

RISKS OF IMPLEMENTING ORGANIC FARMING PROJECTS IN RURAL TERRITORIES

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Abstract

The relevance of the study is due to the increasing role of organic farming as a driver of sustainable development of rural territories. The purpose of the article is to develop methodological approaches to the identification of factors that restrain the implementation of organic farming projects and the development of methods and instruments of management of organic products. Methodological aspects of sustainability are developed, including environmental, economic and social. The analysis of the regulatory support of the implementation of projects of organic farming was carried out. An assessment of the structure of the organic production market and the demand for organic products is given. Systematization and classification of restraining and accelerating factors in the implementation of organic farming projects. The need to diversify agricultural production as a conditions for reducing risks and the growth of the yield of agricultural producers is justified. The study has developed directions for increasing the effectiveness of the institutional interaction of the main stakeholders of the organic farming process at the federal and regional levels based on the communication, coordination and cooperation system. The practical significance of the results of the study is to develop measures to improve the scientific and technological policy of the agro-industrial complex in the conditions of structural transformation.

Key words: organic farming, risks, demand for organic products, certification, stakeholders, institutional development, state support

INTRODUCTION

In modern conditions of sanctions policy, geopolitical challenges, environmental problems, the use of modern technologies for the effective use of natural resources that meet the sixth industrial revolution trends aimed at increasing the stability of agrosystems, taking into account economic, environmental and social aspects [24], is of particular relevance [24].

The economic component of sustainable development implies the effective use of resources [2, 26, 34].

The state actively supports entrepreneurship in the field of research and development focused on economic priorities. At the new stage of technological development, environmental aspects are of particular relevance [1,6].

Technological innovations with new approaches change the structure of production, increasing efficiency and

eliminating environmental risks. Russia has high potential for the development of organic production. The formation of the organizational and economic mechanism of the development of organic farming, taking into account institutional conditions and financial instruments is a priority task at both the federal and regional levels [27]. This approach is aimed at predicting possible negative consequences for the ecosystem and minimizing the risks of transition to a new technological structure [4,10].

Organic farming is one of the priority areas of scientific and technological progress in agriculture. It is based on the use of agricultural biotechnologies and organic fertilizers for growing agricultural crops [16] In recent years, the demand for organic products has significantly increased in the world market [31]. In 2020, the capacity of the global market for organic products amounted to \$ 145 billion. It is expected that

by 2025 the global market for organic products will expand by 10-15%.

The market of organic agriculture of European countries is characterized by dynamic development, which is largely associated with the presence of favorable natural-economic conditions.

According to Popescu, A. [21] the increase in demand for organic fuel predetermined positive dynamic shifts in the production and trade of organic products, including exports to the market of European countries. The development strategy of organic production in Romania involves a further expansion of agricultural space under organic cultures, improving the quality of products, increasing consumption of these products by the population and increasing exports.

The improvement of legislation in the field of organic production in Russia also contributed to positive shifts in the production and consumption of these products. It should be noted that the demand for environmentally friendly products in Russia is developing quite high pace. Experts evaluate the annual increase in organic products in the amount of 20-23 %. Russian environmental products occupy one of the most important export positions in international trade with European countries [14].

The undoubted competitive advantage of Russia is the presence of a significant array of unused land, the area of which is 20 million hectares. The introduction of these lands into organic agricultural circulation will ensure the production of environmentally friendly products. Currently, the global agricultural market has an increased demand for organic cultures such as soy and corn, despite higher prices. According to experts, the cost of organic products exceeds the cost of standard products by 1.5-2 times [19].

Among the directions of development of organic farming, the formation of a network of interested parties is distinguished [9,35].

The authorities of various levels play an important role in supporting the stability of organic agriculture, promoting processes with the participation of many interested parties at various stages of development [11, 36].

Nevertheless, the development of organic agriculture is faced with a number of problems requiring an immediate solution, among which: market difficulties, interest and consumers of organic products, the certification process, which small rural manufacturers consider it difficult [23].

