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The Strategic Directions of Innovative Economy Development in Russian Agribusiness

VLADIMIR I. TRUKHACHEV[1], VITALIY Z. MAZLOEV[2], IGOR Y. SKLYAROV[3], YULIYA M. SKLYAROVA[4], ELENA N. KALUGINA[5], and ANNA V. VOLKOGONOVA[6]

[1] Doctor of Economics, Professor of Stavropol State Agrarian University, rector
[2] Doctor of Economic, Professor of the Russian Institute of Agrarian Problems and Informatics mane A.A. Nikonov, Russian Academy of Agricultural Sciences
[3] Doctor of Economics, Professor of Stavropol State Agrarian University isklyarov@yandex.ru
[4] Doctor of Economics, Professor of Stavropol State Agrarian University isklyarov@yandex.ru
[5] PhD in Theory of Language, Associate Professor of Stavropol State Agrarian University, Master of Economics, Mas ter of Business Administration in Agribusiness and Commerce kalugina.elena2009@yandex.ru
[6] Lecture of Stavropol State Agrarian University, Master of Economics, Master of Business Administration in Agri business and Commerce anna.volkogonova@yandex.ru

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ABSTRACT

The article describes the evolution of waves of innovations in the global economy and the development of multiculturalism in agribusiness of the Russian Federation. The author gives an estimate of innovation activities in Russian agriculture and defines the main directions of innovative activity development.

It was noted that the solution of the problem of innovative activity activation will ensure the effective development of agricultural production in all directions at the expense of labor productivity growth, resource savings, cost savings and cost reduction of agrofood products, increasing the volume and efficiency of agricultural production. The growth of innovation potential will increase the competitiveness of Russian agricultural enterprises on the domestic and foreign markets and make agricultural sector of the Russian economy more economically sustainable.

INTRODUCTION

As international experience shows, there is no other way of development for the economy based on knowledge, but innovative one. Creation, implementation and wide expansion of new

products, services and processes are the key factors in output growth, employment and investment. These are the most essential provisions of product quality improvement, labor and material costs saving, labor productivity growth, advancement of production management and its efficiency. Ultimately, these factors determine competitiveness of enterprises and their products on the domestic and international markets, and enhancement of the socio-economic situation.

Meanwhile, contrary to the laws of the market economy, where demand stimulates the increase of innovative activity of the enterprises, Russia is facing the opposite reality. During so-called pre-perestroika period, the country was struggling for the scientific and technical progress, corresponding to planned state economy with its inherent centralized control of decision-making, which was not focused on the enterprise, eliminating the risk of a business venture. As a result, nowadays the innovative sphere, like many others, is not ready to operate in new conditions. Only 6% of Russian companies can be called innovative. In industrialized countries the number of such enterprises is 80-90%. In Japan, for example, only 20% of research and development projects are funded by the state, in Russia this level is up to 80%. And it's not a matter of pride but evidence of the unsuitability of science and technology policy to a market economy. (Morozov et al., 2003)

As a result of systemic wide collapse there was formed a set of objective preconditions for perfection of organizational-economic management in the innovative activity of AIC in Russia. The solution to this problem would provide an effective development of agricultural production in all areas, thanks to the growth of labor productivity, saving of resources, reducing of expenses and decreasing of agro-food products costs, increasing the level and efficiency of agricultural production. The growth of the innovation potential will increase the competitiveness of local agricultural business on the domestic and foreign markets will make agricultural sector of the Russian economy more economically sustainable.

Currently, there is an increase in production efficiency of the Russian agriculture; due to implementation of domestic and international scientific and technical progress achievements into practice. So, the strategic role of agriculture development belongs to innovation activity. The main premise of investment activity in agriculture is that everything that exists has been aging. It is therefore necessary to update systematically all that is worn out, that is become an obstacle to progress, as well as to take into account mistakes, failures and errors. For this it is required to carry out periodical certification of products in agriculture, technologies and jobs, to analyze markets and distribution channels. In practice, there is nothing that makes agribusiness focus on the idea of innovation as the realization that the product produced in the near future will be obsolete.

With regard to the AIC, innovative process is a constant and continuous flow of technical or technological transformation of ideas into new technologies, or their components and bringing them to be used directly in the production in order to obtain new products of high quality. The innovation process involves agricultural research and educational organizations, production controls, supporting and implemental enterprises of various types, as well as agricultural producers by themselves. Development of innovative processes is caused by market demands; the producers of innovative products in order to create profit promote innovations to their customers. The innovation process begins with the birth of the idea and ends with the commercial implementation.

1. METHODS

A variety of methods, integrated by systems analysis and analysis of the basic resources of agriculture were used in the research. The study was carried out by using the following methods: abstract logic, monographic, method of system analysis and expert method.

