

FORMATION OF STRUCTURAL ELEMENTS FOR THE MECHANISM OF SUSTAINABLE ECONOMIC DEVELOPMENT OF REGIONAL INTERSECTORAL CLUSTERS IN THE AGRO INDUSTRIAL COMPLEX

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Abstract: Globalization and increasing competition actualize the need to ensure the financial, economic and food independence of the Russian Federation while maintaining its active role in international cooperation. One of the key goals of any state is to ensure its long-term sustainable development. In our opinion, all this requires a radical adjustment of the state agricultural policy. We have seen that the presence of a large number of scientific research on the topics of formation and development of clusters does not absolve us from the need for a focused study of the processes of construction and implementation of the sustainable development model presenting high-performance clusters in agriculture, development of methodical bases for construction of an economic development model for the agricultural cluster, adapted to the Russian conditions.

Keywords: economic crisis, sanctions, agro-industrial complex, region, sustainable development, structural elements, organizational and economic mechanism, management.

1 Introduction

Modern conditions for the development of the world economy actualize the problems of ensuring growth and increasing the competitiveness of the agrarian industry being a part in the Russian national economy. The implementation of these tasks requires the implementation of an innovative development scenario, the active use of the scientific and technical potential of the most technologically advanced sectors in the agro-industrial complex. And this is indisputable, since only science-driven and high-tech industries are able to properly implement most of the innovative developments of breakthrough technologies, which allows for sustainable social and economic development.

In our work, we proceed from the fact that the solution to the problem of ensuring the stability of the regional agro-industrial complex should be interconnected with the solution of the problems on ensuring the country's food security, which implies the innovative development of a national production complex and increasing the competitiveness of diverse agro-industrial complex economic entities of the on world markets.

However, one cannot ignore that the Russian innovation system is characterized by low functioning efficiency, which is clearly manifested in the final results of innovation in the economy as a whole and, especially, in agriculture.

Several dozens of concepts for the innovative development of national production complexes are cited in the specialized literature, the sources of which were J. Schumpeter (the founder of the innovative development theory); ND Kondratiev (author of the "long waves" theory); G. Mensh (developer of S- models of investments), etc.

One can note N. G. Keshisheva, E. A. Lure, I. V. Milkina and others Among modern Russian researchers in the field of innovative development of territories. All of these authors are unanimous in the fact that the development of territories based on innovation is a complex and long-term process during which it is necessary to implement the state policy of federal and regional authorities and governing bodies, which determines the vector of development of high-tech sectors of the economy, a mechanism for stimulating the involvement of private capital in long-term region development, etc.

It is indisputable that the sustainable development of territories, and, in particular, territorial production complexes, is associated with the presence in the region of certain resources, and also scientific, technical, industrial and educational potential. Hence, it can be argued that the regional agro-industrial complex should have a combination of relevant production structures and research institutions, on the basis of which it can create the necessary innovative chain, the implementation of which will allow entering the markets with new competitive products.

It should also be noted the importance of the regional agro-industrial complex having such possible competitive advantages as modern production facilities, a certain research potential, an advantageous geographical location, favourable natural and climatic resources, a developed transport and communication network, etc.

All of the above suggests that the problems of choosing the most effective approaches to the development of high-tech sectors of the agricultural sector are one of the most relevant today, because the threats and risks for the development of Russian agriculture are not only real, but also increasing, which reduces the ability to ensure sustainable growth and accelerated import substitution.

2 Research methodology

The theoretical and methodological foundations of our study were the works of foreign and domestic researchers on the problems of the regional economic complex, and also agricultural business development; the formation of the organizational and economic mechanism for the implementation of sustainable economic development of territorial agro-industrial clusters.

They also studied the legislative and other regulatory acts underlying the formation of the agricultural sector and investment policy.

Depending on the tasks to be solved, we also used general scientific methods and methods of economic research cognition, such as abstract-logical ones, and also expert methods, analysis, and generalization.

3 Research results

When examining the problems of clustering, we were guided by the definition of the concept of a cluster given in the Concept of Long-Term Socio-Economic Development of the Russian Federation for the period of up to 2020. Based on this, we consider the cluster as "the union of economic entities, suppliers of equipment, production and services, research institutes and universities related by relations of territorial proximity and

functional dependence in the sphere of production and sale of goods and services" [Drozdova N. V. 2011].

