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## **Organization and Management of Clusters in Russia in the Context of Import Substitution**

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**Abstract:**

*The article covers the trends of the agribusiness development in Russia. It is shown that it is desirable to develop organizational-economic forms of entrepreneurship based on the cluster approach in the modern realities.*

*The most famous agribusiness clusters in the world are explored. Regions of Russia that have achieved the most significant results in agribusiness clustering are mentioned. It is found that the establishment of agribusiness in Russia is defined by the political decision of regional authorities rather than based on research and development.*

*An algorithm for establishing the agribusiness cluster is proposed, which includes four stages: methodological, analytical, organizational-economic and control.*

*The key areas of state support for the development of agribusiness clusters in Russia are defined.*

**Keywords:** *Agribusiness, import substitution policy, clustering, agribusiness cluster, innovations.*

**JEL Classification:** *Q13, C38.*

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## **1. Introduction**

Agribusiness is the leading national economic complex of Russia, which fulfills economic, political and social functions. The value of agribusiness is determined by its special role in providing employment for the employable population and securing decent living standards. To ensure the targeted nature of the import substitution policy, Russia has developed an appropriate Program through to 2020, which includes plans to overcome the critical dependence on imports in all leading sectors of the national economy. The share of the country's dependence on imports should not exceed 50% by 2020.

The import substitution policy in general can be proactive or reactive. Both options are possible in the context of the Russian reality. The first option is to prevent the emergence of foreign producers in the domestic market, and the second is to displace foreigners and replace foreign products with domestic ones. However, the implementation of import substitution plans in Russia will be possible only in the presence of competitive prices combined with the high quality of agricultural products.

The above problems and tasks require a more thorough and detailed approach to the development of organizational-economic forms of entrepreneurship in agribusiness in the context of import substitution. The creation of agribusiness clusters has been proposed as the main approach.

## **2. Methods**

Various methods of research were used to analyze and assess the impact of agribusiness clusters on the socioeconomic development of the country. The dynamic method allowed to distinguish the stages in the agribusiness development. Along with the coefficient and statistical analysis, the dynamics of key indicators of the agribusiness development in the Russian economy were reviewed. Trends, problems and prospects for the development of agrifood clusters, as well as the conformity with modern global trends in socioeconomic and technological development have been revealed, based on the materials of the Federal State Statistics Service of Russia.

The comparative analysis allowed to reveal the strengths and weaknesses of the Russia's agribusiness development in comparison with other countries. Besides, the comparative analysis allowed to conduct a study among the regions, dividing them into leaders, those catching up, and those lagging behind. The priority economic activities were identified for the development of agribusiness clusters, contributing to the socioeconomic and technological development of the Russian economy.

## **3. Results**

### 3.1 World experience of the establishment and development of agribusiness clusters

The cluster approach is widely used worldwide in implementing the tasks of increasing the competitiveness of certain industries and complexes of national economy. In these terms, agribusiness is not an exception. The following agribusiness clusters, presented in Table 1, have become widely known in the world.

**Table 1:** The world's largest agribusiness clusters

#	Cluster name	Country	Description	Figures
1	Flower cluster	Holland	Production and auction selling of seasonal flowers and flower bulbs, export of equipment ("smart" greenhouses)	Covers 40% of all flowers and plants grown in the world
2	Milk cluster	Holland	Production and export of dairy products, equipment for the dairy industry	Covers more than 30% of the country's territory
3	Wine-making cluster	Chile	Production and export of wine products	Exports over 75% of the final product – bottled wine

**Source:** Developed by the authors based on (Kostenko, 2016; Makarov, 2011; Shchetinina, 2013).

A new form of the agribusiness organization is spreading in various countries of Europe and Latin America. Following their example, FOOD clusters become popular in such countries as the USA, Canada, and Mexico. In economically developed countries, agribusiness clusters underlie the innovative economy, specializing in production of various types of agricultural products.

The existing associations and cooperation of enterprises have become the object of the cluster policy. Priorities for regional agrifood cluster strategies include the modernization of the material and technical framework, the establishment of the innovative system of personnel training and retraining, the establishment of the technology market and an extensive system for introducing innovations in agricultural production, as well as the evolution of the research and development sector.

### 3.2 Russian model of the agribusiness clusters' establishment

The agribusiness development in Russia went through several stages that included large-scale privatization and liberalization of agricultural enterprises, development of farming and strengthening of private farm holdings. However, the abolition of large agricultural enterprises largely led to negative results: the deterioration of fixed assets, a decrease in the volume of agricultural production, and the deterioration of

the financial and economic indicators of enterprises engaged in agribusiness. Positive trends emerged in the early 21st century, increasing the pace and quality of agricultural production and reducing the share of unprofitable enterprises in the country's agribusiness.

Improvement of the economic situation in the country has strengthened the trends of integration and cooperation, establishment of organizational and economic forms of entrepreneurship in agribusiness, including agribusiness clusters. The cluster approach has been actively spreading in Russia since 2010. The Ministry of Economic Development of Russia carried out a competitive selection of pilot innovation clusters in 2012, which received the state financial and economic support.