2. DISCUSSION

The analysis of the various definitions allows us to conclude that, depending on the object and the subject of the study, various economists consider the category "innovation" in different ways, while research can identify the main directions, depending on the core of innovation: the change, the final result, the progress, the set of activities. (Drucker, 2004; Santo,1990; Ilyenkova, 2008; Schumpeter, 1982; Nelson and Winter, 2002; Twiss, 1989). If changes constitute the specific content of innovation, the main function of innovation is the function of change. Joseph Schumpeter distinguished five typical changes: the use of new equipment, new technological processes, or new market production support (purchase - sale); the introduction of products with new features; the use of new raw materials; changes in the organization of production and logistics; the emergence of new markets. (Schumpeter, 1982). M. Porter has suggested dividing all operations of organization into two blocks: the main activities for the creation of the final product and support activities. The main activity of an organization represents a cross-cutting process and consists of: procurement activities, operations, distribution, marketing and sales, as well as providing product support services. Supporting business processes consist of corporate-wide infrastructure, human resource management, technological development and general corporate purchases. (Drucker, 2004)

Before the industrial revolution in human history, successive technological methods of production can be traced, which characterize the various stages of the development of civilization. (Kolpakova, 2011) All of these production methods were directed at the development of agriculture and included, on the one hand, soil cultivation, and on the other, the improvement of soil cultivation implements. In Russia, the formation of technological methods of production took place with a certain delay, which is primarily due to the severe natural and climatic conditions. The initial stage of development of agrarian and industrial complex is connected with processes of industrialization. Industrialization was carried out in different countries and at different periods of their development. Previously countries had the status of agrarian. Turning the countries into agrarian-industrial happened under the influence of specific instruments in the period associated with the industrial revolution. However, it coincides over time only in Great Britain. By the middle of the XIX century in these countries the formation of the industry of factory type had already completed, which allowed them to transfer to the status of agro-industrial. Germany had come to this type of development by the end of the XIX century, France at the beginning of the XX century. The industrial revolution led to the emergence of *the first wave of innovations* (1770-1830). Its formation began with the creation of machinery in England. During this period, spinning had been evolving and the agrarian reforms in the country took place in the 60-70s of the XIX century; it was the beginning of the transformation of countries in the direction of the dynamic type of social development. By 1880 there had been the completion of the first stage of development, during which the developed countries emerged as the agro-industrial. Russia had emerged as the agro-industrial country only by 1913.

The second wave of innovations was associated with the construction of an industrial society, as well as with the development of regional systems. The epicenter of *the third wave of innovations* (1880-1930) was in the USA and Western Europe. To the special features of this way of life relegated the emergence of electricity, the invention of electric motors and internal combustion engines, steel production, the reduction of the share of the primary sector of the economy, increased competition both domestically and on world markets, the development of state-monopoly ownership, increasing the value of the services sector, etc. The development of technologies of the third wave of innovations was associated with the achievements of the natural sciences: physics and chemistry. On the basis of the achievements of these sciences through the use of tools such as the invention and introduction of new technology (modernization, replacement of equipment with modern technology), provided rapid progress in the industrial processing of agricultural products. The development of soil cultivation in agriculture was achieved through the tool “production of capital goods for agriculture”. With the development of mechan-

ical engineering grew the use of machinery in a large agricultural production, but it had not yet acquired a systemic character.

The third industrial wave of innovations was based on the use of electrical energy, the development on this basis of heavy mechanical engineering, electrical and radio engineering industry. Basic activity of developed foreign countries at this stage in the economy was government regulation of both public and private sectors, that is, the state was actively involved in the contemporary multicultural mixed market economy in the formation of the most important socio-economic processes (Gordeev, 2009). The extent of state redistribution of financial and other resources in foreign developed countries ranges from 30% of gross domestic product in the US and 50% of gross domestic product in Europe and Asia and more than 60% in Scandinavian countries. This shows the enormous role of the state and its potential to impact on the socio-economic and scientific-technical development. Development of agribusiness in foreign countries was due to the increasing competition in the system. Thus, farmers competed with each other in all directions. Development of the USSR after the transformational changes in 1917 passed with accelerated pace. The Soviet Union, due to the transformational changes, lagged behind the developed foreign countries, in which they had been continuing to build the type of capitalist industrial society. In the Soviet Union in this period there was the formation of the public administration system. From occasional exposure the country moved to state management system. At the same time the regional dimension emerged in Russia. Directive planning was the main instrument of state regulation during that period. As a result of the revolution and the socialist transformation of production relations, electrification plan was realized. Formation of the third wave of innovations in the USSR was greatly accelerated, the state actively intervened in the process of technical and economic development and in the 20s state order came into operation.

The fourth wave of innovations (1930-1980) actively developed in the United States, Japan, Western Europe and the USSR. The features of the wave were the development of mechanical engineering, discovery and production of synthetic materials and the production of durable goods. Means of labor and technology were based on the use of computers and automated lines using electricity. This mechanical engineering and, in particular, the capital goods production for agriculture was a key sector, which determined the pace of technical development of the fourth wave of innovations.

