

Functioning of the Agro-Industrial Cluster in Terms of Development of Innovative-Investment Activity

¹Kundius Valentina Aleksandrovna, ²Kovaleva Irina Valerievna,

³Semina Larisa Anatolyevna, ⁴Voronkova Olga Yuryevna,

³Sannikova Inna Nikolaevna and ³Bobrovska Tatyana Valentinovna

¹Department of Agricultural Industry Complex Economics,

Research Institute of Economics and Innovative Development of Agricultural Industry,

²Department of Merchandizing and Marketing,

³Department of Economic Safety, Analysis and Audit,

⁴Department of Management, Altai State University, Barnaul, Russia

Abstract: In conditions of transformation of Russia's economy, since the beginning of reforms, agricultural organizations have appeared without the traditional State support, State regulation of prices for resources monopoly suppliers. The result of this economy was the inability to exercise reproductive processes. As a result, there has been a decrease in the quality of agriculture agri-food products which endpoint loses its competitive position. In turn, larger organizations processing agribusiness experience instability or failure of raw material base, losing competitiveness in the food market. Feeling a lack of qualitative raw material, they are contemplating the creation of integrated units in the form of clusters in order to combine the production of raw materials and finished products, to explore possibilities of investing in production processes. When you create such formations, a number of fundamental approaches and directions of agro-industrial cooperation and integration.

Key words: Investments, cluster, problems, prospects, innovation, principles

INTRODUCTION

Economic reforms and Russia's desire to integrate at a decent level into the global market economy presupposes the growth of investment and innovation activity in all spheres of the economy including agriculture, its enterprises and industries on the effective development of which depends the food security of the country. Investment and innovative development of agriculture is a deep active process in which the task efficient consumption of financial resources, attracting additional sources of financing, search of potential investors is correlated with the generation of new knowledge and ideas, technological development of new scientific discoveries, inventions and developments; innovation, selection of the best contemporary forms of organization and production management (Vaganova *et al.*, 2016). For organizations currently agriculture system with its specificity, manifested in direct dependence on climatic conditions, seasonality.

The process and characteristics of particular relevance are the issues sources of investment, use of investment resources to revitalize the innovation activity in the agricultural organizations that will contribute to the restoration of the reproduction process in agriculture. The solution of these problems is possible if the necessary conformity of investment innovation, interaction of investment and innovation processes in agriculture. Such an approach entails a mandatory consideration of investment and innovation as a unified system, the successful development and operation of which depends on the level of economic recovery and stabilization of agriculture and agribusiness in general. One of the new areas agro industrial formations are agro-industrial clusters.

MATERIALS AND METHODS

The abstract-logical, calculation, constructive and monographic research methods were used.

Corresponding Author: Kundius Valentina Aleksandrovna, Department of Agricultural Industry Complex Economics, Institute of Economics and Innovative Development of Agricultural Industry, Altai State University, Barnaul, Russia

Analysis results: Russian food security through the effective development of domestic production should be based and organically agreed with ensuring equivalence of exchange between agriculture and industry while maintaining the required level of profitability of the agricultural organizations of all patterns of ownership. Lack of effective levers of State for investment management as well as the low level of market infrastructure of agriculture leads to irregular functioning of its industries and the catastrophic consequences of functional activity of Chief Executives-Agricultural Organizations. To ensure the sustainable development of agriculture requires an effective organizational-economic mechanism based on a combination of state regulation and market self-regulation, balanced pricing, financial and credit policy, the intensification of investment-innovative activity. In case of insufficiency of financial resources there is a need to find additional sources of funding.

In this connection, the particular relevance of the problems of the formation, development and raise the level of investment activity of agriculture which in turn presupposes the improvement and development of agro-industrial clusters in terms of investment and innovation activity. The creation of large agribusiness groups allows:

- To unite into a single system of production, processing and sales of products in district and regional levels
- To facilitate the process of harmonization of interests and interaction among partners in the chain
- Create a structure forming the basis of the economic management of agro-industrial manufacture
- Stabilizing economic relations by facilitating payments between organizations-needed that reduces non-payment, improve the financial situation of partners (Semina, 2012; Semina and Sandu, 2015)

