currently, one agricultural enterprise has only three experts with higher education and four with secondary vocational education. Before the market reforms, one in five specialists working in agriculture had higher and secondary vocational education. Among the specialists with higher education, 36% were engineers, 57% – agronomists, 45% – livestock experts, 41% – vets, 67% – economists. Experts actually performed the role of consultants as carriers of information about innovation solutions, provided practical assistance on their implementation in crop and livestock production. In the pre-reform period, 84% of managers of agricultural

enterprises had higher education, 16% – secondary education. As for today, the figures are 45 and 34%, respectively. The proportion of managers with higher and secondary vocational education comprises 21%. An especially low level of education is found among the heads and specialists of agricultural enterprises and peasant-farm enterprises in rural periphery. At the same time, 36% of specialists at agricultural enterprises and only 8% of middle managers have higher professional education.

2. Deterioration of resource potential and the need for innovative modernization in agriculture. Fixed assets in the majority of rural areas of the republic are worn by 70–80%. In the agricultural sector, drainage reclamation is destroyed, fertilization fell sharply, which lead to exceeding removal of nutrients from the soil compared to their application.

Only 10% of agri-food organizations implement innovation. Most of them, like farms, apply mostly primitive methods and technology, use outdated varieties of plants and breeds of cattle, and implement inefficient forms of organization and management. The state of affairs concerning innovative processes is most critical in agricultural organizations of peripheral areas. A questionnaire survey¹

¹ The survey covered almost three-quarters of all managers and specialists of agricultural enterprises and peasant farms. The share of managers with higher education accounted for 55%, with secondary vocational education – 48%. Common features of the sample suggests that the findings objectively reflect the processes and problems of innovation development.



conducted in 2014 has shown the following results broken down by areas: breeding and genetic innovation – “very poor” (24.9%), “poor” (33.3%), “average” (41.8%); innovation in technology and equipment – “poor” (20.2%), “average” (60.7%), “good” (19.1%); organizational-economic and managerial innovation – “very poor” (32.6%), “poor” (38.3%), “average” (29.1%).

The situation concerning the development of innovation in other regions of the European North is quite the same. In the Vologda Oblast only 7.7% of agricultural enterprises annually implemented new technology, 9.6% used progressive equipment, 21.2% used improved plant varieties, hybrids and poultry crosses [11, p. 55].

3. Uncertainty and a rapidly changing external and internal environment (accession to the WTO, sanctions, economic crises, high inflation, continuously changing legal framework).

4. Decreasing efficiency of efforts on the part of agro-industrial complex management authorities in spreading scientific knowledge and implementing innovation. In the pre-reform period, the Ministry of Agriculture of the Republic of Komi had a special unit that provided linkages with innovation and research institutes and agricultural enterprises, promoted scientific achievements and best practices. The ministry funded the actions on innovation activities in the framework of the plan on the introduction of scientific

achievements and best practices and provided agricultural enterprises with targeted state support.

5. Difficulties experienced by rural producers in obtaining information on breeding and genetic, technological, organizational-economic, marketing and socio-environmental innovation and on advanced production experience.

6. Poorly developed agricultural innovation infrastructure. To date, agriculture lacks a scientific and production association, experimental-production farms under research institutes are in a state of deterioration, there are no centers for innovation technology, industrial parks and business incubators in the research and education sector.

In the current socio-economic situation, agricultural consultation system is an effective tool for providing various services to agricultural producers and rural population, for distribution of knowledge, development of innovation and enhancement of production efficiency.

Currently, agricultural consultation system in Russia functions at the federal, regional and district (inter-district) levels. Qualified advisory services are provided to agricultural producers and rural residents in 60 constituent entities of Russia, where there are 73 regional and more than half a thousand district organizations providing agricultural advisory support. An analysis of organizational-legal

forms of the regional centers for agricultural consultation suggests the predominance of state institutions (47%). The proportion of advisory centers under educational institutions is 35%, advisory non-profit organizations – 8%, private consulting organizations – 7%, and advisory organizations in agricultural management bodies – 3%.

Advisory service is least developed in the Northern and Arctic territories with extreme conditions for agricultural production and agricultural specifics. Of the six regions of the European North, agricultural consultation centers have been established only in Karelia Republic and Komi Republic.

