

Digital ecosystem of Russian Agricultural Bank as an innovative platform for sustainable development of the agro-industrial complex

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Abstract. The digital ecosystem for the agro-industrial complex emerged as a platform that unites agrarians from all regions of Russia and stimulates the promotion of agro-technologies in rural areas. The successes demonstrated by the agribusiness sector since 2017 need to be consolidated and developed, which is why a unique industry ecosystem "Your Farm" was built on the basis of the Russian Agricultural Bank (RusAg) in the conditions of digital interaction. The digital platform is a unique mega-service that unites farmers and allows them to solve questions on the sale and supply of agricultural products. It is also used to attract various types of state support, find or train qualified employees, develop agro-tourism and promote rural areas. It also allows farmers to form a real estate database. RusAg ecosystem continues to develop and expand its services, the number of users of the platform's services is increasing, the popularity of rural lifestyle is growing. The "Your Farm" digital ecosystem has turned an industry bank into a technological platform. It promotes technical modernization of the agro-industrial complex, expands its export potential, attracts specialists to work in rural areas, and improves the quality of life in the regions.

1 Introduction

According to the results of 2022, the Russian agro-industrial complex demonstrated a record profit growth of 1.5 trillion rubles, which exceeds the figures of 2021 by 30% [1]. The achieved profit indicators prove the food sovereignty of the country, which is able to 100% meet not only domestic needs in food raw materials, but also earn on the export of products of the agricultural sector. At the beginning of 2023, actually all the declared indicators of the Food Security Doctrine are achieved, except for milk and dairy products

[2]. Since 2020, Russia has been a stable net exporter of agricultural products to more than 160 countries. It is obvious that in order to consolidate the achieved results in today's rapidly changing reality, new tools of management and financing of agricultural projects are needed to preserve the market.

The ecosystem trend of the modern world is giving a new vision for traditional businesses, including agribusiness. The first ecosystems to emerge in the world were based on the platforms of large FinTech companies, which actually absorbed small retailers and promoted the Internet content of many retail marketplaces. Russian business started to develop the ecosystem approach in a slightly different way. The main diversions have been large credit institutions, which are leading the way in introducing new technological solutions in management and finance. Following Sberbank of Russia, which has been building its own SBER ecosystem since 2017, many banks have moved to their own platform solutions, including industry-specific ones.

JSC Rosselkhozbank has been working in the agro-industrial complex sector since 2000, being the main conduit for lending, financing through government subsidy programs and servicing Russia's agro-industrial complex. Today Rosselkhozbank is one of the most stable and large banks of the country both in terms of capital and assets. It is among the top 13 banks in terms of reliability rating according to various versions of credit rating agencies such as ACRA, Expert RA, Credit Rating Agency [3]. Let us schematically present in Figure 1 the results of the bank's activity during its existence and the changes it has brought to the sphere of agro-industrial complex of Russia.

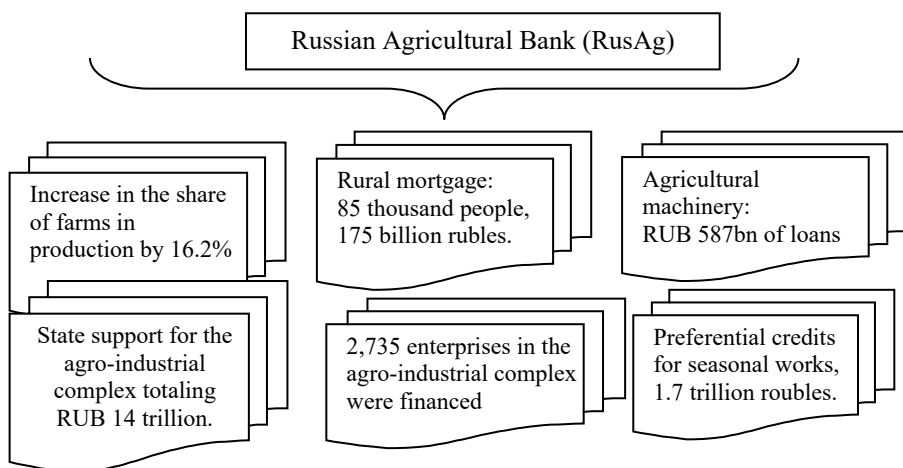


Fig. 1. Rosselkhozbank's contribution to the sustainable development of the country's agro-industrial complex [4].

