

# **Green economy and agribusiness. New agrarian transformation in Belarus**

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# **Chapter 1**

## **The theoretical and methodological background of sustainable agribusiness development based on the principles of “green economy”**

### **1.1. The concept of “green economy” as an effective tool for sustainable development**

The National Plan of Actions for the Development of “green economy” in the Republic of Belarus until 2020 was developed in accordance with the Program of social and economic development of the Republic of Belarus for the years 2016–2020, approved by the Decree of the President of the Republic of Belarus dated December 15, 2016, no. 466 [230].

For the purposes of this National Plan, the following key terms and their definitions are used: “green” economy – a model of economic organization aimed at achieving the goals of social and economic development with a significant reduction in environmental risks and rates of environmental degradation; “green” procurement – a procurement system (process), in which the needs for goods, works, services are considered taking into account the ratio of price and quality throughout their life cycle and the impact on the environment; production of organic products – the work on the direct manufacturing, processing of organic products by using methods, techniques, technologies stipulated by the regulatory legal acts, including the technical National legislative Internet portal of the Republic of Belarus, 12.28.2016, 5/43102 2 regulatory legal acts, and also technical regulations of the Eurasian Economic Union and the Customs Union; organic products – products of agriculture, forestry, fishery, foodstuff, beverages obtained as a result of organic production by using methods, techniques, technologies stipulated by legislative acts, including technical regulatory legal acts; ecological certification of products, environmental labeling of products – confirmation of product compliance with environmental criteria established by the relevant technical regulatory legal acts conducted by an accredited certification body; electric vehicle—a battery-operated car driven by one or more electric motors, which can be charged from an external source of electrical energy.

The strategic goal to be implemented by the National Plan is to improve the quality of life of the population based on the growth of economic competitiveness,

attracting investment and innovative development. The development of "green" economy in the Republic of Belarus is based on the following principles: compliance with the principles (goals) of sustainable development; rational and efficient use of resources, sustainable consumption and production; the inclusion of environmental and social values in the system of economic accounting; prioritizing the use of "green" tools and approaches in achieving sustainable and social and economic development goals; increasing competitiveness and securing growth in key sectors of the economy. The implementation of the "green" economy principles is aimed at increasing the potential of the Belarusian economy and regional development as well as improving the quality of environmental components, and involves solving the following problems: determining the prerequisites and conditions for the implementation of "green" economy principles in the Republic of Belarus; developing a system for evaluating compliance of economic activities with these principles; defining a list of sectors of high priority for a "green" economy; forming a complex of institutional and sectoral measures to implement these principles. The threat of reducing natural resources and the quality of the environment is one of the main obstacles to sustainable economic growth. Taking into account national-specific circumstances and global challenges, the state defines "green" economy as a strategic priority. The implementation of this National Plan will result in a gradual transformation of the national economy, based on the implementation of the "green" economy principles and the achievement of sustainable development goals, harmonization of economic, environmental and social interests.

The commitment of the Republic of Belarus to the principles of "green" economy is set out in the national program documents, including the National strategy for sustainable social and economic development for the period until 2030, approved at the National legislative Internet portal of the Republic of Belarus, 12.28.2016, 5/43102 3 the Presidium meeting of the Council of Ministers of the Republic of Belarus (Minutes no. 3 dated February 10, 2015). The primary goal of the first stage of implementation of the named National strategy (2016–2020) is the transition to a qualitative balanced economy growth through its structural and institutional transformation, taking into account the implementation of the "green" economy principles, the priority development of high-tech industries that will become the basis for improving the competitiveness of the country and the quality of life of the population. The main goal of the second stage (2021–2030) is the transition to a stable development sustainability and the achievement of a high quality of human potential based on the further development of a "green" economy and accelerated improvement of high-tech industries. The fundamental principles of economy and thrift that are consistent with the principles of "green" economy are set by the Directive of the President of the Republic of Belarus dated June 14, 2007 no. 3 "On the priority guidelines of strengthening the economic security of the state" (National Register of Legal Acts of the Republic of Belarus, 2007, no. 146, 1/8668). In order to fulfill international commitments on the transition to a green economy formulated in the Declaration of the Seventh Ministerial Conference "Environment for Europe" and its final document "Rio +20", a system of measures aimed at strengthening the technological potential of the national economy being

