CLUSTERING AS A PROMISING FORM OF ORGANIC AGRICULTURAL PRODUCTION IN UKRAINE

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Abstract

This article analyses the state of organic agricultural production, using the development and operation of agricultural clusters as an example.

The aim of the study is to summarise the experience of clustering in the agro-industrial sector and to analyse the structure of the agricultural cluster for organic vegetable production. Among the tasks set to achieve this aim were: summarising global experience of the cluster approach in the management of economic activity, particularly in the agricultural sector; examining the history of the clustering process and the prospects for the development of agricultural clusters in Ukraine (using the Southern region as an example), and analysing the structure of the agricultural cluster for the production of organic vegetable products.

Enhancing the competitiveness of the vegetable sector in Southern Ukraine and the region itself is relevant in the context of creating regional agricultural clusters for the production of organic vegetable products, which combine scientific, educational, logistical and marketing functions with the involvement of consulting, financial and certification bodies.

The operation of regional agricultural clusters, including organic ones, will help ensure that the consumer market is well-supplied with vegetable produce, particularly organic produce, meet consumer demand for high-quality and safe vegetable produce, and strengthen the region's export sector. Furthermore, the operation of the agricultural cluster will help to meet the interests—including social, economic and environmental ones—of all market participants.

Agricultural clusters represent one of the most promising forms of collaboration between the state and the agribusiness sector, where specialisation and the concentration of production, the incorporation of innovative research from scientific institutions, and the establishment of closed production cycles ensure increased competitiveness and profitability of products.

The article examines the experience of European Union countries in supporting regional clusters and the potential for applying this experience to the development of individual regions and the strengthening of business positions.

Key words: cluster, agro-industrial complex, innovation infrastructure, network structure, partnership, innovation agrocluster, sustainable development, competitiveness of the region.

Introduction Globalisation, internationalisation and integration are the processes that characterise the modern global economy. At the same time, integration at the level of individual countries and regions takes place through the formation of economic entities based on cluster models. Such models make it possible to avoid or minimise risks, particularly when introducing innovative technologies. These include sustainable technologies in agriculture, particularly organic ones. This enables the mobilisation of financial resources from all stakeholders, which also provides certain advantages for agricultural producers. In general terms, the cluster model combines production, infrastructure, science, education and other components of the product creation and production process (marketing, logistics, conformity assessment). Such integration makes it

possible to bring together and motivate all participants in the innovation process to achieve the planned result, particularly provided there is adequate funding.

This funding model can be used by agricultural holding companies that bring together companies, enterprises and organisations within a specific territory engaged in the production of a particular end product. The region where such clusters are located must be a hub for various types of resources, including socio-economic, scientific, innovative and human resources. Only with these resources in place will the clusters become sustainable and competitive entities [1].

In the final pre-war years in Ukraine, political and economic factors significantly hampered economic development and had a negative impact on the competitiveness of domestic enterprises and their products. Consequently, this hindered the expansion of the domestic consumer market and slowed the strengthening of export positions. Under these conditions, most regions of the country faced certain difficulties, which were due to insufficient provision and support for the socio-economic development of the territory, as well as the lack of strategic investment projects. At the same time, this stimulated the search for, development and implementation of new approaches to regional development.

Ukraine's integration into the European economic area and new approaches to regional development management call for the application of effective and innovative methods. The experience of European countries, where the cluster approach is widely used, shows that the functioning of clusters is an effective tool for enhancing a region's competitiveness and taking its economic development to a new level. Therefore, the use of the cluster approach in Ukraine today can be regarded as one of the priority and promising directions for the development of the economic sector.

According to the Ukrainian Ministry of Statistics, agriculture is currently the most resilient sector of the economy. Furthermore, as a source of raw materials for the processing and food industries, agriculture underpins the country's food security and quality of life [2, p. 14].

Therefore, efforts to enhance the competitiveness of individual regions, particularly in southern Ukraine, are being pursued in both the short and long term through the creation of regional agricultural clusters.

Prior to the war, the Kherson region ranked first among Ukraine's regions, including those in the south, in terms of vegetable production and accounted for a significant share of exports. Up to 90 per cent of vegetable production is grown by small-scale farms. Furthermore, the Kherson region is a leader in Ukraine in the production of organic vegetables using organic farming techniques [3, p. 14; 4, p. 691; 5].

Despite significant achievements in the field of organic farming, it should be noted that the process of managing individual stages of the business is of vital importance for the development of the domestic market for organic products and the export segment of organic products; this process must include market research, production itself, verification of compliance with national and international standards, logistics and product placement on the market, as well as the development of proposals for the implementation of all stages of the product life cycle.

