

## CURRENT PROBLEMS AND CHALLENGES OF AGRICULTURE IN THE REPUBLIC OF BELARUS

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### ABSTRACT

The work aims to discuss current problems and challenges for agriculture in the Republic of Belarus. The effects of the COVID-19 pandemic and the socio-economic processes initiated in 2020 somewhat worsened the situation in the agricultural sector, and the existing problems deepened and reasserted themselves. The methods of statistical comparative analysis used in the study together with the construction of dynamic series, which reflect changes in the phenomenon over time, allowed for the identification of certain trends and regularities characteristic of Belarusian agriculture. On the other hand, dialectical analysis made it possible to identify the sources of the main obstacles to effective functioning. The study concludes that the reform of the agricultural system is of key importance for the future performance of Belarusian agriculture. The lack of a uniform approach to the development of the separate spheres of the agro-industrial complex (rus. *агропромышленный комплекс, далее – АПК*) leads to significant disproportions in their effectiveness. On the other hand, the lack of diversification of buyers on the market of agricultural products leads to a significant dependence of Belarusian producers on the market conditions of the Russian Federation. An attempt to create large cluster formations should be accompanied by appropriate justification and calculation of potential opportunities and threats.

**Keywords:** agriculture, current problems, production, economic conditions, market, management, labour resources

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## INTRODUCTION

Agriculture and the agro-industrial complex AIC (rus. *агропромышленный комплекс, далее – АПК*)<sup>1</sup> are an integral part of the national economy of Belarus. Increasing the production of agricultural products and foodstuffs is correlated with the need to ensure food security and increasing the country's export potential.

In this context, it should be noted that the concept of AIC is similar to the classical definition of "agribusiness" by J. Davis and R. Goldberg presented in the work of "A Concept of Agribusiness. Division of Research" (Davis & Goldberg, 1957).

However, this applies only to the definition, since its interpretation and practicality are different. For example, J. Davis and R. Goldberg note that responsibility for the development of agriculture should be maximally shifted from the government to the private sector of the economy and the state should only provide appropriate assistance in scientific and technical research and development. In the Republic of Belarus in 2019, the structure of agricultural products by categories of farms in value terms was as follows:

<sup>1</sup> The agro-industrial complex (агропромышленный комплекс, далее – АПК) is the largest cross-industry complex, bringing together several sectors of the economy focused on the production and processing of agricultural raw materials and obtaining products from these raw materials that reach the end consumer. The main task of the agro-industrial complex is to supply the population of the country with food, and the industry with raw materials. The economic effect is achieved thanks to the favorable location and cooperation of enterprises.

- (I) The main link of the agro-industrial complex is agriculture, which includes crop production, animal husbandry, farms, personal auxiliary plots, etc.
- (II) Industries and services that provide agriculture with means of production and material resources: construction and repair of tractors, agricultural machinery and equipment, production of mineral fertilizers, plant protection chemicals, fodder and microbiological industries.
- (III) Industries involved in the processing of agricultural raw materials: food industry, primary processing of raw materials for light industry.
- (IV) Infrastructure block – industries dealing with the purchase of agricultural raw materials, transport, storage, trade in consumer goods, training of human resources for agriculture, construction in agricultural sectors.

agricultural organizations – 79.8%, peasant (farm) farms – 2.7, households – 17.5%.

The strategic goal of the national food security of the Republic of Belarus till 2030 is to increase the level of supply for the population and the availability of high-quality food for adequate nutrition and a healthy lifestyle through the sustainable development of competitive agricultural production, as well as to create socio-economic conditions for maintaining the consumption of basic food products at a rational level (On the doctrine of national food security of the Republic of Belarus until 2030). In the European Union countries, the agricultural sector is also mentioned as an element of co-creating energy security (production of biofuels) (de Gorter et al., 2013; Wright, 2014; Hamulczuk, 2016).

In the process of achieving the above-mentioned goal, the Belarusian agro-industrial complex is undergoing quite systematic development, but an evaluation of its economic results exposes low effectiveness of agrarian reforms and calls for the need to correct the existing direction of development.