implemented. In 2015, at the 70<sup>th</sup> session of the General Assembly of the United Nations, the Republic of Belarus undertook commitments on accomplishment of the objectives for sustainable development. In accordance with the Decree of the President of the Republic of Belarus dated September 20, 2016, no. 345 “On the acceptance of an international agreement” (National legislative Internet portal of the Republic of Belarus, September 22, 2016, 1/16644), Belarus became a party to the Paris Agreement adopted at the 21<sup>st</sup> session of the Conference of the Parties to the United Nations Framework Convention on Climate Change in Paris on December 12, 2015, signed on April 22, 2016. According to the international estimates, the ecological efficiency index of the Republic of Belarus for 2016 is 82.3% (the Republic of Belarus ranks 35<sup>th</sup> among 180 countries). At the same time, a number of interdependent environmental and economic problems remains unresolved in the Republic of Belarus, including climate change, waste generation and accumulation, degradation of ecological systems, pollution of atmospheric air and surface water bodies, and biodiversity loss. The most pressing challenges are the following ones: a high proportional contribution of transport means to air pollution (in Belarus, the contribution of mobile sources to air pollution reaches 70%, whereas on average in the world this indicator does not exceed 20%); a significant anthropogenic load on 4.6% of surface water bodies (their areas) (compared to 2010, there is an increase in pollutants in the composition of wastewater according to the following indicators: BOD<sub>5</sub> (5-day biological oxygen demand) – by 5%, dry residue – 16.8%, chlorides – 0.5%, phosphate ion – 3%, ammonium ion – 5%, fluorides – by 32%); biodiversity loss, degradation of lands with peat soils, shallowing of rivers, disruption of the hydrological regime, self-purification processes of surface water bodies as a result of large-scale drying of wetlands and the associated with it intensive transformation of natural ecological systems; the accumulation of waste (in the first instance, the waste production of potash and phosphate fertilizers); adverse effects on the natural complexes from agricultural work in the adjacent areas (ingress of pesticides, mineral fertilizers, manure drain); National legislative Internet portal of the Republic of Belarus, 12.28.2016, 5/43102 4, relatively high energy consumption (the energy output of the gross domestic product in Belarus is 1.5–2 times more than in Western European countries); lack of tariff policy and infrastructure for the use of electric vehicles; unsustainable dynamics of the main economic indicators (gross domestic product, labor productivity, investment, income of the population); slow renewal of technologies, imperfect sectoral and technological structure of the economy, the prevalence of traditional production with an insignificant share of the innovation sector (in Belarus, the renewal rate of fixed assets is two or more times lower than in the USA, Japan, Western Europe); regional disproportions in social and economic development, the presence of a number of struggling regions and settlements (especially in the Vitebsk, Gomel, Mogilev regions); insufficient development of small and medium businesses, which plays a significant role in the development of a “green” economy. In Belarus, the contribution of small and medium-sized enterprises to the gross domestic product does not exceed 30%, whereas in European countries, the USA and Japan, this figure ranges from 50 to 75%; the unstable financial condition of the real sector of the economy and the overall lack of available financial resources