Authorities must be able to interact with interested parties in the development of organic farming and stable food systems [22]

In addition, the institutional environment related to the development of organic agriculture should be fixed both by interested parties and legal conditions and the organizational structure of organic agricultural management institutions. The institutional aspect plays an important role in ensuring the sustainability of the functioning of the system [8]. If problems arise with the functioning of the system, it can be assumed that the institutional aspect itself experiences problems [13].

The mechanism will work if various interested parties are involved in the process related to the development program of organic agriculture.

Significant preferences of the development of organic agriculture in Russia are: expanding the possibilities of exporting organic products, strengthening the image of domestic organic products abroad, restoring soil fertility. At the same time, organic agriculture is associated with organizational, economic, technical, social and foreign trade risks, restraining an accelerated transition to large-scale production.

The purpose of the article is to develop methodological approaches to the identification of factors that restrain the implementation of organic farming projects and the development of methods and instruments of management of organic products.

MATERIALS AND METHODS

The methodological basis of the study was state legislative acts, decisions and decisions of the government, scientific works of domestic and foreign scientists-economists

and agrarian specialists on the problem being studied. In the process of research, monographic, abstract-logical, analytical, economic-statistical, expert research methods were used. As an information base of the study, the materials and reports of Global Footprint Network Grand View Research, Fibl, Ifoam - Organics International, the development of organic production in the Russian Federation until 2030 as well as regulatory documents and materials of scientific literature and periodicals were used.

RESULTS AND DISCUSSIONS

An increase in the scale of food production in Russia is a vivid manifestation of a global concentration in agriculture. Thus, leading food companies seek to master the production of organic goods. Such aspirations receive support from the state, and its priorities have already received legislative consolidation.

Among countries with the greatest consumption of organic products per capita, European countries are absolute leaders. So, in Switzerland, this value was 425 euros per capita, in Denmark-384, in Luxembourg-313, in Austria and Sweden-268 and 266 euros per capita, respectively.

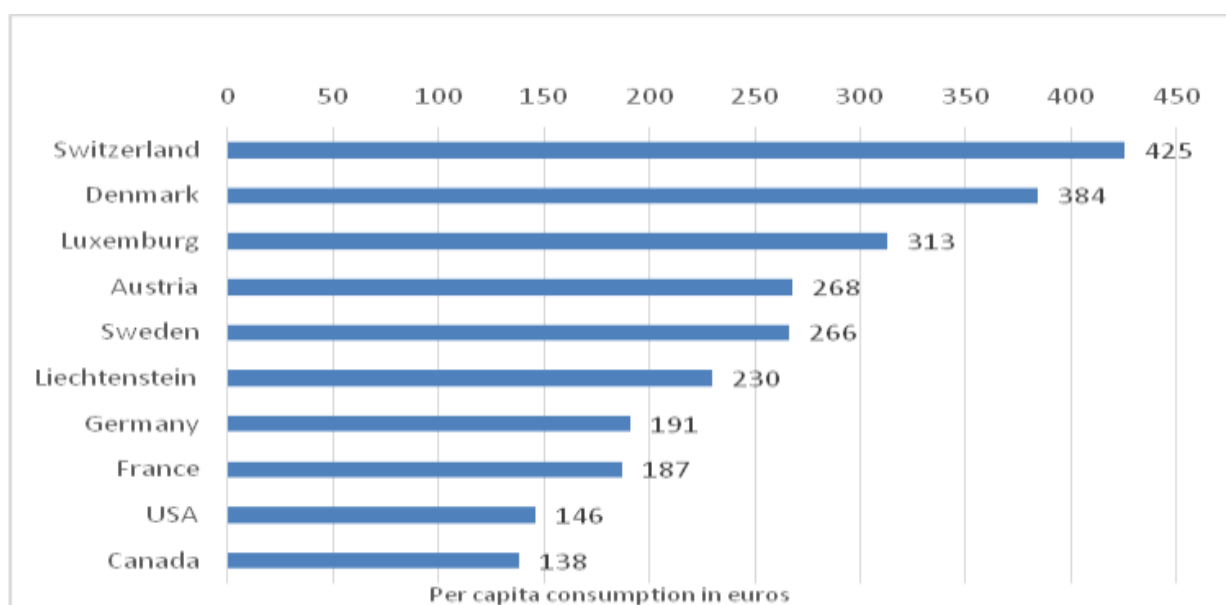


Fig. 1. Top 10 countries with the highest consumption of organic products per capita (in euros) (2021). Source: Own calculations based on data [30].