Empower sales market an integrated formation, so as to separate fragmented organizations burdensome costs on marketing research, search for suppliers of logistical resources, raw materials, etc.:

- To protect the interests of the parties to the merger before other market actors
- Organize mutual lending within the framework of the economic groups, to establish links between the participants on the supply of different types of products and services
- Enhance the economic impact of the participants on the development of commodity associations zones of agricultural production and processing
- Engage in the sphere of production activity significant labor resources

In domestic economic literature taken to distinguish 3 types of clusters, each of which stresses a priority for its functioning (Kovalyova, 2008): regional (territorial) group within the same or related sectors of industry (industrial clusters), often tied to academic schools (research institutes, universities); vertical production chain: narrow specific sectors where adjacent stages in the production process form the core of the cluster (for example, “supplier-assembler marketer-consumer”) in this category organization, emerging around the parent companies.

Organize a large scale defined on any (main) branch (agro-industrial cluster, the chemicals cluster). In Western economic literature clusters are structured in four groups (Kovaleva and Kovalev, 2016; Kundius, 2013a; Lubnina *et al.*, 2016); concentrated on a limited territory of the competing companies, producing a differentiated product and having a special marketing strategy abroad (European Model); set of geographically-focused companies, related economic relations on the principle of the territorial specialization (North American Model).

Vertically integrated specialized area, established in the framework of the national economic policy (Asian Model). Set of small organizations and firms, focused around the organization-monopolist, specializing in the production of semi-finished goods by order of the head of the organization and of competing on price and quality for the right supplies (Japanese Model).

The first and the second model as impulse development implies in the cluster competition; the third-leading and guiding role of the State; the fourth competition within the originally specified vector development organization. It seems possible to identify agro-industrial cluster as the territorial combination of entities associated supply activities to improve the competitiveness of products and intensifying investment activity.

The purpose of creation of the agro-food industry cluster subdivision may be the marketing aspect: retention of market share, free market niches on the adjacent territory with a competitor, etc. In the composition of the agro-industrial cluster must be transport organizations, manufacturers of agricultural machinery, agricultural and processing organization.

Unlike conventional forms of cooperation and integration, cluster systems are characterized by the following features:

- The presence of a large organization-leader defining long-term economic, investment and other whole cluster strategy; territorial localization of mainstream economic entities-cluster members
- Economicities-participants of the cluster system

- The long-term coordination of cluster members within the production programs, innovative processes, quality control, etc.

Porter distinguishes three main symptom cluster:

- Territorial specialization
- Competition
- Cooperation

In our view, the idea of clustering is to establish and maintain a competitive Wednesday. Combination of competition, cooperation and integration to geographically limited specialized territories are the main characteristics of the cluster. Sikhan (2003) identifies the following types of clusters:

- Geography, building spatial clusters of economic activity (from the rural territory to the segment of the world market)
- Horizontal, several industries (sub-complex) are included in the larger cluster (agro-industrial cluster)
- Vertical, clusters can attend related stages of the production process
- Lateral, different sectors are combined in a cluster that can provide cost savings through economies of scale
- Technology, set of industries, using the same technology
- Focus, cluster organizations centered around one center (organizations, research institutes, academic institutions)

An important feature of the cluster is its innovative directivity. Clusters use two types of strategies that complement each other, strategies for improving the use of knowledge and experience on existing clusters; strategy, aimed at establishing new cooperative networks within the cluster. The centre of the cluster can be several organizations remain competitive relationship between them. This cluster is different from cartel or financial group. Concentration of rivals, buyers and sellers increase effective specialization of production (Kundius, 2013b).

When you do this, the cluster employs a multitude of smaller organizations, small businesses in agriculture (farming) unification in the cluster. Based on vertical integration forms not spontaneous concentration of the various scientific and technological inventions and a system of advance knowledge and technology. When you do this, a fundamental condition for the effective transformation of inventions in innovation and

innovations into competitive advantages is the creation of a network of sustainable relationships between all members of the cluster (Kovalyova, 2008).

For NICs production and technological unity, agricultural and processing organizations must be coordinated, that the feasibility of mixed co-operation and agro industrial integration. Instrumental use of agro-industrial clusters, possibly in the basic directions: inter-farm cooperation; territorial cooperation: regional and interdict the levels; interregional cooperation district association may join the corporation at the zonal level, combining multiple processing organizations. However, in order to reconcile the interests of participants re regional sectoral sub-complex, seeking out the necessity of establishing agro-industrial units contributing to vertical integration, combining agricultural production in processing, sales, logistics and service agro-serves.

