



#### CHAPTER 10

## Agriculture

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#### Highlights

- Since the 1990s, the agriculture sector in Russia has undergone a
  deep systemic transformation in terms of land ownership, market-based
  production and investment, market pricing, external openness, and technical modernisation.
- As a result of its systemic transformation, three types of agricultural farms emerged: (i) large private enterprises, including agri-holdings (which play a dominant role in grain production); (ii) family farms; and (iii) household plots.
- Russia, forced to import large quantities of grain and other food products during the Soviet era, has now become a major exporter of wheat and other crops as well as agricultural products.
- The future development of Russia's agricultural sector faces three main challenges: environmental sustainability (including CO2 emissions and the impact of climate change on agriculture), innovation, and rural development.

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#### 10.1 Introduction

During 30 years of transition (1992–2021), Russian agriculture experienced an extraordinary change: a traditionally backwards sector has become a leading sector of the national economy. Food security, an uncertainty that Russia faced in the last century, is no longer an acute issue on the national agenda. Russia, previously a major agri-food importer, has now become a key supplier for global agri-food markets. In this chapter, we analyse the major achievements of Russia's transition as well as the development challenges of agriculture in post-Soviet Russia.

### 10.2 Soviet Agriculture: Major Challenges and Transformation Objectives

State agriculture under central planning was characterised not only by a high level of state regulation, but also by the direct management of agricultural production by the state. Investment and working capital (to a considerable extent) for agricultural producers were centrally allocated by the government; the government also set production tasks which, in turn, determined the branch and regional structure of agricultural production. The input and output prices (both levels and ratios), interest rates, and wages were centrally administered. Moreover, each climatic zone had its own price levels adjusted to the zonal cost of production. Therefore, profitability (as reflected in the books) was not an indicator of performance, and the regional specialisation of production was set artificially by zonal prices. Russia's economy was closed: producers could not reach global markets and the government regulated consumer access to foreign commodities. Kolkhozes and sovkhozes (collective and state farms) were a form of agricultural enterprise appropriate to this economic system. The state was the only owner of lands, and the farms acquired the lands for 'eternal and free use'.

Six decades of development (since collectivisation in the 1930s) demonstrated, on the one hand, the stability of its internal structure. However, on the other hand, it revealed two fundamental problems, the resolution of which was impossible without making changes to the foundations of this system.

The first problem was the lack of endogenous economic incentives in the functioning of these enterprises. Prices as a source of market information had no effect on production decisions: in 1988–1991, the correlation between procurement price changes and changes in planted areas under the respective crops was -0.91, between procurement price changes and changes in the respective animal populations -0.37 (Serova, 1999).

The sector was also not responsive to investments. For example, the use of electricity in agriculture from 1980 to 1990 increased by 61%, the use of mineral fertilisers—by 22%, and capital investments—by about 40%; however, during the same period, labour productivity in agricultural production increased by only 28% and gross output—by only 12%.

The second problem of the state agricultural system was caused by the low motivation of farm workers. The performance of large collective and state farms was not directly correlated with the contributions of individual workers. At the same time, and unlike in the industrial sectors, it was difficult to monitor each individual operation in agriculture, for example, the quality of ploughing or milking, among others. Therefore, in Soviet agriculture, one could observe extreme opportunistic behaviour among farm workers, such as overreporting, poor performance, and the pilfering of farm resources.

Thus, in the Soviet economy, neither farms nor farm workers were interested in enhancing productivity and efficiency. The poor motivation of enterprises and workers resulted in Soviet agriculture falling far behind the rest of the world, and despite its ongoing reforms, it gradually fell into stagnation. In the 1980s, the average annual growth of its gross agricultural output was close to 0 and its productivity level lagged behind developed countries (Serova, 1999).

By the beginning of the 1990s, the state agriculture system had reached the limits of its development. It had become an obstacle to technological progress and thus required fundamental reform. By the end of the 1980s, there was also an evident deficit of agri-food products in the Soviet Union. Agriculture stagnated and did not respond to investment, price signals, or partial reforms.

