



State policy to support the promotion of agricultural clusters as a factor for sustainable development

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Abstract

The article examined the prospects of state support for cluster support in the agrarian sphere and thus considers the factors causing external changes, along with the readiness to merge enterprises and the possibility of their stimulation by the state. Likewise, this article determines the stability of economic links of agro-industrial clusters and considers the impact of international agro-industrial clusters as one of the forms of business organization in the Ukrainian economy. Also, the legislative basis of the state policy is considered, differentiated by the degree of state participation and functions in the cluster structures of the agrarian sphere. The theoretical and methodological basis of the research was the dialectical method of cognition and a systematic approach to the study of clustering in the agrarian sector; in addition, a comparative analysis of cluster-type joint agricultural enterprises and traditional integrated structures was carried out. It is generally concluded that the lack of regulations of the creation of a production cluster organization, as an autonomous economic association of enterprises, makes it impossible for the time being to extend its existing potential and develop new specialized programs of state support.

Keywords: cluster technologies; agrarian sphere of development; agro-industrial policy; economic policies; sustainable development.

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Política estatal de apoyo al impulso de clúster en el ámbito agrario como factor de desarrollo sostenible

Resumen

El artículo examinó las perspectivas de apoyo estatal al clúster en la esfera agraria y, por lo tanto, considera los factores que provocan cambios externos, junto a la disposición a fusionar empresas y la posibilidad de su estímulo por parte del Estado. Igualmente, este artículo determina la estabilidad de los vínculos económicos de las agrupaciones agroindustriales y considera el impacto de las agrupaciones agroindustriales internacionales como una de las formas de organización empresarial en la economía ucraniana. Asimismo, se considera la base legislativa de la política estatal, diferenciada por el grado de participación y funciones del Estado en las estructuras de conglomerados del ámbito agrario. La base teórica y metodológica de la investigación fue el método dialéctico de cognición y un enfoque sistemático del estudio de la agrupación del sector agrario; además, se llevó a cabo un análisis comparativo de las empresas agrícolas conjuntas de tipo clúster y las estructuras integradas tradicionales. En líneas generales se concluye que la falta de reglamentos de la creación de una organización de clúster de producción, como una asociación económica autónoma de las empresas, hace que sea imposible por el momento extender su potencial existente y desarrollar nuevos programas especializados de apoyo estatal.

Palabras clave: tecnologías de clúster; ámbito agrario de desarrollo; política agroindustrial; políticas económicas; desarrollo sostenible.

Introduction

The reforming Ukrainian land relations requires restructuring of the entire system of the agricultural production organization. At the same time, the development of the agricultural clusters is a great importance, which will contribute to the creation of high-tech and knowledge-intensive associations with a closed production cycle and a high level of added value in the final product. It also leads to the creation of new jobs of various qualifications, and the development of social and industrial infrastructure in rural areas. It is important to note that this issue becomes particularly acute in the analysis of ways to restore the Ukrainian economy in the post-war period.

Currently, there is no definition of the concept of “cluster”, its types, features of the creation and functioning in Ukrainian legislation. In particular, the concept of “cluster” as a territorial association of enterprises

is absent in the Economic Code of Ukraine (Economic Code of Ukraine, 2003).

There are the drafts of the regulations on the foundations of state policy formation in the field of economic clustering, such as “Concept of Creating Clusters in Ukraine”, “National Strategy for the Formation and Development of Cross-Border Clusters”, etc. These drafts are remained developed, but not approved.

The current regulations regarding the principles of the state agrarian policy do not provide the regulation of the agrarian clusters activities. Only the Concept of Creating Clusters in Ukraine (Ministry of Economy of Ukraine, 2008) determines that inter-farm organizational and management structures can be formed in agriculture in the form of self-governing economic associations of cooperative management and cluster regional cooperation in the organizational and legal forms of societies, associations, and economic interest grouping.

At the same time, supporting the development of the clusters, particularly in the agricultural sector, is one of the priorities of the regional economic policy. The development of the agricultural clusters is recognized as one of the most important directions in the development strategies of many regions.

1. Literature Review

The concept of a cluster was first highlighted in the works of Marshall (1890) and Porter (1979), where the main attention of the scholars is devoted to researching the advantages and positive aspects of creating clusters. Since then, this concept has been considered in various spheres of production, including the agriculture sphere.

