Organizational-Economic Mechanism of the Development of the Agro-Industrial Complex in Modern Conditions

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Abstract

The main purpose of this study is to substantiate the theoretical and methodological foundations of the organizational and economic mechanism of development of the agro-industrial complex in modern conditions. Organizational and economic mechanism is presented as a complex organizational structure of the system type, which is aimed at performing specific functions, the characteristic feature of which is the constant support of process changes without which the organizational and economic mechanism can not exist. There are four components of the agro-industrial complex, represented by agriculture and the national economy, which ensure its operation, including industry, processing of agricultural products, its storage and transportation, sale and repair and maintenance of agricultural machinery and more. It is proved that the organizational and economic mechanism of development of agro-industrial complex in modern conditions it is expedient to consider: from the point of view of system and process approaches; as a set of economic levers and organizational measures to influence the agro-industrial complex; constituent components of organizational influence on the development of the complex; a set of components, elements that are integrated into the system of economic relations of the subjects of the agro-industrial complex; a set of purposeful stimulators of agro-industrial complex development. The functions of the organizational component of the mechanism of agro-industrial complex include: redistributive, planning, interaction, control, integration and regulatory functions, the functions of the economic component include consumer, investment and innovation, social, incentive, monitoring functions of the mechanism. The symbiosis of the functions of organizational and economic components ensure the effectiveness of the organizational and economic mechanism of the organizational and economic mechanism through its functionalities as a whole.

Key words:

organizational and economic mechanism, agro-industrial complex, mechanism, mechanism functions, system approach, process approach.

1. Introduction

The current challenges of the world economy determine the relevance of the study of agricultural issues

and related areas of production. This is due to the constantly growing demand for agricultural products and the constant changes in demand from agricultural consumers. The development of agriculture alone is not enough to meet the needs of the population, the problems of interconnection of areas related to agriculture are relevant. Apart from the spheres of agriculture, the agroindustrial complex includes many other spheres of the national economy. In order to establish close cooperation, it is necessary to use tools that would allow to simultaneously influence the spheres of the national economy related to agriculture. Such tools are the organizational and economic mechanism of development of the agro-industrial complex in modern conditions.

In general, the concept of "organizational and economic mechanism" today is very common in economics, despite the fact that the very concept of "mechanism" is more inherent in technology and applied sciences. The essence of the concept of "mechanism" is revealed as a set of tangent interconnected elements that allow a physical object to move in space. Due to the concept of "mechanism" in economics and practice, we can describe the interaction of many heterogeneous processes in different fields, which are elements of the mechanism and lead to the resulting effect in space and time.

Despite the widespread use of the concept of "organizational and economic mechanism" in relation to economic processes of research organizational and economic mechanism of agro-industrial complex is insufficiently substantiated and requires in-depth research, which determines the relevance of scientific research in this area.

The aim of the study is to substantiate the theoretical and methodological foundations of the organizational and economic mechanism of development of the agroindustrial complex in modern conditions. To achieve this goal, the following tasks were set and achieved:

- the spheres of the national economy that are part of the agro-industrial complex are clarified;
- the expediency of application of the system and process approach concerning research of the

organizational and economic mechanism of development of an agro-industrial complex in modern conditions is proved;

- the levers of regulatory influence of the organizational and economic mechanism of development of the agro-industrial complex are singled out;
- the functions of organizational and economic components of the mechanism of development of agroindustrial complex are substantiated.

2. Literature review

Scientific works of domestic and foreign scientists are devoted to the development of agro-industrial clusters taking into account modern innovation challenges and digital technologies, namely: Arefieva O. (2021) [1]; Butko M. (2019) [2]; Samiilenko G. (2020) [3]; Iegorov B. (2021) [4]; Ivanova N. (2016) [5]; Kokieva G.E. (2021) [6]; Krasnokutskiy P. (2021) [7]; Melnychenko A. (2022) [81]; Mironov A.V. (2021) [9]; Nurmanbetova A. (2021) [10]; Omarov Z. (2021) [11]; Osadchaya N. (2021) [12]; Palatkin I. (2019) [13]; Pohrebniak A. (2021) [14]; Popelo O. (2021) [15]; Reshetnikova N. (2022) [16]; Sergeenko Yu.S. (2021) [17]; Shevchuk N. (2021) [18]; Shvydenko N. (2021) [19]; Stadnyk V. (2021) [20]; Tulchynska S. (2021) [21]; Voronkova O.Y. (2020) [22]; Vovk O. (2021) [23]; Zhevora S.V. (2021) [24] and others.

