Cyclic-genetic approach to the formation of theories of sustainable balanced development of agricultural production

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Abstract. In modern conditions of the industrialization of the world community, the issues of the formation of a balanced innovative development of agricultural territories are actualized, on which not only the standard of living of the rural population, food security of the country, but also national security in general depend largely. In these conditions, the issues of forming an integrated mechanism for managing this process based on the results of innovation and self-organization tools are especially acutely discussed. However, in world, scientific practice there is still no common opinion on a single interpretation of the concept of "balance", most judgments are based on the identification of the term with the concept of "sustainable development". The paper presents the results of identifying the main stages of development of regional systems in world practice, highlights the features of the formation of theories of balanced development, the main representatives of the scientific community on the research problem. An attempt is made to distinguish between the concepts of "sustainable" and "balanced" development, it is shown that its lexical meaning "sustainable development" can be achieved only if a number of conditions are met, including the obvious fact of the need to achieve a balance of the studied conditions, phenomena in regional agricultural systems. An overview of the specific characteristics of the categorical side of the term "balance" is given. The results obtained expand the theoretical basis for the scientific understanding of the development of agricultural areas and will allow forming their own opinion about the theories of balanced development of agricultural systems. The material can be of scientific interest for the formation of scientific judgments about the functioning of effective agricultural production.

1. Introduction

In the current trend of global production development, more and more attention is paid to the concept of compatible and continuous development of the economy of territories, the environment and society, which cannot be achieved without the introduction of innovations.

A sufficient number of works by foreign and domestic authors-researchers are devoted to the issues of ensuring the balanced development of economic systems. Many theorists and practitioners unequivocally conclude that achieving balance is a necessary condition for the effective development of any economic system. The formation of ideas in this scientific area is closely related to the development of economic relations, combined with production, distribution, exchange and consumption.
The epistemological basis of balanced development is the economic theory, the founders of which in this direction were such scientists as Abalkina L. I. [1], Belokh N. V. [2], Belkina V. D. [3], Bautin V. M. [4], Hegel G.V. [5], Gershun A.M. [6] and other.

2. Materials and methods
To analyze the existing problem, the methods of unity of logical and historical approaches to research, factorial and structural-functional analysis, systemic, target-oriented, institutional, evolutionary approaches to the study of the patterns of formation and development of production and economic systems were used.

The evolution of the formation of theoretical views on the problem of ensuring the balance of economic systems will change in accordance with the functioning of various scientific schools and the phases of economic growth (table 1).

During the Renaissance, scientific ideas appear for the first time, characterizing the economy as a system that strives for an optimal and balanced state. Plato in his writings substantiated the theory of the harmonious development of the spiritual and physical qualities of the individual.

Within the framework of economic theory, the opinion of the mathematician Neumann seems to be interesting, who introduced the concept of "balance", which is understood as a long stage of development with the achievement of maximum economic growth along a certain development path.

Representatives of the modern scientific school associate the theory of balanced development with the concept of balance, harmony, proportionality. Tebekin A.V. and Anastasov M.S. to maintain economic growth show the need to maintain a balance between the functioning of the innovation, investment and operational phases of production and economic activity [7].

Kaplan R., Brown M. and Norton D. consider the use of a balanced scorecard as a necessary condition for the normal and effective functioning of the company [8]. Representatives of the Korean scientific community identify balanced development with the overall growth of the national economy. This concept has been implemented since 2010. The idea is based not only on the development of individual regions, sectors of the national economy, but also on the functioning of the state as a whole, taking into account the rational and efficient use of the country's resource potential [9].

3. Results and Discussion
One of the directions of the state policy of Russia is to ensure balanced territorial development based on the effective use of economic potential, high living standards of the population, geopolitical stability and competitiveness of regions [10].

The results of the study show that over the past decade there has been a steady growth in agricultural production, so in 2019 the indicator increased by 4% compared to the previous interval and reached more than 5 trillion rubles. Positive dynamics has been observed since 2006 (figures 1 and 2). In 2018, the share of unprofitable organizations approached the level of 26.2%, which is 1.8% higher than the previous period and 3.2% higher than the 2015 figures. The level of food supply is maintained only on cereals. The greatest need can be traced in fruits and berries, more than 65 percent and in vegetables, more than 5 percent for meat and potatoes. The provision of the country's dairy products in 2018 was at the level of 83.9%, in 2000 - 88.3%. The basis of food security is the balance of food products and full provision of the population, which once again confirms the relevance of the research subject.