The volumes of support for the agro-industrial complex presented in Figure 1 give grounds to assert that every second kilogram of pork and beef, every second liter of milk, and every third egg in the country are the products of enterprises. These enterprises were built with the help of Rosselkhozbank financing. It should be noted that this bank finances not only agricultural producers themselves, but also the population of rural areas. Such an integrated approach to the development of the industry will help to create social infrastructure and attract specialists to work in rural areas [5].

2 Results and discussion

In 2020, Rosselkhozbank officially launched its own digital ecosystem “Your own” aimed at supporting and uniting small and medium-sized businesses in the agribusiness sector, as well as individual farmers. Over 2.5 years of operation of the “Your own” ecosystem, 7 platforms have been created on its basis, which are used by 7 million people. The ecosystem is unique in terms of its industry focus and mission to promote digital technologies in the most remote agrarian regions of Russia. The platform does not just serve as a tool for fast lending, but is a medium for interaction between many farmers and professionals working in agriculture. Let us consider the current architecture of the ecosystem in Figure 2.

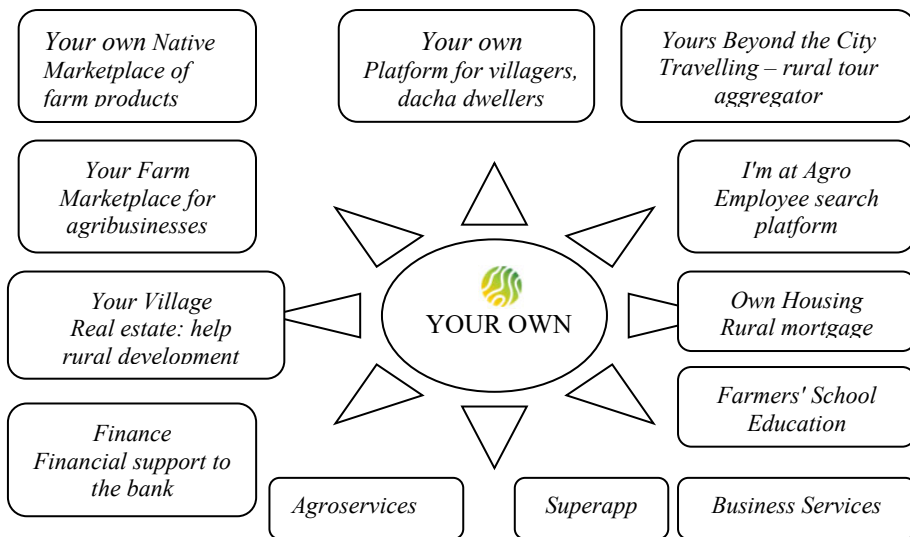


Fig. 2. Architecture of Rosselkhozbank's “Your own” ecosystem [4].

The architecture of the “Your own” ecosystem presented in Figure 2 actually forms the Agro-infrastructure to support enterprises and individual entrepreneurs of the agro-industrial complex. The platforms are marketplaces for consumers of agricultural goods, producers of agricultural products, aggregators for travelers, employees, and training specialists. It also provides services for finding financing and business partners for investment projects in the agro-industrial complex.

Currently, “Your own” is 30 business services that make it easier and faster to find buyers for your products. Find counterparties and suppliers of equipment, fertilizers, materials, find current vacancies and training, search for real estate in rural areas at a discounted price or get a loan under the rural mortgage program. In addition to helping farmers, Rosselkhozbank has organized feedback through the platform to take into account the wishes and difficulties faced by farmers [6]. The future strategy for the development of this digital environment is built on the analysis of these applications and letters.

The ecosystem provides operational support to farmers who cannot afford a large staff. For example, through online services, the bank helps with bookkeeping, legal advice and online document preparation. The site has a public services navigator, which provides information on currently open government subsidies, grants and other forms of business support.