Developing countries have significant potential for the production of organic products. The largest number of manufacturers of certified products fall on India, Uganda, Ethiopia and Tanzania (Fig. 2).

Considering that more than 3.1 million manufacturers of organic products are certified in the world, India ranks first (1,366,000), Uganda - the second (210,000) and Ethiopia - the third (204,000). Most small manufacturers undergo group certification based on the internal control system. It should be noted the small -special nature of organic agriculture in developing countries. The

average size of enterprises is 3-4 hectares, while in Europe one enterprise may account for 20-25 hectares; In Russia and the USA - from 100 to several thousand hectares [17]. Some foreign scientists studied the consumer behavior of youth in relation to organic products in Romania using sociological research methods. The results of the survey showed a high degree of perception of organic products by young people of this category of the population. It was established that organic products consume 90.6% of the examined young people, and a large share of products is purchased in local markets (81.15%) or supermarkets (80%).

Respondents noted the most effective ways to popularize the consumption of organic products, including products tasting in

hypermarkets or supermarkets, as well as specialized fairs of organic products.

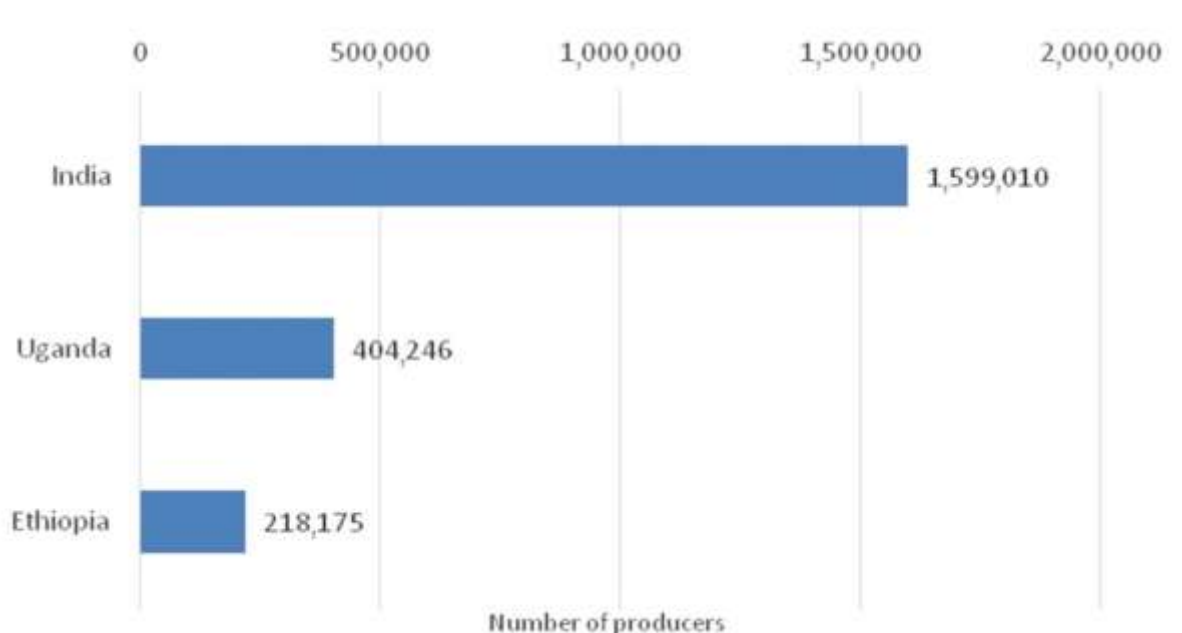


Fig. 2. Countries with the largest number of certified organic producers (2021).
Source: Own calculations based on data [30].

The sociological survey made it possible to establish the goodness of consumers, the ability to recognize organic products by labeling on the packaging. Usefulness (93.2%) are called as the main properties of organic products; taste (71.2%); less chemicals (61.8%); Lack of synthetic additives (48.7%). Many respondents noted such advantages of organic production as environmental protection (45%), support for family farms (40.3%), the development of the region's economy (40.3%) [5,20].