In many regions of Russia, the cluster approach underlies their strategic development (the Republic of Tatarstan, the Chuvash Republic, the Samara region, etc.). The modern domestic agribusiness cluster is an integration of small, medium and large agricultural enterprises aimed at securing the competitiveness of the agribusiness of the region. The Belgorod region, having implemented the regional program "Family farms of Belgorodie", gave a new impetus to cluster development in the agribusiness. More than 50 thousand people took part in this program (Shchetinina, 2013). The following clusters have achieved the most significant results in Russia: cluster for the production and processing of dairy products "Don milk products" in the Rostov region; agribusiness cluster in the Novgorod Region; wine territorial cluster "Don Valley" in the Rostov region; and agribusiness cluster "Biocomplex" in the Omsk region for deep processing of agricultural products based on biotechnologies (Kostenko, 2016). Agribusiness clusters in the Saratov, Kirov, Ulyanovsk and other regions are at the stage of establishment.

A concept for the Development of the Agribusiness Cluster was developed in the Stavropol region, with the participation of the Stavropol Agrarian University, aimed at ensuring national food security through the implementation of the import substitution policy. The cluster includes more than 160 enterprises, including 42 engaged in production of wines and cognac, 40 engaged in bottling mineral water, 20 engaged in production of beer and nonalcoholic beverages, 18 bakery plants, 16 dairy plants, etc. The research and development in the cluster will be provided by the above university (Makarov, 2011; Shchetinina, 2013).

The experience of the Primorsky region is of interest, where Green Leaves developed a project as part of the "New Face of Primorye" project for the establishment of an innovative agribusiness cluster in the livestock sector, including a farm for 1,800 heads of cattle, an own feed production base, an embryo transplantation lab, and a plant for production of tyndallized milk.

There are examples of the agribusiness clusters' creation with foreign participation. In particular, such a pilot project is being implemented in the Krasnodar region in

cooperation with the Azerbaijani partners (Shchetinina, 2013; Zedgenizovz and Ignatyeva, 2017).

The first results of the development of agrifood clusters in Russia reveal that their formation and development are most often determined by the political decision of regional authorities, and are not based on research and development. Moreover, government support measures do not change depending on the stages of the life cycle of agrifood clusters, which does not support their transition to the stage of maturity.

### 3.3 Research into clustering trends and implementation of the import substitution policy in the agribusiness of the Russian economy

The introduction of the cluster approach in agribusiness requires identification, which includes the definition of key types and sub-types of economic activity that are most susceptible to clustering. Methods of qualitative and quantitative analysis can be efficiently used to identify agribusiness clusters. The trends in the Russia's agribusiness development in 2000-2016 are presented in Table 2.

**Table 2:** Trends in the Russia's agribusiness development in 2000-2016

Indicators	2000	2010	2014	2016
1. Index of agricultural production, percent	106.2	88.7	103.5	104.8
2. Index of food production, percent	105.3	103.2	102.5	102.4
3. Index of textile and clothing production, percent	124.9	108.8	97.5	105.3
4. Index of pulp and paper production, publishing and printing activities, percent	118.0	103.1	100.4	100.8
5. Provision of tractors per 1,000 ha of arable land, pieces	7	4	3	3
6. Provision of grain harvesters per 1,000 ha of crops, pieces	5	3	2	2
7. Provision of beet harvesters per 1,000 ha of crops, pieces	16	4	3	2
8. Share of agricultural products produced by agricultural organizations	45.2	44.5	49.5	52.5
9. Share of agricultural output produced by private farms	3.2	7.2	10.0	12.1
10. Sales of grain by agricultural organizations, million tons	32.1	40.6	55.6	60.8
11. Sales of potatoes by agricultural organizations, million tons	856	1890	2255	2780
12. Sales of milk by agricultural organizations, million tons	12.5	13.2	13.5	14.3
13. Sales of eggs by agricultural organizations, billion pieces	22.5	28.2	28.9	30.0

14. Profitability of goods sold in agriculture	6.3	9.1	17.4	15.7
15. Profitability of goods sold in food production	–	10.8	9.1	9.2

*Source:* Compiled by the authors using the Federal State Statistics Service data (Federal State Statistics Service).

As it can be seen, both positive and negative trends can be identified in the agribusiness development. Positive trends include the increase in production indices in the key types of economic activities and the increase in the output of basic products by agricultural organizations. As such, the rather high efficiency of the import substitution policy in our country can be confirmed.

At the same time, the material and technical provision of agriculture by tractors, grain harvesters and beet harvesters is deteriorating. There is uncertain dynamics in the indicator of profitability of goods sold in the production of food products and agriculture.

