

# Anti-crisis mechanisms for solving the problems of agriculture development in the modern context

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**Abstract.** The article concentrates on the problems of the formation and development of agriculture in Russia in the event of a crisis caused by the pandemic, and provides brief characteristics of the core business activities in this direction. The features of the agrarian crisis, as one of the forms of economic recession, which are provoked by economic crises, and are also associated with business cycle fluctuations, are revealed. Furthermore, the main threats to the agricultural sector, the level of development of Russian agriculture at the present time are considered. A SWOT analysis of the environment-related activities of agricultural producers is presented, and the prospects for the development of the agro-industrial complex in a shifting trajectory from subsidized financing and debt restructuring of the agricultural sector to high technologies are considered. The authors state that modern society is developing in a cyclical spiral, in search of new models and new approaches to the managerial economics in agricultural production. The need for strategic anti-crisis intervention in the agro-industrial complex is determined by predicted patterns inherent in critical phases in the evolution of the system.

## 1 Introduction

Agriculture throughout the development of mankind has always been an important branch of trade, which provides the population with food and food products. The prospects for the development of the agro-industrial complex are determined by the priorities of the state macroeconomic policy and the domestic economy. The development of agricultural industry is determined by its specifics, namely: land as durable means of production, favorable weather conditions, the climate of the region / country, the peculiarities of consumption and production of essential life-critical products to meet the basic human needs determined by nature.

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## 2 Materials and methods

The growth of production and the quality of products in the agro-industrial sector directly depends on the efficiency of the natural resources utilization, on the industrial development, the social sphere of rural settlements, their level of employment and the availability of jobs, improvement of indicators of the environment state and rural infrastructure. The strategic objective of development is to ensure the national food security of the country and the possibility of increasing the export potential, with complete satisfaction of the domestic market. To implement and achieve this objective, the government implements agricultural policy in relation to agricultural producers and the population of rural areas; in relation to food consumers - food policy and agro-industrial policy, as a policy for the development of sectors, agro-industrial complex that serves agriculture.

Economical advancement, like the development of mankind, has a cyclical structure, which is determined by the development of the natural laws of nature. The most common definition of a crisis in the modern world is economic recession. According to the Doctor of Economic Sciences, E.M. Korotkov - "a crisis is an extreme intensification of contradictions in the social economic system, threatening its resilience in the environmental conditions". L. Greiner, K. Roux-Dufour, T. Poshan, E.M. Morin, P. Lagadec consider the crisis as an element of evolution that increases the efficiency of the system in response to the movement of transforming forces. But the transformation of the modern economy makes its own corrective amendments in the theory of crises and their life cycles. Crises are still inevitable, acquiring new specifics influenced by globalization, the high-speed flow of open information, whereas the modern economy presents a highly organized and interdependent system, including between countries around the world. Owing to these factors, the periods between crises have become significantly shorter. Agrarian crisis is one of the forms of economic recession, they are provoked by economic crises, and are also associated with business cycle fluctuations. The special feature of agrarian crises is that they are not strictly periodic and differ in their duration, protracted nature, which is associated with the problems of private land ownership, the seasonality of production, the use of the primary resources - land, soil fertility, the introduction and modernization of modern agricultural technology, the agricultural yield and productivity of livestock farming.

The agrarian crisis takes on a cyclical nature with an imbalance arising from the sale of products - excessive production or a drop in the production of agricultural goods, a sharp fluctuation in prices in agricultural markets, which is reflected in the income behavior, solvency and bankruptcy of agricultural enterprises.

The agrarian crisis is characterized by both general and partial imbalance in the agricultural sphere and the domestic economy, expressed in the imbalance of its individual subsystems, characterized by an escalation of socio-economic contradictions. In the realities of modern life, economic balance is an axiom that practically does not exist in real economic conditions. Economic participants involved in the production process cannot and do not know the entire set of production possibilities, since they are influenced by various environmental factors. As a rule, they design the existing governing experience in the existing conditions of a market economy. Economic development is non-linear, non-equilibrium and ambiguous, which is reflected on the development of agricultural producers. The process of changing the technological mode, including agriculture, is determined not only by the technologies used, but also includes the paradigm of management, the management culture and business practice, the processes of consumption of the finished product and worldview issues. The existing economic and technical patterns of agricultural production is associated not only with production, distribution, exchange and

consumption, but also with certain practices and governing experience and lifestyle, which is radically changing nowadays, which cannot but affect the rural lifestyle pattern.