The current situation of Belarusian agriculture is partly due to the changes taking place in this sector. Structural changes are an ambiguous concept because they can be analyzed in many respects. It was most generally presented by Balmann (1997), who considered structural changes in a broad sense as an answer to the question: who produces what, in what amounts and with what means? The answer to this question requires specification of the criteria for the division of the sector. The most important ones are the size of farms, ownership and control over resources, legal form, degree of integration within the sector, technologies and production systems used, the level of specialization and the level of intensity (Zimmermann et al., 2007; Wąs, 2005). Regardless of the division criteria used, it can be seen that the characteristics of the entire sector are the result of changes in the structure of its basic units, which are farms (Wąs & Małazewska, 2012).

According to the authors, the most urgent problems in the functioning of Belarusian agriculture are the following:

- excessive centralization of the management of the activities of various spheres of the agro-industrial complex, limited production, and financial independence of economic entities;
- lack of large-scale diversification of agricultural product markets in the environment of intensifying international relations;
- incompatibility of the created conditions for managing the agro-industrial complex with the requirements of stimulating the growth of socio-economic efficiency;
- low potential of human resources in agriculture and ineffective use of human capital.

The research so far does not address the above-mentioned problem comprehensively, therefore the aim of the work is to discuss the current problems and challenges for the agriculture of the Republic of Belarus.

## RESEARCH DATA AND METHODS

The article contains the structure of problematic aspects according to differentiated features that significantly affect the productivity of agriculture. The research is based on the data of the National Statistical Committee of the Republic of Belarus, materials of scientific works on similar topics. The following research methods were selected: analysis, synthesis, comparison, analogy method, etc. The identified current problems allow a deeper understanding of the essence of ongoing processes and final results in agriculture of the Republic of Belarus.

## ANALYSIS AND INTERPRETATION OF THE RESULTS

### Centralized management and planning

The development of agriculture in Belarus is determined by the state policy and respective programs. Since 2005, the country adopted several basic documents regulating the agricultural sector. There are, among others, “State program for revitalization and rural development for 2005–2010”,

“State program for sustainable development of rural areas for 2011–2015” and “State program for the development of agribusiness in the Republic of Belarus for 2016–2020”.

Each of the programs has a strict structure, contains a list of sub-programs, and has specific forecasted indicators of agricultural functioning broken down into sectors, types of products, territorial features, and others. The existing order of forecasting the development of the agro-industrial complex is basically such as the practice in the Soviet times, when the results of branches and individual enterprises were based not on economic and socio-economic efficiency indicators, but primarily on technical efficiency indicators. In practice, this is expressed in the strict achievement of the planned production volume without considering the relevant socio-economic, natural-climatic, political, and technical-technological factors (market conditions, price level, efficiency, investment climate, domestic market needs, export / import of products, the level of technology development, etc.).

As Galbraith notes, the structure of GDP is created not by the entire society, but only by those who produce goods and services (Galbraith, 2008). As in the case of agricultural production, the production volume implementation plan is passed on to specific enterprises (without considering economic, natural, technological, social, and other aspects of economic management), and economic losses from its implementation are also borne by them. On the one hand, agricultural production is increasing due to intensive and extensive factors, while on the other hand, the obligations of agricultural organizations are increasing.

After a detailed study of the above-mentioned state programs, a justified question arises with regards to the advisability of precise (detailed) and long-term planning of individual indicators (the volume of agricultural production, production in individual spheres of the agro-industrial complex, etc.). Some economists note that long-term forecasting is rather impractical as it is impossible to accurately predict technical, technological, and other innovations, consumer and investor reactions, fluctuations in export and import

expectations, etc. (Taleb, 2019). In the conditions of a market economy, it is a strategic planning of development directions that facilitate the implementation of a sustainable development policy.

The analysis of the planned agricultural development parameters for 2005–2020 showed that almost all plans and assumptions were not achieved due to several stochastic reasons (African swine fever, the world crisis in 2008–2009, financial crises in 2011 in Belarus and 2014 in the Russian Federation, unfavorable natural and climatic conditions, “trade wars”, the COVID-19 pandemic, etc.) (Table 1).