hinder investment opportunities. Return on average assets of organizations decreased from 2011 to 2015 more than doubled and does not exceed 2%. The share of distressed assets in the banking sector reaches 20%; high dependence on import of energy, fuel and other raw materials; insufficient system of state support for the economy. International organizations consider the "green" economy as a strategic method for solving systemic problems of environmental decay, as well as ensuring the safety of natural resources, employment and competitiveness of organizations. The "green" economy vector is decisive for a number of states, including Germany, Denmark, Sweden, South Korea, Kazakhstan, the Russian Federation, and many others. Environmental abuse not only undermines the ecosystem stability, but also leads to consequences (both direct and indirect) for the health and people's standard of living. For example, according to the forecasts of the Organization for Economic Cooperation and Development (OECD), air pollution is liable to cause from 6 million to 9 million premature deaths by 2060 and will cost the world economy 1% of gross domestic product (USD 2.6 trillion) per year. The economic consequences will mainly affect China, Russia, India, South Korea and the countries of Eastern Europe and the Caspian region. By 2050, due to air pollution, food production could be reduced by 10% with a population growth forecast of 50%. Currently, the European Union seeks to reduce greenhouse gas emissions by increasing the share of renewable energy in the generation of electrical energy and heat (up to 27% of renewable energy sources in the share of energy production; a 27% increase in energy efficiency; a 40% reduction in greenhouse gas emissions by 2030). The European Commission proposed to ban the use of gasoline-powered cars in cities by 2050. Some European countries are about to introduce this ban since 2030. At the same time, for example, Denmark does not plan to create its own production of electric transport, focusing on imports. According to the estimates of the international energy agency and auditing company KPMG, the share of sales of electric vehicles on the world market for motor vehicles will by 2025 not exceed 15% and will approximately reach the level of 20 million units. The national legislative Internet portal of the Republic of Belarus, 12.28.2016, 5/43102 5. In 2014, the Government of the Russian Federation approved a comprehensive plan of measures to support the production and use of environmentally friendly transport and set requirements for equipping gas stations with charging stations for vehicles with electric motors. The number of cities that have joined the voluntary international initiative of the European Union "Covenant of Mayors" in regard to energy and climate, aimed at reducing greenhouse gas emissions is increasing annually. By the end of 2016, the "Covenant of Mayors" was signed by more than 7 thousand cities with more than 210 million citizens, including 22 cities and districts of Belarus (Byaroza, Braslaw, Brest, Vietka, Vileyka, Hlybokaye, Iwye, Klichaw, Kobryn, Liozna, Marjina Horka, Mogilev, Maladzyechna, Navahrudak, Orsha, Ashmyany, Polotsk, Rahachow, Syanno, Slutsk, Chavusy, Sharkawshchyna). The voluntary certification of climate-neutral products is gaining in popularity. The holders of these certificates are such large companies as IKEA, Ericsson and others. Environmental labelling of products is in active use in the manufacture of goods, performance of works, and provision of services, the introduction of which is regarded as an element of promoting the principles of "green" economy. The

introduction of voluntary environmental certification of products is stimulated by the market with the development of "green" public procurement, organic production, environmental innovations etc. Organic agriculture, which is practiced in 172 countries of the world, has been one of the global trends to date. 88 countries have already adopted national laws on biological farming, in dozens of countries such proposals are being drafted. The market for organic products is growing constantly, in 2014 the increase was 7.6% in Europe and over 40% in Sweden. According to forecasts of the Organik Monitor marketing company, by 2020 the world market of organic products will amount to USD 200–250 billion. The annual growth of the organic market is 20% on average; even during the 2008 crisis the market increased by 15%. In the context of growth of global demand for resources such as food, energy and water, it becomes necessary to more efficiently use natural resources and support ecological systems generating these resources.

Global financial and energy crises result in search for new models of economic growth oriented towards sustainable development while smoothing the consumption of material goods that keep the future generations out of significant environmental risks. The development of "green" economy involves solving environmental issues while ensuring economic security, social stability and forming auxiliary conditions for the renewal of sustainable economic growth. In many sectors of the economy, there is a real need for modernization of technological processes, the introduction of innovative "green" technologies, allowing to increase ecological sustainability of the economy and employment by improving working conditions, and wide opportunities for doing so. Taking into account the social and economic conditions, perspectives, feasibility, international obligations, the priority fields for the development of "green" economy in the Republic of Belarus are: National legislative Internet portal of the Republic of Belarus, 12.28.2016, 5/43102 6 development of electric transport (infrastructure) and urban mobility, the implementation of the concept of "smart" cities; the development of the construction of energy-efficient houses and improving the energy efficiency of the residential properties; reducing the energy output of gross domestic product, improving energy efficiency, including through the introduction of energy efficient technologies and materials; increasing the potential of using renewable energy sources; creating conditions for the production of organic products; sustainable consumption and production; development of ecotourism. The implementation of actions to be carried out in accordance with Annex 1. Development of electric transport (infrastructure) and urban mobility, the implementation of "smart" cities concept. The introduction of electric transport will reduce pollutant emissions, greenhouse gases, as well as develop a new direction in the republic's automotive industry and increase its export capacity. As of January 1, 2015, the State Road Transport Inspectorate of the Interior Ministry registered 3.4 million vehicles owned by individuals and organizations, including 2.95 million cars, 0.4 million trucks and 0.05 million buses. There were only 27 electric vehicles among them. According to the optimistic scenario, the number of electric vehicles in Belarus will amount to 32.7 thousand units, including 30.82 thousand electric cars and 1.88 thousand electric buses by 2025. However, the Republic of Belarus has sufficient industrial potential for the production and (or) assembly of electric vehicles, drive motors

