MAIN LINES OF STRATEGY OF AGRICULTURAL EDUCATION DEVELOPMENT IN THE RUSSIAN FEDERATION

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The article discusses the matters of legal support to development of Russian agricultural higher education combined with the prospects of the growth drivers of agro-industrial complex. It represents the priority lines and key indicators of agricultural education development. The article substantiates the aim and tasks of the strategy of agricultural education development.

The necessity to create conditions for support of the prospective needs of the agricultural sector and successful implementation of strategy of agricultural education development requires, first of all, the formation of human resources, able to work under conditions of intensification both of knowledge and technologies.

Considering the term "agricultural education" as an intellectual component of any process connected with the growth, profitability, success and stability, it's possible to state that this is an intangible asset, enabling to build efficiently any activity, being the basis of the known capital assets: organizational capital asset – resource capital asset – human capital asset – consumer capital asset – intellectual capital asset.

According to the statistics, approximately 400 thousand students study at the universities of the Ministry of Agriculture of Russia this year, which is about 7% of total number of students studying at the state financed universities of the Russian Federation, including:

- more than 300 thousand students studying under the bachelor, specialist and master programs;
- 33 thousand students studying under the secondary vocational education programs;
- more than 5 thousand students of postgraduate and doctor programs.

However the enterprises of agricultural sector still lack the highly skilled staff.

So, the strategic lines of improvement of efficient operation of the agro-industrial complex, including the legislative initiatives of agricultural education development, have been set on the highest national level for the recent years.

The main regulatory legal acts, regulating the lines of the prospective development of the agricultural sector, e.g. agricultural education, are as follows:

1. Decree of the Government of the Russian Federation "On State Program of agriculture development and regulation of markets of agricultural products, raw stuff and food for 2013 – 2020", which provides for:

- sustainable development of rural territories, ensuring employment of rural residents, improvement the living standards and qualification of such residents;
- improvement of training and continuing vocational education system for the agricultural staff.

2. Decree of the President of the Russian Federation “On actions for implementation of the state science and technology policy for the interests of agriculture development” dated 21.06.2016 No. 350, ordering to:
- develop and implement a set of actions aimed at creation and implementation till 2026 of competitive national technologies, based on the state-of-the-art achievements of science and education;
- ensure the formation, on the basis of entities, managed by the Ministry of Agriculture of Russia and Ministry of Education and Science of Russia, research organizations, cross-disciplinary research centers in the field of agriculture (on the basis of educational entities).

3. Forecast of research and technology development of agro-industrial complex of the Russian Federation for the period till 2030, approved by the joint meeting of the Executive Committee and Board of the Science and Technology Council of the Ministry of Agriculture of Russia dated 30.03.2016; by meeting of Government Committee for Agro-industrial Complex and Sustainable Development of Rural Areas dated 13.12.2016; approved by the Decree of the Ministry of Agriculture of Russia dated 12.01.2017 No. 3, and provides for:
- development of subsidizing system and any other mechanisms for support of agro-industrial enterprises with deployment of technological innovations, activity of subsidies beneficiaries for interaction with national universities and research organizations;
- development of competences of staff employed in the agro-industrial complex for long-term period within the professional and state education standards, programs of continuing education
- development of Strategy of agricultural specific education;
- future inclusion of Russian agricultural universities in top 100 universities in “Agriculture” section of the leading international education ratings.

4. Decree of the Government of the Russian Federation “On approval of Federal Science and Engineering Program for development of agricultural sector for 2017 – 2025” dated 25.08.2017 No. 996, ensuring the stable growth of agricultural products with the view of:
- formation of conditions for development of scientific, research and engineering activities;
- improvement of agricultural education system: bringing the level of availability in vocational education system of educational programs on new lines of training and specialties to 100% by 2025; increasing the protected results of intellectual activity in the field of technologies of agro-industrial complex at least by 25%, including at least by 10% abroad; increasing the number of publications upon the results of research and development in scientific journal by 20%.