In the North the formation of agricultural consulting system has its own characteristics. Here, the agricultural sector occupies a dominant position in the economy. Its share in the Republic of Komi accounts for 1.4% of gross regional product, 0.4% of fixed capital investment, 1.2% of the average annual number of people employed in the economy. The structure of agriculture is dominated by dairy and beef cattle breeding, poultry, swine and reindeer herding. The share of animal husbandry accounts for 68%, crop production – 32% of total production.

In the total volume of gross agricultural output in 2015, the share of agricultural enterprises accounted for 61%, households – 34%, peasant (farm) enterprises – 5%. In rural areas, except for Syktyvdnisky District (suburb of Syktyvkar), there are no large agricultural companies. The prevailing share in the

production of potatoes (92%) and vegetables (79%) is concentrated in personal subsidiary plots, gardening and horticulture. Households of the population account for over half (51%) of the volume of cattle meat produced.

Of great importance in the formation and development of the agricultural consultancy system is the availability of scientific and educational potential that can interact with advisory service, and the extent of promotion of innovation activity in the agri-food sector. The Komi Republic has significant scientific potential. The following institutes engage in providing scientific support to agriculture: Agriculture Research Institute of the Komi Republic, Institutes for Biology, Physiology, Chemistry, Socio-Economic and Energy Problems of the North and Vylgort Research and Experimental Biological Station of the Komi Science Center, Ural Branch of RAS, Research Institute “Komimeliiovodhozproekt”, two educational institutions – Institute for Retraining and Advanced Training of Agricultural Workers and Syktyvkar Forest Institute. Research on the development of the agricultural sector is carried out by 51 employees, including 25 Ph.D.’s and 10 doctors of science, of which five are doctors of biology, two – doctors of agriculture, two – doctors of economics, one – doctor of veterinary science. The Ph.D.’s include six – in biology and five – in agriculture, five – in economics and two – in chemistry, one – in engineering and one – in geography.



With the help of agricultural consultation systems, scientific organizations can disseminate information about innovation through printed media, video, demonstration events; they can also carry out advisory support to consulting specialists in the implementation of innovation, development, examination and evaluation of efficiency of innovation projects. The joint work of the specialists of information and advisory services and the scientists may be directed toward using highly productive new varieties of plants, new breeds and types of cattle and fowl, innovative technology in crop production, dairy and beef cattle breeding and reindeer herding, and also toward the elaboration of concepts and programs for sustainable development of the agricultural sector and rural areas at the regional and municipal levels.

In the Komi Republic in March 2003, a national information and advisory center was created as a structural subdivision of the Institute for Retraining and Advanced Training of Agricultural Workers. The staff of the center (the composition of which ranged from two to three persons) combined consulting with teaching work, which reduced the quality and quantity of the services rendered. From April 2013 onward, an information and advisory department of the Ministry of Agriculture of the Republic of Komi. There is no agricultural advisory support at the municipal level. This restrains the access of residents, especially in remote areas, to information and advisory services.

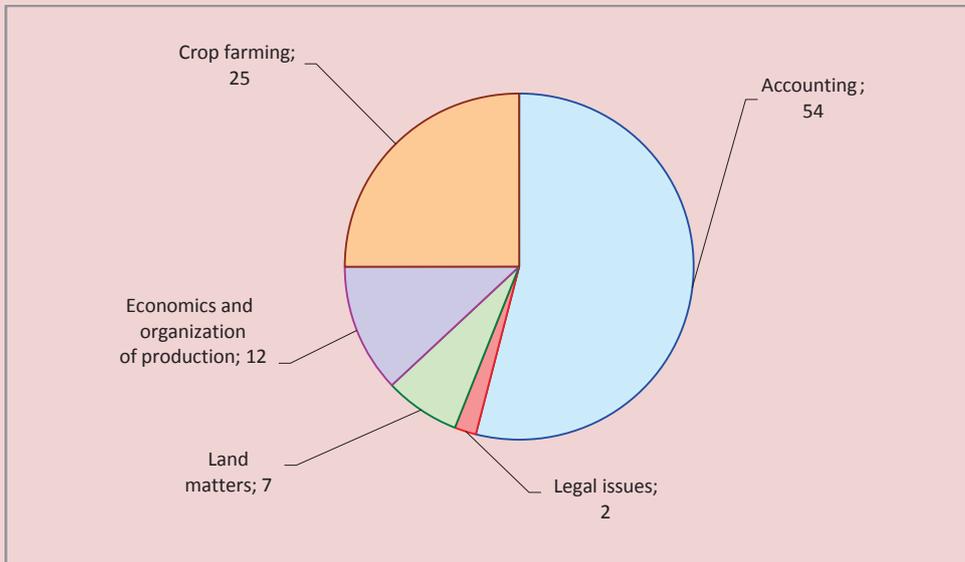
The service now employs six expert consultants, including an agronomist, a livestock specialist, two economists, an accountant and a lawyer. All of them have higher education and are equipped with computers. The center does not have its own vehicles, so the administration of the Head of the Komi Republic provides the center employees with cars when they need to visit farms and districts of the republic. The advisory service has neither its own office, nor tools and equipment for technological purposes.