Hence, we consider agro industrial clusters as inter-industry, which focus on cooperation and competition, both within a number of agribusiness sectors (for example, dairy farming), and between individual branches and sectors of the agro industrial complex. In turn, any inter-industry cluster consists of a group of participants, a particular set of volumes of resources involved, and various activities aimed, ultimately, at the production and sale of high-tech products (services) [Zaushitsyna L. L. 2015, Sidorov V. P. 2011]. From our point of view, the scientific basis of the agro-industrial cluster should be interdisciplinary knowledge about the production of the final product: high-quality food for the population and raw materials for industry. In addition, a distinctive feature of the agro-industrial cluster should be considered as the preservation of the agro-ecological situation and the development of the rural territory as a place of residence and place of production of final products.

There are other approaches to the classification of clusters in the specialized literature; for the most part, they are built according to the type of their origin. For example, in [Smorodinskaya N. V. 2015] the cluster is considered as a product of self-organization and integration of companies formed "from below", in [Kovaleva I. N. 2012] it was proposed to consider a cluster as a product that arose during targeted interactions between federal and regional authorities and governments, i.e. formed "from above."

Based on industry specifics, there are such types of clusters as discrete, process, innovative, agricultural, tourism, transport and logistics, etc.

In the course of the study, we identified many works where the authors quite freely interpret the concepts of "agro-industrial cluster" and "integrated agro-industrial formation", believing that this, in principle, is one and the same. Here we fully share the position of A. I. Altukhov, who a posteriori proved the existence of fundamental differences between the clusters created in the agro-industrial sector, and the agro-industrial associations, including by their legal form, principles of creation, production structure, scale of production, organization status, the presence or absence of competition, a form of management, etc.

An agro-industrial cluster is a complex open network system consisting of subjects of industries and sectors of agro-industrial production (including agriculture, processing industry, food industry); service industries, such as market and innovation infrastructure; educational and financial area; authorities; consumers of agricultural products; located on a specific (separate) territory and having a financial, economic, technical and technological relationship [Aksenova T. N. 2012; Zaushitsyna L. L. 2015; Misakov V. S. 2007].

Directly, the mechanism of sustainable high-performance cluster development in the agro-industrial complex involves legal, administrative, economic, organizational and information levers, the proper use of which allows us to purposefully influence the processes of formation and development of sustainable long-term and mutually beneficial ties between geographically concentrated production business entities and serving structures of the agro-industrial complex, market infrastructure, research and educational institutions, financial institutions, government and management bodies, consumers of agricultural products, etc., which together provide the stability of their effective functioning and development.

All organizations participating in the cluster act as an elementary particle of the cluster - that is, as a cluster unit.

The selection of an economic entity as a separate cluster unit as part of a cluster formation allows a detailed analysis and diagnosis of its activity, to determine the effectiveness of the use of cluster resources by this unit, to identify the level of involvement of cluster units in the design activities of the considered institutional economic and social unit of the cluster

[Bobylev S. N. 2001; Misakov V. S. 1985; Cherkasova O. V. 2011].

Moreover, the cluster unit considered as the primary structural unit of the regional agro-industrial cluster can be unambiguously established, namely: what function it implements: it can be innovative, industrial, technological, etc.

Here we should once again turn to the essence of sustainable development. In the specialized literature, the sustainable development descriptor system, in general, is represented by three blocks:

- Economic block: investment in new products and processes; operating margin; return on invested capital, economic value added;
- Environmental block: a system of strategic environmental management; greenhouse gas emissions issues; energy intensity;
- Social block: training and retraining of workers, labour protection, improvement of the quality of life [Erokhin M. A. 2011; Misakov V.S., Baiduev I.Z., Gendugov S.Z. 2015; Duranton G. California Dreamin:].

In the course of the study, we identified an important regularity, in our opinion: the systems of valuation descriptors needed to reflect the approaches of valuation of both sustainable and innovative development allow us to objectively consider the possibility of their joint use by involving such a universal indicator as the newly created value (it can be expressed in GDP, GRP, and funds based on the considered level of the economy).