The aim of the research [16] is to analyze the introduction of digital technologies in the agro-industrial complex in order to form world-class scientific and educational centers in the context of global development. According to the results of the study, the authors concluded that the COVID-19 pandemic accelerated the formation of a new market for high-tech food products and encouraged investment in promising areas of agricultural development in the context of macroeconomic change.

The research [12] is based on the analysis of trends in the development of agro-industrial complex, substantiation of organizational and economic recommendations aimed at stimulating agricultural production and increasing the competitiveness of this sector of the economy. Researchers have investigated that public authorities are successfully implementing tools to stimulate agricultural production, including: preferential tax treatment, subsidies for lending to agricultural enterprises from the state budget, the development of leasing and more. The study analyzes the effectiveness of the mechanism of state support, which is provided by the use of substantiated organizational and economic tools.

Within the framework of the research [4], the authors developed a methodological approach to the substantiation of the system of indicators for assessing the regional development of the agro-industrial complex. Scientists have proposed a methodological basis for establishing a

system of evaluation indicators. The system of assessment of the agro-industrial complex developed by scientists provides definition of the branches producing means of production for agriculture, and other branches providing services to agriculture; agriculture; industries of processing and canning of agricultural products; production and social infrastructure.

The study [6] analyzed the relationship between participating farms and established inter-farm enterprises and associations. The authors consider the relations of cooperative farms, which are aimed at creating and strengthening common interests in the development of inter-farm enterprises or associations.

Scientists [7] study the development of the agroindustrial complex, taking into account foreign trade, production and consumer aspects. Using comparative analysis, scientists have calculated the coefficients of differentiation and characterized the degree of differences in the development of agro-industrial complex in the conditions of sanctions pressure. The analysis concluded that the positive impact of sanctions, which for most regions is reflected in a real reduction in dependence on agricultural imports through consistent implementation of import substitution strategies, as well as their negative effects on consumption.

The aim of the article [19] is to study the problem of sustainable development of the concept of regional agroindustrial complex (APC). The authors developed management decisions of strategic and tactical nature of selection tools for sustainable agricultural development. Scientists have proposed a formal presentation of the main characteristics of the sustainability of agriculture, which contributes to a comprehensive analysis of its condition to justify a specific structural model of sustainable development strategy of agriculture.

The authors of the study [17] argue that the agroindustrial complex should respond in a timely manner to identified and analyzed factors and develop measures to ensure the transition to sustainable development, taking into account the environment, social consumption and crop yields.

The article of scientists [20] analyzes the motivational factors of structural changes in the agro-industrial sector. The authors identified shortcomings in the legislative field of Ukraine, which hinders the motivational impact on the development of agriculture and causes the spread of corruption schemes in the decisions and actions of economic entities.

The article [10] analyzes the competitiveness management of the agro-industrial complex with the use of factors that influence the development and development of recommendations for its further improvement. The authors argue that managing the competitiveness of the agro-industrial complex in Kazakhstan is an urgent problem for

farmers and insurers, due to the fact that agriculture is in a zone of constant natural and economic risks.

The purpose of the article [22] is to study the formation and implementation of regional target programs for the development of agro-industrial complex (AIC). The authors assess the impact of targeted programs on sustainable development of rural areas of the region. Scholars assessed the effectiveness of program activities and the feasibility of regional target programs for sustainable rural development.