and battery-charging stations. E-Crossback EV electric vehicles were previously designed and assembled in small batches in Belarus. There are two manufacturers of battery-charging stations – AAM Private Commercial Unitary Enterprise and Energopromis Limited Liability Company. Vityaz Open Joint-Stock Company is working on the development and mastering of serial production of a stationary electric battery-charging station with Mode 3 and Mode 1 charging standards. There are no accumulator battery manufacturers in Belarus. The production of lithium-ion rechargeable batteries requires high investment capital (at least USD 150 million) and is possible only with the participation of a large investor interested in it. A number of organizations of the Ministry of Industry system have the performance potential to manufacture parts, units, components and special equipment for electric vehicles. Despite the increase in car parks owned by the population (by about 70% by 2004), there is a tendency of changing attitudes towards the use of automobile transportation due to the increasing popularity of cycling. Significant changes in the organization of freight and passenger traffic are required. Regional plans for sustainable urban mobility will be developed, the implementation of which will improve the quality of transport services, expand the network of public urban transport routes, create new bicycle lanes and reduce the negative impact of automobile transport on the environment. A sustainable urban mobility plan was developed in the Republic of Belarus in 2016 for the city of Polotsk. In Belarus more than 75% of the population lives in cities. Urbanization increases the load on the water supply and sewage systems, deteriorates the quality of atmospheric air and, as a result, of public health. However, cities have unique opportunities to improve energy capacity and labor productivity, reduce emissions from building maintenance and waste, and increase accessibility of the National legislative Internet portal of the Republic of Belarus, 12.28.2016, 5/43102 7 key services through innovative transport solutions with a low carbon emissions. The implementation of the “smart” cities concept (using the example of the satellite cities of Minsk and/or regional centers) will allow to improve the environment and living conditions of the population. The development of the construction of energy-efficient homes and improving energy efficiency of the residential stock. In the residential stock sector in the Republic of Belarus, about 38% of the total final consumption of energy resources of the country is used, while industry and transportation amount to 23 and 22%, respectively. At the same time, the residential stock has significant potential for energy saving and reduction of greenhouse gas emissions. The government-sponsored “Housing Construction” program for 2016-2020, approved by a resolution of the Council of Ministers of the Republic of Belarus on April 21, 2016 no. 325 (National legislative Internet portal of the Republic of Belarus, 04.05.2016, 5/42009), provides for that by 2020 only energy-saving apartment buildings will be constructed. The share of residential buildings of high energy efficiency classes A+ and A is planned to increase to 20% of the total energy efficient residential buildings. In 2016–2020 it is scheduled to put 8675.6 thousand square meters of energy efficient residential buildings into operation. The development of energy-efficient construction in the Republic of Belarus provides for a gradual increase in the annual volume of commissioned multi-storey and individual residential houses to the proportion of houses of high

energy efficiency classes A+ and A, with a corresponding decrease in the share of energy-efficiency class B houses based on the use of new technical, design and organizational solutions, development and introduction of energy-saving engineering systems for residential buildings, including systems with the use of renewable sources of heat energy and secondary energy resources, automated systems for microclimate control and energy consumption of residential buildings. It would be reasonable to analyze the operation of low-energy and heat-generating technical equipment of experimental energy-efficient residential buildings under construction within the framework of implementation of the United Nations Development Program "Energy efficiency of buildings" in Minsk, Grodno and Mogilev, and to ensure further replication of certified technical and design solutions in the process of design and construction of energy-efficient housing with their inclusion into typical projects. For the purposes of reducing the consumption of fuel and energy resources during the use of the residential stock, it is planned to use leading achievements in the fields of building industry, thermal physics, advanced building structures and materials, low-energy equipment. It is planned to carry out research and development aimed at further improvement of design and technological systems of energy-efficient buildings as well as creating advanced design solutions for their engineering equipment and developing scientifically proven recommendations. Increasing the capacity of using renewable energy. The Energy Security Concept of the Republic of Belarus, approved by the Resolution of the Council of Ministers of the Republic of Belarus on December 23, 2015 no. 1084 (National legislative Internet portal of the Republic of Belarus, 01.01.2016, 5/41477), defines the development of the own energy and raw material base on the basis of the economically feasible use of local fuels, especially from renewable energy sources, as one of the the national interests of the Republic of Belarus in the field of fuel and energy. In accordance with the mentioned Concept (National legislative Internet portal of the Republic of Belarus, 28.12.2016, 5/43102 8), by 2020, taking into account the economic and environmental components, it is necessary to ensure the share of at least 6% of primary renewable energy in gross consumption of fuel and energy resources. Currently, the Republic of Belarus has created conditions for the production of electric and heat energy by using renewable energy sources (biomass, wind, sun, biogas, natural water flow energy), taking into account the trends in the predicted fuel and energy balance. Since 2015, the creation of new installations, and modernization and reconstruction of the existing ones using renewable energy sources have been carried out within quotas. Outside of quotas, the creation of such installations by legal entities and individual entrepreneurs for the maintenance of their economic activity is permitted. Within the territory of the Republic of Belarus, 1,840 sites have been identified where wind farms with a theoretically possible energy potential of 1600 MW could be located. The largest amount of electrical energy can be generated in the Vitebsk, Minsk and Grodno regions. Particular areas of the Mogilev region also have significant wind energy potential. As of July 1, 2016, 65 wind turbines with a total rated capacity of 56.7 MW operated in the Republic of Belarus. In 2015, the electrical energy generated by wind turbines amounted to 46 million kWh. Nowadays, there are 50 hydroelectric power plants operating in the Republic of Belarus with a total



