Prospective Trends in the Development of the Agricultural Sector: Through Thorns to Innovations

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Abstract—The principal directions and trends in the development of the agricultural sector under the conditions of the world’s economic crisis are considered in the article. The specification of priority directions of economic growth for the efficient use of resources and increasing competitiveness based on innovation factors is validated.

DOI: 10.1134/S1075700710010053

The global dimensions and character of the system are principal peculiarities in the crisis of 2008—2009. The intensity of these peculiarities can be indirectly estimated based on the amounts of funds spent for anticrisis programs. According to the data of the International Monetary Fund (IMF), significant anticrisis investments in the Russian economy among G20 countries amounted to 4.1% of the GDP. If 2007 was a record year with regards to the flow of capital into the country, then, in 2008—2009, an outflow of capital has been observed. In both the foreign and domestic market, a significant decrease was observed in the effective demand for products manufactured in the Russian Federation, including energy products, metal, and timber. As a result of the decrease in the demand and price for raw materials, the reduction in the GDP was only 9.5% in the first quarter of 2009. It is supposed that the worst of crisis will be overcome in 2009, though social effects will most likely continue to be felt in the following years.

Meanwhile, in the scientific community, understanding of the economic crisis in the modern world is increasingly viewed as a consequence of the regular historic process of changes in the technological modes, as well as the understanding of the key role of innovations in these worldwide structural transformations. The conclusion reached in connection with this is no less important and consists of the fact that, during the period of changing the modes, the overtaking countries receive additional chances to be leaders in scientific-technical progress because, during the formation of the new mode contours, they can use the investment and technological experience accumulated by developed countries [1].

The current crisis coincided with the time of the transfer by the world’s leading countries to the development of the sixth technological mode, the characteristic features of which are resource-conserving nanotechnologies, nanobiotechnologies, and unique information systems. This process is essentially represented by excessive prices for energy products, which contributes to a large release of capital from outdated productions plants and its flow to enterprises in the new system. It is necessary to consider that the new mode, which is certainly much less energy- and material-intensive, will not require previous scopes of energy products, metal, and engineering materials.

In these terms, the role of long-term forecasting, planning, and the selection and justification of macroeconomic priorities is multiply strengthened both on the level of national economies and their leading segments and sectors. The task of organically connecting anticrisis measures with long-term strategy of economic growth based on priorities of developing innovations is considered to be key.

Figuratively speaking, the crisis provides Russia with a chance to join the a new long wave of Kondrat’ev’s technological cycle, which arising when the world economy has rearranged forces and funds. However, it is in the turbulent stage of changing technological formations and potential investors do not clearly see the form and contours of the new mode. In this respect, the forecasts of scientific-technical and socioeconomic development elaborated at present should be permanently updated based on actual events taking place in the world and national economies [1].

The successful development of innovations in these conditions supposes significant state support and regulation. International and domestic experience demonstrates that this development is most successfully carried out in a well-formed institutional environment and within target programs where the role and function of the state is clearly regulated both by resource and organizational constituents. In this situation, private business also actively supports the implementation of high-risk innovation projects by its participation.

Furthermore it is especially necessary to note that, behind the external successful macroeconomic indices of the precrisis development of the national economy, in reality, lost opportunities for its modernization are often hidden, as well as a transfer to the innovation growth trajectory. The accumulation rate (ratio of the investment volume to the GDP) was reduced by a factor of two in the beginning of the Russian market reforms in the 1990s,
and was left at an extremely low level of about 20%. Meanwhile, countries that have implemented successful structural reorganization in their economy have demonstrated much higher rates of the investment growth over a long period of time. In postwar Europe, accumulation rates were 25% through the 1970s; in Japan, they were 30%; and, in South Korea, these rates were even higher. In the Soviet Union within the period of industrialization and in modern China, accumulation rates reached 40% [2] during some years.

The investment support of scientific-technical progress is especially important nowadays, since the formation of a national innovation system of framework and bearing structures is still being continued in Russia. A brand new trend in state policy in this sphere is so-called development institutions specially arranged to provide long-term investments in priority science-intensive sectors of the national economy. These structures have operated long and successfully in many leading countries. In our country, the Development Bank, established in 2007, can be considered to be one of these structures whose activity is aimed at diversifying and increasing the competitiveness of the Russian economy, including developing its infrastructure, innovations, and special economic zones. Another of these structures is the Investment Fund of the Russian Federation established in 2006, which implements especially large and significant infrastructure and innovation programs based on private–state partnership principles. To increase interest from investors in innovation projects, including in the agricultural sphere, growth in profitability from venture-capital investments and the promotion of national science-intensive products to the international market, a Russian venture company was established during the same years. It is supposed that, in the future, an integral system of sector and regional funds and companies will be formed whose participation will be a unique catalyst of stimulation and support for innovations in different regions and branches, including the agricultural sectors. Furthermore, another important form of implementing the national innovation strategy are state corporations that act in the most important and urgent directions of the national economy.

In modern terms, in addition to a country’s own scientific-technical developments, the significant task of development innovations, including in the sphere of biotechnologies, genetics, and plant and animal breeding, is borrowing the most progressive ideas and concepts from other countries. This is also tightly connected with the arrangement of a national innovation system, including networks of institutions, authorities, and organizations in the public and private sectors that initiate, borrow, import, and adapt innovation technologies for the purpose of increasing the scientific-technical level of national production. From these viewpoints, innovations are both determining factors in overcoming the current crisis and a strategic resource in the long-term development and integration of the national economy with the emerging architecture of the new world technological mode. There is a significant interrelation between the amount of funds assigned by different countries for innovation development and growth rates of the GDPs in these countries (Tables 1, 2).

Let us try to consider the problems and trends in modern innovation economic development in greater detail in terms of one of the largest and most significant interindustry national economic formations, the agricultural sector based on agricultural production.

Before the beginning of the world financial crisis, the economic position of the Russian agricultural manufacturers was improving stably. The share of profitable enterprises increase from 58% in 2005 to 65% in 2006, 75% in 2007 and 78% in 2008, and total profitability of agricultural production during these years increased from 7.8, to 15.3 respectively.