The development of these areas due to objective economic pro activity relating on the one hand with social division of labor and its specialization, science and technology, natural-economic on the other hand, the need for interaction between specialized governmental sectors and types of agricultural and industrial production.

Agrarian organization come into this movement in an effort to reduce the risk associated with the production, its dependence on climatic conditions, the market for agricultural products, the dictates of processing organizations, the need to improve the competitiveness of production. Processing and service organizations are also seeking to secure a stable incomes thanks to the reliable raw materials base, better use of raw materials, improve the quality of its products, its cheaper and the conquest of markets.

The choice of a particular form of integration depends on the productive and economic situation in the region, State agencies, the food market, combining forms of capital and their participation in the management of the parent company's duties sake but regardless of the form for all AG industrial units is that they combine the entire production process, from agricultural producers to the consumer of finished products.

Participants of the system provide a promotion of a product as its own industries corporation for the whole chain: PHI generating production processing implementation funding. As shown by domestic and Foreign practice for the establishment and effective functioning of the participants of the agro-industrial integration, the following principles, voluntariness partner selection and economic expediency, that allows to optimize the composition of the integrated forces, integration of bottom, i.e., merging economic entities driven without pressure from governance structures,

influence of the State on the integration process only by creating economic conditions to ensure its effectiveness or through the involvement of a public authority as an equal partner associations, organizational integrity integrated structures with common strategies, tactics, goals and objectives of development (Kundius, 2013a, b), integrated formation; equal economic conditions for all participants integrated formations as when they are created and functioning; association not only organizational-economic structures but also, under certain conditions, their capital, collective property management, increase in joint activities of interest and responsibility of each partner; involvement of agro-industrial integration capital trading, ensuring investment in agrarian sphere (Kovalyova, 2008; Semina, 2012).

The process of formation of the agro-industrial cluster is diverse and complex and consists of several rounds, regardless of the type of economic mechanism. During the first phase of the main directions of development of industrial and scientific-technical activity, technical and technological re-equipment of organizations, scientific and research activities. In the second phase of program produced for the long, medium and short term, indicating the direction of diversification of production, research and development program is being developed. In the third stage of the marketing strategy is being developed, the projected market demand for product.

The fourth stage is determined by the amount of funds and sources for the implementation of the development program and program to attract investment. The fifth stage is determined by the effect of cooperation for each participant a vertically integrated structure. Establishment of vertically integrated structures should be done in the case when the economic effect for each party is higher than without the Association or by integrating the region's infrastructure or social program is carried out without prejudice to the parties forming (Kundius, 2013a; Vaganova *et al.*, 2016).

The specifics of functioning of innovation clusters that enable you to create new technologies, carry out in-depth technological modernization and innovative development of the industry on the basis of their own or borrowed technologies as well as to train personnel for work in a new industrially-technological formation, characterized by the presence of three organizational associated component: the existence of fundamental practical-oriented science, innovative industry, developing education.

To reflect the dynamics of changes of the socio-economic system, clusters are generated, replenished, sloughs but may also shrink, eventually

downsize, disband. Such activity and adaptability of clusters is one of their advantages as compared to other forms of economic organization system. The process of creating a cluster is the exchange of information regarding requirements, equipment and technologies between sectors-buyers, suppliers and related industries (Semina, 2012; Vladyka *et al.*, 2016).

To assess competitiveness cluster formation it is necessary to permit a quantitative and qualitative analysis. Quantitative analysis of the competitiveness cluster formation must be complemented by qualitative, involving an assessment of: availability of natural, material, labor, infrastructure, etc., factors of production; the presence and degree of activity associated with the activity of the research cluster organizations; availability and quality related to the activities of cluster institutions professional education, the presence and degree of activity related to the activities of the cluster of non-profit institutions, interest and assist public institutions included in cluster of enterprises, labor and capital mobility within the cluster; the homogeneity of the major buyers of IP, etc. (Lubnina *et al.*, 2016). Our view, important is an introduction to the design of innovative cluster infrastructure money capital, vital functions which are: Organization and maintenance of money turnover, combining the necessary cash resources for specific areas and in the areas of activities of the organizations participating in the innovation cluster.