The theory and practice of analyzing various aspects of the creation and activity of clusters as a promising form of economic development over the past ten years has been thoroughly studied by both foreign and domestic scholars. And this interest is due, first of all, to the role and influence that clusters have recently gained in the economy of many countries of the world after the devastating consequences of the global financial crisis of 2008 and the slowdown in the pace of globalization. Many scientists now consider clustering as an alternative model for the future development of the world economy, which can provide solutions to many problems of humanity in the process of transition to the paradigm of sustainable development (Recommendations of the International scientific and practical conference, 2014).

Domestic scholars have recently paid considerable attention to the problems of the agrarian reform and the development of various forms of management, as well as they paid attention to the clusters' formation in the Ukrainian economy, in particular, the clusters in the agricultural sector. The main aspects of the theory of agrarian clusters development were reflected in the works of the followings: Zhilkin *et al.* (2021); Mazneva (2015); Shpykuliak and Tyvonchuk (2012); Popovych *et al.* (2021) and other scholars. In most of the mentioned scholars' works, they consider the main theoretical and practical aspects on the formation of clusters in the context of the activation of innovative activities in the agricultural sector. At the same time, there remains the question of researching the essence of clusters as a promising organizational and economic form of effective agricultural production in the system of sustainable development, which seems to be an urgent issue for the modern stage of solving the problems faced by global and domestic agrarian science.

The founder of the agricultural holding *UkrLandFarming*, Oleg Bakhmatyuk convinced that it is possible to develop the Ukrainian land market by looking at dozens of models of market opening. However, when choosing the final option, it is not necessary to blindly adopt the experience of implementing specific models in European countries. The same model cannot work equally well, for example, in Estonia and Ukraine, because these countries are characterized by significant differences in natural and climatic conditions, soil types, and economic factors (Bakhmatyuk, 2022).

According to Bakhmatyuk (2022), it is optimal for the Ukrainian agricultural sector to develop an economic model of the land market with the division of the latter into three approximately equal clusters (the first is small plots of land, up to five hectares, family farms. Medium-sized landowners whose purpose is to saturate the domestic market of Ukraine with its products should represent the second cluster. The third cluster is a large producer whose work should be aimed at export).

2. Methodology of Research

The purpose of this research is to highlight the conceptual understanding of the cluster as an innovative organizational in the system of sustainable development on the example of the agricultural sector and to substantiate the scientific principles of ensuring its implementation at the regional level.

The theoretical and methodological basis of the research is a dialectical method of cognition and a systematic approach to the study of the clustering of the agricultural sector.

When performing the research, we have applied a set of general scientific methods and techniques:

- a monographic – in relation to domestic and foreign publications on this issue;
- a system approach based on the principles of system analysis and synthesis – to justify the interrelationship of sustainable development, the efficiency of agricultural production and the cluster model;
- an abstract-logical – for theoretical generalization of research results and determination of measures to ensure the implementation of the cluster model of agrarian development;
- an economic analysis – studying the efficiency of agricultural production.

3. Results and Discussions

The need for economic protection of Ukraine's national interests in the agricultural sector and ensuring food security is possible through the maximum use of national resources and the achievement of industry competitiveness. However, the scientifically based system of economic growth of the agro-industrial complex, focused on solving national problems, unfortunately has a purely declarative nature.

The investments in fixed capital in agriculture are insufficient for the intensification of production and its dynamic development. The agrarian sphere is characterized by low investment attractiveness (Law No. 1116-IX). The restraining factors are the long-term nature of investment, the lack of a full-fledged competitive environment, the availability of alternative options for investing financial resources in attractive industries. Analysis of the structure of investments in fixed capital shows that this structure has practically not changed in recent years: the share of investments in agriculture is relatively small and significantly inferior to other industries.

Cluster technologies can change the situation. Their use will add not only the positive dynamics of the agro-industrial complex, but also give the impetus for the development of the entire economic system, taking into account national priorities and social responsibility.

The cluster form of the agricultural science organization determines the possibility of creating a system in which all participants are interested in the real success of both themselves and the entire association. At the same time, authorities can act as coordinators; promote the implementation of mechanisms for regulating complex periods of formation and development thanks to legislative and material support.

It is necessary to realize that sustainable economic growth cannot be ensured only by market mechanisms. It must be based on three system-forming elements: the market, state regulation and social stability. With the support of the state, cluster technologies in the agrarian sphere will enable the activation of market mechanisms and ensure the socio-economic dynamics of the agricultural sector (Kovalchuk, 2019).

