

AGROINDUSTRIAL INTERGRATION AS WAY TO IMPROVE EFFICIENCY OF REGIONAL AGROINDUSTRIAL COMPLEX MANAGEMENT

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Abstract – The article studies the issues of regional agroindustrial integration in the context of a single network structure formation, which brings together the sectors of supply, production and sales, industrial, trade, marketing, research, consulting and other organizations directly involved in the process of production of competitive agricultural product, and bringing it to the consumer. This research is considered as a new additional way to improve the efficiency of management of the agroindustrial complex of the region and to ensure its competitiveness and sustainable development.

Keywords – *agroindustrial integration; agribusiness; management of regional agribusiness*

I. INTRODUCTION

An agroindustrial complex plays a key role in the economic development of a country. The state and economic efficiency of agroindustrial complex functioning has a significant impact on the level of food security of the state and market saturation with food products. The regional agroindustrial complex is a strategically important sector of economy, which is fundamental in ensuring food security of a particular region.

The development of agroindustrial integration is one of the mainstreams of stabilization and improvement of agricultural production. Integration in the economy means the interaction between closely interrelated industries. In recent years, the integration processes have been increasingly considered as a promising course for developing agriculture not only at the regional level but also at the federal one. This is primarily due to the fact that the development of integration processes in the agricultural sector allows one to mitigate the problems, associated with the lack of proper state regulation of agricultural production. Another reason would be the disparity of prices for the resources needed for the production of agricultural products, as well as the price of its implementation. Besides, the development of integration

processes in the agricultural sector makes it possible to improve the efficiency of limited resources application. These factors create conditions for reducing costs and increasing profits. The resource potential and stable relationship with partners, which according to international experience are easily achieved only within the framework of integrated structures, guarantee the sustainable and stable agroindustrial complex functioning under the market conditions.

In this regard, the study of regularities and mechanisms of creation and functioning of agroindustrial groups with production and justification of proposals for the improvement of their structure, organization, activities and management becomes very important in the current period.

The primary goal of this article is to study the peculiarities of integrated units functioning in the system of the regional agroindustrial complex and development of a network model based on a combination of vertical and horizontal integration of the agricultural sectors, which will improve the efficiency, competitiveness and innovation of specific agricultural enterprises and the regional agroindustrial complex or its major part.

II. LITERATURE REVIEW

Western scholars pay great attention to the development of the agroindustrial complex and to the issues of its management, focusing specifically on the regional development as well as on the potential of the region and its social and economic aspects [1-3]. Much attention is paid to the investigation of the innovative component in the agribusiness of regions [4-5]. It should be noted that in Western countries the competitiveness and efficiency of agricultural production, market positions increasingly depend on the results of labor division, vertical and horizontal integration of production. Some Western economists determine the efficiency of agricultural production not by the size of agricultural enterprises but the quality of entrepreneurship and management, introduction of economic

mechanisms to stimulate and to increase the interest of producers in high performance [6].

Currently one of the primary directions of effective development of the agrarian sector is the development of integration processes in agriculture, the use of cooperative integrated relationships throughout the chain of production – processing – agricultural product marketing [7]. The researchers point out that the agribusiness sector consists of interrelated sub-sectors working together to provide goods and services to consumers worldwide. In connection with the need to consider economic, social and environmental problems of the company, managers share many challenges in this sector that exist in other business value chains [8]. It may be noted that agricultural producers join the integrated structures not only to achieve equal economic factors with partners to produce a final product, but primarily, to ensure overcoming their financial inadequacy, high accounts payable, depreciation of fixed assets, shortage of floating capital and technological backwardness. Integrated planning can significantly improve the competitiveness of the whole chain and benefit all its agents no matter what is produced; therefore, integration studies of individual industries are often carried out. Integrated production planning mechanisms can improve the coordination of agro-industrial production systems [9-10]. Foreign researchers analyze the alternative forms of agriculture, paying particular attention to the role of vertically integrated agribusiness [11]. The studies of Western researchers reveal the mechanism of decision-making and identify the tools ensuring the integration of all types of capital, including natural and social ones to facilitate long-term productivity of the farm. Modeling is one of the ways of integrating this “expanded” notion of capital [12].