3. Methodology

The methodological basis of the study is a systematic and procedural approach to the organizational and economic mechanism of development of the agroindustrial complex in modern conditions. First of all, it is due to the fact that the distinguishing feature of the concept of "mechanism" is that in the technical sciences in the study of the mechanism using a resource approach. For the economy, when considering the mechanism, the focus is on process and system approaches, while the resource approach is secondary. Thus, from the point of view of the system approach, the mechanism is a set of certain links, components, economic means, forms and methods that as a certain way (device) activate the system and allows to obtain the desired process, phenomenon. The process approach emphasizes the set of certain forms, algorithms, tools, methods of interaction that allow to implement the economic process through a sequence of certain actions, defined goals and directions of processes. Thus, the system and process approaches do not contradict and complement each other. Organizational and economic mechanism is presented as a complex organizational structure of the system type, which is aimed at performing specific functions, the characteristic feature of which is the constant support of process changes without which the organizational and economic mechanism can not exist.

4. Results

The agro-industrial complex includes the spheres of production engaged in the manufacture of means of production for agriculture and service, related industries (Fig. 1). Such groups include mechanical engineering in the direction of production of agricultural machinery, as well as elevator and food engineering, production of chemical industry, namely mineral fertilizers and chemical plant and animal protection products, feed and more. This group of the agro-industrial complex is quite diversified, but its efficiency depends on yields, speed and quality of delivery of agricultural products to processing enterprises and consumers.

The second group of the agro-industrial complex includes direct agricultural production, which includes two major links, livestock and crop production. Livestock includes cattle, pigs, sheep, poultry and more. Livestock is related to crop production because it provides crop production with fertilizers. Crop production includes grain growing, beet growing, vegetable growing, potato growing, viticulture, etc. It cannot be said that in the modern technological world, agriculture has become a secondary role in the process of social reproduction, because there is no alternative to replacing agricultural products to meet the needs of mankind for food. Agriculture is a supplier of raw materials for the food and processing industries. Agriculture has specific features of development, which is due to many factors, including climatic conditions, soil fertility and more. But the effective functioning of agriculture is possible only with the interaction with other areas belonging to the agro-industrial complex.

The third group included in the agro-industrial complex includes the areas of traffic jams and preservation of agricultural products. This area includes sugar processing, baking, flour milling, feed, vegetable canning, wine, alcohol, milk processing, meat processing and many other areas of the national economy. Their activities directly depend on the results and efficiency of the agricultural sector.

The fourth group, which stands out in the agroindustrial complex is the social and production infrastructure, which is a complex of areas of production that serve agriculture. In general, the infrastructure is very diversified and includes financial, innovation, environmental and other types of infrastructure. The infrastructure provides conditions for the production, processing and consumption of agricultural products. This group includes trade in food products, catering, maintenance and repair of agricultural machinery, warehousing and procurement, logistics and road transport, etc.

The separation of the structure of the agro-industrial complex necessitates the use of a single lever to establish cooperation between all spheres of activity. Such tools are the organizational and economic mechanism of development of the agro-industrial complex in modern conditions.It should be noted that the organizational and economic mechanism certainly has its own specifics of the object of study, namely the agro-industrial complex. The agro-industrial complex unites enterprises of agriculture, processing industry, machine building, etc. However, there are some unifying specifics associated with agricultural products. The organizational and economic mechanism should serve as a mechanism for intensifying investment and innovation activities of business structures of the complex to increase the efficiency of their interaction and competitiveness in both domestic and foreign markets.