The fourth wave of innovations was marked by an active transition of world agriculture on the road of intensification, which was reflected in the rapid increase in global food production by 3.2 times (from $ 765 trillion in 1950 to $ 2.475 trillion in 2000). The maximum growth rates were recorded during the study period in China (6.5 times), India (3.2 times), Japan (2.9 times) and Western Europe (2.8 times). In agriculture, they actively began to use fertilizers as means to increase soil fertility. Automated lines were applied in the production of animal feeds, in the processing of meat products, in the dairy industry. Food production of the persistent provision should be mass. This led to the development of automated lines for processing, food packaging, and creation of the conditions for long-term storage of products. During this period agribusiness was finally formed.

The fourth wave of innovations led to the development of state-monopoly capitalism. The role of the state as a regulator of economic processes was growing, and the main tool became the distribution and redistribution of budgets. In developed countries the system of national development objectives were elaborating, as well as scenarios and forecasts with the controls, the development of programs such as the public sector and its associated with other economic sectors.

The fifth wave of innovation, which began in 1980-1990 period in the same countries, was characterized by rapid development and use of the achievements of the electronics industry, computer technology, as well as the use of nuclear energy. Technical achievements of the fifth wave of innovation could reduce losses during the production, transport and processing of agri-

cultural products and raw materials. Food production was transformed into industrial transformation of primary agricultural resources in the final product. In this period of time the establishment of international political alliances was created in the interests of the financial oligarchy of the "Group of Seven" member countries. There was a need to harmonize the financial and economic policies of the leading capitalist countries (the "Group of Seven").

The fifth industrial wave of innovations (1990-2030) has been based on the electronic and nuclear energy capabilities, innovations in the field of microelectronics, information technology, genetic engineering, biotechnology, has led to space exploration, the emergence of satellite communications and other opportunities. Technical achievements of the fifth wave of innovation can reduce losses during the production, transport and processing of agricultural products and raw materials. Food production has been moved to industrial transformation of primary agricultural resources in the final product. Formation of the fifth wave of innovations in the USSR was more and more constrained by scarcity of productive resources associated with the reproduction of outdated innovations wave (the second, the third). The consequence of this process is a mixed economy, slowing the pace of its growth and the formation of the fifth wave in Russia. In the USSR, as well as in the developed capitalist countries, the preconditions of fifth wave of innovations were formed.

Transition to the technology of the fifth wave in all sectors, especially in agricultural sector has happened with a significant delay. The only exception was the military industrial complex and space industry. Operation of technology of the third and fourth ways led to a widening of the repair base, strengthened intersectoral interdependence; predetermine excessive resource consumption of their functioning. The reproduction of the second, third and fourth waves were the brake on the development of the economy and resulting in a systemic crisis in the late 80s. Reforms of the mid 80-90s led to the collapse of the USSR and Russia and only made worse the position of farmers. (Ushacheva et al., 2007) Long-term inter-industry connections were broken, many companies lost the commodity markets, and all areas of the economy have regressed. Long-term planning was cancelled; there was a rejection from the forecasting, funding for science and development of advanced technologies were significantly reduced.

At present time, there is a formation of the sixth wave of innovation in the world (about 2030-2090). Its key factors are Informatics and Microelectronics, on the basis of which the artificial intelligence system will be formed. At the heart of the sixth wave are there is agricultural production based on implementation of nano-, bio-, and energy-saving technologies. Nanotechnology include: molecular, cellular and nuclear technologies (nanotechnology, nanobiotechnology, nanobionika, microelectronic technology, nanomaterials, nanorobotization and other nanoscale technology and nanostructures). Technologies based on nano energy will provide even greater performance capabilities for the economy and citizens. Biotechnology will be broadly developed (Dolgushkin, 2010), what raises the question of the development of agriculture and agro-industrial complex. Let us compare the levels of development of agribusiness technologies with the core of wave of innovations (Table 1).

Development of agricultural sector of economically developed foreign countries practically is unchanged. In modern Western economy, a government actively supports agriculture as one of the most important sectors of economy (Krylatyh, 2011). In this area of production the main principle of free market is complemented by active state regulation (Gataulina, 2007), namely, minimum prices for major agricultural products are reviewed annually (thus producers are protected from the sharp fall in prices). At the same time the domestic market is protected from the external low-cost product by import duties. Therefore, the EU food prices are above the ones in other world countries, agricultural policy costs are charged to the budget. Support for agriculture is practiced in all developed countries. For example, in Canada, the US, Germany, France, the government invests from 42 to 52% of the cost of agricultural production, in the Nordic countries up to 80%. As for Russia, it is only 1.4% of the total state budget is invested in agriculture. Starting from 1990s, the science draws the concept of innovation waves in assessing the

state of the economy and prospects of its development, that express the certain level of scientific and technological development. (Bilkov, 2012)

