

# The importance of agricultural clusters for the development of rural regions

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**Abstract.** The formation of agro-industrial clusters makes it possible to increase the competitiveness of agricultural regions. Agricultural clusters allow increasing food production, as well as creating an integrated, geographically localized structure that includes the entire chain involved in the production of agricultural products, starting from the sale and maintenance of agricultural machinery and ending with the storage and processing of crops. The agro-industrial cluster allows the dissemination of innovations among the enterprises participating in this cluster. Within the framework of the agricultural cluster, favorable conditions are created for the exchange of experience and knowledge, which contributes to the creation and implementation of new technologies and ideas. Agricultural clusters can be in demand by private investors, as well as attract skilled labor from other sectors of the economy. Agricultural clusters help the development of ecosystems in agricultural regions. These ecosystems include agricultural producers, research centers, universities and food industry enterprises. Successful agricultural clusters can contribute to the development of green tourism in the region. The creation of agricultural clusters contributes to the development of regional social infrastructure, provides conditions for the sustainable development of the region, improves the standard of living of the population, which makes it possible to reduce migration flows to other regions.

## 1 Introduction

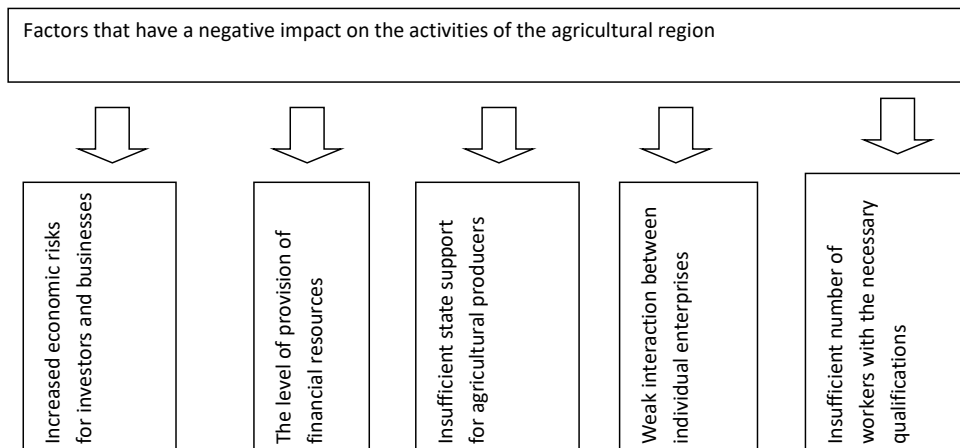
The growing need to improve the socio-economic efficiency of agriculture puts forward tasks for agricultural regions associated with the search for a competitive model that would enable the fullest possible disclosure of the potential of the region. To achieve this goal, coordinated activities of various agricultural enterprises, their suppliers and contractors, research subjects, as well as the availability of appropriate remote infrastructure are required. As a result of this

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interaction, the competitiveness of each of these subjects individually and the region as a whole increases.

According to [1], the market economy generates many problems for the effective functioning of quasi-integrated and vertically integrated structures in agriculture. The solution of which can be based on the implementation of a cluster strategy for the functioning and development of the agricultural sector of the economy.



**Fig.1.** Factors that have a negative impact on the activities of the agricultural region

According to [2], the use of cluster models of agricultural functioning has proven itself well in most countries of the world.

The authors [3] note that the formation and functioning of an agricultural cluster is a very complex process based on the combined efforts of small farmers and large agricultural holdings, which reduces their costs and increases the competitiveness of all its participants.

According to [4], a number of factors can be identified that can have a negative impact on the activities of the agricultural region (Fig.1):

To neutralize the negative impact of the above-mentioned factors, the authors [5] propose the creation of agricultural clusters that would represent a geographically localized, innovation-oriented, horizontally and vertically integrated structure with the attributes of a network organization and cooperation that affects various areas of the agro-industrial complex.

The authors [6] identify the characteristic criteria that are inherent in an agricultural cluster:

- 1) Competition for consumer preferences between cluster members based on complementarity and specialization.
- 2) Regional concentration of economic entities whose activities are related to agriculture on the basis of production links.
- 3) Cooperation of cluster members with the aim of developing and improving market infrastructure, lobbying for common interests and consolidating informal and formal rules and norms of behavior in the market.
- 4) All cluster participants have common views on the prospects for its development.

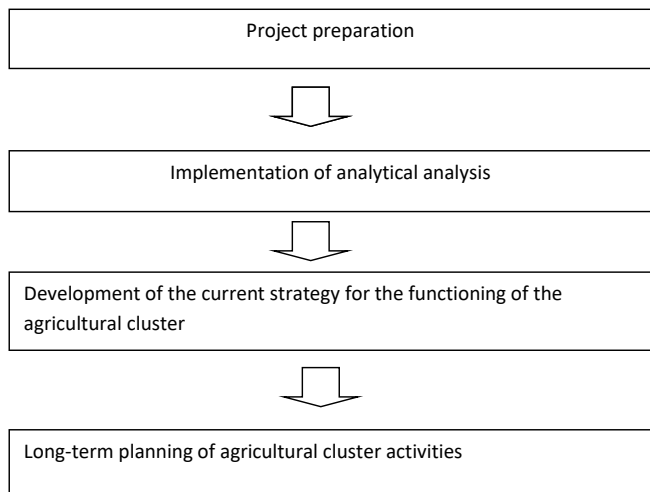
The authors [7] note the characteristic features of the management of agricultural clusters at the enterprise level, macro level and regional level. Thus, at the macro level, issues of state support for agricultural producers are being resolved, the principles of the state agrarian strategy are being formed, state programs for the development of transport and social

infrastructure in rural areas are being implemented. At the regional level, the same issues are being considered, but taking into account the specific features of a particular region

According to [8] the participants of the agricultural cluster can be:

- 1) Large agricultural producers.
- 2) Small farms.
- 3) Food industry enterprises.
- 4) Manufacturers of agricultural machinery.
- 5) Financial and banking institutions.
- 6) Consulting and audit firms.
- 7) Educational and research institutions.