capacity of 33.5 MW, 17 biogas plants (25.7 MW), and 31 solar power stations (37 MW). Within the framework of the implementation of the State program "Energy Saving" for the years 2016–2020, approved by the Resolution of the Council of Ministers of the Republic of Belarus on March 28, 2016 no. 248 (National legislative Internet portal of the Republic of Belarus, 06.04.2016, 5/41892), the construction of biogas plants with a total capacity of at least 30 MW, hydroelectric power stations – 80 MW, solar power stations – 250 MW and wind farms – 200 MW is planned. In the years 2016–2019, within the framework of quotas, installations based on the use of solar, biogas, wind and water flow energy with a total capacity of 215 MW will be built. Creating conditions for the manufacture of organic products. Agriculture is one of the largest sources of greenhouse gas emissions (23%), as well as the main consumer and one of the main pollutants of water resources, and it also has a significant impact on the land condition. The introduction of organic production and resource-saving technologies into agriculture, including minimal and "zero" tillage, will reduce its impact on the environment, and also contribute to the development of the peasant (farming) household (increasing public employment in agricultural regions). According to expert-based information, 6 exporters of organic products (birch sap, medical herbs, wild berries), about 10 producers (farms, personal subsidiary farms, educational and experimental farms and others) are currently carrying out production and sales of the following products in Belarus: vegetables, berries, goat's milk, yoghurts, pond-fish and cereals. However, there is no legal basis for the efficient production and sales of organic agricultural products, the creation of which will allow domestic agriculture to reach a qualitatively new level of development and attract investors to the agro-industrial complexes. Sustainable consumption and production Along with growing energy efficiency in various economy fields, the importance of investing in innovative technologies reducing the use of resources, increases. This requires a systematic approach to the development of environmental standardization and labelling, the organization of state "green" procurement, holding environmental audits, educational and instructional initiatives on sustainable consumption and lifestyle as well as other events (National legislative Internet portal of the Republic of Belarus, 28.12.2016, 5/43102 9). Legislation ensuring the development of environmental certification of products in the Republic of Belarus should take into account the following: the possibility of assigning an environmental label of the European Union to products manufactured in Belarus with high environmental characteristics that could be sold in the EU; creation of a system for the assignment of a national ecological label in Belarus; mandatory requirements for energy efficiency of industrial products in accordance with the requirements of international standards. In order to successfully develop eco-labeling, it is necessary to introduce a "green" procurement system, which, in turn, promotes the use of innovative technologies in various industries, including the use of secondary raw materials. Simultaneously with the industry growth, waste utilization activities continue to develop. Nowadays the Republic of Belarus annually generates more than 40 million tons of waste (both production and municipal solid waste). Capital investments in this particular industry will increase public employment and reduce the negative impact on the environment, primarily due to reduction of

the land area under the landfills. The enhancement of a system of MSW separation and sorting will help to maximally involve the waste into economic circulation as secondary raw materials, which, in turn, will ensure the implementation of the "zero waste" principle of MSW. Ecological tourism development The Republic of Belarus plays a significant role in the provision of essential environmental services to the entire European region, which is associated with a significant part of the territory preserved in its natural state. One of the elements of conservation and use of biological diversity is the development of a system of specially protected natural areas and ecological tourism organised in them. Currently, recreational and tourism resources of specially protected natural areas, creating a chance for the development of eco-tourism in the longer perspective, are not used in full. There is a need for closer interaction between state environmental institutions, professional participants of the travel services market and local people, including owners of agro- and ecotourism facilities. To solve these problems and achieve results in the development and promotion of ecotourism in specially protected natural areas, it is necessary to implement a set of measures such as amending the strategic documents on the creation of a system of specially protected natural territories by including in them developmental issues of ecotourism.