The agro-industrial cluster is a territorially localized, innovatively oriented integrated structure based on an agreement on the cooperation of independent business entities. The purpose of the structure is to form a strategic platform for the development of agro-industrial production. According to many economists, the regions where clusters are organized become leaders in economic development.

The creation of agro-industrial clusters is especially relevant for those regions where agro-industrial production provides a significant share of the gross regional product. Cluster structures are more in line with new economic conditions, contribute to increasing the competitiveness of the region's agricultural industry, and ensure its innovative development.

The clusters activate entrepreneurship, as a high degree of specialization, stimulates the creation of new firms focused on a certain market niche, and due to the predominance of horizontal integrated connections, it reduces the barriers to «entry» of new participants in cluster formations.

The economic stability of the organizations included in the cluster is achieved due to access to resources, transfer of knowledge and technologies, partnership relations, formation of a special configuration of ownership rights to various objects, which ensures their more effective use. In turn, increasing the stability of economic subjects of the region's agro-industrial complex creates a basis for its overall positive dynamics.

Tax revenues to the budgets of various levels are increasing, the material and technical base is improving, and the investment attractiveness of the region is increasing (Kovalchuk, 2021). It should also be noted the importance of the comprehensive knowledge obtained due to the connection in the cluster of fundamental science, research and development works, production, sales and sale of finished products.

The traditional management due to the division of the regional economy into industries is losing its effectiveness, as interrelationships of firms and organizations that have an inter-industry nature come to the fore. Therefore, it is necessary to manage connections, which allows us to provide a cluster approach. At the same time, the efficiency of interaction, of not only technologically related organizations increases, but also partnership relations between business, the state, trade associative structures, research and educational institutions arise (Law No. 2404-VI, 2010).

The approach to the development of regional agriculture, based on clusters, is gaining more and more recognition in our country. Awareness of the need for innovative development of the agricultural sector, the desire to ensure the balance of the regional economic system based on the restoration of industrial and economic ties, to maximize the use of the economic potential of the territories, are intensifying the efforts of local authorities to form various types of regional agrarian clusters.

However, currently in domestic legislation there is no definition of the concept of “cluster”, its types, features of creation and functioning. In particular, the concept of “cluster” as a territorial association of enterprises is absent in the Commercial Code of Ukraine.

There are the drafts regulations on the formation of the foundations of state policy in the field of economic clustering, such as “Concept of Creating Clusters in Ukraine” (Ministry of Economy of Ukraine, 2008), “National Strategy for the Formation and Development of Cross-Border Clusters” (Ministry of Regional Development and Construction of Ukraine, 2009). These drafts are remained developed, but not approved.

The current regulations regarding the principles of the state agrarian policy do not provide the regulation of agrarian clusters activities. In particular, in the Law of Ukraine “On State Support of the Agriculture of Ukraine” (Law No. 1877-IV, 2004) and in the Concept of the Development of Rural Territories (effective until 2025), approved by the Cabinet of Ministers of Ukraine No. 995 dated September 23, 2015, the concept of “cluster” is absent in principle, there is no normative – a system basis for the development of clustering in the agricultural sector (Cabinet of Ministers of Ukraine, 2015).

Only the Concept of Creating Clusters in Ukraine (Ministry of Economy of Ukraine, 2008) determines that inter-farm organizational and management structures can be formed in agriculture in the form of self-governing economic associations of cooperative management and cluster regional cooperation in the organizational, and legal forms of societies, associations, and economic interest grouping.

At the same time, support for the development of clusters, including in the agricultural sector is one of the priorities of the regional economic policy. The development of agricultural clusters is recognized as one of the most important directions in the development strategies of many regions.

Unfortunately, cluster technologies in the agro-industrial complex of the regions are not used on the scale that could ensure the dynamic development of this vital branch of the economy.

The economic stability of the regional agro-industrial complex is possible only on the basis of innovative development of all spheres included

in the complex, modernization of the processing and agrarian sector of the agro-industrial complex, introduction of energy-saving equipment and technology, activation of intellectual resources, optimal combination of market mechanisms and state regulation of the economy. All these factors can be used within the framework of the cluster approach to the development of the agro-industrial complex.

One of the most important stages of the development of the international economy is the formation of sectoral and inter-sectoral integration. The Agrarians see integration as an opportunity to form a strong market-stable structure capable of resisting interregional and international competition, the basis of which should be scientific and industrial integration.