Table 1. Main characteristics of technological structures in agribusiness

Wave of innovations (period)	*The core of wave of innovations*	*Countries and leaders of wave of innovations*	*Particularities of wave of innovations*
I Wave of innovations (1770-1830)	The simplest mechanization of manual labor	Great Britain	-processing of iron and obtaining agricultural tools made of iron; -use of wood fuel; -water engine; -mechanization of agriculture.
II Wave of innovations (1830-1880)	Internal combustion engines	England, USA, Germany, France, Russia	- The steam engine; -Use trains and other transport; -The emergence of machine tools; -Growth of the scale of mechanization and agribusiness concentration.
III Wave of innovations (1880-1930)	Electric Energy	USA, England, Germany, Austria, Russia	- Enhancing the development of agricultural science and agro-consulting; - The beginning of the active phase of the development of agricultural machinery.
IV Wave of innovations (1930-1980)	Energy of hydrocarbons, internal combustion engine	USA, Japan, England, Germany, USSR	-complex mechanization, electrification, -use of chemicals and reclamation of agricultural production; - "Green revolution."
V Wave of innovations (1980-2030)	Electronic and nuclear power, genetic engineering	USA, Japan, England, Germany	- Intellectualization and automation of the active agricultural production ("cyber-farming", inbingre); resources-saving, agro- and Zootechnology.
VI Wave of innovations (2030-....)	Nano energy	USA, Japan, England, Germany	-Active implementation of the principles of sustainable development of the agricultural sector, molecular biology, genetic engineering, nanotechnology; -productional agriculture.

Formation of the fifth wave of innovation in agriculture and agribusiness of Russia is only beginning now. Technology of the fifth waves of innovation can significantly reduce the level of energy and material consumption of agricultural products. The use of obsolete equipment and technology in agricultural and agro-industrial complex is the reason for the large production costs (energy and material level of agricultural products in Russia is 3-4 times higher than the level of resource consumption of similar products originating in countries in developed market economies) and significantly less than the efficiency of domestic production. This raises the problem of technical and technological re-equipment of agricultural enterprises and the search for sources of funding. (Zhidkov, 2014). The main deterrent of innovation is the lack of financial

resources. In some countries this problem is solved by a public-private partnership (PPP). They were used to enhance agricultural innovation, to attract public funds, improving the efficiency and adaptation of innovations requires promoting wider and more rapid spread.

Most programs are not specific to a system of food and agriculture, but it is applied to the economy-wide innovation system. The basic conditions for the formation of a successful partnership between public and private parties are the presence of common objectives, the exchange of mutual benefit and complementarities of human and financial resources. Institutional mechanisms should be clear, but the degree of formalization may vary. The elements of good governance include setting clear goals and rules, as well as the implementation of regular monitoring and evaluation, which use proven, open and competitive process to select the PPP for public participation. Transparency is desirable at all stages of implementation. Increasing the capacity of partners to design, manage and participate in the PPP is an important success factor, and this is especially true for agricultural innovation.

3. RESULTS AND RECOMMENDATIONS

In accordance with the Global Innovation Index 2014 (Cornell University, International Business School INSEAD, World Intellectual Property Organization, Global Innovation Index) Russia ranked 49-th place in the list of 143 countries, which is 13 items higher than in the previous year. Let's consider the advantages and disadvantages of technological structures prevailing at the present time in modern Russian agriculture (Table. 2).

Table 2 - Advantages and disadvantages of technological structures in modern Russian agriculture (Sandu et al., 2012)

Type	*Basic economic entities*	*Advantages*	*Disadvantages*
Strongly technocratic	Leading enterprises of various organizational and legal forms, including peasant farm enterprise	The possibility of production in large quantities at low cost. Susceptibility to the achievements of scientific-and-technological advance. Possibility of selection of personnel due to high earnings. The ability to extract large profits	Goods are usually produced by a massive use of agrochemicals, resulting in relatively low quality of the food. Limited ability to attract the rural population to work in enterprises, entailing an increase in unemployment, aggravation of social tension.
Naturally innovative	Collective enterprises and peasant farm enterprise of different levels of development	The ability to manufacture ecofriendly products. The absorption of a large number of workers in rural areas, the removal of social tensions. Susceptibility to the achievements of scientific and technical progress, various kinds of innovations. The possibility of obtaining of ecological rent.	Limited capacity of production. Relatively high cost of food, which can be offset by increasing prices as a result of environmental cleanliness products.
Natural	Personal subsidiary plot, partially peasant farm enterprise	Freedom of choice for people and the type of production work. The ability to produce exclusive and environmentally friendly products. The absorption of labor in unlimited quantities. Obstruction to unemployment	Primitive production conditions. Heavy, monotonous, poorly mechanized labor. Weak susceptibility to the achievements of scientific and technical progress. The absence of a range of social guarantees (paid holidays, sick leave, etc.). Low profitability.