The agricultural advisory service receives funding from the budget of the Republic of Komi. The federal budget does not allocate funds for advisory services provided to agricultural producers and rural population. The service also does not have any extra-budgetary sources of financing.

The number of advisory services provided by the information and advisory department to agricultural producers and rural population in 2013–2015 increased by 74%, to individual farms and gardeners – in 6.3 times. In 2015, the advisory service rendered 595 services or about 100 services per consulting specialist. The main users of the services are peasant farm enterprises and agricultural companies. Their share accounted for 48 and 28% of advisory services.

The analysis shows that the services in the field of accounting and crop production enjoy the greatest demand (*Fig. 1*).

Figure 1. Structure of advisory services provided by the information and advisory department of the Republic of Komi in 2015, %



Source: data of the information and advisory department.

So far, the specialist consultants have prepared and published six methodological and reference titles on the state support of agricultural producers and on taxation – for peasant farm enterprises, individual entrepreneurs and agricultural enterprises; they also published titles on technology of fodder production, housing and feeding of cows, organization and technology of beef cattle breeding, greenhouse business – for small farms.

For the purpose of studying the current state and problems of information and advisory support to the agricultural sector and in order to improve the work in this area, the author conducted a survey among the managers and specialists of agricultural

enterprises and peasant (farm) enterprises in 2014. All in all, 18 managers and 20 specialists from 18 farms and 42 heads of peasant farms participated in the survey. The sociological survey covered 82% of agricultural enterprises and 79% of peasant (farm) enterprises in the republic.

The analysis of the survey results shows the following:

- it was mainly the managers of medium and small enterprises and farm households who filled in the questionnaires; as for the heads of large agricultural enterprises, virtually none of them were interested in this survey: apparently, they did not require advisory support provided by the service;



– the respondents receive most of the information (almost half of it) from the experts of the Ministry of Agriculture of the Komi Republic, from district and town departments of agriculture, at seminars, meetings and training courses; almost 2/3 of the respondents did not seek information at research and educational institutions, with regard to which suggestions were made about improving the quality of services rendered;

– of the greatest interest among agricultural producers is the information on the demand for agricultural products and their prices on local and regional markets, prices of resources and equipment, new technology, breeding and genetic innovation and current normative-legal acts; the respondents agree to pay for advisory services on the implementation of innovation, development of business plans, economic development strategies, development and evaluation of innovation investment projects, assistance in solving specific problems;

– in the course of the sociological survey, preference was given to consulting in the economy, because the visits of experts from the advisory service to agricultural enterprises and peasant farms require considerable financial and time costs;

– when studying promising organizational forms of information and advisory services, the respondents gave preference to the services that are part of the Ministry of Agriculture of the Republic of Komi and to municipal departments of agriculture.