Meantime agriculture is facing production, social, environmental and economic challenges. The main task set before the world community, the government apparatus, economists, environmentalists, business leaders is to provide the population with food and food products.

At present time, according to the UN Food Program, the major threats due to the epidemic may arise in the rupture of commodity ties and a decrease in the food production performance, which can cause a food shortage in the world market. Although experts are confident that quarantine measures did not have a profound effect on the agricultural sector of the economy, restrictions on the export of some food products that were introduced by states during the pandemic in order to prevent price increases in the domestic market may become a cause of imbalance. But it is worth noting that Covid-19, by limiting exports from the largest supplying countries, thus gave the chance to local producers to increase production.

The crisis of 2020 made adjustments to the production and logical connections of commodity producers, upsetting the imbalance in the market which resulted in a shortage of products in one country and overstocking in another part of the world. For example, in February Australia could not deliver the avocado crop to the Chinese market, and strawberries were not completely gathered and sold in Spain. According to the forecasts of the UN World Food Program (WFP), the stay-at-home restrictions and the economic recession caused by COVID-19 could lead to food shortages if humanity does not ensure food security. According to the data from WFP, by the end of 2020, 265 million people may face an abnormal food shortage in the world - twice as many as last year. In Russia, according to forecasts of experts, the problem of food security will be solved owing to domestic production. Thus, the share of Russian products in the total volume of resources on the domestic market at the end of 2019 for grain exceeded 99%, sugar and potatoes - 95%, meat and meat foods - 90%.

According to the data of Federal Statistics Office, the volume of agricultural production in Russia amounted to 1 trillion 327.4 billion rubles in September 2020, which is 1.4% higher than the results of the same period of the previous year. As at December 6, the volume of Russian agricultural exports amounted to \$ 26.5 billion and by the end of the current year, according to the forecast, will exceed \$ 28 billion.

At the present moment, Russian products were supplied to 157 countries, and China with a share of 13.9% is a leader among importers. The bulk of Russian poultry meat exports is concentrated in China, Russia retains its leadership in the Chinese chocolate import market, and has also become the leader among soybean oil suppliers.

The main global macroeconomic trends during the pandemic are determined by the national food security, the formation of the value of food products among consumers and their impact on immunity, as well as the digitalization of trade.

Russian economist Mikhail Khazin believes that "the coronavirus pandemic caused a sharp acceleration in the global structural crisis, we were in the state of January-February 1930, that is, before the onset of the crisis that led to the Great Depression. The coronavirus pandemic triggered sharp acceleration of this structural crisis. That is, the things that should have happened in two or three years happened in just a couple of months. For this reason, there may or may not be moderate recovery growth. And then in the fall the crisis will continue. And indeed, it was nearly stopped by a wild throwing of money. But since there is nowhere to dispose of this money, it will imminently cause inflation. But it will reveal itself in the fall"

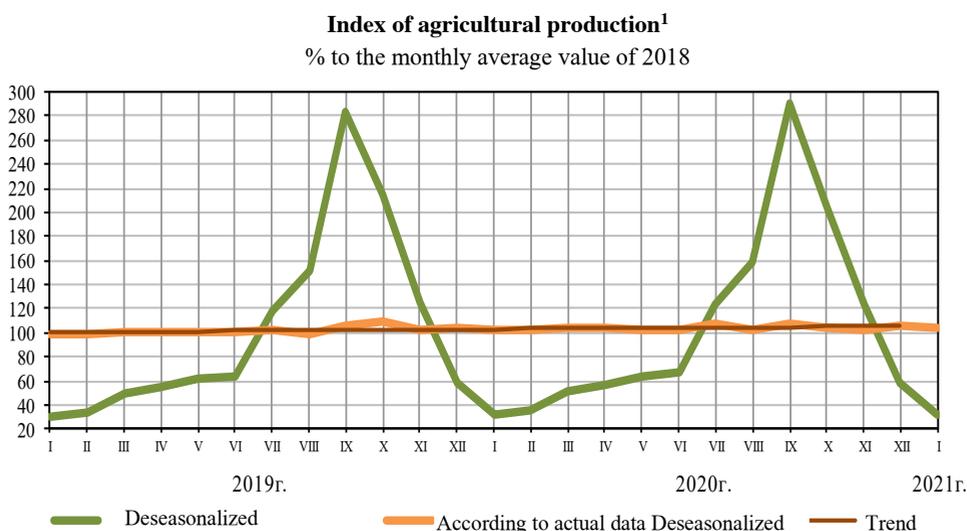
The support of the domestic agro-industrial complex on the part the state - grants to small entrepreneurs, the purchase of new agricultural equipment, and a number of other

