

## Foreword

# Challenges for the development of the Russian agricultural sector in the mid-term

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### 1. State of the art

Unnoticed, Russia has managed to solve its longstanding problem of food shortages. The country's modern agri-food sector is one of the most steadily developing sectors of the national economy (since 2012 average growth in GDP has been 101,1% per annum, in terms of value added in agriculture—101,7%<sup>1</sup>). Production of selected crops is reaching historical records (sunflower, sugar beet). The country, which was once a stable importer of staple foods, has become a significant supplier to the world market. Russia is now a world champion for export of wheat and buckwheat and has entered the top ten in terms of its export of other crops. It has also begun exporting livestock products and value-added food products. Over the past ten years, progress has been made in the field of food quality and safety, all of which has been noted internationally.

State support for agriculture is consistently pegged between the levels of the European Union and the United States, although a number of support programs are not always effective in achieving their goals.

Both partial sector performance indicators (such as yields per hectare, per head, labor productivity) and total factor productivity (TFP) are growing. The growth of production is achieved primarily at the expense of intensive factors. Modal producers use the most advanced technologies.

Conventional indicators of the country's food security show that Russia is consistently in the top third of the world's countries.<sup>2</sup>

A turning point in the development of the sector was the 1998 crisis, which suspended imports and launched a flow of domestic investment, first in the food sector, and then in primary agriculture and the upstream sector. The main growth

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<sup>1</sup> Calculated with Rosstat data.

<sup>2</sup> E.g. <https://foodsecurityindex.eiu.com/Downloads>

factors, therefore, were the growth of investments and the corresponding improvement in the quality of management. The 2008 crisis was a second push of the same kind. The introduction of anti-sanctions in 2014 was another attempt to protect domestic producers. Nevertheless, growth factors in the form of investment and management have almost exhausted themselves. Russia's agri-food sector is currently facing the challenge of new growth factors, which will be discussed below.

## **2. New challenges**

1. In the modern world, agriculture has now ceased to be an isolated industry, it is becoming part (but not the largest one) of food systems. Competition today is based on the production of new food products with specific characteristics that are targeted at demand from certain groups of consumers. Food production today is one of the world's most knowledge-intensive industries. In order to maintain and strengthen its position in both domestic and foreign markets, Russia urgently needs to switch to an innovative method of developing its agri-food sector.

Russian production (especially in crop) is very volatile (the volatility of yields of main crops exceeds many times the same indicator in Canada which is similar to Russia in terms of its agri-climatic conditions and scope of agricultural production). This is a sure sign indicating a technological lag.

Other evidence of the technological gap in Russia's agriculture can be found in its very high dependence on the import of breeding materials. To paraphrase a well-known expression of one politician, we can say that it is possible to import all the technologies for a certain period; it is possible to import some technologies all the time, but it is not possible to import all the technologies all the time. Hence this preserves the technological lag and the corresponding reduction in competitiveness.

What are the main constraints on innovative development of Russia's agriculture?

First, there is a huge generation gap in agricultural sciences, dating back to the 1930s and 1940s, when restrictions were imposed on many agricultural areas (for example, agricultural economics, agricultural statistics, genetics), and scientific schools in these areas were destroyed. Further, in the 1990s, the influx of young people into science declined sharply. This is also due to a very large gap in the financing of agricultural sciences in Russia in comparison with its main trade competitors. As a result, there is a huge generational gap in science, which cannot be eliminated solely by monetary measures. In fact, the country faces the same problem of creating (recreating) science as experienced by Peter the Great and Catherine the Great.

Second, it is necessary to take into account that the private sector is the main investor in applied agricultural science today. (Thus, in the US, 76% of R&D investments in agriculture are made by private corporations). The investment cycle in applied agricultural research is 12–20 years on average worldwide. Such investments, respectively, are only possible in a stable business environment. In Russia at present, even the largest agribusiness companies have an average planning horizon of 4–5 years. In these conditions, investments in science and personnel become high-risk.

In order to increase the stability of the business environment in agriculture, in 2007, the first state program on agrarian policy for five years was adopted, one that

set mid-term rules for market participants. However, for example, 14 significant amendments were made to the last program during the period of its operation, so completely neutralizing the idea of a mid-term program.

For encouraging agribusiness to invest in R&D, the Federal Program of scientific and technological progress in the agri-food sector was launched in 2019, the main tool of which is the state co-financing of R&D. However, the program does not establish mechanisms for transferring intellectual property rights for the intellectual products obtained with state co-financing, which is already leading to conflicts over competition issues in the markets.

Third, innovative development and new technologies require a completely different approach to agricultural education. The modern system of agricultural education in Russia, on the one hand, is detached from basic research; on the other hand, it trains specialists of a universal profile, in a significant separation from the practical needs of business. Leading agricultural universities are trying to overcome both types of restrictions, but they are constrained by modern forms of higher education regulation. Private businesses try to train their own personnel, but, as with R&D, short planning horizons make this area ineffective.

2. The main challenge to global development today is the requirement for sustainable development of all spheres of human activity, including in agriculture. The world community has agreed on five principles of sustainable development in the agricultural sector:<sup>3</sup>

- increase productivity, employment and value addition in food systems;
- protect and enhance natural resources;
- improve livelihoods and foster inclusive economic growth;
- enhance the resilience of people, communities and ecosystems;
- adapt governance to new challenges.