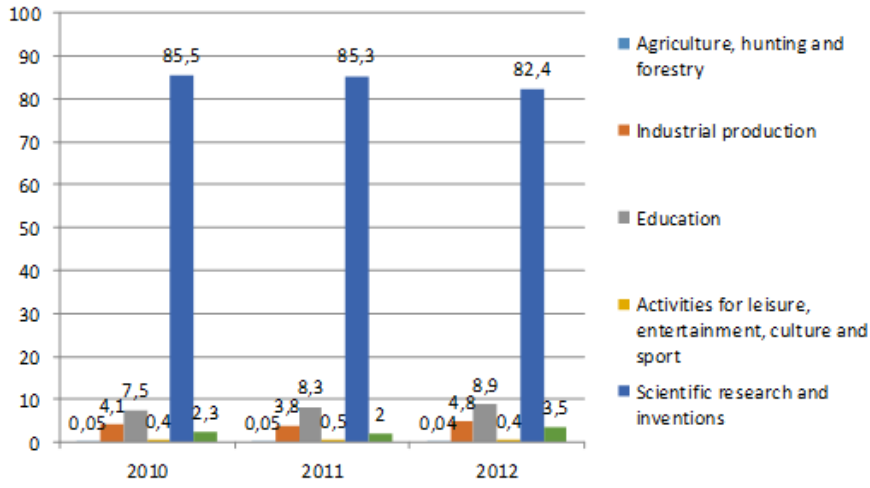
Now a day, the political situation in Russia is in relatively difficult situation in terms of the initiation of the food embargo in response to actions of the European Union, the United States and some other countries, lead to rejection of imported food produced by these countries. These measures entail a number of inevitable consequences in the development of the domestic agro-industrial complex (AIC). In this connection, the main actions of the Russian government in the process of regulation of agricultural sector should be aimed at the stabilization and development of agricultural production, food security of the population, maintenance of economic, including price, parity between agriculture and other sectors of the economy, reducing difference in the income of agricultural workers and industry, comprehensive support and protection of domestic agribusiness enterprises (Baranova and Tuskov, 2012).

Its advantages are connected with the quality of human capital (30-th position), business development (43-th), the development of knowledge and technology (34-th). Indicators of infrastructure development remain at an average level (51-th), they interfere with the development of innovation imperfect institutions (88th position), poor performance results of creative activity (72-th) and the development of the internal market (111-th). It should be mentioned that the agricultural sector in Russia is undergoing a difficult financial and economic period, because of the high cost of production and a large share of the overdue accounts payable, there is no margin in many areas of the agricultural production. In addition, a high level of depreciation of fixed assets, there is a shortage of working capital, insufficient use of effective organizational and economic mechanisms of economic activity of agricultural enterprises with modern production technology, and management. Of course, the main economic and internal impediments to innovation are the lack of own funds, the high cost of innovation, a high economic risk, poorly developed institutional environment. Therefore, the development of science and innovation in the field of agriculture is one of the main directions of the state agrarian policy, which is reflected in the concepts of modern economic policy (Golichenko, 2011).

Innovations in agriculture are new technologies, new equipment, new plant varieties, new breeds of animals, new fertilizers, protection of plants and animals, new methods of prevention and treatment of animals, new forms of organization, financing and crediting of production, and new approaches to training, retraining and skills upgrading (Dokholyan and Umavov, 2011). Experience has shown that many agricultural enterprises, which are embedded in its manufacturing process advances in science, achieve a significant increase in performance in the manufacturing and the financial sector.

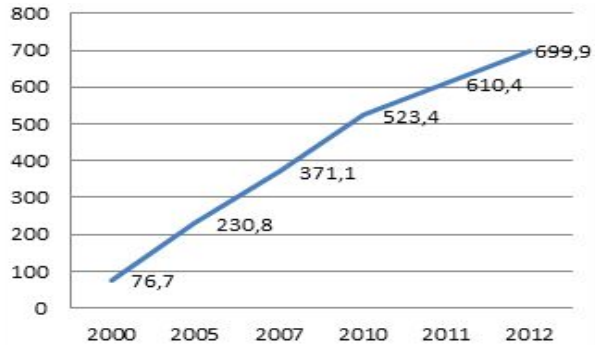
Unfortunately, innovation potential of AIC is used only in 4-5% in our country, while this numbers in the USA are 50%. The share of high technology products in Russian agro-industrial complex does not exceed 0.3% of the total and more than 20% in developed countries (Golichenko, 2011). The main indicator that measures the innovation activity is the amount of expenses that the state spends on innovation. Figure 1 shows the dynamics of the internal structure of spending on research and development of economic activity in Russia in recent years by economic activity.