The most ambitious production targets were in the State Program for Sustainable Rural Development for 2010–2015, but after the financial crisis of 2011 and the subsequent over-saturation of the domestic market with domestic food, the parameters of the next program were lowered. Thus, the State Program for the Development of Agricultural Business in the Republic of Belarus for 2015–2020, some parameters are lower by 20–25%. This program also took into account a number of factors affecting the reasonable amount of agricultural production: production in households and peasant (farm) households, problems of export supplies (“milk” and “sugar” trade wars), population decline, changes in the rations of the population and others.

It should be noted that the “State program for the development of agribusiness in the Republic of Belarus for 2016–2020” (2016) already lists various types of risk and summarizes that as a result, by 2020, the risk of insufficient plant and animal production is estimated at approximately 20% and 40% of the production level achieved in 2015, respectively. In fact, it is a potential “official justification” for not achieving the planned results.

It is necessary to realize that agricultural organizations, as well as peasant farms and private auxiliary plots, will actively develop the production of those products that ensure the highest profitability. As in the countries of Western Europe and North America, the price factor will be used primarily to stabilize and control the production volume.

**Table 1.** Comparative analysis of selected data of government programs

Selected data of the State Program for Revitalization and Rural Development for 2005–2010		
	Plan for 2010	Fact 2010
Grain production, thousand tons	8 400	6 988
Sugar beet production, thousand tons	3 810	3 773
Potato production, thousand tons	9 000	7 831
Milk production, thousand tons	6 500	6 624
Meat production, thousand tons	1 440	1 400
The level of profitability of agricultural production, %	18–20	9.4
Average monthly salary, USD	320–360	285
Selected data of the State Program for Sustainable Development of Rural Areas for 2011–2015		
	Plan for 2015	Fact 2015
Grain production, thousand tons	12 000	8 657
Sugar beet production, thousand tons	5 500	3 300
Potato production, thousand tons	7 750	5 995
Milk production, thousand tons	10 700	7 047
Meat production, thousand tons	2 000	1 661
The level of profitability of sales, %	10.5	1.1
Average monthly salary, USD	600	280
Export of agricultural products, USD billion	7.2	4.5
Selected data of the State Program for the Development of Agricultural Business in the Republic of Belarus for 2015–2020		
	Plan for 2019	Fact 2019
Grain production, thousand tons	9 710	7 331
Sugar beet production, thousand tons	4 902	4 927
Potato production, thousand tons	5 913	6 105
Milk production, thousand tons	8 685	7 394
Meat production, thousand tons	1 863	1 725
The level of profitability of sales, %	9.0	4.6
Export of agricultural products, USD billion	6.0	5.5

Source: own work based on State programs for the development in the Republic of Belarus.

In the domestic agricultural economy (AIC) the principle of “complementary equilibrium” is often applied, the essence of which is that the profitability (loss) of some products is regulated by purchase prices based on the relation to profitability (loss) of other products that have technological commonality. For example, the production of livestock and fattening cattle is an artificially sustained loss-making activity, and milk is highly profitable. From a technological point of view, the production of these two types of products is inextricably linked. First, this is to prevent the autonomy of enterprises in trade in certain types of products (especially export) and uncontrolled changes in prices on the market (Hrydziushka, 2020).

The wrong choice of performance indicators of producers of goods leads to the orientation of production to natural indicators, which is manifested in a decrease in resource efficiency and a decrease in the efficiency of the enterprise and the entire industry. The increase in physical production is not always accompanied by an increase in the production efficiency, and in some cases, it manifests itself in excessive stockpiling, freezing assets and reduced capital turnover.

### Diversification of agricultural product markets

At the current stage of development of the agro-industrial complex, the level of self-sufficiency in the main types of agricultural products, raw materials and food is rapidly increasing, and for some products it has exceeded domestic demand several times (Dayneko et al., 2018). The Russian Federation is the traditional and main export destination for Belarusian food. The level of food self-sufficiency of the Russian Federation is increasing rapidly, but no effective measures are taken to diversify exports of products, which will inevitably lead to overproduction of domestic agricultural products and food collapse in the foreseeable future (except for possible environmental and climate changes in importing countries, post COVID-19 pandemic crisis and other unforeseen circumstances).

Currently, the Republic of Belarus participates in regional and international trade and economic processes caused by the progressing globalization of the world economy (COVID-19 pandemic, increasing tensions in international relations with several countries) to a very limited extent. The Russian Federation remains the main trade and economic partner of the Republic of Belarus in terms of both economic and political conditions (Table 2).