Studies show that there is no unified approach to the formation of integrated structures in the agroindustrial complex of Russian regions. The choice of organizational forms of agricultural integration depends on the economic status of business objects, the competition level and pricing features on the agricultural market in a particular region, the nature of the adopted agricultural policy and the state regulation of food market [13-15]. Domestic authors study the issues of integration development and cooperation of the agroindustrial complex of Russian regions [16-17], the opportunities and risks of Russia’s integration into the world economy [18-20]. Studies have showed that the integration processes in Russia played an important role in addressing the issue of food market saturation with competitive domestic goods and gradual displacement of imported goods.

III. METHODS

Integration is not a new economic phenomenon in both domestic and foreign agriculture practice. Its formation and development have been always supported by the state

concerned in food security of the country. This article is based on theoretical and methodological research of the leading experts in the field of agroindustrial complex management as well as on integrated approach to the forms of agroindustrial complex, which make it possible to provide competitiveness and innovation of the enterprises of this complex. In the course of study the authors used general scientific and empirical methods, applied the abstract-logical methods, systematic approach, which allowed the authors to reveal the network structure of agroindustrial complex based on vertical and horizontal integration of agroindustrial sectors. In contrast to foreign practices, when the development of integration processes took place under conditions of social stability and economic growth, the development of integrated agro-industrial groups in the regions of the Russian Federation is currently carried out under conditions of structural changes in the economy and transformation of the economic structure. Imperfection of the tax system, disparity, general disbalance of economy and systemic crisis, including in the agro-industrial complex is inherent for the transition period. Thus, foreign experience, forms and main fields of integration into modern domestic practice is excluded due to incompatibility of institutional conditions and driving forces of the integration process. There is also the need for grounding new methodological approach to the development of integrated structures and its effective corporate management under the current economic conditions.

IV. RESULTS AND DISCUSSION

Development of the agroindustrial complex under current conditions supposes to establish close industrial and economic relationships between farm and industrial enterprises. Integration processes in the agrarian sector of Russia are necessary and economically feasible.

Agroindustrial integration is a process which implies entity integration into a single technological complex based on the rapprochement of interests and strengthening of the economic ties between companies ensuring profit maximization applying the advantages of material and financial resources concentration and aimed at improving competitiveness, finding new sales markets of food, agricultural products and raw materials, as well as productivity enhancement.

In the authors’ opinion, the agroindustrial complex model should be a network structure based on the combination of vertical and horizontal integration of agroindustrial complex sectors, infrastructure facilities and supporting sectors, interacting and reinforcing each other in the process of development of agricultural product and bring it to the consumer. The regional agroindustrial complex model is shown in Fig. 1.