Based on the fact that the key goal of sustainable economic development of the agro-industrial complex in Russia is to ensure the balance of economic efficiency, social justice and environmental safety, it is necessary to develop a modern organizational and economic mechanism consisting of a set of principles, methods, techniques and factors aimed at developing the agro-industrial complex on the basis of the formation and development of regional high-performance clusters in the agricultural sector. The structure of such a mechanism may consist of:

- Theoretical block, which clarifies the terminological base of the subject area of research on the problems of sustainable economic development of high-tech clusters in the agricultural sector, development of a system of modern requirements and factors for the sustainable development of the agricultural sector based on regional agro-industrial clusters;
- Methodological base regarding the principles of sustainable development of the agro-industrial complex based on high-performance clusters, the use of multi-level approaches to build cluster policies and options for organizing regional clusters in the agro-industrial complex;
- Methodological tools, in particular, regarding the integrated system of indicators for sustainable economic development of a regional cluster in the agro-industrial complex;
- Methods for diagnosing the socio-ecological and economic system using the "value added" indicator;
- Analysis techniques concerning management of resources at their recycling.

When forming the structural elements of the developed mechanism for the sustainable economic development of high-tech clusters in the agricultural sector, it is advisable to use some of the components of the so-called "circular" economy program provided by the European Commission on 12/02/2015. It is aimed at creating a recycling economy in the EU countries that opens up fundamentally new opportunities for small business.

When constructing the mechanism of sustainable economic development, it is also very important to consider a set of issues of institutionalizing the sustainable development of the agro-industrial complex regarding the establishment and improvement of partnerships between the state and business structures, the implementation of cluster corporate policies and scenarios for

organizing a regional agro-industrial cluster based on a multi-level approach. Elements of the institutional environment in the process of building sustainable economic development of high-tech clusters in the agricultural sector with their combined and targeted impact cover all areas of activity and ensure the effective implementation of the set policy for the formation and development of clusters in the agricultural sector. All this suggests that a number of methodological guidances and tools for sustainable economic development of the agro-industrial complex of the country based on regional high-performance clusters should be organically interconnected with elements of the institutional system in the form of targeted interaction between certain institutional structures of the society that directly affect the functioning of agro-industrial clusters. The set of elements of the institutional environment (politics, society, economics, ecology, etc.) is fundamental, providing the movement and vector of sustainable development of the agro-industrial complex based on agricultural clusters. [Zaushitsyna L. L. 2015; Musaev M.M., Musaev H.M., Misakov V.S. 2018; Andersen C. 2010]

The mechanism of state cluster policy includes a number of measures to build the institutional environment that form the basis of the cluster approach, create programs and investment projects for the development of regional clusters in the agricultural sector, etc.

In a market economy, clusters should be "self-adjusting"; they also should ensure the competitiveness of all its participants and comply with the provisions of the state cluster policy.

In the depressed republics of the North Caucasus, the contours of future cluster formations are only being formed so far. This situation requires the creation of a typical cluster structure in the form of an interregional (North Caucasian) powerful corporation capable of accumulating regional technological business entities. In our opinion in these conditions, the state should not replace, but help and create conditions for the development of the cluster initiative, which is coming from "below." However, we are far from the fact that the cluster approach is self-sufficient and can do without government support.

When forming and implementing cluster policies in the republics of southern Russia, a number of obvious risks are observed, including regarding the disproportion of regulatory measures to identified problems; conflict of cluster tools with ongoing cluster policy activities; the dominance of costs for improving the structure of regional distribution of agricultural production over the benefits received. To overcome such risks, it is necessary to strictly observe the fundamental principles of cluster policy.

4 Conclusions and proposals

1. A feature of recent years is the formation in the republics of the North Caucasus of a flexible structure of the cluster environment, which allows the creation of appropriate facilities for the territorial and intracluster level;

2. Analysis and generalization of the most popular methodological approaches made it possible to propose the structure of the main elements for the organizational and economic mechanism concerning sustainable economic development of regional high-performance clusters in the agricultural sector;

3. In the course of the study of the structure-forming elements from the cluster environment of regional high-performance clusters in the agro-industrial complex, it was possible to single out the internal and external environment of the agro-industrial cluster and its constituent elements and substantiate the

feasibility of using a multi-level approach in the implementation of cluster policy;

4. Conceptual recommendations are disclosed that reveal the features of sustainable economic development of agricultural production based on the formation of high-performance clusters in the agricultural sector.

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