necessary measures will provide the country with food and increase exports. Russia managed to prevent food shortages at the height of the coronavirus pandemic and ensured its own food security.

Positive trends in the development of the agro-industrial complex of Russia are confirmed by the positive dynamics of the development of agricultural sectors. So, according to Rosstat, the volume of agricultural production of all agricultural producers (agricultural organizations, farm households, peasant farm enterprises) in January 2021 at current prices, at a rough estimates, amounted to 180.9 billion rubles.

**Table 1.** Dynamics of agricultural production

	As % to the corresponding period of the previous year	As % to the previous period
<b>2020</b>		
I quarter	103.0	29.6
II quarter	103.1	159.7
I six months	103.0	
III quarter	103.3	
IV quarter	97.0	67.4
Year	101.5	
<b>2021</b>		
January	100.7	54.5



<sup>1)</sup> Evaluation of the deseasonalized data was carried out using the program "JDemetra+" When new data of statistical surveys are received, the dynamics can be specified.

**Fig. 1.** Index of agricultural production

### 3 Results and discussion

Despite the stable growth rate of the agro-industrial complex, many issues need to be resolved to modernize and enhance the efficiency of the agro-industrial complex in Russia.

The production indicators of the agricultural sector are growing year over year, but like all countries, Russia is faced with a drop in economic activity, employment and personal income, which has led to limited resources for the recovery and restructuring of the agro-industrial complex economy. According to Rosstat, amid the pandemic crisis at the end of 2020, GDP will decrease by 4.2%, and the real disposable income of Russians at the end of 2020 fell by 3.5%. This indicates a loss of the results of two years of previous growth, which was 1.5-2% per year over the previous period. The pandemic crisis led to a sharp dampening of economic activity and a shock shrinkage of demand in large sectors of the economy (trade, services, tourism, transportation, etc.), the consequences of which were a considerable increase in unemployment and a decrease in the population's capacity to pay. In the present-day situation, many countries are forced to cope with both the economic effects of internal restrictions and external shocks caused by international restrictions. The existing economic conditions will affect in a negative way on the conjuncture of agricultural production, which may lead to overstocking of markets and lower prices for agricultural products. Agriculture is not a mobile type of business; in order to increase production efficiency, agricultural producers need to increase production productivity, which also cause an increase in the cost of modernization and a reduction of profit and switch to goods with higher marginality, as well as expand the assortment, replace imports and offer products that will be interesting in the domestic market.

The prospects for the development of the agro-industrial complex are shifting from subsidized financing and restructuring of the debts of the agrarian sector to high technologies. Digital transformations, new business models and expanding the boundaries of the agro-industrial complex as an economy sector should become priority areas for its development. It is expected that agricultural production in 2021 will develop according to the optimal scenario. This will be encouraged by the high readiness of agricultural producers for the new season, the expansion of the area under cultivation, as well as the current government support arrangements. The increased popularity of a healthy lifestyle, individualization of the diet determine the jump in demand for functional and personalized food, organic agriculture products. Amid a general economic slowdown, there is an increase in foodstuff production and progressive development in information technologies, which became relevant and were actively mastered during the pandemic. These events bring forth the growth of a new technological paradigm, which creates new economic environment for our economy.

The progress of dietary science, the prevalence of diseases caused by unhealthy diet in the advanced world, the growing awareness of the population about the medical effects and proper, healthy nutrition promotes the development of ecological production. Digitalization, feminization, ecologization - these and other trends, according to analysts, will determine the development of agribusiness in 2021. The prospects for ecological production are determined in emerging markets by obtaining average interest, in falling markets by capturing share of the market. The development strategy is determined in an emerging market by cut-throat competition and the difficulty of obtaining a niche; in falling markets, competition is decreased drastically.