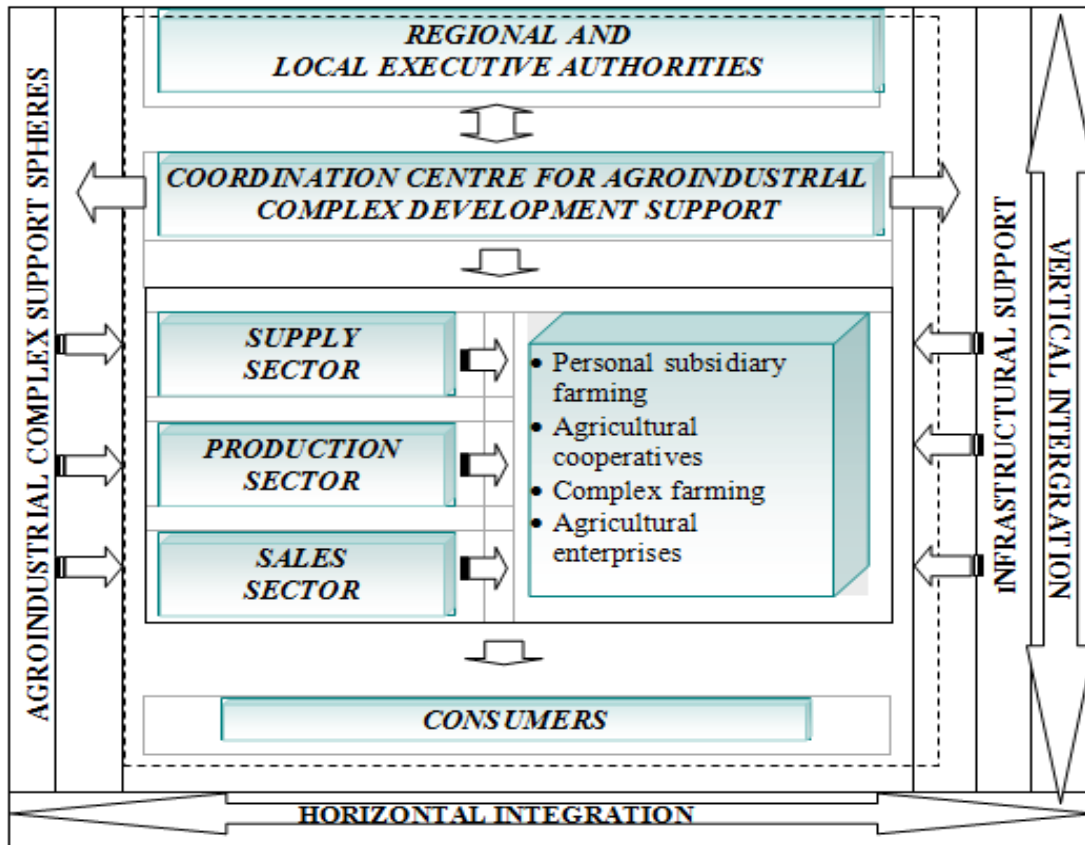


Fig. 1. Regional agroindustrial complex model

The fundamental principles of this model formation are as follows:

- the principle of support and assistance of regional and local executive authorities;
- the principle of selecting a leading link represented by the Coordination Centre for Agroindustrial Complex Development Support;
- the principle of the structure integrity;
- the principle of economic interest of each enterprise party;
- the principle of compliance with the provisions of the Russian Federation Legislation by the enterprises parties.

When developing an optimal structure of the regional agroindustrial complex, it is necessary to take into account the influence of external factors, such as climate, legal, economic, social and others.

The agroindustrial complex management system should implement the following objectives:

- ensure food security of the region;
- meet the food needs of the population of the region;

- improve the living conditions of population in rural areas;
- increase the volumes of agricultural products sales in the region;
- develop civilized rural entrepreneurship, etc.

It will be impossible to achieve these goals without state support that coordinates the social and economic orientation of the agroindustrial complex management system for the purpose of its effective functioning.

Regional and Local Executive Authorities are shown in Fig. 2.

The task of the regional government is to govern, coordinate and control over the activities of executive state authorities. The Ministry of Agriculture is responsible for the development of unified state policy, as well as legal regulation and control in the agricultural sector at the regional level. The primary direction of municipal agroindustrial complex bodies is to implement a unified state policy in the agroindustrial complex aimed at comprehensive social and economic development of a particular area and a region as a whole. Functional bodies perform specialized functions common to all spheres of control.

The integration process is defined as a set of various activities that combine the efforts of separated and independently functioning companies and associations focused

on the development of unified, coherent, production, service, management or another marketing system to ensure the efficient use of all productive capacity and to achieve higher production and economic outcomes. [16]