In addition, total subsidies to the agri-food sector comprised up to onethird of sales and were a heavy burden for the national budget, especially at a time when its revenue fell substantially as a result of a decline in world oil prices. Thus, by the beginning of the 1990s, there was an acute need for radical reform in the agri-food sector.

# 10.3 THE ORIGINAL SHAPE OF AGRARIAN TRANSFORMATION IN THE EARLY 1990S

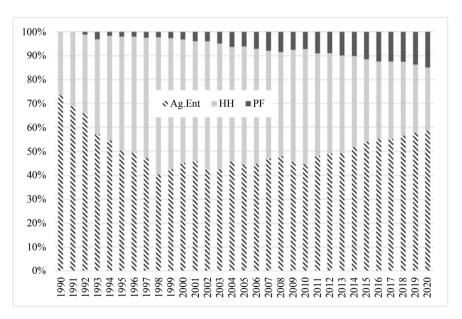
The agrarian transformation in Russia began after the break-up of the Soviet Union in 1991; its first steps included land reform and farm restructuring.

There are a number of different mechanisms for land privatisation and decollectivisation. Russia opted to issue conditional land shares. The workers of the *kolkhozes* and *sovkhozes* as well as pensioners and social service officers received equal conditional shares in the land of their farms. The conditional shares were not marked on the ground and could be considered as a type of option: they granted the holder the right to withdraw with a physical plot at any time, without the permission of the other land shareholders—the only consideration was that the location of the plot had to be agreed. Additionally, these land shares were transferable in all types of legal transactions. During 1992–1994, around 12 million such shares were allotted to rural dwellers (the rest of the lands were held in various forms of state and municipal ownership). By 1997, 53% of farmlands belonged to land shareholders and an additional 10% were fully privately owned. These land shares were the major tool used by modern agricultural companies in Russia in the accumulation of land banks.

The former collective and state farms had to be transformed into one of the legal company forms envisaged by the Civil Code.

In only a few years, the structure of agriculture had changed remarkably: three major segments appeared—private agricultural enterprises (heirs of collective and state farms), private family farms, and household plots (Fig. 10.1). Unlike in other FSU countries, almost all types of land transactions were legalised.

After 1998, a new form of agribusiness started to emerge in Russia: agro-holdings. These are large farm operations—much larger than the traditional Soviet farm enterprises or their current heirs—established with outside capital. This capital can originate from a downstream sector, for example, when a processor invests in farms supplying raw materials, or it can originate from an upstream sector, for example, when a supplier controls the purchase of inputs. However, very often, the capital originates from entirely outside the sector, for example, from the energy, finance, or metallurgy sectors. In some cases, many farms are held by one holding company; however, in others, there could be a single large farm enterprise. Sometimes, such companies are organised under the control and with the participation of regional and/or local administrations; however, in the majority of cases, they are purely private initiatives. Management structures differ tremendously from company to company. Land



**Fig. 10.1** Russia: structure of gross agricultural output by farm type (% of total in current prices), 1990–2018 (*Note* AgEnt—agricultural enterprises; HH—household plots; PF—peasant farms *Source* Yanbykh et al. [2020])



Fig. 10.2 Russia: support to the agri-food sector (PSE\*), in %, 1986–2020 (*Note* PSE—producer support estimate, the conventional measure of level of price and budget transfer to agricultural producers. Conventional measure of support to agriculture, developed by the OECD *Source* OECD)

tenures may also be arranged differently: vast areas of land may be owned by a company, but most often, these are rented land shares (Serova, 2007).

At the same time as the food industry and the major segments of the middleman sector were privatised, output and input markets were also liberalised. Hence, the new infrastructure for market-oriented agriculture began to take shape.

New elements of agrarian policy were introduced: state procurements were sharply reduced, a new system of subsidies for producers was put in place, trade was significantly liberalised, and price controls were lifted, among others. The level of state support to agriculture fell dramatically (Fig. 10.2).

## 10.4 Transformation-Related Output Decline in Agriculture

As in all post-communist industrial countries, the agrarian transformation in Russia was coupled with a severe decline in agricultural production, which lasted approximately nine years (Fig. 10.3). This decline was explained by three factors: (i) trade liberalisation; (ii) a decline in the purchasing power of the population; and (iii) a restructuring of the sector associated with the collapse of the old institutions and the disorientation of managers and governing officers on all levels (see Chapters 8 and 15).