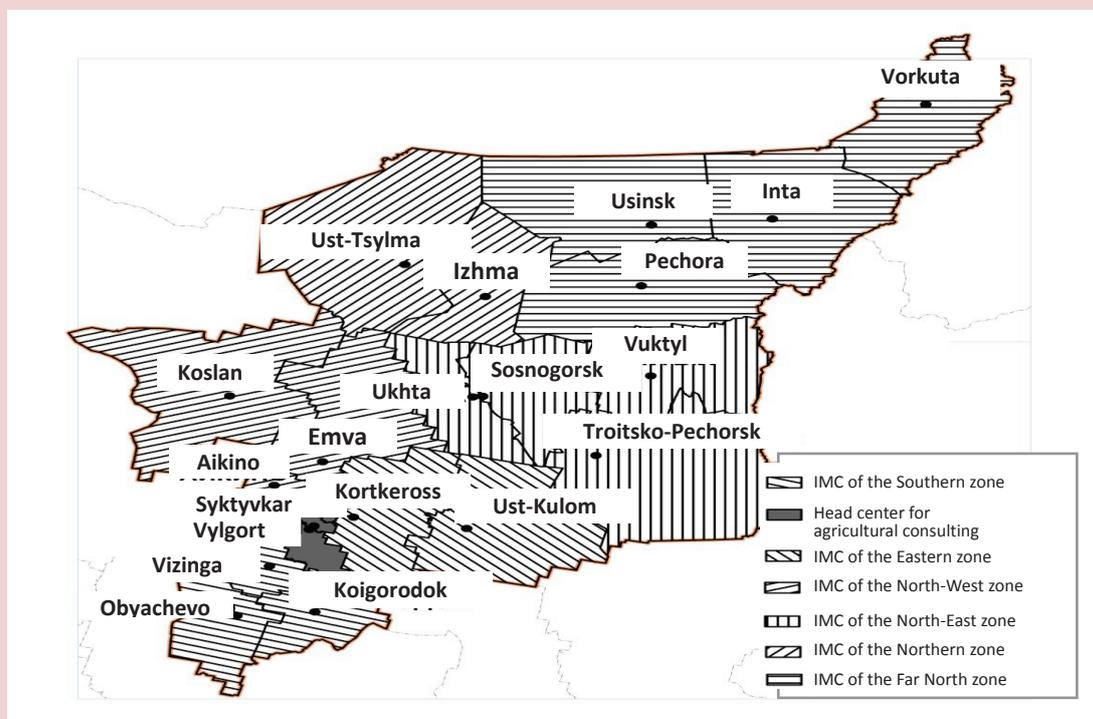
Assessment of the current state of agricultural consultation in the Republic of Komi shows that here the advisory service is at an early stage of its development. It does not promote innovative developments in production, nor does it summarize and disseminate advanced production experience. The service has no effect on the formation of contracts to conduct applied research. It has no close ties either with the authorities that govern and support regional agriculture, or with scientific and educational institutions.

The main factors constraining the development of advisory and innovation activity are as follows: absence of a special federal law “About agricultural advisory support”; lack of consultants specializing in land relations, mechanization in manufacturing automation, IT-technology, performance evaluation of business plans and innovation projects, financial management, and marketing; lack of information and advisory services at the municipal level, which does not help ensure the availability of advisory services to agricultural producers and rural population; lack of financial support for agricultural consultancy from the federal budget; low effective demand among agricultural producers for advisory services in the field of innovation and advanced production experience. Similar restrictions on the development of advisory support are found in agriculture of the Vologda Oblast [6].

Taking into account regional specifics of agricultural production in the republic, it is impractical to create an information and advisory service in each municipality. It is really necessary to create inter-municipal centers (IMC) for advisory support (Fig. 2). For the southern zone, it is proposed to establish an IMC in the village of Vizinga and its impact will extend to Sysolsky, Koygorodsky and Priluzsky districts; for the Eastern zone – in the village of Kortkeross (for providing the services to Kortkerossky and Ust-Kulomsky districts); for the North-West zone – in the town of Emva (for providing the services to Knyazhpogostsky, Ust-Vymsky

and Udorsky districts); for the Northern zone – in the village of Izhma (Izhemsky and Ust-Tsilemsky districts); for the North-East zone – in the town of Ukhta (urban district of Ukhta, Sosnogorsky, Vuktylsky and Troitsko-Pechorsky municipal districts); for the Far North zone – in the town of Pechora (for providing the services to the Pechora municipal district, urban districts of Usinsk, Inta and Vorkuta). The services of a regional (head) center for agricultural advisory support will be in demand among agricultural producers, owners of private subsidiary plots and gardeners in suburban Syktyvdinsky Rural District.