**Table 2.** Export and import of goods of the Republic of Belarus, USD million

	2000	2005	2010	2015	2019
Export of goods					
Total	7 326.4	15 979.3	25 283.5	26 660.4	32 955.1
including, the Russian Federation	3 710.1	5 715.8	9 953.6	10 398.4	13 685.8
Import of goods					
Total	8 646.2	16 708.1	34 884.4	30 291.5	39 476.7
incl. the Russian Federation	5 604.7	10 118.2	18 080.6	17 143.2	22 016.4

Source: own work based on Statistical Yearbook of the Republic of Belarus – Foreign Trade of the Republic of Belarus (2020).

The data in Table 2 serve as a kind of additional indicator, indicating that trade relations between Belarus and the Russian Federation are often determined by the political relations of the countries. Between 2010 and 2015, relations between the states were strained and together with the financial crisis, formed a synergistic effect of the decline in the performance of trade relations.

In the Russian Federation, however, there is a lobby for the interests of both individual sectors of the national economy and individual integrated entities (holdings, concerns). The protectionism of Russian state authorities towards domestic commodity producers has a negative impact on the financial condition of Belarusian exporters of agricultural and food products. Specifically, it is manifested in temporary bans and sanctions imposed on the import of Belarusian products to the Russian Federation.

In this respect, Belarusian producers of goods must resort to a certain list of measures to eliminate the claims made. These are, among others, complaints regarding the quality of products and the origin of raw materials, complaints regarding the compliance of production, storage and sale of products, veterinary and sanitary-hygienic conditions and other activities that significantly affect both the cost of products (conducting additional tests and controls) and the selling price (directly lowering the price), as well as the sales volume in general (product spoilage, sanctions, prohibitions). In 2012–2020, Belarusian producers of agricultural products and food were regularly subject to restrictive measures by the Russian Federation, expressed in the above-mentioned forms. Of course, the existence of such restrictive measures cannot be compatible with the main goal of creating a common agricultural market for the federal states: using the advantages and characteristics of the territorial division of labor, international trade, specialization and cooperation in production to achieve common strategic and current economic interests.

The state authorities of the Russian Federation cannot abruptly limit the import of Belarusian products because, it should be noticed, that agricultural policy ought to be aimed primarily at ensuring the maximum supply of food for the population, and only then at supporting the stability of domestic agriculture and creating conditions for strengthening the competitive share of domestic agriculture producers of goods in the international division of labor. The import of Belarusian products contributes to the formation of a competitive environment on the Russian market, the improvement of the assortment of food products, and the satisfaction of the population's needs with food products, at the same time leading to a situation that destabilizes domestic production and drives Russian goods out of the market.

The need to solve this problem requires the development of a mechanism ensuring maximum external benefits for Belarusian producers and suppliers at minimum internal costs, as well as containing reasonable economic freedom for export-import operations.

To maintain the export orientation of the Belarusian agro-industrial complex (AIC), it is necessary to significantly diversify the markets of food products by expanding the geography of supplies and reducing the influence of the Russian Federation on the financial situation of Belarusian producers of agricultural products and food products. The analysis of the Russian state agricultural programs suggests that the Russian Federation in the coming years will significantly increase agricultural production and fully satisfy domestic demand for it, and the commercial approach to the implementation of the programs and the availability of resources will allow Russian producers to gain additional competitive advantages (Hrybau, 2021).

## **ECONOMIC CONDITIONS**

Some Belarusian economists believe that agriculture and the entire agro-industrial complex (AIC) operate under market conditions. It is impossible to straightforwardly agree with it and it is appropriate at this point to share the opinion of Gusakov, who notes that in order for the sphere of AIC – the branch of agriculture and agro-industrial enterprises – to shift to the principles of self-sufficiency and self-financing, a completely different comprehensive organization of agriculture is also necessary – on the principles of a market economy, and, above all, legal and economic regulations. It should also be a completely different practice which is based on a market-oriented strategy and policy. What is more, since Belarus still has a traditional system of centralized state regulation (management) of the agro-industrial complex, the means and methods of state preferential support for agricultural production should also be appropriate (Gusakov, 2020).