Rosselkhozbank will continue to develop this platform until 2025. New super-apps and services are planned to be launched, which will make it possible to solve any life situation

in the most remote rural areas as remotely as possible. Popularization of the rural way of life and support from the state allowed the Bank to increase the contribution of farms to the production of agricultural products by 5 times. The volume of products produced by them increased by 61 times during the period of the Bank's operation since. At that, in such areas as sunflower seeds cultivation, farmers account for 33 percent of production, in grain and leguminous crops production – 29 percent. We would like to note that it is farming that forms the sustainability of rural areas, as it is jobs, it is the settlement of rural areas and the formation of rural social infrastructure, respectively.

Let's consider the dynamics of expansion of farm production in the total volume of production of agro-industrial complex. (Figure 3).

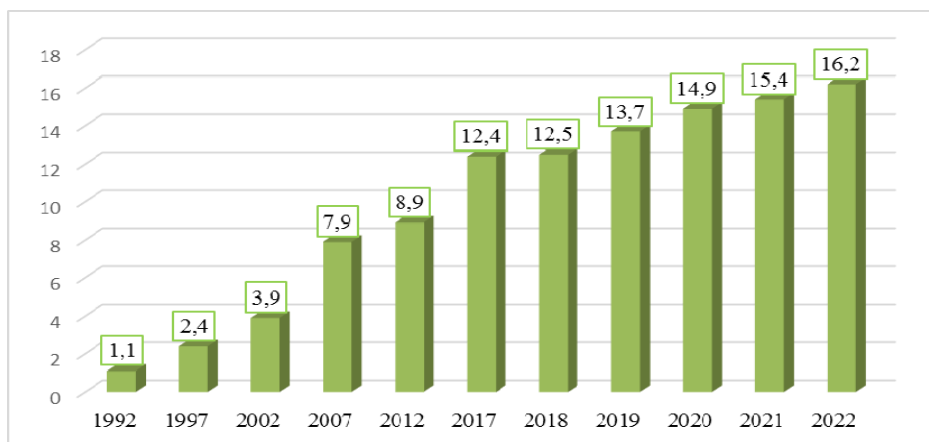


Fig. 3. Share of farm production in total AIC production, %.

We see that the dynamics of farm production of agricultural products in 2022 reached 16.2% of the total share of production. This sector has a high potential for growth, as small business forms in the agricultural sector are the most mobile and resistant to changes in the external environment. They react and adjust more quickly to new economic conditions and market demand. In addition, farming is the most traditional and promising form of entrepreneurship for families living in rural areas. A strong farm is able to provide owners with a stable high level of income, provides opportunities for development and creates a socially protected layer of the country's population. Farming not only replenishes regional budgets, but also develops rural areas, reduces the rate of the urbanization and revives peasant traditions [7, 8, 9].

The main disadvantage of rural life is its detachment from many services and infrastructural objects of urban life, i.e., some isolation from the social life of the country. Constant attachment to the farm and the need for personal presence does not allow farmers to go on holiday or go on a long journey. For this purpose, various services in the “Your own” ecosystem have been developed, which allow them to communicate freely and find contact groups according to their interests.

Rosselkhozbank continues to invest in the development of the latest agro-technologies and search for promising projects with the help of the AgroBit analytical project. This platform collects all events of the agrotechnology market, all key trends and investment volumes by each country. According to the bank's analyses, in 2023, the structure of the agritech market looks as follows. (Figure 4).

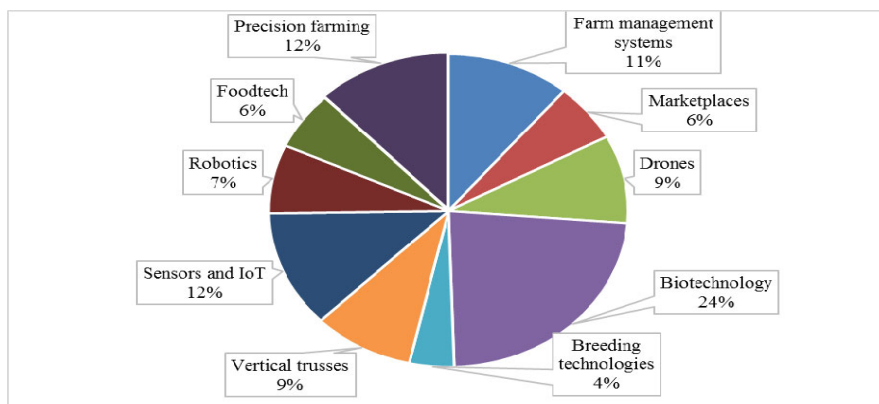


Fig. 4. Structure of the agro-technology market according to Rosselkhozbank, % [7].