In continuation of the subject of the consumption of organic products M. Krejtnus, K.P. Štofková, J. štofková studied consumer behavior in the Slovak market. Slovak organic agriculture covers the production of grain, legumes, vegetables, fruits, as well as individual sectors of livestock. As the main factors of consumption by the population of organic products are highlighted: health and safety, quality characteristics; Product price, product certification. The results of a sociological survey showed that they showed that respondents received information about

organic products mainly via the Internet. Some respondents noted the lack of information about organic products. Most consumers of organic products are working women aged 26 to 40 years old, having secondary or higher education and income of Euro 500 - 900 [15].

In the global market, the growth rate of demand for organic products is ahead of the increase in its production by about an average of 10 percent [28], experts and analysts predict that world production of organic products will increase by 10-15 % by 2025. Almost 70 % of the consumption of organic farming products falls on the following countries: the United States - 43 %; Germany - 11 %; France - 9 %; China - 8 %; Canada - 3 %. At the same time, the highest consumption per capita was reached in European countries, which is explained by a high share of import of organic products. The share of imports in the consumption of organic products by the population of European countries is about 50 % [14].

In Russia, the organic production segment occupies only 0.2 % of the global volume, while in the USA - 40 %. The low scale of Russian organic production is explained by the long absence of the appropriate regulatory framework governing its development [33].

The developed organic production development strategy in the Russian Federation until 2030 involves an increase in the consumption of organic products by Russian citizens by 2030, compared with 2021, almost 8 times. The average annual level of consumption of organic products will increase from 147 rubles. in 2021 to 1,040 rubles. In 2030 per person. A significant increase in demand will be possible as a result of the expansion of consumer awareness about the advantages of a healthy diet, as well as increasing the price availability of domestic organic products for the general population [29].

It should also be noted that Russia has a significant scale of unused agricultural land, which can be intended for organic farming. Currently, the global agricultural market has an increased demand for organic cultures such as soy and corn, despite higher prices. The cost of environmentally friendly food of the agricultural industry intended for export exceeds the cost of standard agricultural products by 60–100 %. However, the growing demand in the world market for such crops as soy and corn, creates incentives for their cultivation using organic production technologies [19].

Manufacturers of organic products receive the right to financial support from the federal budget, but in the amount that is very much different from the amounts allocated to support industrial agriculture. It means compensation for organic certification costs, the right to free certification, subsidies for manufacturers of ordinary food products and other measures. However, having the right to support and really receive this support - things are completely different. A similar situation has developed in other countries, for example, in India, where the past years led to a high rate of development of organic production. State support and supervision (compliance

with GOST standards, certification, inclusion in the register of manufacturers of organic products) can be explained not only by economic motives, but also by the desire to provide the population with reliable, safe and high -quality food, the production of which would impose a minimum possible agroecological harm. That is why, in fact, Russian organic certification, despite the optional nature, is not voluntary in fact.

On the territory of the country there is a branched sector of organic food products, which covers production, consumption and retail trade. The field of production is divided into informal, semi -formal and formal sectors.

However, the development of organic production in Russia is faced with certain obstacles that need to be overcome.

First of all, organic products have high retail prices, which makes them more expensive than inorganic analogues by an average of 1.5-3 times. This is due to the fact that organic production requires more labor, costs more and has low productivity. Low real incomes of the population and inflation also affect the choice of customers who are forced to reduce the consumption of more expensive goods, including organic food products.

The insufficient number of accreditation companies, inspectors and experts who can control the organic foods is equally important. At the same time, the presence of restrictions on the trade in imported organic products, insufficient financial support at the regional level and the lack of an effective certification system create additional difficulties for the development of this sector.

The problem of falsifications is also urgent and affects various aspects. Many companies represent incomplete or inaccurate data during certification, and also use organic labeling without passing this process. The lack of consumer confidence in what they buy, as well as the physical and economic accessibility of organic food products, also restrain the demand for them.

In general, the development of the formal organic sector in Russia is advisable taking into account state support and objective

capabilities, however, overcoming these obstacles requires an integrated approach and cooperation by the state, business and population. Only in this case, the real development of organic food production in Russia will be achieved.