Trade liberalisation and the resulting massive inflow of imported food commodities partly pushed out the domestic producers. Domestic producers



**Fig. 10.3** Russia: annual growth rate of gross agricultural output (previous year = 100), 1990–2020 (*Source* The Federal State Statistics Service [Rosstat])

could not compete with international suppliers: in many cases, their production was more expansive. Furthermore, the logistics of the planned economy were not conducive to private marketing, which increased transaction costs, and managers were not sufficiently skilled to operate in the new economic and social environment. In addition, consumers were more interested in the imported foodstuffs to which they had no access in the Soviet era. During the Soviet period, many non-food goods were rationed due to physical shortages (see Chapter 4), which led to a shift in consumer spending towards food items. After trade liberalisation, Russian consumers gained access to many foreign non-food goods and services and this diverted part of these consumer incomes from agri-food items.

During the last 30 years of the Soviet system, retail food prices (in the state retail system) were frozen, while nominal wages and other incomes of the population grew progressively. It created a kind of hidden (suppressed) inflation (Howard, 1976), where prices remained nominally stable, but goods were in deficit, thus increasing forced savings. When prices were liberalised in 1992, this hidden inflation was unfrozen. The real incomes of the population fell dramatically and thus the demand for food contracted, especially for commodities with a high-income elasticity, such as meat or dairy products. The contraction of demand also led to the contraction of production.

The market infrastructure designed for the centrally planned economy was not appropriate for the market system. There were no marketing institutions, such as middlemen, wholesale markets, cooperatives, or market information systems. Soviet food safety and veterinary systems could not work in this new environment. Emerging small producers could not purchase small-scale equipment and machinery which was not produced in the Soviet Union. Market institutes could not be built overnight, and their absence became an obstacle between producers and consumers: actual food demand could not be satisfied while producers suffered from overproduction and inventories.

The transition to a market economy took about five or six years, after which the agri-food sector could begin its recovery.

The recovery of production in the agri-food sector started with the financial crisis of 1998, when the four-fold devaluation of the national currency (see Chapter 16) led to the creation of protection from import pressure and provided a window of opportunity for domestic producers. Imports thus became more expensive and could not compete with domestic producers. Some producers used this opportunity to gain competitiveness by modernising their production facilities and building efficient food chains. The effects of the global financial crisis (GFC) of 2008–2009 (another devaluation of the rouble) provided similar support for the agri-food sector.

The market-oriented agricultural sector was also characterised by significant changes in its production structure. Russia, a large grain importer in the late Soviet era, emerged as a large meat importer (although later it gained a high level of self-sufficiency in meat production as well). Sugar and sunflower seed production recorded the highest levels in Russian history, and intensive cattle breeding emerged as a completely new subsector. The regional distribution of agricultural production also changed notably. Under the Soviet system of differentiated prices adjusted to local production costs, it was equally profitable to produce all commodities throughout the country. Hence, regional specialisation was not strong. After Russia's market transformation, specialised areas of production for individual products emerged.

The structure of food also changed. The consumption of mostly subsidised food items in the Soviet economy (meat and dairy products) reduced sharply, while that of potatoes and bread products increased. Poultry and pork began to dominate meat consumption, as compared to beef which was more popular during the Soviet period (thanks to subsidies).

#### 10.5 Contemporary Agri-Food Sector in Russia

As a result of its market transition, Russia has managed to solve its long-standing problem of food shortages. The agri-food sector has been one of the most steadily developing sectors of the national economy. According to the Federal State Statistics Service (Rosstat), between 2013 and 2020, GDP grew by 4.2%, while the agriculture value added—by 31%. The production of selected crops has reached historical records (e.g., sunflower seeds and sugar beet). On the other hand, Russia's pre-reform level of livestock production has not been achieved due to limited consumer demand (after eliminating the

Soviet era subsidies—see Sect. 10.4). For instance, in 1992, 47 million tonnes of milk were produced, in 2020—just about one-half of that.