Participating institutions of money capital in cluster formations gives you the ability to achieve strategic benefits of improved mobility, development and implementation of the technological capabilities of the entire group. Distinct innovation cluster from other forms of economic units is that the cluster organization fail to complete the merge and form a liaison mechanism which gives them the opportunity not to lose the status of a legal person and to cooperate with forming a cluster of other organizations and beyond.

It should be stressed that the innovation cluster is a subsystem of the investment compound that is active, growing part of the socio-economic system. Changes in the innovation system are stimulated by changes in market requirements and are aimed mainly at their most complete satisfaction. Degree of innovation cluster implies quality or quantitative characteristic, reflecting: the degree to which in the cluster centers increased scientific knowledge centers, intensification of business ideas, training highly qualified specialists; share issue of innovation and high-tech products in the total production; the characteristics of the markets for the sale of this product.

It should be stressed that the innovation cluster represents investment complex subsystem is active developing part of the socio-economic system. Changes in the innovation system are stimulated by changes in market requirements and are aimed mainly at their most complete satisfaction.

RESULTS AND DISCUSSION

The cluster approach has several advantages: a significant stimulation of development of regional economy: improvement of the trade balance in the region, increased employment, growth of contributions to the budget, etc., combining basic innovations at a certain period of time and in a specific economic area and the establishment of the system on this basis the transfer of new knowledge and technologies, validity sources of technological knowledge and relationships, forcing distribution of total product innovation across the network relationships in general, regional and economic space, improvement of product quality (Galina *et al.*, 2016).

When this innovation cluster functions successfully if you have three main components: the leading companies producing competitive products sold on the domestic and external markets; the developed network of service providers capable of providing high quality services to all residents of the innovation cluster; favorable business climate (internal and external competitive organizations wednesday clustered formation) which includes high quality labor resources, the ability to access investment flows, the absence of administrative barriers, high levels of infrastructure development in the innovation cluster developed research capacity, etc. (Fig. 1).

In our view the cluster promotes investment and innovation activity on the territory of the region requires some integrated structure, organizational form which may be non-commercial partnership. In the conditions of the Altai region, regional nonprofit partnership will have a structure that includes stakeholders (investors, brokers, customers and consultants), public authorities, investment and innovative institutions, financial institutions, information and consulting services.

Along with the legal regulation of investment activity, the proposed integrated structure will operate in are as such as the development of investment and innovation projects for agriculture, their dissemination and exploitation in the production process, provision of services relating to insurance and lending, expansion of leasing activity, training, the provision of auditing services, etc. (Fig. 2).

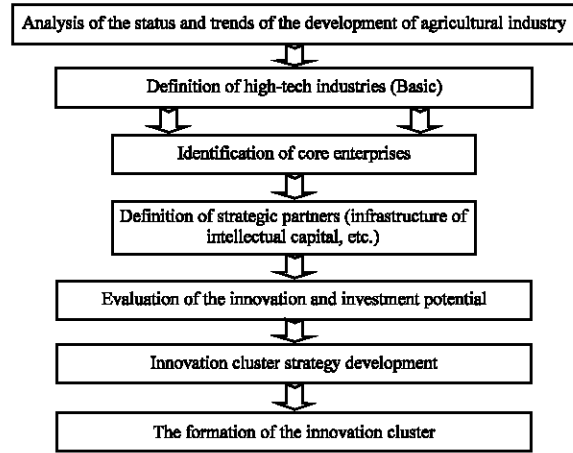


Fig. 1: The formation of innovative clusters conceptual schema of agriculture (Gabdrakhmanov *et al.*, 2016; Semina and Sandhu, 2013)

An important part of the work on the integrated formations is to optimize the composition and volume of production relations, i.e., establishing a nomenclature of commodities and products of its processing as well as the directions of their threads. In agro-industrial formations economic relations are based mainly on two models.

Relations are carried out in stages of the technological process from producer to processor. Justified price for products or first implemented the advance in the amount of 50-60% and then the final calculation by means of direct distribution of revenues.