The aim of the study is to summarise the experience of clustering in the agro-industrial sector and to analyse the structure of the agricultural cluster for organic vegetable production.

Materials and Methods The relevance of this area of research stems from the objective circumstances that have emerged in Ukraine's economy in recent years. The current state of the agricultural sector and the growth in agricultural exports are accompanied by the intensive use of agrochemicals in the production of conventional agricultural products and environmental pollution. At the same time, this is accompanied by a rise in public environmental awareness. Despite the presence of both external and domestic demand, the market for agricultural produce, including organic produce, in Ukraine is still developing rather slowly. The number of market operators working in this segment is unable to meet the growing needs of consumers. Most of the produce grown by households according to organic production principles does not reach consumers due to the inadequacy of the relevant infrastructure and mechanisms for the effective functioning of this market segment.

The processes of European integration currently underway in Ukraine are prompting a closer examination of the experience of effectively supporting and implementing the principles of the cluster approach in EU countries, in line with the EU's Common Policy on the Development of Regional Clusters. All EU countries are implementing the decisions of the Lisbon Summit (2000) regarding the implementation of programmes for the development of regional innovation systems based on the cluster model of production.

The subject of this study is modern management methods in agriculture, based on the creation of clusters, taking into account the priority areas for the sector's development in the southern region. The article examines methods for identifying potential clusters and their participants, assessing the effectiveness of their activities, as well as involving public authorities responsible for regional development, representatives of business, science, education and other regional and national institutions in addressing the relevant challenges. It examines innovative projects and programmes to support agricultural clusters, including those engaged in the production of organic products, which have been or are being implemented in leading countries worldwide, the European Union and Ukraine.

Results and Discussion. The increase in the competitiveness of certain regions by the leading countries of the world due to the implementation of the cluster concept is explained by the processes of globalization, the development of means of communication, and the active formation of network structures in national economies. A cluster association is considered to be a network of enterprises and organisations that are geographically interconnected by certain production relations. Such a network may include suppliers, including service providers, producers and consumers, research and education institutions, marketing and logistics companies.

It should be noted that agricultural clusters have a number of advantages compared to other forms of integration and contribute to the development of the industry through:

1) increasing the productivity of enterprises due to better access to the workforce and suppliers, specialized information, institutions and the expansion of sales markets;

2) stimulation of innovations through cooperation with scientific institutions and specialized educational institutions;

3) the possibility of implementing quick changes and sufficient flexibility, a lower price taking into account the pressure of competitors and the interests of all cluster participants;

4) minimization of risks that are distributed among cluster participants;

5) internal coordination of the actions of the cluster participants, which contributes to the efficiency of the use of external investments, the creation of enterprises thanks to a better understanding of the niche for new enterprises, the availability of the necessary raw materials, labor force. ;

6) infrastructure development in rural areas [6, p. 132; 7, p. 152].

Furthermore, among the key advantages of clusters over other corporate structures, experts note that clusters bring together enterprises that are not direct competitors but are able to supply one another with materials, resources, labour and technology to achieve high performance and objectives. These enterprises are geographically close to one another, meaning that the exchange of tangible and intangible resources does not require significant time expenditure. Such associations allow member companies to choose a specialisation and concentrate resources on a specific type of activity, which significantly reduces the overall time spent on the production cycle. As a rule, such structures find it easier to establish links with research institutes and educational establishments, which, in turn, will provide the cluster with the necessary qualified specialists [8, p. 28]. In addition, students at higher education institutions can familiarise themselves with the cluster's operations during the practical training, familiarization, production, etc.

However, along with these advantages and the improvement of the economic factors of the cluster concept, there are certain obstacles to the creation of real clusters. Among them:

- lack of awareness and awareness of business and individual branches of government about the advantages of cluster connections;

- imperfect partnership relations with local state administration bodies; weak connections between economic entities, scientific institutions and educational institutions;

- the imperfection of the legislation regarding the regulation of relations between partners, non-profit organizations, which regulates the cooperation of cluster subjects in the region.

The establishment and operation of agricultural clusters in Ukraine are seen as the foundation for the innovative development of Ukrainian agriculture, a way for the rural economy to emerge from the crisis by providing consumers with new (innovative) agricultural products, creating additional jobs, and developing infrastructure and social services in rural areas [7, p. 152].