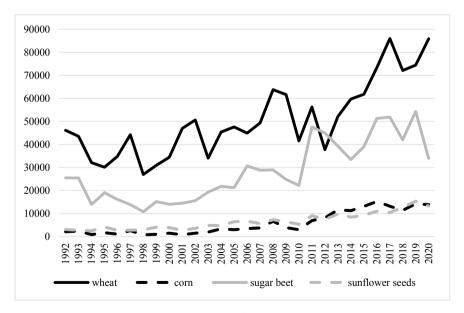
Russia, which was once a stable importer of staple foods, has become a significant supplier to the world market. Russia is now a world champion in exports of wheat and buckwheat. In 2020, Russia was the world's largest wheat exporter and the second largest for sunflower oil and barley.

The livestock sector contracted by about one-half during the 1990s, and as a result, Russia became a big meat importer. However, since 2000, this sector has rebounded and meat imports (especially chicken and pork) have fallen considerably (Fig. 10.4).

Russia has never in its history had an intensive cattle breeding programme. This sector was first established in the 2000s and now the country even exports beef. The quantities exported are still 15–20 times smaller than the quantities of the world leaders such as Poland, the Netherlands, and France; however, in the 2010s, beef exports grew to almost 4000 tonnes. In 2021, Russian agrifood exports comprised almost USD 37 billion, having grown in the 2010s by almost five times (Fig. 10.5). According to customs data, most agrifood exports are cereals, fish and seafood, and oils and oil seeds.

The country continues to be a net-importer of agri-food products; however, its trade deficit was largely reduced.

Conventional indicators of food security show that Russia is consistently in the top 20% of the world's countries (Fig. 10.6). This means that the



**Fig. 10.4** Russia: dynamic of production of major crops, million tonnes (*Source* The Federal State Statistics Service [Rosstat])

historically permanent threat of famine no longer hangs over the country. The relatively low level of food availability in Russia in the Global Food Security Index (GFSI), despite sufficient production, is primarily explained by unstable policy and corruption.<sup>1</sup>

Both partial sector performance indicators (such as yields per hectare, yields per head, and labour productivity) and total factor productivity (TFP) are growing. According to Federal State Statistics Service (Rosstat), between 1990 and 2020, grain yield per hectare increased from 1.94 to 3.1 tonnes, corn—from 3.14 to 5.32, sugar beet—from 2.4 to 3.7 (or 4.8 in 2019), and potatoes—from 9.1 to 27.1. The annual yield per cow in the same period increased from 2.8 tonnes to 6.7 tonnes of milk per year, and so on. In the 2010s, labour productivity in agriculture grew faster than in the entire Russian economy. Productivity growth was achieved primarily due to new technologies. Also, possibilities for high levels of profitability in the major agriculture subsectors brought in large private investment and good management.

Agribusiness in Russia and some academic studies (Shick, 2020) believe that budget support had a positive impact on the growth in agricultural production. State support for agriculture in Russia is consistently between the levels of the European Union (EU) and the United States (US), although a number of support programmes are not always effective in achieving their goals.

Between 2010 and 2019, the main policy goal was to increase the volume of production for import substitution. Figure 10.5 confirms that this goal was largely achieved. Russia is self-sufficient in most staple agri-food commodities.

The structure of state support has been relatively stable since 2006, with 15–30% of the funds allocated to investment support through mid- and long-term credit support programmes. Other subsidies to producers, especially input subsidies (feed, seeds, fertilisers, and diesel fuel) were always among the main policy instruments.

In 2019, the goal of national agricultural policy changed: export expansion became the central goal. It should reach USD 45 billion of agri-food exports by 2024. By 2021, 80% of this goal has already been achieved.<sup>2</sup>

In 2014, due to the political conflict around Crimea and responding to the Western sanctions (see Chapter 14), Russia imposed import restrictions for agri-food commodities from the EU, the US, Canada, Australia, and Norway (later—from some other countries). There is an opinion that these restrictions supported Russia's producers although Fig. 10.3 does not support this claim (Fig. 10.6).