The presented agro-technologies significantly modernize farming and allow people to transfer part of labor-intensive processes to robots and artificial intelligence. In addition, the precision of such technologies allows avoiding many losses and damages inherent in agriculture (crop losses during harvesting, animal mortality and diseases, parasite infestation).

A recurring problem for smallholder farmers is the marketing of crops at harvest time. The over saturation of local food markets contributes to a drop in purchase prices, which reduces the potential profit of producers. Therefore, the marketplace "Your own Native" helps to solve the problem of realization, marketing, and supply of agricultural products for producers. On average, more than 50 thousand orders are realized through this service every month. The service is free of charge for producers. At the moment, the platform unites 10.7 thousand farmers with an offer of more than 110 thousand items of their own production [10, 11].

Another service "You're Farming" unites producers and suppliers of seeds, machinery, fertilizers, and technologies for agro-industrial sectors. Farmers have the opportunity to search widely for necessary goods and services, as well as to study the latest achievements in the field of their interest. Thus, the foundations for future growth in the efficiency of agricultural production are being created.

The wide network of the Bank's branches makes it possible to organize mini-fairs of farmers' products, "Tasty Friday" in each region. The fairs are held at the bank's branches and on the premises of government institutions. In 2022, the bank organized a total of 4.1 thousand "Tasty Fridays", where about 5.3 thousand farmers presented their products. One such "Friday" can generate a farmer's revenue for a month.

Such events, organized and coordinated by a reputable organization, open new opportunities for farmers to present and personally promote their products, contacts with potential buyers, as well as an offline platform for communication and acquaintance. Such fairs were very popular in Russia, and the revival of such traditions levelled the isolation of the farmer's way of life.

Thus, we can see that thanks to Rosselkhozbank's new industry platform "Your own", farmers who used to live and work in isolation on their own territories have started communicating more and building business partnerships both remotely and in person. The platform's support for producers gives them an advantage in selling their products at a fair market price, serves as a guarantee of their sales and marketing, and encourages them to further develop farming at the existing rate of return.

The expansion of farming in rural areas will stimulate the growing need for the construction of social infrastructure (kindergartens, schools, hospitals, creative centers), which the regional authorities must provide for people to live comfortably. And this process will attract specialists from other industries to rural areas and form a sustainable basis for the development of these territories.

3 Conclusion

In conclusion, we note that the global problems of rural degradation and mega-urbanisation are primarily related to the human factor. People do not want to live in remote areas, in isolation and without basic means of communication and access to social infrastructure.

The territorial authorities, due to limited resources, cannot build the infrastructure, as it is necessary that there is a demand for these services from the local population and a desire to use them. Therefore, this process is of a closed nature. On the one hand, people are leaving the villages in search of better conditions in the city, on the other hand, in the absence of rural population the village will not be able to develop.

Rosselkhozbank is addressing this problem – rural development – by building its own digital infrastructure and encouraging farming in rural areas. Over more than 20 years of the Bank's operations, certain results have already been achieved: the number of farms has increased, investment projects in the agro-industrial complex have been financed, the subsidy program has been expanded, and a system of grants for beginning farmers has been developed. In addition, following new trends and trends in FinTech, the bank has built an ecosystem.

“Your own” Bank's digital ecosystem is Russia's only industry-specific information business environment for interaction between agricultural producers, suppliers to the agro-industrial complex, consumers of agricultural products, specialists in the field and other users. The emergence of this platform allowed farmers to build business relationships, increase sales of their own products, learn about changes in the industry, improve their own literacy and attract people willing to work in the industry. The “Your own” ecosystem popularizes the rural lifestyle, revealing it from a different perspective, not as a daily and heavy routine, but as a self-sufficient world with new perspectives and interesting projects.

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