The experience of the United States, Canada, Australia, Japan and European Union countries regarding the functioning of agricultural clusters confirms the effectiveness of a cluster strategy for the development of agriculture and rural areas. This is evidenced by the annual reports of the World Economic Forum. Among the 143 indicators, sub-indices and indices currently available across 117 countries, 13 indicators in the 'Internal Competition and Cluster Development' section characterise the state of economic clustering in each country [9].

The origin and emergence of clusters began more than fifty years ago. The criteria and prerequisites for regional development in different countries were the implementation of a policy of developing territories and their competitive economies through the creation of sustainable territorial associations.

In line with international practice, it is small and medium-sized enterprises that take the lead in establishing cluster associations. Furthermore, there are currently several models of cluster associations:

- Italian (the cluster consists of a large number of small companies that unite in various associations to increase their competitiveness);

- Japanese (at the core of the cluster is a leading company with a high volume of production, which integrates a large number of suppliers at various stages of the technological chain);

- Finnish (the cluster has a high level of internationalization of business and innovation);

- North American (competition between firms is most pronounced, most relationships are mediated by the market);

- Indo-Chinese (the main role is played by direct foreign investments, modern technologies that facilitate access to world markets);

- Soviet (market relations and competition are reduced to a minimum, production is concentrated in large companies).

Generally speaking, all the models listed can be categorised by origin: European, American and Japanese.

According to experts, the so-called Indochinese model of cluster development is the most widespread in Ukraine. This model posits that clusters develop through the involvement of large international companies via foreign direct investment, which enables the adoption of cutting-edge technologies and entry into global markets [10, p. 181; 11].

The process of economic clustering in Ukraine began in the late 1990s, and in the agricultural sector in 2008–2009. However, the formation of agri-clusters in Ukraine is hindered by a number of factors, including: the agribusiness sector's psychological reluctance to merge; low motivation among cluster participants to act collectively; the absence of a comprehensive legislative framework for clustering and mechanisms for implementing legal norms and regulations regarding regional initiatives; the inadequacy of state support and programmes for the development of cluster associations; a lack of skills and experience in effective partnership and an understanding of their necessity for the successful development of agribusiness. Domestic legislation and regulations on the principles of state agricultural policy do not provide for the regulation of agricultural clusters' activities or their support. At a time when supporting the development of clusters in the agricultural sector is a priority in the development strategies of many regions around the world [12].

It should be noted that the consolidation of enterprises and organizations into agricultural clusters will contribute to increased business activity among economic entities and help overcome the negative factors hindering the development of the Ukrainian economy. Coordinated actions and

joint efforts by government agencies, scientific and educational organizations, and agribusiness representatives are the key to success, strengthening the economy's competitiveness, and raising the standard of living for the Ukrainian population amid fierce competition in international markets. The cluster's integration ties help agricultural and processing enterprises adapt to competitive conditions, which is extremely important for the development of the agricultural sector [13, p. 108].

The economic and social development strategies of most regions in Ukraine have opted for the creation of innovation clusters. Furthermore, the mechanisms for implementing these strategies include: public-private partnerships, cooperation, clustering, the promotion of entrepreneurial activity, and inter-regional cooperation. The implementation of these strategies involves the development and implementation of annual programmes and action plans, as well as the creation of appropriate mechanisms for cluster formation [14]. For example, in the Strategy for Economic and Social Development of the Kherson Region [15], among the main tasks for the development of agro-industrial production and the enhancement of its potential and efficiency, emphasis is placed on the creation of an agro-industrial research and production cluster based at the Regional Agro-Industrial Centre.

Ukraine's agribusiness is one of the key sectors of the national economy, contributing to its gross domestic product (GDP). Over the last 10 years, prior to the full-scale military invasion of Ukraine, record harvests were recorded, and in 2020, agribusiness accounted for 9% of the country's total GDP. Therefore, state support, particularly in terms of legislation and financial decisions, will facilitate and support the activities of agricultural producers [16; 17].

The growing environmental awareness and responsibility among business representatives has spurred the adoption of environmentally friendly technologies across various sectors of the economy, particularly in agriculture. The introduction of organic farming methods and organic technologies is one of the most important aspects of the food sector's development in any country. Consequently, local authorities in a number of regions are supporting agribusiness through their own budgetary resources to encourage the development of the organic sector.

Ukraine, which is currently among the ten European countries with the most dynamic growth in the organic market, has not remained on the sidelines. Over the past few years, a number of legislative acts have been adopted that recognise organic farming and production as a priority area for the development of the national economy [18].