<sup>&</sup>lt;sup>1</sup> The Global Food Security Index (GFSI) considers the issues of food affordability, availability, quality and safety, and natural resources and resilience (last one since 2020) across a set of 113 countries. The index is a dynamic quantitative and qualitative benchmarking model constructed from 58 unique indicators that measure the drivers of food security across both developing and developed countries—see https://impact.economist.com/sustainability/project/food-security-index/Country/Details#Russia.

<sup>&</sup>lt;sup>2</sup> In 2021, in order to fight food product inflation, Russia's government introduced limitations on agri-food exports, which led to its decline.

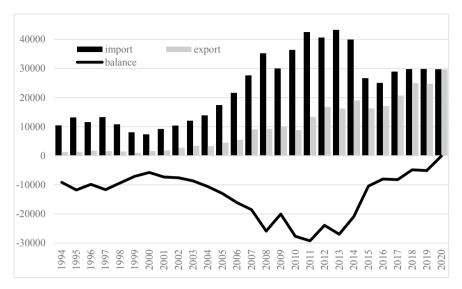
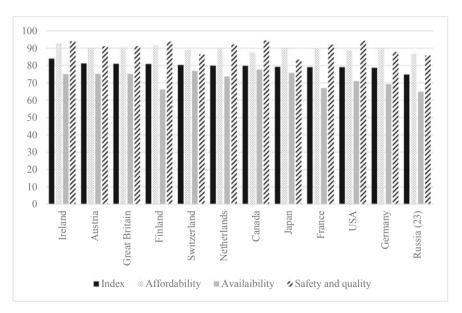


Fig. 10.5 Russia: agri-food trade, USD million (*Source* The Federal State Statistics Service [Rosstat]; for 2019 and 2020—Customs data)



**Fig. 10.6** The Global Food Security Index, top 10 countries and Russia from 113 monitored, 2021. Note: 100 is the highest level of food security (*Source* https://impact.economist.com/sustainability/project/food-security-index/)

The agriculture structure in contemporary Russia has a dual character: there are very large agricultural holdings operating on hundreds of thousands of hectares, and small producers who still provide a significant part of the gross agricultural output, especially for certain products such as potatoes and open field vegetables (Fig. 10.1). At the same time, the share of market production of household plots is insignificant and declined between two agricultural censuses—from 12.5% in 2006 to 11.2% in 2016.<sup>3</sup> This means that household plots are mostly subsistence and produce for family consumption.

The total land bank of the 10 biggest agricultural companies in Russia amounts to almost 6 million hectares, that is, about 7% of total arable lands. However, the size of these companies in terms of revenues is not very impressive in comparison with the leading international agricultural companies. In 2020, the annual revenue of the largest Russian agroholding (*Agrocomplex Tkacheva*) amounted to USD 1.23 billion, the second largest (*Prodimex*)—USD 0.9 billion (Lyalikova, 2021), while the annual revenues of global agricultural companies such as Olam International totalled more than USD 21 billion, the Dairy Farmers of America—almost USD 16 billion, and Fonterra—more than USD 13 billion (Laughman, 2020).

#### Box 10.1 Contemporary Russian agriculture—basic facts (2020)

Russia has 222 million hectares of agricultural land, which is about 5% of global agricultural lands. Agricultural lands comprise 13% of Russia's overall territory—7% of these lands contain the highly fertile black soil *chernozem*. The largest *chernozem* fields can be found on Russia's territory. Much of Russia's territory (47%) is covered by forests. Russia has abundant freshwater resources (see Chapter 1); however, most of these resources are located in the Eastern part of the country where only 20% of the population lives. Agriculture uses 14% of annual water withdrawals. Agricultural value added (including fishery and forestry) comprises 4.5% of Russia's GDP. The share of agriculture in the total labour force of Russia is around 6%. Approximately 25% of Russians live in rural areas.

Source: Data of the Federal State Statistics Service (Rosstat) and FAOSTAT.

#### 10.6 Future Challenges

During 30 years of transition, Russia's agricultural sector made notable progress. This progress was achieved through better management and large public and private investments. Both of these factors are about to be exhausted. The future development of the sector faces three major challenges: environmental sustainability, innovation, and rural development.