The cluster form of the agricultural science organization determines the possibility of creating a system in which all participants are interested in the real success of both themselves and the entire association. At the same time, authorities can act as coordinators; promote the implementation of mechanisms for regulating complex periods of formation and development thanks to legislative and material support.

The cluster form of agricultural science is especially relevant for high-risk areas of agriculture, the products of which are more elastic and seasonal in nature. The agricultural research and production cluster should define such a network of interrelated organizations that would concentrate in one geographical area research centers, agricultural institutes, production companies, suppliers of equipment, technologies, raw materials, materials and other organizations that complement each other in achieving economic and scientific effect, and strengthen the competitive advantages of individual companies and, therefore, the cluster as a whole by combining horizontal and vertical integration.

As a result of such integration, agricultural science has the opportunity to have scientific laboratory sites on the territory of specific producers of products and to build relations with both producers and other participants of the cluster based on the principles of continuous search for improving the quality and quantity of produced products.

The role of regional authorities in the success of the cluster form of agricultural science organization is significantly large. The authorities should stimulate the formation of such cluster systems, first of all, through their preferential lending, taxation, legal support and support (Kovalchuk, 2020).

The experience of using clusters in foreign countries shows that this approach is the basis for a constructive dialogue between representatives of the business sector and the state. It allows to increase the effectiveness of the interaction of the private sector, the state, trade associations, research and educational institutions in the innovation process.

In Canada, considerable attention is paid to the cluster approach to the organization of scientific research. In the agri-food sector, one of the most famous regional innovation clusters is the cluster of agricultural biotechnology in the Canadian province of Saskatchewan. At the initial stage of the development of the cluster in the 80s of the last century, research and implementation work related to issues of genetics and plant selection (grains, oilseeds, legumes, forage grasses), as well as animal health and nutrition.

Currently, there is work on the use of biotechnology in the field of bioenergy, environmental protection, and improving the health of the population, which has become widespread. The cluster began to serve as a basis for the development of the bioeconomy of the province and increase the competitiveness of this region.

Ukraine's European integration aspirations actualize the appeal to the effective experience of state support for the principles of cluster development of European Union (EU) countries, in particular, the EU's Common Policy "On the Development of Regional Clusters". Currently, all EU countries are implementing the decisions of the Lisbon Summit in 2000 "On the Widespread Implementation of Programs for the Development of Regional Innovation Systems (RIS)" based on the cluster model of production.

The main goal of this decision was the intention to reduce Europe's lag behind its main competitors on world markets – the USA and Japan – by 2010 by implementing the strategy for the development of the knowledge economy, as well as the implementation of the innovative development model in the participating countries through the creation of the European Research Area (ERA). In addition, in February 2007, the European Clustering Manifesto was approved at the summit in Brussels, and on January 21, 2008, the European Cluster Memorandum was adopted at the summit in Stockholm - Europe's action plan for ensuring the growth of competitiveness (Food and Agriculture Organization of the United Nations, 2017).

It should be noted that, although there is no unified model of state support for cluster development in European countries, all countries have their own state programs for cluster development.

Conclusions

The lack of regulations of the creation of a cluster organization production of a cluster as a self-governing economic association of enterprises makes it impossible to spread to its existing and develop new, specialized programs of state support.

As a result, there are only isolated examples of the practical creation and functioning of agricultural clusters in Ukraine, which are mainly the initiative of commodity producers and are based on the experience borrowed by them from the global practice of cluster development.

The development of agricultural clusters in Ukraine is complicated by the following factors:

- military actions on the territory of Ukraine, in particular in the most developed agrarian regions;
- the imperfection of the legislative framework for the functioning of clusters and, as a result, the lack of support for cluster initiatives of agricultural enterprises from the state;
- lack of trust between state authorities and business, as well as between individual companies, reluctance of companies to disclose and share internal information due to the possibility of abuse and dependence on more powerful partners;
- the weakness of the existing agricultural clusters due to the low level of competition in the domestic market, the absence of «aggressive» suppliers and demanding consumers;
- the possibility of losing the right to receive benefits and subsidies by an agricultural enterprise in case of any organizational or production changes (including when joining a cluster);
- lack of connection between science and education from agricultural production: agricultural enterprises do not act as customers for scientific and innovative products, and the products of research institutions do not find their buyers among commodity producers;
- lack of foreign investments and venture capital, which are an important source of cluster development in developed countries.

The formation of agrarian clusters in Ukraine in the post-war period will give impetus to the development of new approaches in the organization of production, and the improvement of the qualifications of workers in the sector.

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