The development of organic agriculture in Russia is restrained by the presence of numerous risks associated with the absence of the necessary conditions for the transition to a new method of production. As international experience shows, the production of organic products should be ensured by the appropriate infrastructure; To expand the demand of the population for these products, it is necessary to increase the culture of organic production and popularize the advantages of organic products. Russian agriculture is lacking in qualified personnel and necessary technological solutions in the field of organic production. In the world market, the organic products of Russian producers are weak

competitive due to lower production indicators, which also weakens the country's export capabilities. In many areas of organic agriculture, there are no cooperative ties of producers. It should also be noted the insufficient security of the proper infrastructure of organic agriculture and the lack of statistical tools for accounting for organic products. Low recognition of certified organic products by consumers and the presence of a significant number of falsifications in markets; Products prevents the formation of demand for organic products. The above problems, according to experts, will be preserved in the average and long term. The development strategy of organic production in the Russian Federation until 2030 identifies the main types of risks of conducting competitive organic agriculture: agroclimatic, technological, social, foreign trade (Table 1).

Table 1. The main risks of conducting competitive organic agriculture

Types of risks	Consequences and loss assessment
1. Agroclimatic	The unsatisfactory state of the country's agroclimatic resources, the gradual deterioration of weather and climatic conditions, a lack of water resources, soil degradation, and the deterioration of soil fertility. The costs of soil recovery reach 25 thousand rubles/ha. The prolongation of adverse trends until 2030 may cause a decrease in agricultural land using organic farming technologies by 2,000-4,000 thousand hectares. In addition, adverse changes in the natural and climatic conditions in the Russian Federation lead to an increase in production costs and a decrease in organic production.
2. Technological	The lag of the domestic production base from developed countries at the level of technological development. High technological import dependence. Lack of necessary technological solutions in the field of organic production. Given the prevailing conditions, losses from a decrease in the volume of production of organic products by 2030 can reach 100-150 billion rubles.
3. Personnel	Lack of the necessary competencies of personnel the potential necessary in the implementation and use of organic production technologies
4. Social	The outflow of labor from rural areas leads to a shortage of personnel of organization and conducting organic production.
5. Consumer	The insufficient demand of the population for organic products is associated with the insufficient popularization of the advantages of organic products, the low recognition of certified organic products with consumers and the presence of a significant amount of falsified products in markets. While maintaining passive consumer behavior in 2030, it is possible to reduce the cost of organic products consumed by 2030 by 250-300 billion rubles.
6. Foreign trade	Tightening the requirements of the manufacturers for supplied products; sanctions on export-import operations; currency course changes; the volatility of world prices for agricultural goods, machines and equipment; low competitiveness of supplied products; Changing the conjuncture of the global market of organic products and reducing the volume of export supplies. Risky losses from reducing the export of organic products due to the above factors are estimated at 40-60 billion rubles.

Source: Own calculations based on data [29].

The presence of agroclimatic risks is associated with adverse climatic changes, the state of agroclimatic resources countries, worsening soil fertility. Analysis of the results of agroecological monitoring of 2021, showed the areas of arable land with a high degree of acidic soils: very strongly acidic (pH <4.0) are common on an area of 74.93 thousand ha, (0.7% of the surveyed areas); Strongly acidic (pH 4.1-4.54.1-4.5)-340.05 thousand ha (3.0%); Medium-term (pH 4.6-5.0)-1,594.97 thousand ha (14.3%). In addition, 1.3 million hectares (11.6% of the examined lands) fall on an area with low and very low potassium in the soil. Soils with a low humus content were detected on an area of 4.6 million hectares, which amounted to 41.7% of the examined land. The unsatisfactory state of soil is one of the most significant risks of using organic farming technology and the involvement of unused lands in agricultural circulation. A significant part of such lands is concentrated in the regions of the Russian Federation with adverse agroclimatic conditions and low soil fertility. In this regard, it seems quite justified proposals to introduce special measures to improve the quality of soils introduced into organic agricultural circulation [29].