Opportunities and prospects for the development of environment-related activities of agricultural producers are presented in Table 2.

**Table 2.** SWOT analysis of the environment-related activities of agricultural producers

<b>Strengths:</b>	<b>Weaknesses</b>
environmentally benign processes and products, "green" image, readiness of personnel to comply with regulations and mandatory requirements, an expansion in the number of workers employed in the agricultural sector, R&D potential for "green" products and technologies. development and mainstreaming of biotechnology in agriculture. the possibility of producing from agricultural products not only food and animal feedstuff, but also biofuel.	shortage of qualified personnel, living in rural areas, degradation of land reserves, an increase in the share of neglected and unused land of agricultural designation, low level of innovation in the rural economy
<b>Opportunities:</b>	<b>Threats:</b>
mastering new markets, developing and promoting environmentally safe products, ensuring the long-term survival of the company through creation of a "green" image, ensuring the effectiveness of environmental measures by setting "high" goals for environmental protection, saving resources and costs	the necessity for additional investment in response to stiffening environmental standards, increased government intervention and control organization by environmental groups and other public groups of protest campaigns, the seizure of market sectors of "green" products by competitors outflow of skilled labour due to temporary market and other failures of firms a threat to the company's survival in a mid-term perspective.

The effectiveness of strategic anti-crisis intervention in the agro-industrial complex is determined by predicted patterns inherent in critical phases in the evolution of the system:

- crises are inevitable and represent a natural stage in the development of the economy through alternating periods of calm development and transient phases, accompanied by a disturbance of the balance;
- transition from an economy based on the consumption of capital and natural resources to a knowledge-based innovative and digital economy.

**Conclusions.**

Thus, the sustainable development of the agro-industrial sector of the economy provides for positive trends in the rate of economic growth, but at the same time zero, minus values are not excluded, which must necessarily overlap with positive values of economical growth. Stabilization and development of the agro-industrial complex includes: GDP growth in the national economy as a whole as a guarantor of the sustainability of sectors; balanced rates of development of agriculture for a long period of time, initiated by the process of stabilizing the economy, state support; efficiency in the management of agro-industrial resources; rural development, solving demographic and social problems of rural areas; progressive agricultural policy at the macro- and meso- levels; development of foreign economic ties in the sphere of functioning of the agro-industrial complex.

Social and environmental economic factors are the foundation for the development of the agro-industrial complex. The topical issues of environmental protection, rational nature and subsurface resources management for stabilizing the agro-industrial complex today must be considered through the prism of the model of "sustainable development". The process of stabilizing the development of the agro-industrial complex, as a combination of interrelated industries, is associated not only with short-term measures, it is a permanent process.

Social and environmental economic factors in the development of agricultural production are a structural process that takes into account alternative mutually supportive directions. Modern agribusiness tends to have the boomerang effect due to the aggressive use of land resources and the increasing impact of hazard phenomena - a reduction in yields. Agriculture is associated with the risks of diminishing of soil fertility, although the

land is itself a reproductive factor, but on conditions that it is used properly and effectively, as well as the use of mineral fertilizers. For this reason, attention should be paid to the development of related industries, for example, such as pharmaceutical production, using agricultural raw materials for the production of medicines, food additives based on environmentally sound biological agricultural raw materials, developed on the basis of natural substances without negative side effects on human health.

A scientific-based agricultural policy, of course, should take into account and rely in this regard on the clear-cut multifunctionality of modern agricultural production, its systemic impact on the implementation of the most important social, demographic, environmental and political tasks of public administration.

The essence of stabilization consists in the stable and balanced rates of permanent growth and development of the agro-industrial complex over a long period of time. The processes of stabilizing the economy and the development of the agricultural sector have subjective - objective nature, obeying the laws of nature and economics, and therefore are relative. Stability is the preservation of the properties, states and relations of a system, which is always in a certain unity with uncertainty, since, according to the laws of dialectic, movement includes uncertainty and stability at the same time. A complex approach will make it possible to effectively use budget support, effectively implement the proposed programs to maintain and develop the agricultural sector of the Russian economy.

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