Figure 2. Layout and maintenance of agricultural advisory support centers in the Republic of Komi





The head center in the regional agricultural consulting system performs the following functions: it works closely with federal agencies for agricultural consulting, provides inter-municipal advisory centers with information about advanced technology, new varieties of crops and breeds of animals, marketing innovation and innovation projects, creates plans for the development of innovation and participates in their implementation, prepares proposals for regional and municipal bodies governing the AIC concerning the development of applied scientific research, conducts seminars and workshops for agricultural producers together with employees of scientific and educational institutions on advanced technology, prepares methodological and reference literature on innovation, establishes links between agricultural producers and workers of scientific and educational institutions in solving problems arising in agricultural production, participates in organizing exhibitions, demonstration fields and farms to promote new technology and best practices.

The principal activities of municipal advisory centers involve advisory support to agricultural producers and population, economic analysis of performance of agricultural enterprises and peasant farms, helping them to develop business plans, establish linkages with rural administrations in providing advisory support to the residents.

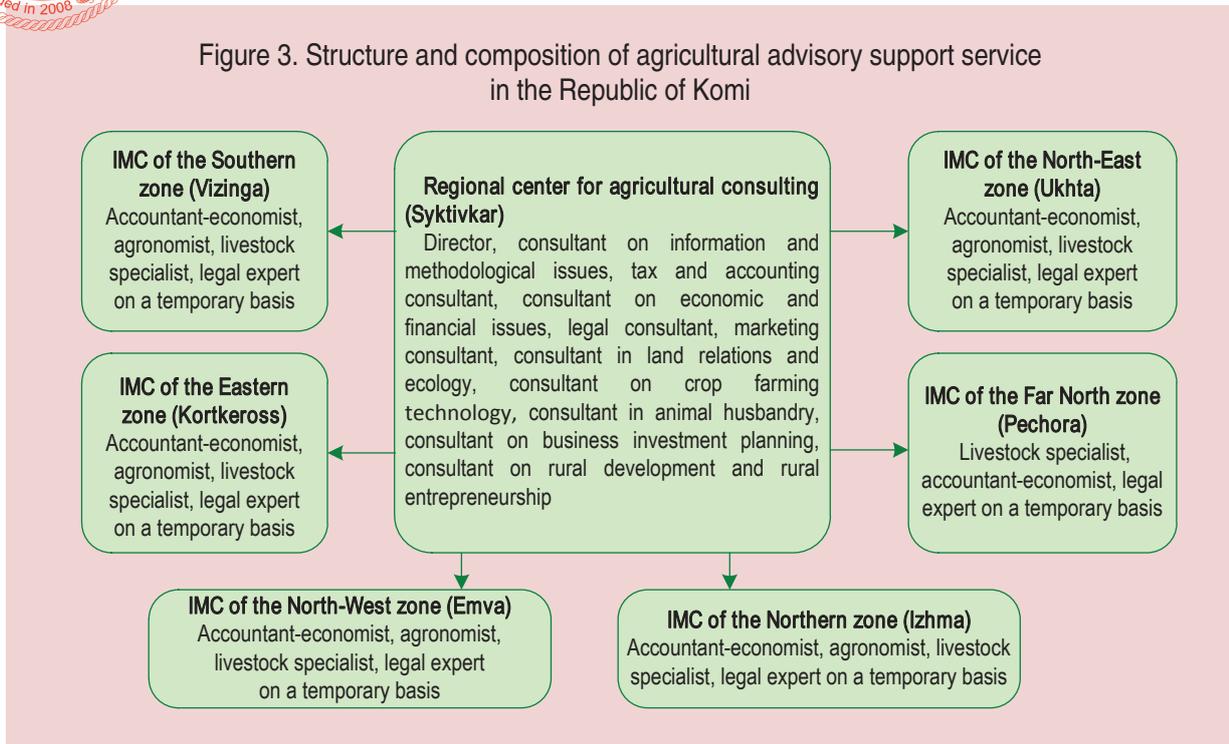
Application of the new regional structure of agricultural consultation will help increase the coverage of agricultural producers and rural population with information and advisory support, make advisory support and dissemination of innovation available to small and medium forms of agrarian structures, provide rural residents of peripheral areas with an opportunity to ask for information and advisory services, increase the level of coordination and integration of the service with agricultural science, education and rural producers.

The study of organizational forms of agricultural consulting abroad and in our country indicates that different models for organizing such services are used. For the Republic of Komi it is necessary to keep agricultural consulting service within the system of AIC management for the period of its establishment. As it is developed, it will be advisable to establish an autonomous institution.