The consequences of changing the natural and climatic conditions can be both an increase in the cost of manufactured products and the drop in the volume of production of organic products. The risks of a lack of water resources are also significant, necessary for irrigation of agricultural lands, which is complicated by a shortage of funds for financing capital investments in the arrangement of reclamation facilities. Foreign trade risks affect the formation of the export potential of organic products. The most significant are the foreign trade restrictions and threats of a sanctions nature, as well as fluctuations in currency and prices for agricultural products and technologies.

The concept of sustainable development contains the tasks of achieving food safety and reducing food poverty in the context of preserving natural resources and compliance with environmental requirements for the

organization and maintenance of agricultural production [25].

The use of traditional methods of agriculture leads to negative changes in ecosystems and environmental loads. Therefore, sustainable methods of agricultural management should include measures aimed at restoring degraded agricultural land and growing organic products [3].

State support for organic farming is carried out using various tools. Direct support includes regulation of market prices, including the establishment of targeted prices; Subsidizing and investment. Indirect support is related to financing research on this topic, as well as the provision of consulting services in order to popularize knowledge of organic production. Such measures of state support as the provision of subsidies to producers; preferential taxation; organization of disposal of organic products; Stimulating the organization and conduct of organic farming by farmers contribute to increasing the profitability of organic farms and an increase in product competitiveness [18].

The solution to the problem of restoration of soil fertility is possible as a result of the use of organic agriculture and biologization of agriculture. These methods represent a set of methods of production of agricultural products with specified characteristics based on the use of living organisms and biological processes. The main technologies include: the use of biological phytosanitary drugs; biological fertilizers; selection achievements and genetic engineering; waste processing, bioenergy. Currently, in the agriculture of Russia, only 2-3 % of agribiotechnologies are used, despite the presence of a scientific and production base in the country for their development and implementation. The problem is also a low investment of science and the lack of qualified specialists, as well as restrictions on commercialization of these technologies and implementation in agricultural production [32].

Thus, organic farming has high potential for realization in Russian agriculture, however, state support and stimulation are necessary for successful development manufacturers of

agricultural products [12] are promising areas of development of domestic organic agriculture as follows:

1. The development of methods of organic agriculture and biologization of agriculture in order to restore and maintain the fertility of agricultural land. The use of agricultural manufacturers is not only traditional, but also modern management methods, including rational, scientifically based land use in order to preserve, maintain and expand fertile land [24].

2. The creation of a single center, including cooperation of knowledge and experimental experience based on coordination of stakeholders of the process of organic products: universities, research institutes, agribusiness, intermediary organizations [7].

3. Conducting research and development work on the creation of complex technologies of organic farming for various regions of the country with good natural-climatic conditions. At the same time, the introduction of organic farming technologies borders on certain risks: in low internal demand for organic agricultural products compared to developed countries; difficulties in selling organic products due to significant financial investments for its certification; lack of domestic seeds for organic farming; disadvantage of qualified personnel; a decrease in the yield of cultivated plants grown using organic agricultural technologies. Catalysts of the growth of organic farming in our country are the internal demand for products with organic characteristics, as well as the demand of consumers of the world community. With the transition to organic agriculture, domestic manufacturers of agricultural products will have a prospect of entering the world market and receiving export income, which will significantly improve the financial and economic situation of agricultural enterprises. The export price of organic agricultural products is much higher than the price of inorganic analogues, which positively affects the effectiveness of the production process. Thus, for the effective development of organic agriculture, it is necessary to increase the level of

commercialization of scientific research and development, to introduce complex technologies of organic farming, and stimulate this direction by the state and manufacturers of agricultural products

CONCLUSIONS

The article develops methodological approaches to the identification of factors restraining the implementation of organic farming projects and the development of methods and tools for managing organic products. The directions of increasing the efficiency of organic farming based on the coordination and coordination of interested parties have been investigated. An analysis of the regulatory support of the implementation of projects of organic farming, certification of organic products was carried out. Systematization and classification of deterrent factors for the implementation of projects of organic farming is shown. The directions of increasing the effectiveness of the institutional interaction of the main stakeholders of the organic farming process at the federal and regional levels based on planning and coordination were developed. The practical significance of the results of the study is to develop measures to improve the scientific and technological policy of the agro-industrial complex in the conditions of structural transformation.

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