Figure 1. Changes in the structure of domestic spending on research and development of economic activity of Russia



The presented data indicate that there is a tendency to reduce overall cost of research and development. The biggest share falls on the research and development and in the branches of agriculture expenditure amount to 0.05% of the total costs. Thus, the need to address the problem of increasing innovation activity in agriculture is vital. In modern conditions of worldwide innovation is regarded as one of the main conditions of modernization of the economy (Naydanova and Polyanskaya, 2015). Traditional manufacturing techniques have exhausted the possibility of both extensive and intensive development. Today in many countries there are developing industries that actively apply innovative technologies, the use of every dollar of which 45 returns eight dollars or more. In the last decade, many industrialized and newly industrialized countries, including China, have begun to set goals in the area of science and innovations in program and strategic documents of their policies, both in qualitative and quantitative terms. This fixation has served as a kind of catalyst for research and innovation activities in the public and private sectors (Kozlov, 2008). The main feature of the innovation development period is considered to increase the investments volume for R & D. In today's world, the costs of research and development in the United States account for 2.9% of gross domestic product, in Japan it is 3%, in Germany - 2.35%, in Sweden - 4%. Expenditure on research activities in the Russian Federation in 2012 amounted to 1.12% of GDP (Ushachev, 2013). Let's consider the dynamics of expenditures on research and development over the last decade in our country (Figure 2).

Figure 2. Dynamics of expenditure on research and development in the Russian Federation, billion rubles.

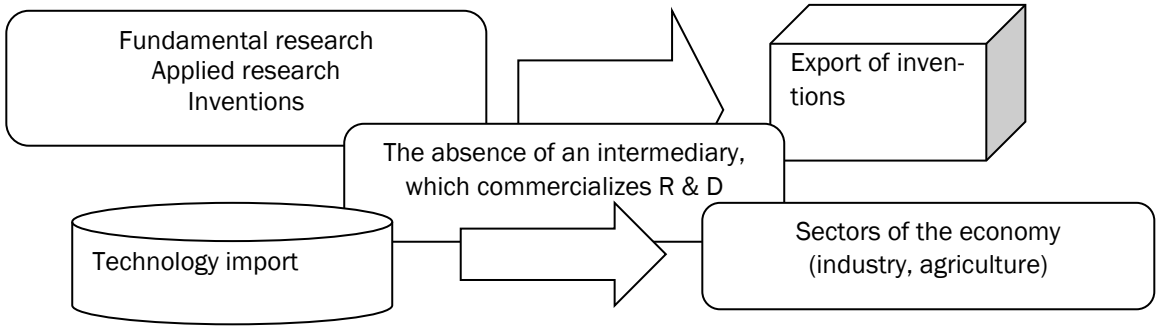


Thus, it is clear that the costs in considered area were increased by 83.6% in 2012 relatively to 2000. But despite the positive dynamics of the cost of innovation their share of GDP remains low compared with other developed countries. In comparison with the highly developed agrarian countries, Russian farmers have lack in use of technology, engineering, genetic and other scientific achievements and advanced experience. Indicators of crop and livestock productivity of European level can be achieved thanks to innovative modernization, integration of agricultural science, financial, logistical and other resources to achieve the goals set by the State Program of innovative development of agriculture. But, unfortunately, there is no system that provides innovative progress in agriculture. This is due to several factors hindering the development of innovative activity in agriculture. The amount of financial support applied to R & D is low and does not meet the innovation model of economic development.

Recently there are some active attempts on implementation of innovation systems, which are based on new knowledge, and scientific development. This long-term objective is aimed at replacing the raw material model into innovation model and economic growth. In this regard direct investment should be sent into equipment and science which are required to be the main drivers of economic growth. Improvement of the system is enshrined in the Strategy of equipment-technological modernization of agriculture of Russia for the period until 2020. The central part of this system should be innovative companies formed under the laws of a small business. As international experience shows, they are acting in an environment of agricultural producers; they are more competitive and dynamic in the sphere of intellectual services. In order to create a supportive innovative environment at the federal and regional levels the creation of agro technological park promoting the integration of scientific ideas, technologies and development of innovative projects' production. Currently, such formations have been created in the agro-industrial complexes of Tambov, Rostov, Voronezh, Novosibirsk, Tula, Belgorod Perm regions. There is also the project of technological park Biotehnopolis in the Republic of Buryatia. Business plan and project documentation have been developed. On a short-term horizon, the Government of the Republic should start the construction of engineering infrastructure of industrial park as the main condition of its co-financing from the federal center.

One of the elements that were not examined enough during the formation of agro-industrial complex of the innovation market is evaluation of the demand for innovation. As a rule, the selection of innovative projects is carried out without economic expertise, calculation of performance indicators of development and promotion schemes practiced in the production of the results. According to statistics, almost every year, agricultural producers remain unclaimed at about 50% of completed scientific and technical projects. And this indicator shows that there is no effective system of organizational and economic mechanism of management of innovative activity, encouraging developer to create innovative projects, and consumers to use them.
Schematically, the relationship between science and industry in Russia can be represented as follows (Figure 3).