In order to develop agricultural advisory support system, it will be necessary to provide it with specialist consultants. Staffing scheme is shown in *Figure 3*.

The formation of the proposed agricultural advisory support system will require considerable increase in funding – 5-fold compared to the level of 2015. Funding for the services of agricultural advisory support from the state budget is allowed without any restrictions of the WTO, since it is part

Figure 3. Structure and composition of agricultural advisory support service in the Republic of Komi



of the “green basket”. The introduction of beneficial paid individual services is advisable when the process of formation and further development of agricultural consultation has been completed and the conditions for sustainable development of the agricultural sector have been created.

Expanding the access to information and advisory services for agricultural producers and rural population will require involvement of rural administrations. Their heads can help organize information corners in the libraries, on the premises of rural administrations, they can also provide the facilities where rural residents can meet with consultants who came from agricultural advisory centers, promote

the establishment of links between owners of private subsidiary plots and family farms and consulting centers, and build basic farms where best practice in the field of agriculture can be demonstrated.

In order to develop innovation activities, regional agricultural consultation service will have to strengthen its ties with the research and educational sector. The service may provide research organizations with proposals on applied research that is in demand among agricultural producers, form a database on innovation projects, inform potential consumers: agri-food enterprises and peasant farmers about them, help with the formation of innovation projects, recommend investors



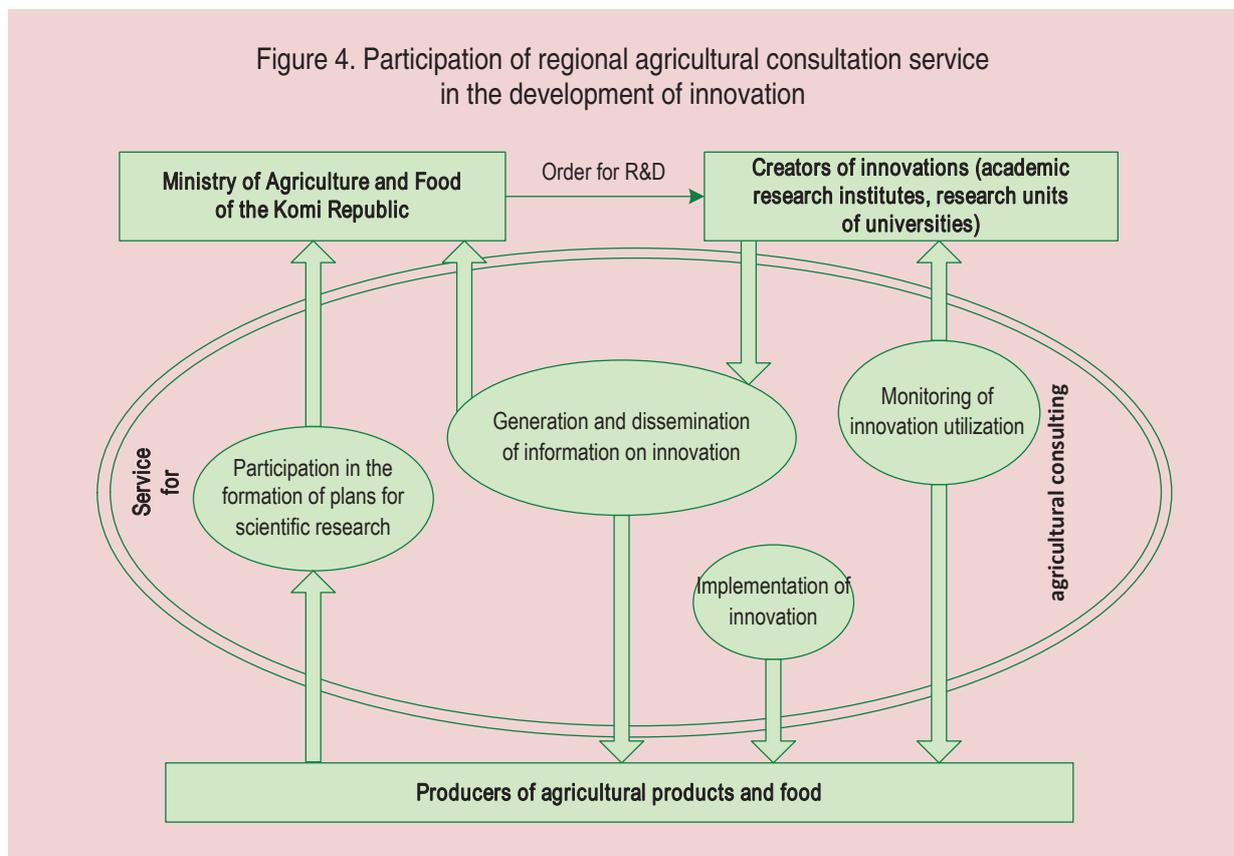
for their implementation. Priority areas for participation of agricultural consultation service in the development and transfer of innovation in agricultural production are shown in *Figure 4*.