Interesting are the views of scientists published in the scientific work "Limits to Growth" [11]. In one of the theories, they suggested that the constant growth of indicators does not always indicate positive dynamics. To create a space for the satisfaction of all benefits, it is necessary to comply with the conditions that ensure the simultaneous change in all indicators, respecting the interests of society, without exposing the environment to pollution.

Based on the results obtained, it can be concluded that the indicators are positive. Thus, the rate of investment growth in 2019 was 5.6%, agricultural products - 10.5%.
Table 1. Results of the selection of theories of balanced development.

| Growth stages                  | Characteristic features of development                                                                 | Features of the formation of the theory of balanced development                                                                 | Main representatives                                                                 |
|--------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Preindustrial (9-7 tons BC - until the middle of the 18th century) | There are two stages: appropriating (the period from the emergence of society to the neolithic revolution) and the producing economy. More than 75% of the society is engaged in agriculture. The natural factor of production acts as the dominant conditions for development. | The emergence of the law of proportionality as a condition for the optimal relationship between the parts of the whole. Formation of the law of society based on the balance of needs and the development of productive forces. | Pacioli L. (1494), Plato (347), Montchretien A. (1615), Man T. (1646), Kene F. (1751) and others. |
| Industrial (1776 - 1970)      | Mechanized commodity production; urbanization; division of labor; productivity increase; growth of entrepreneurial resource; development of society and state management system; increasing social mobility. The dominant production condition entrepreneurial activity. | Formation of the general theory of equilibrium of economic systems.                                                                 | Smith A. (1776), Stewart D. (1769), Cournot O. (1838), Walras L. M. E. (1874), Pareto V. (1906), Keynes D. (1936), Lesha A. (1940), Neumann D. (1944), Debre J. (1954), Samuelson E. (1946) and others. |
| Post-industrial (1970 - 2011) | Active development of the tertiary sector of the economy; improving the education system; expansion of the structure and growth of GDP; integration of resource-saving technologies into production activities; increasing the importance of scientific research in the development of a socially sustainable society; globalization and digitalization of the economy. | Formation of theories of economic growth based on the balance of the production and consumer spheres.                        | Phelps E. (1991), Hicks D. (1998), Goncharenko A. (2005), Tatarkin A. (2006), Schmidt V. (2006), Brown M. (2011) and others. |
| Postindustrial - global (from 2012 - 2050s) | Transition to a new technological order based on nano- and cognitive technologies. Increasing interest in ensuring the environmental safety of world regional systems. | The need to achieve a balanced development between society - nature - production activities. Achieving a balance between innovations, investment, production activities. | Vasiliev L.P. (2013), Belousova S.V., Gladilin A. V. (2013), Kleiner G.B. (2014 - 2020), Tibekin A.V. (2016 G.), Kaplan R. (2019), Norton D. (2019), Urmantsev Yu.A. (2020) and others. |
The balance of indicators in some sources is interpreted as an effective return on investment in the production cycle, which, in our opinion, requires additional research to determine the optimal level of growth for a number of included indicators.

Figure 1. Agricultural production, billion rubles (up to 1998 - trillion rubles).

Figure 2. Dynamics of agricultural production in Russia, 2005-2019.
4. Conclusion
Balance is the spatial and coordinated relationship of many elements of the system that ensure the effective functioning of the whole in order to create conditions for advanced growth.

Modern trends in the development of modern society are taking place in the context of intensification of the globalization process, and for further scientific substantiation of the subject of study, it seems most interesting to study innovative balance as a condition for achieving harmony, consistency, proportionality of the development of structural elements of the economic system.

By innovative balanced development, we mean the state of the system under the constant influence of external and internal conditions because of establishing optimal proportions between the investment process and profit from the sale of innovative products.

Summarizing the above, we can make a judgment about the versatility, complexity, inexhaustibility of scientific judgments and ideas about the balanced development of economic systems.

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