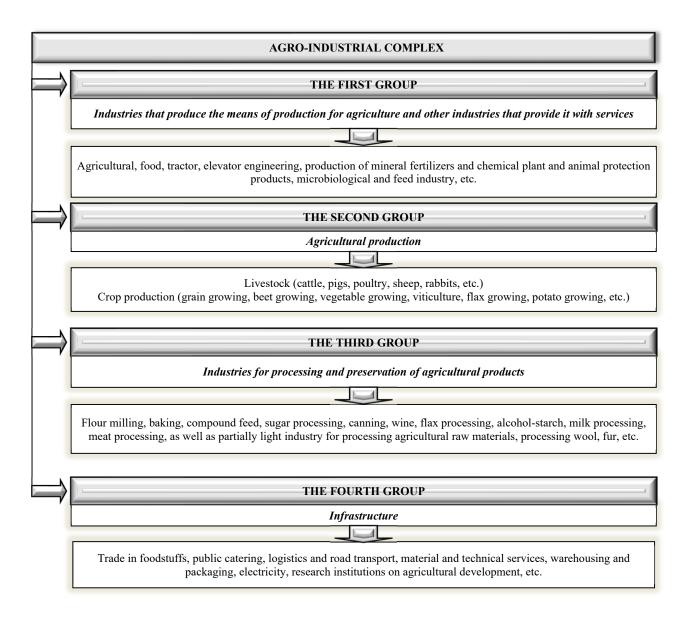


Fig. 1 Fig. 1. The structure of the agro-industrial complex in modern conditions $\,$

Source: built by the authors.

Also, the organizational and economic mechanism acts as an organizing mechanism to ensure the density of relationships integrated into the system in the agroindustrial complex, which operates through levers, norms, rules governing land relations, agricultural management system and more.

Among the levers of regulatory influence of the organizational and economic mechanism of development of the agro-industrial complex should be noted (Fig. 2):

- formation and regulation of agricultural market infrastructure:
- rationing and establishing rules of land use and land relations in general;

- measures to stimulate and support the development of rural areas, rural entrepreneurship, agricultural service cooperatives;
- stimulating the development of the agricultural sector through agricultural loans and state support of the agro-industrial complex as a whole;
- increasing the efficiency of the logistics system of the agricultural sector;
- insurance of agricultural enterprises and the agrosphere market in general;
- targeted financing of agro-industrial production and related areas:

- customs, tariff regulation as a stimulant of agroindustrial production;

- formation of the agricultural securities market, etc.

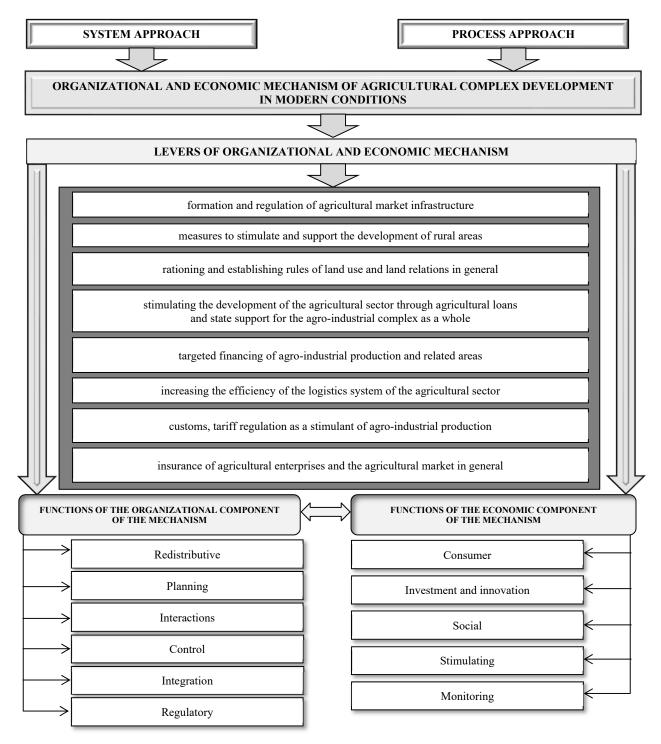


Fig. 2 Organizational and economic mechanism of development of agro-industrial complex in modern conditions Source: built by the authors.

Organizational and economic mechanism of development of agro-industrial complex in modern conditions is a set of interconnected and interacting elements of organizational and economic nature as a holistic system, which intensifies the development of the national economy and its regions.

This mechanism operates at different levels, as at the macro level is the formation of normative and regulatory leverage to create rules and conditions for the development of agro-industrial complex and direct its development to achieve strategic goals. The meso-level plays an important role because in determining the goals of the organizational and economic mechanism of development of the agroindustrial complex it is necessary to take into account regional features, opportunities and specific needs of their development. The micro level is due to the fact that the processes that take place in the organizational and economic mechanism of development of the agroindustrial complex directly affect a large number of entities that are members, which include subsidiary farms, farmers' associations, small and medium businesses and large enterprises of various spheres of economic activity that are part of the agro-industrial complex. And the effectiveness of the organizational and economic mechanism and the development of the agro-industrial complex depend on the coherence and direction of such entities.