The further development of the agro-industrial complex should be based on a sustainable strategy that in various spheres should not differ from the traditional centralized system to the market system and vice versa. Thus, in agriculture, as the central sphere of the AIC, elements of the traditional system prevail, while in other spheres market mechanisms

and levers dominate, which is the main destabilizing element in relations between partners and creates conditions for disproportionate prices of products and disproportionate distribution of profits between branches. The combination of two different systems negatively affects the efficiency of the complex as a whole. Presently, in our opinion, it is particularly urgent to create a uniform policy for the functioning of the agro-industrial complex in order to prevent further divergence of the economic and technological components of various spheres. The processing, marketing and storage enterprises of agricultural products are highly profitable and efficient, unlike agricultural enterprises.

It should be noted that the existing market situation in the countries of Western Europe and North America is also often very ambiguous and contradictory. Therefore, Galbraith explains that market relationships must be modified by certain planning, e.g., From an economist's perspective, planning is to replace prices and the market as the mechanism that determines what products will be produced with an authoritative decision that determines what will be produced and consumed and at what prices (Galbraith, 2008).

The market mechanism, according to Lagodich, is replaced by vertical integration when the company becomes a supplier of raw materials and (or) a seller of manufactured products. In the case of vertical integration, raw materials and products are “transferred” within the organization, and not purchased from third parties (Lagodich, 2015).

In the analyzed model, in practice, there may be a situation in which there will be an oligopoly on the market as a form of imperfect competition. For example, in Belarus, such a situation was observed in the sugar market for several years, where silent agreements between enterprises led to an unjustified increase in prices on the domestic market and to dumping on the foreign market.

Another significant threat to the emergence of a large cluster formation is the social burden (Galbraith, 2008). A large state-owned enterprise is not necessarily highly productive in the long run, and profit maximization will no longer be in the focus,

because a “social security cushion” can be used in the event of an unprofitable business. Namely, to demonstrate the high social importance of the enterprise for the region, point to the city-forming role of the organization, announce mass layoffs, unemployment in the region, etc. In this context, the firm manipulates government authorities forcing them to provide preferential loans, subsidies, and debt restructuring, while in the long term to prolong the functioning of the organization.

It is well known that the minimum influence of an organization on the price exists only when the share of each company is minimal, or the market is rigidly determined by legal acts. In the Belarusian economy, however, there is a situation in which small and unprofitable (insolvent) enterprises become, in a directive manner, branches or parts of larger and more profitable enterprises. This method does not increase the efficiency of the industry or the entire economy, and, statistically, only reduces the number of unprofitable organizations. Accounting measures of loss restructuring, and administrative consolidation applied are flawed and, above all, ineffective.

The state repeatedly made unsuccessful attempts to solve the problem of the insolvency of agricultural organizations. The problem was not resolved because the financial repair task was seen primarily as a financial problem – a debt restructuring problem. It is necessary to radically change the organizational and economic management mechanism, and above all, to broadly apply the mechanisms of transferring land and other resources into the hands of efficient economic operators – owners and users. Quite an effective way to transfer the property to private ownership is, for example, by auction held under mandatory requirements and conditions. One of the solutions could be to create conditions for a wider inflow of foreign capital in the form of foreign direct investment (FDI) (Kisiel & Graszkievicz, 2018). Concurrently, investment barriers for enterprises in the region of Central and Eastern Europe are exposed. There are problems related to the complexity and instability of the tax system, excessive bureaucracy, high labor costs, instability and low quality of law, and high taxes (Oleksiuk, 2017).

## Personnel potential (Human Resources)

In agricultural production, the economic efficiency of individual farms depends both on the qualifications of employees and the level of employment. The constant introduction of innovative approaches in the organization and management of production requires not only a higher level of training, but also the availability of personnel as such.