Figure 3. The innovation cycle in Russia



In the Russian Federation authorities have created practically all forms of support for innovation used in the world. But the chain of innovative products in Russia is opened: the basic researches do not transfer into the applied ones, the applied researchers do not transfer into R & D, and the last ones do not move into industrial production (Ushacheva et al., 2008). For effective innovative activity the important links are the scientific-technical and innovative programs that are implemented on the basis of fundamental and applied research in the priority sectors of the agricultural economy. They should ensure the creation of new generations of equipment and technology to improve the technological level of agribusiness industries.

Active participation in the development of innovation policy should be taken by the regions and the regional legislature, as the most appropriate mechanism, is indirect stimulation of innovation development. Legal framework regarding tax benefits, organizational forms, and incentive innovation mechanism in regional agriculture should also be developed. Unfortunately, in many parts of innovation system are poorly realized and there is nothing done to create the infrastructure of innovative activity not only in agriculture but also in the whole region's economy. To improve innovation activity of agribusiness entities, as well as for growth of investment attractiveness of agricultural production joint efforts by all levels of government and the agricultural business are required, aimed at creating the innovation infrastructure. By our opinion, it will be possible to implement in case of great interest from the government and business, and certain capital injections in companies that define the scientific, technical and innovation policy in agriculture. It is also necessary to stimulate the introduction of research results by providing funds for their purchase or lease. In addition, training of highly qualified specialists in the field of innovation management in the agricultural sector should not be ignored. It is necessary to develop measures to attract them and consolidate the rural areas. When the necessary conditions are adopted there is a hope that those figures, which are planned by the Russian government in the development of programs for innovation, will be successfully met and agriculture receive "new blood" in its innovative development.

Russia is currently experiencing a sharp need to enhance and intensify innovation. According to Rosstat data, in the beginning of 2014 the indicator of innovative activity in the whole country decreased to 10.1% compared to 10.4% in 2012 (The official website of the Federal Service of State Statustics). Innovative activity indicator of organizations is an indicator representing the proportion of organizations implementing technological, organizational and marketing innovations, the total number of organizations surveyed. Innovative activity of organizations in Russian regions in recent years has a marked tendency to some decrease, as indicated by the pattern data 4.

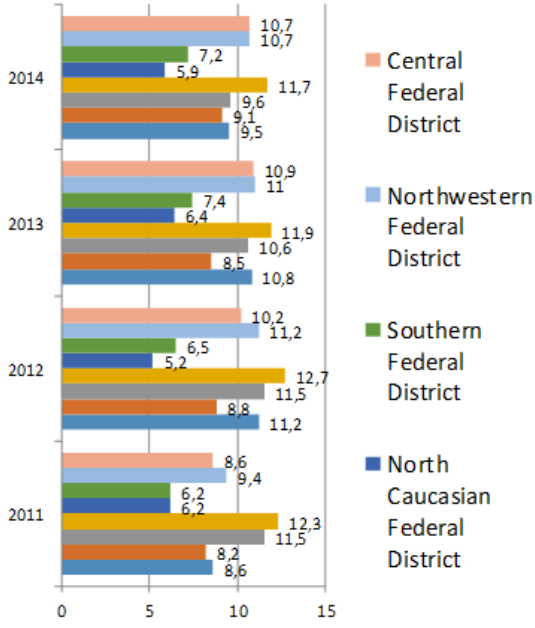
Among the Russian federal districts, the leader in innovative activity indicator is the Volga Federal District: the proportion of organizations engaged in technological, organizational and marketing innovations, the total number of surveyed companies, at the beginning of 2014 there were up to 11.7%, while in 2011 this indicator was equal to 12.3% (Fig. 4).

The second position on this indicator are Central and Northwestern Federal District (10.7% respectively), the third is Urals Federal District (9.6%). The lowest value of this indicator has a North Caucasian Federal District, where the level of innovation activity was only 5.9%.at the beginning of 2014. At the same time, unlike other districts, North-Caucasian, Siberian and Southern Federal Districts have a positive trend in this indicator during the years. Such a situation is due to a significant socio-economic divergence of Russian regions, the qualitative and quantitative parameters of their existing economic potential, and now it is clear, that this potential is not fully used for innovative development.

A certain problem and an obstacle in the development of innovation activity is underdeveloped domestic economic institutions, the high risks associated with equity of investments in innovation, a high level of shadow operations in the Russian economy. To reduce the level of the risks, connected with investments in innovation, it is necessary to ensure the development

of property interest protection mechanism of subjects of innovation activity and innovation infrastructure organizations. This is possible through the formation of work model of a venture capital funds. Venture funds invest in securities or companies with a high or relatively high risk in anticipation of extremely high profits. Typically, these investments are made in the latest scientific and technical developments and high technologies. Typically, about 70-80% of projects do not generate profit, but the profit of the remaining 20-30% pays all the damages.

Figure 4. The level of innovation activity by federal districts of Russia, % (was made by the authors according to Rosstat data).