The organizational and economic mechanism of development of the agro-industrial complex in modern conditions operates through functions. Functions are a well-established way of interacting, in which purposeful changes in some processes lead to changes in others through direct and indirect connections between them.

The functions of the organizational and economic mechanism of development of the agro-industrial complex can be divided into functions of organizational and economic nature in relation to the development of the agro-industrial complex. The functions of the organizational component of the mechanism of development of the agro-industrial complex include:

- redistributive, which consists in the redistribution of resources between the spheres of the agro-industrial complex, in order to intensify the functioning and development of the complex, which allows more efficient and rational use of resources and attract existing capacity;
- planning, which involves the identification of strategic goals and development of plans to achieve them, taking into account the potential opportunities and areas of their involvement to enhance the development of agroindustrial complex;
- interaction, which involves the coordination of the subjects of the agro-industrial complex in the direction of achieving strategic goals of economic development, such as access to world markets, increasing competitiveness, etc.;

- control, the implementation of which is carried out on the basis of constant monitoring and processing of information on the attraction of resources, their use and redistribution, the direction of improving the efficiency of the whole complex, etc.;
- integration, provides for the establishment of interaction and direction of efforts of diverse entities in the direction of the vector of development of the agroindustrial complex, including between state and regional authorities, local governments and business entities;
- regulating, at the expense of administrative levers, which provides information on regulatory and legal changes in the development of agro-industrial complex, setting standards and implementing measures to comply with the level of economic and environmental safety of the agro-industrial complex.

Redistributive, planning, interaction, controlling, integration and regulatory functions are the functional components of the organizational and economic mechanism of development of the agro-industrial complex. The functions of the economic component should include such functions as:

- consumer, which provides for the development of the agro-industrial complex in the direction of meeting the needs of the population in food and the needs of economic entities in agricultural raw materials;
- investment and innovation, which is to provide favorable conditions for attracting investment resources in the agro-industrial complex and the direction of innovative renewal, introduction of innovative technologies and innovative direction of all subjects of the agro-industrial complex;
- social, involves improving the image and prestige of agriculture, ensuring the social orientation of the development of agro-industrial complex, improving the living standards of workers employed in agriculture, leveling disparities in social security of various spheres of agro-industrial complex;
- stimulating, aimed at intensifying and improving the efficiency of the agro-industrial complex, providing incentives for the development of agro-industrial complex.
- monitoring, is to assess the actual results and actions of resources, potential opportunities and their use and forecasting the development of the agro-industrial complex in modern conditions.

The set of functions of organizational and economic components are the functions of the organizational and economic mechanism of development of the agroindustrial complex.

4. Conclusions

There are four components of the agro-industrial complex, represented by agriculture and the national

economy, which ensure its operation, including industry, processing of agricultural products, its storage and transportation, sale and repair and maintenance of agricultural machinery and more.

The scientific novelty of the study is to substantiate the functional and economic mechanism of agro-industrial complex development in modern conditions, based on systemic and process approaches, identifies areas of agro-industrial complex, substantiation of the essence of organizational and economic mechanism and its levers of influence on mechanism functions.

As a result of the study it can be noted that the organizational and economic mechanism of development of the agro-industrial complex in modern conditions should be considered:

- in terms of system and process approaches;
- as a set of economic levers and organizational measures to influence the agro-industrial complex;
- components of organizational influence on the development of the complex;
- a set of components, elements that are integrated into the system of economic relations of the agro-industrial complex;
- a set of purposeful stimulators of agro-industrial complex development.

The functions of the organizational component of the mechanism of agro-industrial complex include: redistributive, planning, interaction, control, integration and regulatory functions, the functions of the economic component include consumer, investment and innovation, social, incentive, monitoring functions of the mechanism. The symbiosis of the functions of organizational and economic components ensure the effectiveness of the organizational and economic mechanism of the organizational and economic mechanism through its functionalities as a whole.

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