5. Special role in support and extension of agricultural education is attached to Council for professional qualifications in agro-industrial complex, approved by Instruction No. 136 of the Ministry of Agriculture of the Russian Federation (Ministry of Agriculture of Russia) dated 11.12.2015. The activity of the Council is aimed at creation of conditions for multifunctional system:

- meeting the needs of enterprises of agro-industrial complex with the specialists trained under the promising lines of training and specialties;
- formation of requirements to qualification of employees under the qualification levels and descriptors of the industry specific qualifications framework;
- application of professional standards, and consistent work with educational institutions for bringing in order of their educational activity for provision of staff, research and engineering and innovational developments to agricultural industry.

Agricultural higher education is the most important element of economic, resource and knowledge intensive development of agriculture. A number of problems are stressed at the level of integration of industry labor market and agricultural education:

- activities of research entities and agricultural universities are rather detached from the industry demand and have low effect to the lines and intensity of innovational activity of agricultural business [1];
- insufficient upgrade of education content with consideration of research and engineering forecasting of macro trends of development in agro-industrial complex;
- need for higher pace of upgrading the material and technical base, laboratory equipment and devices;
- limited sources of funding of activities of research schools in the agricultural universities;
- insufficient level of integration of agricultural education institutions, academic exchange and research together with major national and international centers of research and education;
- low level of integration into the global academic environment and absence of national leaders of global scale. Russia is the only country among major global producers of agro-industrial complex, which does not have its own representatives in the leading agricultural ratings;
- high average age of researchers and tutors, formation of gaps between generations [2].

Resolution of such issues depends on creation of conditions fostering the formation of competitive research and education organizations, able to take the leading positions in education, research and intellectual and technologic fields.

In 2016, as part of implementation of above legislative acts, the Ministry of Agriculture of Russia developed, with support of research university “Higher School of Economics”, a draft of Strategy of agricultural education development in the Russian Federation till 2030. The purpose of this document is to upgrade the agricultural education system, ensuring the growth of human resource in agro-

industrial complex and sustainable development of rural territories of the Russian Federation, in order to strengthen the food security and increase the global competitiveness of Russia in global markets of agricultural products [2].

Not only the managers and specialists of the Ministry of Agriculture of Russia, representatives of bodies of agro-industrial complex of constituent members of the Russian Federation, acting as the persons directly implementing the state policy in agricultural field, are interested in adjustment and approval of Strategy of agricultural education development, but also the managers of higher education institutions, continuing vocational education institutions, concerned persons – specialists of universities and agricultural business, unions, associations of research centers.

Strategy of agricultural education development suggests the review of role attached to the higher education institutions in economy. The educational institutions act not only as centers for training the staff for economy, but as major centers of innovation developments, ensuring the interconnection between the science, education, business and the state as well.

Main factor of provision of competitive advantages to universities is an ability to generate new ideas, develop projects and processes, and for business entities – availability and speed of use of new developments.

European Trade Union Committee for Education in its program document "ETUCE Policy Paper on Vocational Education and Training in Europe" stresses that the promotion of efficient cooperation between the universities and economy is much more productive than the creation of new companies for investment [3]. This point of view is supported by the following fact: the life of applied engineering knowledge became less than the period of learning. Such proportion makes the educational entities to orient themselves not to narrow specialization, but to provision of fundamental knowledge, which will be vital and necessary to the graduates during the nearest 10 – 15 years.

As of today, the system of higher agricultural education of the Ministry of Agriculture includes 54 universities of 540 state financed universities of the country, which makes about 9%, comprising 33 agricultural universities, 20 agricultural academies and one agricultural institute; 22 universities have branches in various regions of the country. Agricultural educational institutions of higher education are located in 50 constituent members of the Russian Federation.

The higher education institutions of agricultural specifics, as a rule, are the eldest universities of the country, having a background of several centuries in training staff of the high qualification. As an example, State University of Land Use Planning, which name, before 1918, was Konstantinovsky Land Surveyor Institute, will celebrate its 240th anniversary in 2019. More than 70% of agricultural universities operate from 50 to 100 years in the agricultural education system.