The proposed measures aimed to form inter-municipal centers, provide the agricultural consultation service with specialists and funding, improve the forms of interaction of the service with scientific and educational institutions, increase its role in the development and transfer of innovation will provide an opportunity to boost innovation activity in agriculture of the Republic of Komi.

Having studied the formation, current state and development of agricultural advisory support in the Northern region, the author makes several conclusions and suggestions.

1. The article provides the author’s definition of advisory support in agriculture as a kind of consulting activities to provide services required by agricultural producers and rural population for the development of new knowledge, new technology, intensive resource saving technology, breeding and genetics, marketing, organizational, economic and socio-environmental innovation with the aim of obtaining economic, social and environmental benefits.

Figure 4. Participation of regional agricultural consultation service in the development of innovation



2. The need to establish an agricultural consulting system is due to the deficit and the outflow of qualified personnel from the industry, insufficient efforts on the part of agribusiness management bodies to spread scientific knowledge and develop innovation, difficulties experienced by small and medium agricultural entities in obtaining information about innovation technology and its introduction in agricultural production, uncertain and constantly changing external and internal environment, and underdeveloped agricultural infrastructure.

3. Formation and functioning of agricultural advisory support in areas of the North and the Arctic has its own specifics due to natural, socio-economic factors prevailing types of agricultural structures, staffing of the agricultural sector and its provision with scientific-educational potential, innovation activity of agricultural enterprises and peasant farms.

4. Agricultural advisory support in the Republic of Komi is at an early stage of its development. The main activities of the service are connected with consulting, organization of training events and publication of informational materials. Advisory service is not engaged in the promotion and implementation of innovation technology, not involved in the formation of plans of applied research, it has not established close

cooperation with the management authorities of regional agriculture, and with the research and education sector.

5. The analysis of work of agricultural advisory support service helped identify the factors restraining its development: lack of development of agricultural consultation system at the municipal level; lack of consultants with the necessary qualifications; inadequate financial support; lack of a legal framework governing the work of advisory services; lack of close ties between regional advisory services and scientific and educational institutions.

6. The paper substantiates the areas of development of agricultural advisory services associated with the formation of inter-municipal consultation centers, staffing of the services, improvement of interaction between agricultural consultation services and innovation system actors.

The developed model of formation of agricultural advisory support system on the example of the Komi Republic focused on increasing the coverage of agricultural producers and rural information with information and advisory services, dissemination of innovations for small and medium forms of agrarian structures, improvement of coordination between the service and agricultural science and education will find application in other regions of the Northern zone and the Arctic.