For the purpose of the joint struggle for getting bookings for innovation by subjects and organizations of innovation infrastructure a consortia can be created, which represent an organizational form of temporary association of independent companies in order to coordinate their business activities. In world practice, consortia created for the implementation of major capital projects. Obviously, in the next few years of the race of "innovation arms" between the economic powers of the world, as well as between regions within the country will only gain “momentum”. And all the country, each of its regions, every enterprise and every citizen will have a tremendous job, firstly, to change mentality and model of economic thinking and behavior, and secondly, the implementation of practical actions in line with the innovation and modernization of the economic activity. In the field of economics and agribusiness land relations it is advisable to allocate the following main areas for research and development to ensure the development of innovative processes.

CONCLUSION

It is possible to build an innovative economy based on knowledge through joint efforts of the state, business community and science. The development of innovation is always exacerbates the problem of lack of qualified personnel, so it is necessary to make a bid for training of Russian specialists. In this case the invitation of highly qualified specialists from other countries

does not completely solve this problem, firstly, they are expensive employees, and secondly, there is no guarantee that the work they perform will be done efficiently and will be brought to an end, and we have to compete in the recruitment of staff with the United States, Europe and Japan. Currently, there are two scenarios for the development of innovations in Russia: depressive one and innovational breakthrough scenarios. There are more preconditions in Russian economy for the development according to the first scenario: almost destroyed scientific and technical basis, there is no necessary support of innovation, business has no interest in innovation, and the investment environment is not favorable. (Ushacheva et al., 2007)

For the realization of the second scenario, the innovation and breakthrough, we do not have much time, as the supply of economic and technological strength since the Soviet era is almost exhausted, the scientific base has used all its resources, there is no young skilled personnel, equipment is obsolete and physically worn-out, and created technological parks do not give effective output, which is required of them. In this context it should be:

- Strong government and corporate innovation policy focused on the innovative development of the country, technological breakthrough, and large-scale development of modern technologies, increasing the competitiveness of domestic finished goods, modernization and renewal of fixed capital investment mainly on its own scientific and technical base.
- A system of public-private partnership should be created where the civil officer is interested in the development of the real sector of the economy of the region. To do this, a system of evaluation of the regional officials' performance should be elaborated, including indicators such as the number of newly established enterprises, the number of newly created jobs, the employment rate in the region, the number of incoming taxes to the federal, regional and local budgets, the volume of investments in the region. Criteria assessment of effectiveness of regional officials should consist of indicators, characterizing in general socio-economic situation in the region, including indicators, no more than ten. They should have a simple method of calculation, publicity, possibility of operational testing, control of the state regulatory bodies and public organizations, also it should be strengthened the role of social control by means of the media.
- There should be created a national system of education, which will prepare a competent, active and qualified experts and there have been done a lot by the government in this direction: transition to a two-levels system of education, establishment of national research universities, scientific and industrial clusters. The government should ensure effective economic and social guarantees for highly qualified young professionals, thereby solve the problem of departure in search of jobs to foreign countries, where living standards are higher (guaranteed employment after graduation within two years on the specialty, preferential loans for tuition without interest loan for young families with a child under the condition that parents have higher education received in educational institutions with state accreditation).

The conditions should be created through (subsidies, preferential tax treatment, and more effective anti-monopoly regulation) for the development of innovative and high-tech production in Russia, including the participation of foreign partners. (Sklyarov et al., 2016). It is necessary to develop healthy competition and to create multiform domestic economy by supporting small and medium-sized businesses. In this case the main emphasis is on the development of production in the country, and for high-tech industries, provides tax holidays and payment in installments for loans from 3 to 5 years or to provide for 100% subsidizing of interest rates on loans. Streamline the licensing process and reduce the number of activities subject to licensing to a minimum. Development of a system of national standards, or adopting of already existing standards in other developed countries aimed at improving the quality of products, works and services. Transfer the function of the development of modern licensing regulations and standards to professional organizations and business communities. In the USA and Europe, such a scheme works effectively. For example, there are car manufacturing standards in the USA that

exist from 1920, but this does not prevent a global automaker to produce the modern high-tech cars in America.

China requires particular attention and learning of experiences in stimulating of production with its booming economy; for example, purchasing a car of Chinese production is it is possible to receive a discount of up to 20%; when agricultural producer takes a credit on the needs of production, the loan rate is 0%; if the entrepreneur who is Chinese citizen wants to do business, it will be offered several options for obtaining a soft loan, etc. At the same time regional officials are very interested in business development, as an important criterion for evaluating their performance is the growth of GDP and the number of new jobs created in subordinated regions. The sharp decline of this index leads to a very tough measures by the central leadership.

These measures in the complex will ensure the development of international cooperation, attraction of investments, thereby expanding the scope of the introduction of new technologies into the Russian economy. The implementation of innovation policies will make it possible in 2015 to begin development of the sixth way of innovation, and by 2030 to increase its share in the structure of the economy to 20%. All this will enable the Russian Federation to carry out a technological breakthrough and to increase the competitiveness of the domestic economy.

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