Formation of measures for the development of the agro-industrial complex in the context of the transition to sustainable development

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Abstract. The sustainable functioning of agro-industrial facilities is influenced by many factors, among which the study examined the natural ecological environment, climatic conditions, crisis and epidemiological situations, the employment market and other factors of the internal and external environment. The agro-industrial complex should respond to the identified and analyzed factors in a timely manner and form measures to ensure the transition to sustainable development in the context of ecology, public consumption and preservation of crop yields in agriculture.

1. Introduction
The agro-industrial complex is a special purpose object, the actions of which are aimed at providing high-quality food products to the population of each state. To increase productivity in the context of the transition to sustainable development in the agro-industrial direction, it is necessary to direct efforts to maintain the volume of the crop, improve its quality, introduce new directions for modernizing work, save specialists (jobs) in this industry for humanity, regardless of the influencing reasons.

This is possible with competent, rational and technical management of the agro-industrial complex. Therefore, "For effective management of the agro-industrial complex of municipalities, it is necessary to use high-quality management models" [1].

The purpose of the article is to formulate measures for the development of the agro-industrial complex in the context of the transition to sustainable development.

2. Materials and methods
Labor is free in the basic laws of the countries of the world [2], therefore, in narrowly focused industries (agro-industrial complexes, energy complexes), as a rule, highly qualified specialists work, who give their knowledge and experience to their work. This is only possible with proper management.

According to scientists "Management of the agro-industrial complex is considered in the context of the uncertainty of the functioning of agriculture, the impact of negative processes on the structure and functions of national regulatory bodies, requiring further study and deepening of research on theoretical issues of controlled socio-economic development of agriculture, the development of universal theoretical principles for the formation of management systems the agrarian sector in the..."
conditions of the leadership of the federal governing body with a clear vertical coordination "federal center - regions - municipalities" [3].

Prominent scientists of the countries of the world are studying the direction of development of agro-industrial complexes, considering such issues as the innovative development of the agricultural sector [4]; functioning of the system of the agro-industrial complex of the municipality [1]; strategic directions for the development of the regional agro-industrial complex [5]; development of a system of state support for the agro-industrial complex of Russia [6]; improvement of national agricultural policy [7]; development of the grain sector of the agro-industrial complex of the Russian Federation [8]; digital transformation of agriculture [9]; technologies and tools of the Industry 4.0 concept [10].

Because of the study, the authors of the article concluded that it is necessary to develop proposals for effective administration of the agro-industrial complex, as well as recommendations and the concept of "work of the agro-industrial complex in the context of the transition to sustainable development."

To write the study, the following methods were used: generalization, structural analysis and empirical data (using examples of research and study from different countries).

3. Results
"The work of the agro-industrial complex in the context of the transition to sustainable development" is one of the most important state, stable directions that provide high-quality products to the population of countries, but also exports that states can provide and supply to other states, due to the impossibility of producing these products on their territory. For a long time, we have seen how emergencies (catastrophes, epidemics, etc.) or other reasons arose in different parts of our planet, because of which the harvest decreased.

According to the Food and Agriculture Organization of the United Nations (FAO) forecast, “global feed grain production in 2020 will amount to 1.472 million tons, down 6.8 million tons from the previous month. This revision is mainly driven by declines in species. on the corn harvest in the United States of America (USA), where it may still reach the third highest level in history, as well as in Ukraine " (figure 1) [11].

![Figure 1. The volume of supply and consumption of cereals.](image-url)
The data shown in the diagram is a confirmation that the supply and consumption of grain crops is increasing, and, therefore, we must quickly respond to the existing negative trends in the agro-industrial complex. Currently, such factors are:

- Natural ecological environment (water pollution, amount of waste, electricity consumption, use of fertilizers) that affects the quality and purity of the harvest (ecologists are concerned about this, developing regulations to improve the environment in the country). To eliminate damage to the land and obtain clean products, ecologists, the state, specialists and owners of the agro-industrial sector monitor and observe and take action to protect the soil;
- Climatic conditions affecting the harvesting volume (hurricanes, floods, drought, and other weather events that worsen the finished product). The climate of each country on planet Earth is differentiated, therefore, it is necessary to provide for possible impacts and losses in advance, thereby preventing crop loss as much as possible;
- Crisis and epidemiological situations, as a rule, affect the economic component of the agro-industrial complex, as a result of which a decrease in profits in the agricultural sector. Epidemics, epizootics faced by humanity are reflected in the agricultural industry, but a systemically developed protection, both for specialists working and for complexes that interact with energy, environmental, medical industries will result in a minimum loss of yield;
- Population employment market. In the agro-industrial area, as a result of the above factors, there may be risks of redundancies of highly qualified specialists, which directly affects the complex operation of agricultural facilities. Undoubtedly, the preservation of jobs for specialists in agro-industrial complexes is a priority. By preventing the above factors, we will keep experienced professionals in the workplace, who in turn will transfer knowledge and experience to young workers.

In accordance with the data provided in the statistical collection of 2019 "Agriculture in Russia" section 1.14. The structure of production of the main types of agricultural products by categories of farms (as a percentage of the volume of production in farms of all categories) the following figures are given for agricultural organizations (figure 2) [12].

![Figure 2. Grain data (weight after revision) by agricultural organizations.](image-url)

Analyzing the figures presented by the Federal State Statistics Service, the authors of the article came to a unanimous opinion about the need to solve the problem to counter negative factors.
As a result of fluctuations in the yield of the harvest, there is an impact on the work of agro-industrial complexes, entails a decrease in the profitable part of the enterprise. Therefore, it is necessary to create in each state digitalized information centers at the state level (Ministry of Agriculture) to track the collection volumes online, i.e. data should be reported weekly. In the event that there is a decrease in the yield, then assistance is provided at the federal level:

- Financial (allocation of federal funds for the development of the agricultural complex);
- Visit of experts to the object (experts of the information center assess the real damage and draw up the first measures to correct the situation);
- Drawing up a plan and forecasting the harvest for the next year, taking into account the miscalculations and inaccuracies of the current year.

This will help support and help in the future to achieve an increase in the number of fees, and will also save manufacturing jobs.

4. Discussion
To preserve and maintain a stable harvest, it is necessary to fulfill the criteria proposed by the authors of the study. But for the successful implementation of this, it is necessary to combine the investment of additional funds, the assistance of the state, and the involvement of qualified experts in the agricultural sector. Such management of the agro-industrial complex in the context of the transition to sustainable development will lead to a stable harvest and the preservation of the workforce. The transition to sustainable development of the agro-industrial complex, in our opinion, is possible with constant communication and assistance of these objects between themselves (not only within the state, but also international exchange of experience), increasing state policy in the agricultural sector, creating a digitalized state structure under the sectoral state authority, investing in the training of specialists, given the increased requirements for employees working at agro-industrial facilities.

5. Conclusion
As a result of the study, the authors proposed recommendations aimed at achieving a policy to restore the harvest in agriculture, preserve jobs in production. Scientists have formed measures for the development of the agro-industrial complex in the context of the transition to sustainable development, depending on factors (natural ecological environment, climatic conditions, crisis and epidemiological situations, the employment market): financial; on-site visit of experts; drawing up a plan and forecasting the harvest for the next year. Thus, the tasks of predicting and preventing crop losses, increasing the number of harvests, preventing damage to the land and obtaining clean products, preserving jobs will be solved.

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