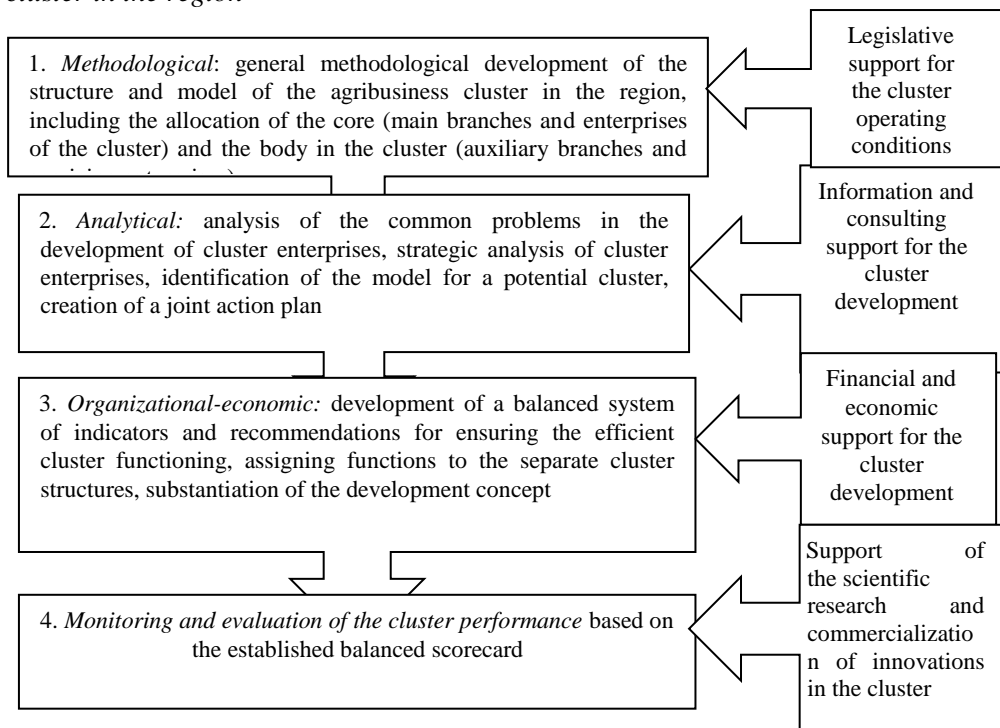
Due to this, agricultural enterprises unite in clusters not as a fashion statement, but as a vital necessity for ensuring their survival and further development. Building a cluster innovation system requires the conformity to the "triple helix" model, where the key elements – science, business and state – work together, enabling the participants to perform previously uncommon functions. For example, according to the "triple helix" model, enterprise managers start taking part in scientific and pedagogical activities, universities fulfill entrepreneurial functions, and state bodies fulfill the functions of a public entrepreneur and a venture investor (Made in China 2025; Zeng *et al.*, 2010; Westerman *et al.*, 2014).

#### 4. Discussion

Taking the specifics of the modern development of agribusiness into account, a comprehensive and step-by-step approach to the formation of agribusiness clusters is required. This approach allows to distinguish the following main stages of the agribusiness clusters' formation and the corresponding measures of state support, which are presented in Figure 1.

In the Russian practice, the core of the cluster is usually formed by the innovatively active enterprises focused on the use of the advanced production technologies. As a result, the authors believe that the state support measures should be adjusted depending on the stage of agribusiness cluster development – from the development of regional legislation, advisory and information support for the cluster development. Then, financial and economic support measures are implemented at the third stage, and measures to support scientific research and commercialization of innovations are implemented at the fourth stage (Leydesdorff, 2012; Leuz *et al.*, 2003; Moskowitz, 2014).

**Figure 1:** Algorithm of creating measures of state support for the agribusiness cluster in the region



**Source:** Developed by the authors based on (Schwab, 2016; Russian cluster Observatory; Ansell and Gash, 2008; Hermann et al., 2016).

A balanced scorecard (BS) is also worth mentioning, including four elements: finance, production business processes, market development, and innovation potential. It is desirable to include 20-25 indicators in the BS, such as an increase in net operating profit, dynamics of economic profitability, gross revenues, financial leverage, capitalization of enterprises in the agribusiness cluster, production capacity ratio, expansion of sales markets, introduction of innovative technologies, and increase in R&D volumes (Made in China 2025; Sawhney et al., 2006; Schuh et al., 2014a; 2014b).

## 5. Conclusion

A specialized fund should be set up to provide financial support for the creation of agribusiness clusters and provide grants to applicants for agricultural production and R&D in various field of agribusiness and for agricultural producers with various organizational and legal norms.

Besides, it is advisable to arrange the allocation of land plots to the cluster participants at the regional level, compensate for the costs of connecting to

infrastructure facilities, create related industries, and facilitate raising investments for the cluster. A state measure of supporting investors until the project's payback period, implementation of tax holidays, etc. have a significant potential. In the context of the import substitution policy, one should not forget about the risks inherent in this process. The risks include the increase in the budget burden, the technological gap in the leading sectors of the agribusiness at the global level, the outflow of foreign investment, the risk of violating the conditions of fair competition, etc. The introduction of the cluster approach in agribusiness will reduce the severity of the above risks and provide many Russian companies with access to advanced technologies (Gorokhova and Sekerin, 2016; Shelomentsev *et al.*, 2016; Solow, 2005; Veselovsky *et al.*, 2017).

Overall, it can be stated that the development of agribusiness clusters is an efficient tool for implementing the import substitution policy in the conditions of the Russian reality.

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