<sup>&</sup>lt;sup>3</sup> Data from Agricultural Census—https://rosstat.gov.ru/519 and https://rosstat.gov.ru/folder/520.

#### 10.6.1 Sustainability in the Agri-Food Sector

The main challenge to global development nowadays is the requirement for sustainable development in all spheres of human activity, including agriculture. In order to feed a growing and—what is even more important—increasingly rich population, more resources are required if conventional agricultural technologies continue ('business as usual' scenario). More lands, more fresh water, and more energy will be needed to meet global food (and fibre) demand. However, world resources are already limited (more land for agriculture is possible mainly at the expense of forests, which is highly undesirable from an environmental point of view), and the availability of these resources is further restricted by intense use, urbanisation, and climate change. This is why the concept of sustainable agriculture was brought to the global agenda. Among the 17 Sustainable Development Goals (SDGs) adopted by the United Nations (UN) in 2015, the second states the goal of ending all forms of hunger and malnutrition by 2030 and promoting sustainable agriculture.<sup>4</sup>

The main obstacle to the sustainable development of agriculture in Russia is the 'resource curse': the availability of vast land and water resources and its relatively high level of biodiversity do not yet pose an urgent need for the country to protect them. Russia is still the planet's environmental donor. Therefore, the challenges to sustainable development are not always felt the same way as in other parts of the world. Sometimes, it seems to producers and policymakers that the problem is somewhere in the developing world and that it does not concern Russia. The issue of sustainable agriculture only entered into the national policy agenda in 2020.

First, Russia will be significantly affected by global warming, although it is not clear yet how it will influence Russian agriculture (FAO, 2021). One view is that global warming will enable agricultural production in the large territory of Siberia, which could not be used for this purpose thus far. To a certain extent, this is already happening, for example, in the Tyumen oblast in western Siberia. On the other hand, in Russia's traditional agricultural regions—the Volga area and south of European Russia—the instances of extreme weather events (floods and droughts) have become more frequent due to climate change. And these are the areas where the infrastructure and labour force for agriculture are located. The relocation of production more to the north-east of the country may require additional large investments.

Second, agriculture is rather far from being carbon neutral. According to FAO statistics, each unit of agricultural production in Russia causes 23 times greater greenhouse gas emissions than in the EU.

Russia, as with other countries in the world, is faced with a severe problem of soil degradation. It is asserted that the total area of eroded and deflated lands and lands potentially prone to wind and water erosion is over 50%

<sup>&</sup>lt;sup>4</sup> See https://sdgs.un.org/goals/goal2.

of its agricultural lands (Tsymbarovich et al., 2020). This can challenge the sustainability of agricultural production in the country.

Water stress measures such as the irrigated agriculture water use efficiency (in USD/m³) in Russia are 10 times lower than the world average.<sup>5</sup> This shows that agricultural water is not used in a sustainable way.

In several regions, the limits of the ecological burden associated with agricultural production have already been reached. In some regions, livestock production (poultry, pork) generates large farm waste, which in an extreme situation can enter the underground aquifer and cause an ecological catastrophe. In a number of southern regions, the maximum allowable share of sunflower crops in crop rotations has been exceeded, which leads to the extreme exhausting of soil fertility. There is also data on overfishing. The rapid development of aquaculture in Russia has not been accompanied by adequate measures of environmental sustainability, which can lead to the collapse of the industry (as has happened in several other countries).

Food loss and waste (FLW) is a serious threat to sustainable agricultural development nowadays. FLW expresses the extreme level of inefficiency of using resources, but it is also a source of massive greenhouse gas emissions. As there is essentially no official monitoring system for FLW in Russia, we have to rely on the 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 an unproductive manner. Unlike the majority of other countries, Russia does not have any national strategy to reduce FLW.

Last but not the least, Russian agri-food exports can be restricted by importing countries looking at the sustainability of the production techniques of the imported goods.

On the other hand, there are also positive trends. For example, the reduction in the area used for agricultural production due to increases in productivity per hectare has led to some improvements in the conservation of biodiversity in the country.