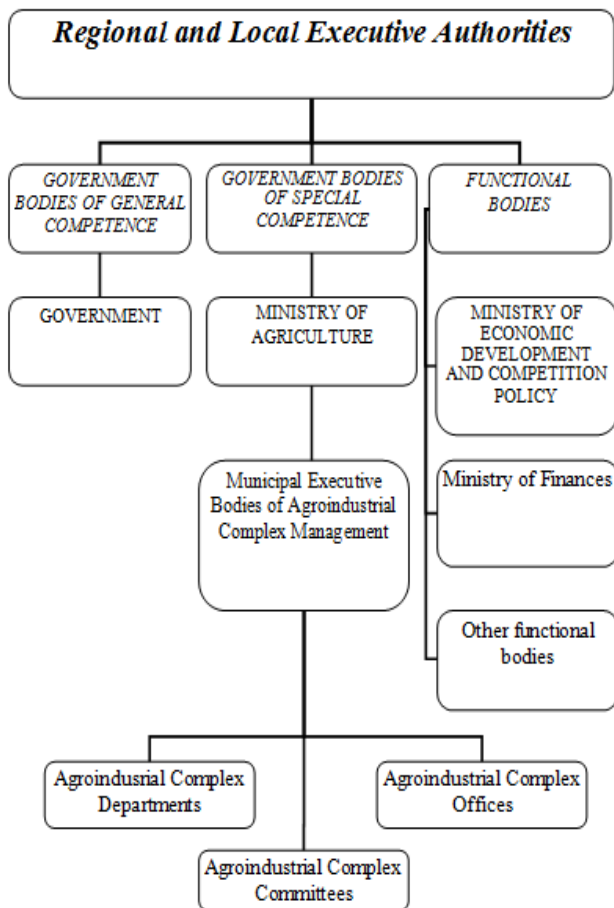


Fig. 2. Regional and Local Executive Authorities

The problem of agroindustrial integration is being topical for a long period; however, the concept of agroindustrial integration is still ambiguously understood by different scholars.

In the authors' opinion, the agroindustrial integration is a social and economic process of a unified network structure formation, which brings together the sectors of supply, production and sales, industrial, trade, marketing, research, information and other companies directly involved in the production process of competitive agricultural product and its delivery to the consumer.

For the sustainable agroindustrial complex functioning, it is important to develop vertical and horizontal integration.

Horizontal integration is an association of independent companies specializing in particular activity or producing similar products.

The feature of vertical integration is the presence of existing or potential productive and economic chain, i.e. a supply sector, a production sector and a sales sector.

The main features of horizontal and vertical integrated structures are shown in Table 1.

Table 1. Main features of integrated structures

No	Horizontal Integration	Vertical Integration
1.	One or number of enterprises engaged in certain activity that produce one kind goods or use similar technologies	One or number of enterprises engaged in technological production process of the main commodity output
2.	High level of product and production diversification	Unavailability of product and production diversification
3.	Decentralized supply system and final output of products	Centralized supplies system and final output of products
4.	Availability of supporting spheres and infrastructure	Availability of supporting spheres and infrastructure

In order to increase the efficiency of agroindustrial complex functioning and development in a particular area within the regional economy, the agroindustrial complex model, as it was noted previously, must be a network structure based on the combination of vertical and horizontal integration of the supply, production and sales sectors (Fig. 3.).

The sales sector manages the supply chains, provides all kinds of resources to agribusiness companies engaged in the production sector.

The production sector is engaged directly in agricultural production.

The objectives of the sales sector include the implementation of economic interest of the product producer on the basis of satisfaction of solvent demand of consumers, organization of efficient distribution channels and promotion of products.

According to the proposed model, in order to coordinate the work of the network structure members, it is expected to establish a coordination centre for agroindustrial complex development support, which would include business leaders and representatives of the regional authorities.

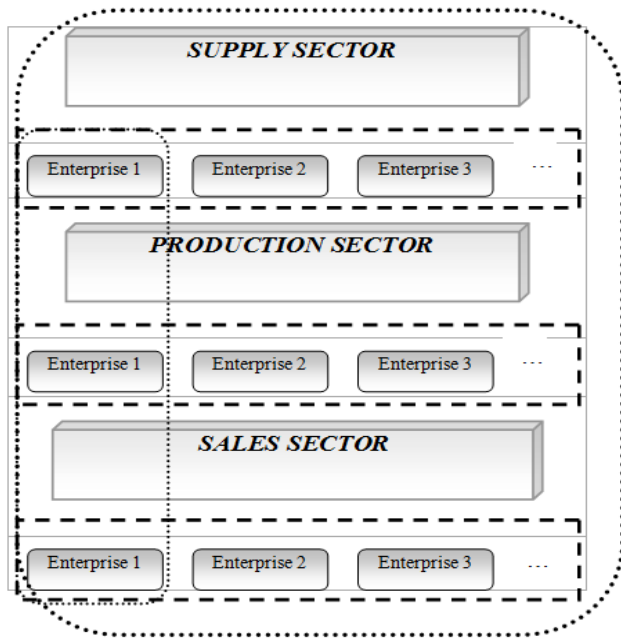


Fig. 3. Combination of vertical and horizontal integrations

— horizontal integration
 — vertical integration

The main objectives of the centre will be as follows:

- to integrate and link together separate sectors of agroindustrial complex; establish fruitful cooperation between them;
- to strengthen cooperation between infrastructure facilities and agroindustrial complex supporting spheres;
- to actively contribute to the enhancement and the effectiveness of state support of supply, production and sales sectors.