In addition to agricultural universities, the specialists for agro-industrial complex of the country are being trained in the higher education establishments of the Ministry of Education and Science of the Russian Federation, i.e. not in the specialized universities. In this connection, staff training under the consolidated

group of training “Agriculture, forestry and fishery” is carried out in 21 universities of the Russian Federation (about 20% of total number of state financed universities), under the consolidated group of training “Veterinary and Zootechnics” - in 12 universities of the country, under the training line “Environmental Engineering” - in 22 universities (28% of total number of the state financed universities), “Land use and land registries” and “Surveying” - in 134 universities (about 23%).

The agricultural universities implement the methodical, staff and research support of training the middle ranking specialists for the agro-industrial complex in 253 colleges and vocational schools of secondary vocational education, which are located in 73 constituent members of the Russian Federation.

In general, the agricultural universities train the highly skilled staff for many ministries, agencies, entities, institutions, services and security agencies of various specifics, including: Ministry of Agriculture of the Russian Federation, Federal Service for Veterinary and Phytosanitary Surveillance, Ministry for the Protection of the Environment and Natural Resources of the Russian Federation, Ministry of Construction of Russia, Ministry of Transport, Ministry of Defense, Russian Registry, Federal Property Agency, Ministry of Internal Affairs, Federal Security Service, Russian Railways, Gazprom, Rosneft, Rosseti, Lukoil, land registry engineers, private surveyors. Total need in staff for “Land Use” by 2020 is forecasted as 7500 people.

The main activity of educational institutions is an implementation of educational programs and results of research, which becomes the current capital of the entities in the market of educational services, scientific, research and production achievements.

The Russian system of education implements the principle **“education during the whole life”**, which is applied through the network of educational institutions of continuing vocational education. Advanced training and professional retraining of workers in the agricultural sector of economy is performed by 21 specialized educational establishments, while the programs of continuing education are being taught in all of 54 higher education institutions of the system of the Ministry of Agriculture of Russia. All of them graduate 45 students, who mastered new professional competencies.

Nowadays the agricultural education represents a significant segment of the national education system. The students are trained under the programs of higher education in agricultural universities in 6 fields of education of 9, under 23 consolidated groups of specialties of 57, taught in the country, under 60 bachelor training programs, 44 master programs and 11 specialist programs.

All of agricultural universities train the researchers and tutors under 30 lines of research.

The state pays a lot of attention to training of the staff for agro-industrial complex. Almost 55% of total students under the programs of higher education and more than 63% under the programs of secondary vocational education are studying for the account of the federal budget.

The agricultural universities dispose of a great staff potential. Approximately 40 thousand employees work in them, where more than 17 thousand people are the tutors, about 80% of researchers and tutors have degrees and academic titles [5].

The research conducted in universities is a factor having a direct impact to the quality of higher education and contributes to research support of innovation development of agro-industrial complex.

By their research and teacher training qualification, the staff of universities of the Ministry of Agriculture has a priority over the academic institutes. The divisions of agricultural sciences of the Russian Academy of Sciences, managed by the Federal Agency for Scientific Organizations encounter 11,3 thousand employees having the degrees and academic titles.

It's necessary to stress that according to the state statistic records (form VPO-1), the universities of the Ministry of Agriculture of Russia employ at the staff positions a total of 40,9 thousand people, including the academic teaching staff (ATS) – 15,4 thousand people, where there are 2,4 thousand Doctors of Science (16,0%), 9,6 thousand Candidates of Science (62,3%), and total employees having postgraduate degrees are 12,1 thousand persons (78,3%).

The lines of research are determined taking into consideration the scientific support to upgrading of agro-industrial complex of the country and implementation of the state program of agriculture development. The priority lines of research cover:

- creation of competitive crop varieties on the basis of biotechnology methods use;
- development of biotechnology methods of genome selection at creation of new species and kinds of heavy yielder animals;
- development of new technologies in the field of protected horticulture;
- development of modern technologies for advanced processing of agricultural products and waste of the same.