#### 10.6.2 Innovativeness of the Agri-Food Sector

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 agriculture output is very volatile. For example, the volatility of yields of main crops exceeds many times the same indicator in Canada, which has similar agri-climatic conditions and a similar size of agricultural

<sup>&</sup>lt;sup>5</sup> Irrigated agriculture water use efficiency (USD/m3) is defined as the value added in irrigated agriculture divided by the volume of water used. See https://sdg.tracking-progress.org/indicator/6-4-1-water-use-efficiency-usd-per-cubic-meter/.

<sup>&</sup>lt;sup>6</sup> See https://www.fao.org/platform-food-loss-waste/flw-data/en/.

production. This is a sign of a technological gap. Other evidence of such a technological gap can be found in the very high dependence of Russia's agriculture on the imports of breeding materials.

What are the main constraints to the 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 in many academic fields (for example, agricultural economics, agricultural statistics, and genetics), and existing scientific schools were destroyed. Further, in the 1990s, the influx of young people into agricultural sciences declined sharply. This was also due to a very large financing gap in Russia's agricultural sciences in comparison with its main trade competitors. This generational gap cannot be eliminated merely by monetary measures.

Second, it is necessary to take into account that the private sector is the main investor in applied agricultural science (for comparison, in the US, 76% of research and development [R&D] investments in agriculture are made by private corporations). The investment cycle in applied agricultural research is 12–20 years on average worldwide. This means that R&D investments are only possible in a stable business environment. In Russia, even the largest agribusiness companies have an average planning horizon of four to five years. In these conditions, investments in R&D and personnel become high risk.

To encourage agribusinesses to invest in R&D, the Federal Programme of Scientific and Technological Progress in the Agri-food Sector was launched in 2019, the main tool of which is the governmental co-financing of R&D.

Third, innovative development and new technologies require a different approach to agricultural education. The modern system of agricultural education in Russia, on the one hand, is detached from fundamental research; on the other hand, it trains specialists in isolation from the practical needs of business.

#### 10.6.3 Rural Development

With increasing productivity in the agricultural sector, large segments of rural areas in Russia have been marginalised. 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 labour has switched in some cases to shift methods of organising work.

The underdevelopment of rural areas also becomes an obstacle to the development of agriculture. The marginalised 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 the technical infrastructure and social development of the territories of its production, which increases costs of production and reduces competitiveness. Thus, rural development today is not only a social challenge for the country's development, but also a condition for further development of the agricultural sector.

Since 2009, the decline in the rural population in Russia has averaged 100 thousand annually, and since the beginning of the twenty-first century, the rural population of Russia due to depopulation and migration to cities decreased by 1.6 million people.

Rural areas in Russia have always lagged behind urban territories in their development. Despite the fact that, since the beginning of the twenty-first century, the government has taken steps to increase the standard of living in the countryside, the problem of rural underdevelopment remains urgent. In rural areas of Russia, the income level of the population is noticeably lower—every fifth rural resident belongs to the group of the population with incomes below the subsistence level. The unemployment rate is twice as high as in urban territories.

In the 2010s, some progress has been achieved in equalising the standard of living of the population in rural and urban areas in Russia. The State Programme on Rural Development adopted in 2019 involves, for the first time, a local community-driven approach. It also tends to attract private businesses to its implementation. Furthermore, it targets innovative solutions in the development of physical and social infrastructure, such as alternative sources of energy supply, remote education, and telemedicine.

Return migration is a new trend in rural development. Some residents of the biggest cities choose rural areas as the place of second residence. The development of rural infrastructure should support this new tendency.

#### **Questions for Students**

- 1. What were the major problems of centrally planned agriculture?
- 2. Describe land shares as a mechanism of land privatisation in Russia and other post-Soviet countries.
- 3. What were the major reasons for the transformation-related output decline in agriculture in the 1990s?
- 4. What are the factors underlying the agricultural structure of modern Russia?
- 5. What are the major results of Russia's agricultural transformation since the 1990s?
- 6. Where is Russia's place in global agri-food production?
- 7. What are the major challenges for further agricultural development in Russia?

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