Within the framework of financial, material, information, innovation and other resources agroindustrial complex development support provides coordination, analytical, regulatory and supervisory functions.

Agroindustrial complex infrastructure support is a set of service, subsidiary or intermediary structural units which ensure efficient functioning and development of agroindustrial complex.

Agroindustrial complex infrastructure support includes the following areas:

Legal infrastructure:

- legal counseling centres;
- attorneys;
- notaries, etc.

Financial, credit and insurance infrastructure:

- investment funds;

- credit institutions;
- leasing companies;
- insurance companies, etc.;

Staff training infrastructure:

- educational institutions of elementary, secondary and higher professional education;
- institutions of advanced training;
- employment agencies, etc.

Research and development infrastructure:

- research institutions of agriculture;
- experimental station of livestock and crop production;
- agricultural experiment station, etc.

Business services infrastructure:

- consulting companies;
- audit companies;
- certification companies, etc.

Technical infrastructure:

- electricity, gas, water, heating;
- transport facilities;
- roads, etc.

Agroindustrial complex support spheres are the ones providing conditions for the effective agroindustrial complex functioning. They are industry (compound feed, chemical, microbiological, etc.), veterinary medicine, mechanical engineering (tractor, agricultural, etc.), telecommunication, transportation and others.

Each sector involved in the production and sales of products is expected to receive the state support. Coordination centre for agroindustrial complex development support is responsible for control over the budget allocations. It will allow optimising the activity of agricultural enterprises through the adoption of effective managerial decisions to ensure that budgetary funds are used rationally not only at the regional but also at the federal level.

Successful agroindustrial integration functioning in Russia and its regions is constrained by the imperfection of the economic mechanism, violation of the principles of integration, lack of state support; therefore, it requires development and operation of corporate structures.

Integrated agricultural production represents such price structure when each integration stage contains total costs excluding the profitability assumed by the parties in case of non-integrated production. Integrated production allows one to

reduce costs in the amount of profits which would be imposed on the cost of raw materials by the producer.

Thus, today the agroindustrial complex development involves the development of strong industrial and economic relationship between rural and industrial enterprises. Integration processes in the agrarian sector of Russian regions are necessary and economically feasible.

V. CONCLUSION

The results of the study make it possible to assert that in the current conditions of the agroindustrial complex functioning, when its most important components are multibranch structures with intertwining interests, the development of integration processes as a combination of measures for combining the efforts of independently functioning enterprises and organizations are aimed at development of a single integrated system, ensuring optimal use of the entire production capacity to achieve maximum performance of the participants of the integration processes and a competitive position in the market.

The proposed network structure based on a combination of vertical and horizontal integration of the sectors of agriculture, infrastructure. And supporting agriculture can be regarded as a new and additional method of increasing the efficiency of management of the agroindustrial complex of the region, the formation of the landmarks of its development.

The proposed network structure based on a combination of vertical and horizontal integration of the agroindustrial complex sectors, infrastructure facilities and supporting spheres of agriculture can be regarded as a new and additional way to improve the efficiency of agroindustrial complex management of the region, as well as the formation of the guidelines for its further development.

The outcomes of these studies can be applied in the development of a unified agricultural policy in the framework of new territorial communities, implementation of integration processes and strategies for organizational structure optimization and modernization of agroindustrial complex management.

Implementation of proposals suggested by the authors will improve the efficiency of the regional agroindustrial complex operation, increase food production, strengthen food security of the region, and predetermine conditions for expanded reproduction in agriculture and related industries. Thus, further studies are of scientific interest and can be aimed at improving the agroindustrial complex management of the regions.

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