The shaping of human resources in agricultural organizations is based on demographic and socio-economic processes that have developed mainly in rural areas. In 2010, the rural population amounted to 2,358.8 thousand, and in 2019 it decreased by nearly 10% (by 245.4 thousand people). The number of people employed in agriculture (agriculture, forestry, and fishing) in 2010 was 494.5 thousand, and in 2019 – 332.6 thousand, therefore, it decreased by 32.7% (Statistical Yearbook of the Republic of Belarus, 2020). The main direction of ensuring the human resource capacity of agricultural organizations is the increase in the number of young people and the renewal of human resources. However, in the years 2014–2019 the situation was reversed. People in mature and pre-retirement age had the largest share in the human resources structure. In 2014, the share of employees under 40 was around 40%, and in 2019 – 36.2%, the number of employees over 55 is also significantly increasing. Migration processes to the EU countries, especially to Poland, play an important role here. According to the data of the Ministry of the Family and Social Policy, 74,473 work permits and 207,744 declarations on entrusting work to a foreigner were issued to Belarusian citizens in 2018–2020 (Information about employment of foreigners in Poland, 2021)<sup>2</sup>. Another direction of migration of Belarusian citizens are the Commonwealth

of Independent States and Ukraine (Hrybau et al., 2020). However, in most of the EU countries, along with the increase in labor productivity in agriculture, the demand for labor decreased (Wąs & Małażewska, 2012).

To consolidate human resources in rural areas, it is necessary to improve material incentives for productive work. Wages are the decisive factor influencing the choice of employment by employees. The level of wages in agriculture did not increase above 74% of the national average in 2010–2019. In the analyzed period, the increase in nominal wages in agriculture in relation to the national average was only 3.3%, which negatively affected the attraction and retention of specialists in this industry (Hrybau, 2021).

In market economy countries, the problem of mutual interconnection of the economic interests of owners and hired workers and the increase in the efficiency of economic activity is solved by involving workers in the process of reproduction not only as the labor force, but also as owners of the means of production (Baehr, 1993; Surdykowska, 1996). In accordance with the legal acts in force in the Republic of Belarus, part of the company's net profit may be transferred to the members of the employee collective as own (share ownership). However, the formation of joint ownership from net profit is practically not used in the activities of agricultural organizations. At the same time, the creation of joint ownership from profits increasing the company's equity is one of the manifestations of value increase and a promising way to stimulate the increase in production efficiency.

To shape the potential of human resources in agriculture, it is necessary to develop a set of measures aimed at improving the material and moral incentives for highly productive work. Otherwise, the number of labor resources for migrants from rural to urban areas will only increase and the lack of highly qualified workers will have a significant impact on the performance of the agricultural sector. However, the change in the social structure of rural residents is a constant and inevitable process (Marks-Bielska, 2018).

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<sup>2</sup> This solution, otherwise called the “declaration procedure” (or “simplified procedure”) concerns the citizens of 6 countries: Armenia, Belarus, Georgia, Moldova, Russia and Ukraine. It allows to obtain a permission to perform work – without the necessity to obtain a work permit – for 6 months in consecutive 12 months in the sectors of economy not related to seasonal works.



## CONCLUSIONS

The study concludes that the reform of the agricultural system is of key importance for the future performance of Belarusian agriculture.

1. The lack of a uniform approach to the development of the selected spheres of the agro-industrial complex leads to significant disproportions in their effectiveness. Directive planning does not allow considering a number of socio-economic, technical-technological, political, natural-climatic and other factors (questions arise about the purposefulness and necessity of long-term planning and forecasting as well as rational definition of production efficiency criteria).

2. The creation of large cluster formations should be accompanied by appropriate justification and calculation of potential opportunities and threats (the emerging “social security cushion” allows large associations to manipulate state bodies and additionally receive funds that could be more rationally used by other economic entities. This leads to a significant decrease in resource efficiency; profit ceases to be the main determinant of efficiency).

3. The lack of diversification of market outlets for agricultural products leads to a significant dependence of Belarusian producers on the market conditions of the Russian Federation (the growing self-sufficiency of the Russian Federation in terms of its own food may lead to overproduction of Belarusian agricultural products without available outlets). The level of self-sufficiency in basic agricultural products in the Republic of Belarus is quite high (in 2019, meat – 132.8%, milk – 240.8%, eggs – 128.4%, potatoes – 111.0% and vegetables and melons – 107.3%) and requires constant development of foreign trade.

4. Shaping the human resources potential is impossible without developing an effective system of material and moral incentives (otherwise, agriculture without an appropriate staffing will remain one of the most problematic sectors of the real economy, despite its undoubted importance and importance in ensuring food security and the country's independence).

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