It should be noted that the relevant agricultural sector in Ukraine is regulated by current legislation, which is still in the process of being developed and has an imperfect regulatory framework. Furthermore, unlike in many countries around the world, where organic producers receive support, particularly financial support, through national and regional programmes [19], domestic producers are still awaiting fundamental changes in this area.

Global practice confirms high competitiveness and stable economic growth due to factors that stimulate the introduction of new technologies and improvement of the innovation environment.

The modern food market is characterized by a growing demand for organic products. This situation is explained by the increase in environmental awareness of the population. At the same time, despite the growth in both domestic and external demand and the designation of agricultural production as a priority, the market for organic produce in Ukraine is still developing rather slowly.

The current number of operators in this market segment is unable to meet consumer demand. At the same time, produce grown by private households in accordance with organic production principles does not reach consumers due to the lack of adequate infrastructure and effective mechanisms for the functioning of this market segment [20].

Leading European and global practices have shown that this problem can be solved by establishing regional agricultural clusters, including organic ones. Clusters will contribute to regional development and strengthen the position of businesses. After all, clusters are a driving force that has long been adopted in many countries as a model for regional competitiveness and its enhancement at both local and international levels.

Agricultural clusters represent one of the most promising forms of collaboration between the

state and the agribusiness sector, where specialisation and the concentration of production, the incorporation of innovative research from scientific institutions, and the establishment of closed production cycles ensure increased competitiveness and profitability of products. At the state level, stable socio-economic development of the region is achieved through the development of rural areas into modern agricultural service, agro-industrial, residential and cultural zones. The organisation of clusters and their activities will contribute to increased employment, the rational use of natural resources, the development and strengthening of scientific potential, and so on [21].

Ukraine's integration into the global economic community requires new approaches in various spheres of public life and production, particularly in the agricultural sector.

Legislation, strategies and state programmes adopted in the years leading up to the large-scale military invasion of Ukraine are based on the formation, development and regulation of the most effective and promising areas for the implementation of the country's state scientific, technical and innovation policy. Among the most promising (particularly at the regional level) areas of the state's strategic development is the cluster approach to the implementation of innovation policy.

When analysing the agricultural market in the southern region, it is important to note that, alongside cereal crops, vegetable growing plays a significant role. A distinctive feature of the vegetable market is that fresh vegetables are used as raw materials for processing plants. Furthermore, the sector has specific characteristics, including a wide range of products sold; the rapid spoilage of vegetables in the absence of proper storage conditions; limited transportability; and various technological features of vegetable cultivation, including organic farming. A prerequisite for success in this market is clear specialisation across three main sectors: consumption of fresh produce, processing, and export. This will enable better satisfaction of market needs, both domestic and international.

The development of the consumer market for vegetable products must ensure that the interests of all market participants – from producers to exporters – are met, taking into account market saturation, the capacity of processing enterprises, and the purchasing power of all sections of the population, whilst guaranteeing the quality and safety of vegetable products through the introduction of innovative technologies, including organic methods, the expansion of organic production, and the development of logistics.

In the final pre-war years in Ukraine, with production areas remaining virtually unchanged, the gross vegetable harvest increased by 50 per cent thanks to higher yields. This, together with the introduction of modern vegetable-growing technologies, contributed to improving the economic efficiency of the vegetable-growing sector through the implementation of a development strategy for vegetable-growing enterprises, which envisages the comprehensive development of sectors through the use of modern models, including clustering.

The organisation and operation of clusters for small and medium-sized businesses in the agricultural sector offer a number of advantages, including:

- reducing barriers to market entry through the standardisation of requirements within the cluster;
- achieving the benefits of organised staff training;
- efficiency in the procurement of technical equipment and IT software; gaining access to customers;
- transferring the cluster's positive reputation to its members (brand);
- the possibility of adapting regional vocational education systems (budget funding) to the needs of cluster enterprises;
- the implementation of regional innovation projects and programmes that take the cluster's interests into account.

Consequently, the development of the regional economy, alongside the growth of clustering, will help to boost employment and attract skilled professionals, whilst also fostering the development of related economic sectors and the service sector.

Regional economic development, through the creation and promotion of clusters, will encourage an increase in entrepreneurial initiatives and activity, and strengthen the joint efforts of all stakeholders: business, government representatives, academia, educators, and others. Furthermore, the activities of each party in the creation and development of clusters are complementary. Organising a cluster requires a high level of trust among participants, as well as long-term planning of the economic process. One way to develop clusters is through the implementation of regional economic and social programmes. To develop and implement such programmes, the interests of enterprises (including small and medium-sized ones), government bodies, consultancy, financial and research organisations, educational institutions and logistics companies are brought together. The application of a regional cluster approach in the agricultural sector will ensure the preservation of jobs for employees of small and medium-sized enterprises; contribute to the creation of new jobs; guarantee an increase in revenue for the local budget, etc.