According to [9], the process of forming an agricultural cluster can be divided into the following stages (Fig. 2):



**Fig. 2.** The main stages of the formation of an agricultural cluster

According to [10], in order to create an ecological cluster, it is necessary:

- 1) Creation of an information system for information interaction between cluster members
- 2) The interest of the local population in the creation of an agricultural cluster is required.
- 3) The presence of research centers focused on the implementation of scientific research focused on increasing the productivity of farm animals and increasing crop yields.
- 4) Ensuring access to financial resources, including venture financing, for the participants of the agricultural cluster.
- 5) Providing agricultural enterprises with highly qualified labor resources.
- 6) State support for small agricultural producers.
- 7) Ensuring equal competitive conditions for all participants of the agricultural cluster.

According to [11], clusters are more susceptible to various innovations, this is facilitated by the mutual dissemination of information and new ideas between cluster members. The cluster structure creates prerequisites for the coordination of financial flows and efforts aimed at supporting innovation.

According to [12], agricultural clusters can have a beneficial effect not only on the participants of this cluster, but also on the economy of the region and the state as a whole.

According to [13], in the case of the implementation of cluster policy in agricultural regions, prerequisites for:

- 1) The growth of the tax base.
- 2) Strengthening of market competition in the agricultural market.
- 3) Development of medium and small businesses in rural areas.
- 4) The emergence of additional opportunities for the development of social infrastructure in rural areas.
- 5) Increasing the volume of the regional gross product by increasing labor productivity and the synergetic effect of the functioning of the agricultural cluster.
- 6) Increasing the entrepreneurial activity of the population in rural areas and increasing the innovative potential of the region.

Despite the numerous benefits for rural regions from the creation of agricultural clusters, according to [14], a number of disadvantages can be identified:

- 1) Within the cluster, there may be an imbalance of powers, responsibilities and rights among individual cluster members.
- 2) It is difficult to fix the interests of clusters as independent subjects of market relations.
- 3) The interests of different cluster members may be multidirectional.
- 4) The interests of small farms within the cluster may not always be respected.
- 5) Increased competition within the cluster not only for material, but also for labor resources.
- 6) The ability to easily copy innovations by competitors.
- 7) Increased risk of bankruptcy of small farms associated with the possible intensification of competition.

## 2 Methods

In the process of writing this scientific study, the authors applied an analytical method, which gave us the opportunity to study the problems studied in the article in their unity and development.

Taking into account the goals and objectives of the research, we used a structurally functional method of scientific cognition.

As a result, the authors were able to consider a number of problems related to the increasing role of clusters for the development of rural regions.

## 3 Results

The use of cluster strategy in the agricultural sector of the economy makes it possible to consolidate the interests of the state and business entities for the development of agricultural regions. At the same time, attention should be paid to the fact that the cluster approach does not interfere with other forms of cooperation of economic entities. Agriculture is systematically moving from a small-scale form of production to the formation of large agricultural holdings. It is at large agricultural enterprises that there are more opportunities to use innovative technologies that can reduce production costs and thus make food more accessible to consumers. In turn, farms can successfully compete in the production of environmentally friendly food.

Thus, the formation of agricultural clusters will contribute to the distribution of market niches between agricultural enterprises.

The modern economy is at the stage of creating regional and interregional alliances, among which the creation of regional and sectoral clusters has become the most widespread.

Innovation orientation is the most important specific feature of agricultural clusters. Therefore, the creation of agricultural clusters is advisable in those areas in which it is possible to achieve technological breakthroughs with the subsequent expansion of agricultural production.

The use of cluster policy makes it possible to concentrate state support not on specific enterprises, but on an agglomerate of enterprises, which also includes entities from related sectors of the economy.

Although the creation of clusters can accelerate the process of withdrawal of weak players from the agricultural market, at the same time it will strengthen the rivalry between economic entities, and, consequently, consumers of agricultural products will ultimately benefit.

In our opinion, the state authorities should pay more attention to the issues of antimonopoly regulation within the framework of agricultural clusters. This will ensure adequate protection of the interests of small and medium-sized agricultural producers.

Agricultural clusters create prerequisites for the joint use of specialists, resources and infrastructure by its participants. This will help to increase competitiveness and reduce production costs for all participants.

## 4 Discussion

The creation of agro-industrial clusters makes it possible to increase the competitiveness of agricultural regions. This makes it possible to increase food production, as well as to create an integrated geographically localized structure that includes the entire chain involved in the production of agricultural products, starting from the sale and maintenance of agricultural machinery and ending with the storage and processing of crops.

The agro-industrial cluster contributes to the spread of innovations among the enterprises participating in this cluster. Within the cluster, favorable conditions are created for the exchange of experience and knowledge, which facilitates the creation and implementation of new technologies and ideas.

Agricultural clusters can be in demand by private investors, and also attract skilled labor from other sectors of the economy.

Agricultural clusters can contribute to the development of ecosystems in agricultural regions that include agricultural producers, food industry enterprises, and research centers.

Successful agricultural clusters can contribute to the development of green tourism in the region.

## 5 Conclusions

The creation of agricultural clusters contributes to the development of regional social infrastructure, provides conditions for the sustainable development of the region, increases the standard of living of the population, which in turn contributes to the reduction of migration flows to other regions.

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