The development of a "green" economy in the republic requires the formation of an assessment system that would allow to determine the degree of compliance of economic activity with the principles of a "green" economy. The criteria on which this assessment is based should be developed taking into account international experience, linked to the goals of sustainable development and, at the same time, create the basis for the formation of an integrated system of environmental and economic accounting in the republic. National legislative Internet portal of the Republic of Belarus, 12.28.2016, 5/43102 10. At the present stage, the information base necessary to ensure a full and comprehensive assessment of the effectiveness of introducing the principles of a "green" economy is not systematized enough. At the initial stage, it is proposed to identify criteria that reflect the most relevant areas of implementation of the principles of a "green" economy. These criteria will be improved as long as the regulatory framework is formed and the information is systematized.

The implementation of measures of this National plan is supposed to be carried out within the framework of the implementation of state programs for the years 2016–2020 within the limits stipulated by the financing as well as by attracting extra-budgetary funds, foreign financial resources and other legal sources.

## **1.2. The essence of the categories "sustainability", "development" and "sustainable development of agribusiness"**

The concept of "sustainable development of agribusiness" is quite rare in the literature, which indicates immaturity of development of this scientific direction. In the economic literature, the sustainable development of agribusiness is identi-

fied with such concepts as "sustainability", "development", etc. [7, 8, 10, 33, 45, 75, 82, 91, 94, 150, 158, 172, 284, 290, 295, 297, 322].

In itself, the "sustainability" concept is quite complex and, as a rule, is related to a specific object (stability of equilibrium, stability of the system, motion stability, etc.). According to the Great Soviet Encyclopedia, the "sustainability" should be understood as "... the ability of an automatic control system to function normally and withstand various inevitable perturbations (impacts). A state is called sustainable if the deviation from it remains arbitrarily small for any sufficiently small changes in the input signals. Sustainable equilibrium – the equilibrium of a mechanical system is stable if, in case of a small perturbation (displacement, impulse), the points of the system at all subsequent times deviate little from their equilibrium positions, otherwise the equilibrium is unstable" [28].

Sustainability is one of the primary properties of any system [172]; the ability of the system to maintain its properties and qualities under the influence of a constantly changing external environment [75]; stability, consistency, susceptibility to the risk of losses and damages [235, p. 445].

In classical economic theory, the concept of "sustainability" was identified with the concept of the system "equilibrium". A. Smith pointed out that there is a constant equilibrium both in nature and in the society, which he considered natural, that is, he pointed to the presence of forces that balance processes opposite to each other [268].

In macroeconomics, the concept of "economic growth" was originally used to characterize development. However, Keynesian theory began to use the concept of sustainable economic growth. Within the given context, sustainability is used to indicate the growth in economy that maintains balance between the main elements of the system. The term "sustainable development of the system" can be understood as "(...) a constant dynamic change in the characteristics and indicators of the system, which leads to completely new system states, ensuring consistency and sustainability of the introduction of quality characteristics" [76].

The sustainability of an economic system is its ability to preserve integrity and achieve its strategic goals despite the constant destabilizing influence of the external environment. The sustainability of the economic system at the current moment (stability of functioning) and the sustainability of development (stability of the system over time) is ensured by "(...) an adequate response to changes in factors of the external and internal environment of the enterprise, which allows the company to survive in a competitive environment and make a profit for the purpose of effective functioning" [45].

The imbalance between the elements of the system, factors and components of the internal and external environment may cause unstable states. The instability of an economic system should be understood as its inability to maintain movement along a positive growth trajectory due to its negative components [39].

In relation to organizations, the term "sustainability" is used to characterize the stability of an enterprise's position in an unstable external environment and is considered as a complex category that should take into account various aspects of the enterprises' activities [41, 75, 103, 158].