Ukraine has significant potential for developing organic production on small-scale farms and meeting the domestic market's demand for organic products. One way for small-scale producers to assemble batches of uniform produce and organise regular supplies of such produce to the domestic market is to establish clusters based on agricultural service cooperatives. Furthermore, given that organic production is typically carried out by small-scale producers, it is advisable to form such clusters on a regional basis. This makes it possible to expand and strengthen ties within the selected market segment; ensure a more secure market for product sales; increase access to financial resources; expand the information base; stimulate innovation and investment processes; improve production efficiency by reducing production and marketing costs; improve the quality of labour; expand opportunities to enter domestic and foreign markets; expand opportunities to obtain more qualified consultancy services; and improve the culture of entrepreneurship.

Organic farming cooperatives share certain characteristics with organic clusters, the main ones being the pooling of producers and their production resources, as well as the establishment of sales channels for finished products. At the same time, their differences lie in the presence of a well-developed market infrastructure, processing facilities and long-term storage facilities, as well as partnerships with product buyers and suppliers of resources and other inputs. As a rule, a cluster operates in closer cooperation with local authorities, local self-government bodies and civil society organisations. This enables cluster members to participate in state and regional support programmes, as well as international grant programmes providing technical assistance for the development of such sectors.

In recent years, cooperatives providing services in the field of organic agriculture have only just begun to emerge in Ukraine. They have become widespread in some regions, particularly in the south of Ukraine. With their further development, the transition to specialised organic clusters is justified and logical.

In the years leading up to the war, the organic produce market in Ukraine was growing rapidly and showed great promise for further development and increased participation by small-scale farms. Agricultural produce in Ukraine is produced by over 50,000 agricultural enterprises, 92% of which are small-scale farms [22].

Private farms produce around 50% of agricultural produce in Ukraine, the majority of which consists of fruit and vegetables. Furthermore, 30.8% of vegetable production is carried out by farms, whilst 46.1% is produced by various small and medium-sized family farms and private smallholdings [23]. The development and functioning of the vegetable market are closely linked to rising consumer expectations regarding product quality and increasing demand for organic produce.

A key factor in strengthening the role of the vegetable sector in the global food market is the specific geographical organisation of the infrastructure of economic entities. This infrastructure determines the nature, components and directions of the formation and functioning of the vegetable market as a complex system of relationships arising between enterprises and organisations performing functions of wholesale trade, transport, storage, various types of communication, standardisation and certification, market monitoring, etc. Furthermore, this

infrastructure must serve producers, contribute to ensuring the country's food security through effective relations between participants in the agricultural market regarding production volumes, and compliance with consumer requirements regarding product quality and safety. The development of infrastructure in individual regions stimulates the additional utilisation of their production capacities.

Improvements to the framework governing relations within such an infrastructure can be achieved through the creation of agro-industrial entities, which will facilitate the integration of raw material producers and processing enterprises. The main directions of this integration process are the convergence and gradual unification of these entities, and the development of relationships between them that are linked to the technological process and objectively aimed at pooling material resources in production and product sales. It is clustering that can create the conditions for enhancing the competitiveness of domestic vegetable products.

Based on the cluster model of organic production, marketing structures can be established to provide marketing support for cluster members, taking into account the infrastructure of the vegetable market. This approach enables small agricultural enterprises to avoid rising unpredictable costs and improve the efficiency of their operations.

At the same time, clustering enables vegetable producers not only to jointly promote their products, but also to establish an effective marketing support system for each participant

The efficiency of the entire vegetable market infrastructure will be improved through its integration into regional agricultural clusters, including organic ones, by:

- jointly modernising the material and technical aspects of vegetable cultivation;
- jointly determining production volumes and product ranges, establishing a common pricing policy, jointly developing marketing channels and building the cluster's brand;
- establishing an effective marketing infrastructure.

It is important that representatives of all levels of government (national, regional, local) participate in the creation of clusters, as they have a vested interest in the development of the territories and possess sufficient levers of influence (legal, financial, administrative) over the situation in the region. Public participation is vital in the process of forming regional clusters.