References

1. Veselovskii M.Ya. *Informatsionno-konsul'tatsionnaya sluzhba APK Rossii (Voprosy teorii i praktiki)* [Information-consulting service of Russia's agro-industrial complex]. Moscow: Rosinformagrotekh, 2002. 228 p. (In Russian).
2. Demishkevich G.M. *Formirovanie i razvitie sistemy sel'skokhozyaistvennogo konsul'tirovaniya* [Formation and development of agricultural consulting system]. Moscow: FGU RTsSK, 2009. 296 p. (In Russian).
3. Kozlov V.V. Sushchnost' i osnovnye funktsii konsul'tirovaniya [Nature and basic functions of consulting]. *Vestnik Saratovskogo gosagrouniversiteta im. N.I. Vavilova* [Buletting of Vavilov Saratov State Agricultural University], 2009, no. 1, pp. 32-41. (In Russian).
4. Mitskevich A., Fraidin M. (Eds.). *Konsul'tatsii v sfere agrobiznesa: uchebnoe posobie* [Consulting in agro-business: teaching guide]. Shchetsin-Gorki, 1999. 95 p. (In Russian).
5. Mikhailenko I.M. *Informatsionno-konsul'tatsionnoe obsluzhivanie APK: Praktikum po organizatsii i upravleniyu* [Information-consulting support of the agro-industrial complex: Organization and management practice]. Moscow: Rosinformagrotekh, 2000. – 194 s. (In Russian).
6. Mikhailovskaya A.L. *Organizatsiya upravlencheskogo konsul'tirovaniya v agropromyshlennom komplekse regiona: avtoref. dis. ... kand. ekon. nauk* [Organization of management consulting in the region's agro-industrial complex: Ph.D. in Economics dissertation abstract]. Vologda, 2006. 25 p. (In Russian).
7. Sandu I.S., Demishkevich G.M. (Eds.). *Organizatsionno-ekonomicheskie aspekty razvitiya innovatsionno-konsul'tatsionnoi deyatelnosti v agropromyshlennom komplekse Rossii* [Organizational and economic aspects of information-consulting activity development in Russia's agro-industrial complex]. Moscow: VNIIESKh, 2013. 148 p. (In Russian).
8. Savenko V., Sandu I. Problemy formirovaniya mekhanizma innovatsionnogo obespecheniya APK [Problems of formation of a mechanism of innovative support for the agro-industrial complex]. *APK: ekonomika, upravlenie* [Agro-industrial complex: economics, management], 2013, no. 1, pp. 28-33. (In Russian).
9. Khilek K.E. Informatsionno-konsul'tatsionnaya sluzhba po sel'skomu khozyaistvu kak instrument politiki razvitiya sel'skogo khozyaistva i sel'skikh regionov [Information-consulting agricultural service as a tool for the policy of development of agriculture and rural areas]. *Opyt i problemy funktsionirovaniya informatsionno-konsul'tatsionnoi sluzhby APK Rossii: materialy Mezhd. nauchno-prakt. konf. (24–24 noyabrya 1999 g.)* [Experience and problems of functioning of the information-consulting service of Russia's agro-industrial complex]. Moscow: Rosinformagrotekh, 2000. Pp. 79-91. (In Russian).
10. Chayanov A.V. *Osnovnye idei i metody raboty Obshchestvennoi Agronomii* [Main ideas and methods of Public Agriculture]. 3rd edition, revised and updated. Moscow: Novaya derevnya, 1924. 132 p. (In Russian).
11. Chekavinskii A.N., Sovetov P.M. *Problemy ispol'zovaniya nauchno-tekhnicheskikh dostizhenii v sel'skom khozyaistve* [Problems of using scientific and technical advances in agriculture]. Vologda: ISERT RAN, 2015. 164 p. (In Russian).



12. Christensen J., Pedersen D.E., Jacobsen B.H. Okonomistyring i ladbruget, perspektiver for radgivingen. *Business management on farms, perspectives for advisory services*, Kobenhavn, 1989. 176 p. (In Russian).
13. Greiner L.E., Greiner L.E., Metzger R.O. *Consulting to management*. Englewood Cliffs, NJ: Prentice Hall, 1983.
14. Hoffman V. *Leitlinien und Gestaltungsprinzipien einer Organisationsreform des deutschen landwirtschaftlichen Beratungssystems*. Munster-Hiltrup, 1996.
15. *Report of the global consultation on agricultural extension*. Rome: FAO, 1990. Pp. 43-76.
16. Steele F. *Consulting for organization change*. Amherst, MA, University of Massachusetts, Press, 1975. 256 p.
17. Van Den Ban A.W. *Forms and methods of work of information-consulting service in Russia*. Sd. Mater. Konf. Po IKS. Moscow, 1998. 26 p.
18. Van Den Ban A.W., Hawkins H.S. *Agricultural Extension*. Second edition. Blackwell Science LTD. Oxford, 1996. 294 p.

Information about the Author

Elena Valentinovna Ivanova – Engineer, Chief Research Associate, Institute of Socio-Economic and Energy Problems of the North Komi Science Center, Ural Branch of RAS (26, Kommunisticheskaya Street, Syktyvkar, 167982, Russian Federation, e-mail: ivanova@iespn.komisc.ru)

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