The main obstacle to the sustainable development of agriculture in Russia is, of course, the “resource curse”: the availability of vast land and water resources and relative biodiversity do not yet pose an urgent need for the country to preserve them. Russia is still the planet’s environmental donor. Nevertheless, there are already challenges to sustainable development that need to be addressed in the medium term.

First, there is already a problem of maintaining soil fertility. There is practically no system of national monitoring of soil quality and condition in the country. Their degradation can only be judged by partial expert assessments. At the same time, objectively short planning horizons of private companies do not motivate them to invest in maintaining soil fertility, which also has a fairly long return period. For the same reason, progressive methods of soil treatment and water-saving technologies are poorly distributed in the country.

The reduction in the area used for agricultural production due to the increase in productivity per hectare has led to some improvement in the conservation of biodiversity in the country. However, in 2019, a decision was made to introduce 1 million hectares of previously withdrawn agricultural land at the expense of the state. This will lead to a fairly serious increase in greenhouse gas emissions (which is contrary to our obligations under the recently ratified Paris agreement), and also will reduce the level of biodiversity in the country.

<sup>3</sup> <http://www.fao.org/sustainability/en/>

Second, in a number of regions of the country, the limits of the ecological burden on agricultural production have already been reached. In particular, in the Belgorod region, livestock production (poultry, pork) is associated with high farm waste, which in any extreme situation can go into the underground aquifer, which is located under Belgorod oblast and Krasnodarsky Krai. In a number of southern regions, the maximum allowable share of sunflower in crop rotations has been exceeded. There is data on allowed overfishing. Rapid development of aquaculture in Russia is not accompanied by adequate measures of environmental sustainability, which can lead to the collapse of the industry (as has happened in several other countries).

Third, the lack of a national strategy or even a vision for food loss and waste (FLW) reduction is a serious threat to sustainable agricultural development. Since there is practically no official monitoring system for FLW in Russia, we have to rely on expert opinions of market participants. For the main branches of the agri-food sector, losses reach up to 40% of the output, which means that all types of resources are used in a corresponding unproductive manner.<sup>4</sup> World experience already provides a whole arsenal of methods for reducing FLW. In particular, one of the most rapidly implemented methods of reducing food waste in all countries of the world has become the transfer to charity of products which are about to exceed their expiration dates. Russia already has a set of organizations that can make such transfers, but the taxation system prevents the implementation of this idea.

Fourth, as mentioned above, the modern food systems should be more focused on the needs of different groups of consumers. The modern middle class in the world, but also in Russia, is concerned about sustainable food production practices.<sup>5</sup> Pointing out this practice is becoming an increasingly important factor of competition in the food market. An attempt to reflect this trend was made at the all-Russian agri-food forum “Golden Autumn-2019” where, the concept of a “Green Brand” was presented.<sup>6</sup> If the brand is correctly positioned and methodically supported by political measures, this could become one of the forms of introducing sustainable agriculture in Russia.

3. In 2018, the country switched from a policy focusing on import substitution in the agri-food sector to an export orientation. Measures have already been taken for both financial and institutional support for exporters. Without analyzing the strategy itself, we will focus on the possible risks of such a policy.

First, there is an economic risk to the domestic market. Implicit export agricultural policy is based on the presumption of a shortage of commodities for export and in this regard, domestic production is actively supported with a focus on foreign markets. However, global markets are extremely volatile and are subject to sovereign, market and political factors. Production that is supported by the state may not necessarily find export markets. This will mean that supported expanded produce will enter the domestic market and bring it down.

Second, social risks. The targets set out for increasing the export of agri-food products may be met at any expense, by reducing supplies on the domestic market.

<sup>4</sup> [https://foodsharing.ru/wp-content/uploads/2019/11/foodwaste\\_rf\\_skolkovo.pdf](https://foodsharing.ru/wp-content/uploads/2019/11/foodwaste_rf_skolkovo.pdf)

<sup>5</sup> E.g. <https://inagres.hse.ru/mirror/pubs/share/290233391>

<sup>6</sup> <https://rg.ru/2019/10/09/rossiia-predlozhit-mirovym-rynkam-zelenoe-pitanie.html>

This will reduce the availability of food for domestic consumers. This situation is already observed for fish that go to foreign markets already at sea, without entering domestic ports. Fish supplies to the already scarce Russian market have begun to decline.

4. With increasing productivity in the agricultural sector, a large part of rural areas in Russia has been marginalized. This has led to the degradation of rural areas in these territories, the migration of the rural population to the cities, and the disappearance of a large number of settlements. Moreover, large-scale agribusiness in search of skilled labor has switched in some cases to shift methods of organizing work.

As a result, at present, since state support for agriculture is regionalized, regional authorities are trying to use federal subventions intended for the development of agricultural production and redirect them to the least developed territories. First, this does not solve the problem of rural development, since today, in the whole country, only 19% of the incomes of the rural population derive from agriculture, and on marginal territories this share may be even less. Second, the most efficient producers receive less government support.

The underdevelopment of rural areas also becomes an obstacle to the development of agriculture. The marginalized social environment creates risks for production, and businesses cannot attract qualified employees on a permanent basis. Agribusiness is often forced by regional authorities to invest in engineering and social development of the territories of its production, which falls on the cost of production and reduces competitiveness.

Thus, rural development today is not only a social challenge for the country's development, but also a factor for further development of the agricultural sector. The State Program for Complex Rural Development, adopted in May 2019, gives some hope for a dramatic change in the situation in this area.

These are the major topics which are addressed by the various articles published in this issue. Of course, the authors can have their own vision of the situation but all of them are respected researchers in this area and their views are worthy of publication.