Furthermore, the cluster approach involves bringing together complementary enterprises, organisations and private farms linked by geographical and functional characteristics, including small-scale producers, agricultural enterprises, processing plants, service providers (manufacturers of fertilisers, including organic fertilisers, containers and packaging materials), financial and credit institutions, insurance companies, public authorities, educational and research institutions for joint activities within the region. Such a partnership provides an opportunity to jointly promote the produce grown, thereby helping to satisfy the interests of each participant

The key features of a cluster are the direct links between its members, the effectiveness of which is based on two fundamental principles: the need to collaborate with others to establish efficient production of competitive products, and the existence of competition among partners, which encourages members to innovate. This is particularly relevant for the agricultural sector, specifically vegetable growing, as it is not among the most investment-attractive sectors and carries a number of risks.

However, the cluster model has a social dimension—it addresses the pressing challenges facing the development of rural areas. Consequently, a key strength of the cluster model lies in its systematic approach, unified management and cooperation between government bodies and the private sector, which enables the creation of a competitive agricultural sector and ensures the effective development of rural areas.

Another important factor in the development of cluster associations is the absence of interference from the government or big business in their formation. This promotes the competitiveness of economic entities operating within agri-clusters [24].

To solve the problem of the negative influence of big business and state policy on the development and functioning of domestic regional agricultural clusters, the experience of the countries of the European Union can be useful. This refers to the concept of the formation of the

European technological platform developed and implemented in the EU, based on which the creation of an organizational and communication system of scientific and practical interaction of small and medium-sized business entities with innovative structures is envisaged. An example can be a number of technological platforms created in the EU: Advanced Engineering Materials and technologies (EuMAT), Advanced Construction Technology Platform (ECTP), European Nanoelectronics Initiative, Advisory Council (ENIAC), European Space Technology Platform (ESTP), European Steel Technology Platform (ESTEP), Future Manufacturing technologies (Manufuture), Hydrogen and Fuel Cell technology Platform (HFP), Nanotechnologies for Medical Applications (Nanomedicine) (Sumets, 2021). The practical implementation of the concept of European technological platforms demonstrates a systematic approach to the development of clusters: common goals, a strategy for achieving them, joint communications.

Even before the war began, Ukraine already had some experience of participating in these initiatives. The Ukrainian National Technical Platform 'Agrotechnical Platform' was established, bringing together a number of clusters in the agribusiness sector, namely: the 'Food Technologies and Industry' cluster, the 'Agri-Food Biotechnology', the 'Agroecology' cluster, the 'Food Safety and Quality' cluster, the 'Phytosanitary' cluster, the'Veterinary Science', the 'Human Health' cluster, the 'Nanotechnology' cluster, the 'ICT' cluster, the 'Markets' cluster, the 'Socio-economic' cluster and the coordination cluster [25].

The full-scale military invasion of Ukraine and military operations in regions where the agricultural sector had been developing most dynamically prior to the war drew the international community's attention to the issue of their recovery following the victory. Consequently, the agricultural sector was included in Ukraine's recovery plan, which was presented in Lugano in 2022. In addition, up to $50 billion is planned to be allocated to the development of high value-added economic sectors, in particular agribusiness. Among the areas for the development of the agricultural sector, the plan also mentions facilitating the transition of the agri-food sector to 'green' growth.

Furthermore, farmers, as small and medium-sized enterprises, can actively participate in the national programme 'Ensuring Competitive Access to Capital', which concerns lending and other financial instruments for entrepreneurs.

Conclusions

Effective management of agricultural activities and the enhancement of the region's competitiveness are ensured through the establishment and operation of an agricultural cluster. The implementation of a cluster approach involves bringing together market participants within the region or the entire region into a cooperative structure with specific functional characteristics, the implementation of which encompasses the production of competitive vegetable products, the growth of cluster participants' financial results, the development of organic vegetable growing, the enhancement of investment attractiveness and the pace of development of logistics activities, and the development of the territory in which the cluster is located.

The operation of regional agricultural clusters, including organic ones, will help ensure that the consumer market is well-supplied with vegetable produce, particularly organic produce, meet consumer demand for high-quality and safe vegetable produce, and strengthen the region's export sector. Furthermore, the operation of the agricultural cluster will help to meet the interests-including social, economic and environmental ones—of all market participants. These include additional production capacity, job creation, expansion of the product range through organic production, guaranteed product quality and safety, improvement of the environmental situation in the region through the introduction of organic technologies, reduction of costs for organic certification, market research and logistics, promotion of products in domestic and foreign markets, and so on.

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