The researchers of agricultural universities conduct research in 16 fields of science.

During the recent years the universities of the Ministry of Agriculture of Russia paid more than 2,3 billion rubles for research and development works.

Therefore the fundamental work and work of many years of universities is a basic foundation for implementation of Strategy of agricultural development for the future periods.

The system of agricultural education has strong and competitive advantages:

- successful expertise of many years in implementation of educational programs of all levels;
- proximity to the consumer – agricultural universities of the main agricultural producing regions of Russia, they are oriented at the demands of regions and their specifics;
- performance of the leading role in development of small towns and rural settlements, in sustainable development of territories;

- high level of identity of educational programs, enabling to use the network education supported by the advantages of every university, to increase the academic mobility of students and tutors;
- extended network of service of agricultural consulting, giving the opportunity to the practical workers of agro-industrial complex to upgrade their level of knowledge in the specific field. There are total of 624 regional and district centers of agricultural consulting in the country;
- availability of innovational and educational and research and production infrastructure: agricultural technology parks, research and educational and manufacturing clusters, demonstration grounds of new machines and technologies, resource centers [2].

Together with that, in order to solve the problems of improvement of agricultural education, it's necessary to specify the compatibility between the industry specific legislative acts and requirements of educational activity.

It's necessary to pay a special attention to legislation in the field of regulation of the use of land of the agricultural universities. It is proposed to authorize the agricultural universities to manage the land sites, used under the right of permanent (unlimited) use, in order to include them into the economic circulation and getting the additional income (as authorized capital of small innovation enterprises, sublease etc.), whish shall be applied to development of the universities. Nowadays, according to information of the Ministry of Agriculture of Russia, the subordinate entities manage 6222 property objects, 2 005 land sites with the total area of 280 thousand hectares, where the agricultural use lands amount to more than 198 thousand hectares.

The good example of the system of agricultural education in the economically developed states of the world is an application of the trilateral approach to increasing efficiency of such education:

- economic approach – as the key factor of increasing the competitiveness of agriculture on international markets of the raw stuff, energy and food and powerful engine of the national economy development;
- social – and as the main factor of sustainable development of rural areas, support of traditional way of rural life and elimination of social strength in the society;
- environmental – as the source of the health of the nation and support of its genetic heritage, preservation of environmental territory, natural landscapes and healthy living [4].

The gained experience, both in Russia and abroad, will enable, as part of Strategy implementation, to improve the contents and technologies of educational activity and science and engineering activity carried out by educational institutions:

- to bring up to date the content of education in compliance with the requirements of professional standards and manpower market;
- to improve the system of management of educational, research and methodic activity of the universities;

- to develop the advanced technologies of learning using the online and remote learning capabilities, academic mobility of students, tutors and researchers;
- to upgrade the network of educational institutions of agro-industrial complex, to create the academic excellence centers;
- to ensure the high level of integration of scientific achievements and education, to increase the efficiency of fundamental and applied academic science;
- to transfer the results of activities carried out by research schools of the universities into the agricultural producing, including through the system of agricultural consulting, and to extend the list of continuing vocational education programs;
- to apply scientific and staff support for sustainable development of the rural areas;
- to strengthen the staff, material and technical and financial status of the agricultural education;
- to achieve a high level of integration of agricultural education into the global academic environment and the transparency of the same;
- to form a network consisting of higher education institutions of various types, comprising the industry specific research institutes, leading agricultural universities, universities for development of human resources of the rural areas, universities of the industry specific education and applied sciences [2].

Summarizing the above, the system of agricultural education is a continuously developing process, carried out on the basis of legal acts, research and methodical, resource and information technology developments, produced by the public authorities, authorized to regulate the field of education, and by research boards, education boards and taking into consideration the unstable social and economic conditions (mobility of qualifications, needs and requests of the organization / associations of employers etc.). The expected result of implementation of the agricultural education strategy is a balanced development of innovation activity of agriculture, sustainable availability of the specialized human resources for high-technology workplaces, stable educational and research activity.

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