Sustainable development of the agribusiness is a dynamic process of positive balanced economic, social and environmental changes taking into account external and internal factors, aimed at improving production efficiency, rational use of natural resources and social development of the community [75].

In the scientific literature, the sustainability of the system is investigated from different positions. S.F. Zubarev identifies the following types of the system sustainability:

- potential (related to the development of productive powers determining the extent of adaptability of the system to the impact of factors to be changed);
- regulatory (derived from the accumulated resource potential, methods used, forms of production and labor organization);
- absolute (takes place in the absence of deviations from a given trajectory of development of agricultural production);
- actual (achieved during the past period under the influence of real conditions at a given level of use of production potential) [111, p. 16].

The sustainability of an industrial enterprise is the stationary state of an enterprise at a certain point of time, characterized by qualitative and effective indicators of business processes, as well as the ability of an enterprise to maintain these indicators under the influence of a constantly changing external environment [75].

When analyzing the sustainability of the organization development, internal, external and general sustainability are distinguished. The internal sustainability is the harmonious interaction of "all systems of an organization that allow achieving high production and high results. External sustainability is determined taking into account environmental factors (competition, investment activity, tax policy, social significance, ecological environment, etc.). The overall sustainability of an organization's development is formed through the interaction of the internal and external sustainability" [8, p. 7].

Internal sustainability, according to N.A. Homyachenkova is "(...) the proportionality of all the links of an industrial enterprise, ensuring a positive dynamics of the main financial and economic performance indicators and expanded production" external sustainability is "(...) a conflict-free interaction with the external environment: consumers, competitors, suppliers, financial and credit institutions, tax and other regulatory authorities. At the same time, external and internal interaction stability form the overall stability of the enterprise as a whole" [307].

Such factors as duplicative, financial, social, environmental and informational ones [41, 103] have a significant impact on the sustainability of an enterprise.

AND it is necessary to follow the sustainable development of the enterprise as "(...) the combination of industrial, managerial, environmental, marketing and socio-economic sustainability [158, p. 78]; as "(...) a combination of financial, marketing (market), production and innovation sustainability" [107].

The literature mentions risk sustainability, which characterizes the ability of an organization to continuously increase its market value through effective risk management [6]. Risk sustainability can also be regarded as "(...) an internal property of the system that contributes to preserving its integrity as a result of the influence of various disturbing influences of the external and internal environment through potential modification" and in the narrow sense as "(...) the ability to link

risk and performance management processes in such a way as to ensure steady growth of industrial enterprise" [308].

A generalized analysis of existing approaches to the category of "sustainability" showed that in a number of studies it is considered as a synonym for "economic sustainability" [8, 33, 45, 61, 91, 150, 284], and, to the contrary, the sustainability is a broader concept than economic sustainability [10, 50, 73, 89, 259, 290, 297].

In general, "economic sustainability is a state of a developing economic system, in which all its elements are in balance. In the context of an enterprise it can be defined as an ability to maintain the general equilibrium of all subsystems in the course of its development" [61, p. 108].

There are a number of approaches to the definition of the category "economic sustainability of an enterprise", such as the financial sustainability of an enterprise; stability and reliability of financial and economic activities, its equilibrium as a socio-economic system; the ability to maintain the current state of functioning, to adapt to changes in the internal and external environment, as well as the ability to maintain and develop the enterprise [10, 22, 93, 133, 245].

In the modern economic dictionary, the sustainability of an organization (enterprises, firms) is considered as "financial state, whose economic activity in normal conditions ensures the fulfillment of all its obligations towards employees, other organizations and the state thanks to sufficient incomes and, respectively, income and expenses" [245].

Financial sustainability is an integral part of economic sustainability and the basis for the formation and improvement of elements of economic sustainability. According to G.V. Savitskaia, financial stability is an economic category reflecting the state of capital in the process of its circulation and the ability of a business entity to develop itself at a fixed moment of time. Financial condition can be stable, unstable (pre-crisis) and crisis. Its financial condition, sustainability and stability depends on the results of the production and commercial activities of the organization [251].

However, determining economic sustainability on the basis of financial position only is wrong, since the organizations' ability to manufacture products that are demanded by the consumers, that is their production sustainability, should be taken into account.