Economic relations between the parties of an integrated formation based on distribution of cash proceeds from the sale of the final product for norms, calculated on the basis of certain indicators (cost, resource, etc.). Partner’s interest in closer cooperation shall be achieved in integrated units in the distribution of the combined product in accordance with their real costs.

This form of integration in some cases may be the most mutually acceptable for both agricultural and processing organizations to ensure stabilization, further development of production and can develop in the following areas.

The establishment of agrarian firms through agricultural organizations to financially-sustainable organizations. While agriculture organization were consolidated or creates new agro formation, when one of the participants of the integration is not agriculture Organization, the establishment of agrarian firms merging entities, the establishment of integrated agrarian firms by uniting capital (Sikhan, 2003).

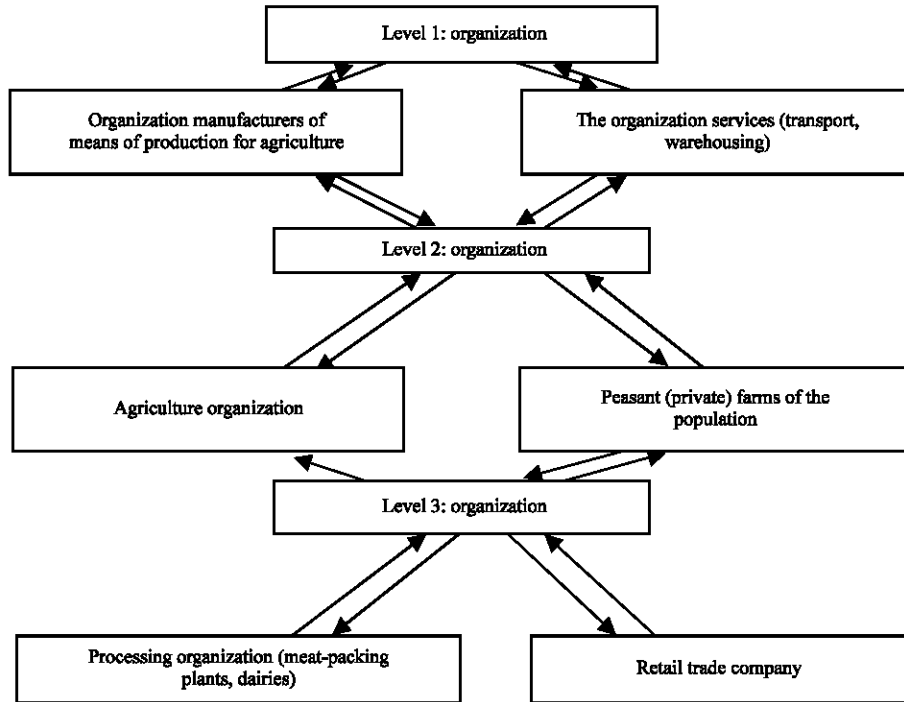


Fig. 2: Schematic of the agro-industrial cluster in the region (Kovalyova, 2008)

CONCLUSION

Agro-industrial cluster is treated as a process of mergers of different spheres of activity in a single process from raw material production to sales of finished products to include all stages of production, the result of which should be to obtain synergies. Synergy effect (optional) is formed by adding together the efforts of all the participating organizations as well as mediated effect which can only be measured indirectly. Resulting in integrated settings synergistic relationship joint action independent of the elements of the system provides increased their overall effect to a value greater than the sum of the effects of those same elements operating independently. The creation of large agribusiness groups allows to: merged into a unified system of production, processing and sales of products in district and regional levels, to facilitate the process of harmonization of interests and interaction among partners in the chain, create a structure forming the basis of the economic management of agro-industrial manufacture.

Stabilizing economic relations by facilitating payments between organizations-needed that reduces non-payment, improve the financial situation of the partners; enhance the ability of forming market products integrated formation, so as to separate fragmented organizations burdensome costs on marketing research, search for suppliers of logistical resources, raw materials,

etc. to protect the interests of the parties to the merger before other market actors.

Organize mutual lending within the framework of the economic groups, to establish links between the participants on the supply of different types of products and services; enhance the economic impact of the participants on the development of commodity associations zones of agricultural production and processing; involve the scope of the production activity of significant labor resources.

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