Economic sustainability is a complex concept characterized by "(...) a system of indicators reflecting the availability, allocation and use of resources and indicators reflecting the specific strength of the organization, the dynamics of the market itself and the market share of a commercial structure (strengthening or weakening its positions)" [297]; "(...) maintaining a certain level of the qualitative and quantitative characteristics of an enterprise, which ensures its profitable operation and stable development as a result of the efficient use of resources" [284]. Economic sustainability is the ability of a system to react and resist the influence of negative factors of the external and internal environment, while maintaining its internal structure and dynamics of the operation mode [172]. The economic sustainability of an organization is characterized by "(...) the state of its potential and the level of its use, which provide the ability of stable operation in the current competitive environment, taking into account the risk of its worsening and the negative impact

of external factors. At the same time, it is considered as a synthetic reflection of its commercial, industrial, organizational, financial and infrastructural sustainability" [127].

Economic sustainability as a form of implementation of the organization's sustainable development is "... the ability of a certain subject to efficiently use existing resources and attract new economic resources, monitor continuous changes in social and economic development and adequately respond to them. This will allow the company to produce competitive products that meet the needs of the market, with the help of low-energy and resource-saving technologies and equipment, to operate and develop dynamically over the long term, while preserving the ecological situation in the region" [290, p. 412].

There are various elements of economic sustainability considered in the literature: production and technology, commercial, organizational, innovating, financial, strategic, investment, etc. [10, 28, 33, 61, 73, 91, 147, 172, 204, 259, 266, 295].

I.I. Belyi divides the economic sustainability of organizations into the active and the passive one. At the same time, "active economic sustainability" is "(...) a state of the production system, in which, under the disturbing influence of the internal and external environment, the organization maintains profitable activities and the capacity for advanced development in the future; while passive economic stability "is the state of the production system, in which, under the disturbing influence of the internal and external environment, the organization maintains profitable activity" [19, p. 7].

The term "economic" provides for a creative process, the result of which should be some sort of benefit, the satisfaction of certain people's needs or those of economic entities. For this reason, the economic sustainability can be applied to the characteristics of the subjects carrying out the economic activity, the results of this activity and its consequences for the subject [226].

Thus, economic sustainability is a concept that characterizes a particular state, a quality of functioning of an organization, and should determine the orientation towards the final result—receipt of profit.

There is a contradiction of views concerning the concept of "sustainable development" in the literature. This is connected to a certain conventionality of the category itself, as well as the lack of a common approach to the relationship between the concepts of "sustainability" and "development" [6, 20, 37, 75, 82, 94, 104, 134, 136, 158, 163, 192].

The term "sustainability" means the state of equilibrium, while development means the creation of conditions for a system's permanent emerging from the state of equilibrium [182].

There is a point of view in the scientific literature that the concepts of "sustainability" and "development" are opposite, since "sustainability" characterizes constancy and stability of an object (system), and "development" – their dynamics and variability [263].

Development is a system change that takes a structural, qualitative-quantitative form (or changes that reflect the operation mode) [158]. The very concept of "development" means some changes in the system, leading to the transformation

of its qualitative and quantitative indicators, structural changes and changes in the operation mode [8, p. 10]. At the same time, the concept of "sustainable development" means steady, constant growth [298].

According to the accepted meaning, sustainable development is a stable social and economic development based on the effective use of the resource potential, which does not cause the disruption of the ecological balance and creates conditions for continuous progress of the productive power [6, 7, 94, 104, 136, 162, 170, 182, 263].

Sustainable development is such a development that satisfies the material and spiritual needs of the present and future generation. At the same time, ensuring sustainable social and economic development of the economy depends on its coordination with the human development in interaction with the environment (biosphere) [113].

Some authors consider sustainable development narrowly as focus on the social justice in relation to various groups of the population, and broadly – as a progressive transformation of the economy and society, in which both the high development of material production and the stability of political and social aspects of social life should be achieved [235, p. 445].

Sustainable development can be characterized by economic efficiency, food independence, environmental safety and social justice [189, p. 23–24]; a way to meet the needs of the present generation without affecting the ability of their satisfaction by the future generations [295, p. 89].

The concept of sustainable development consists of "(...) a complex system of measures aimed at taking advantage of the integration, targeted redistribution of resources to profitable and high-priority activities, adjusting production volumes within the framework of operational management of current activities" [18].

The problem of sustainable development of the economy is also investigated through the concept of economic security. The independence of the economy, its stability, sustainability, the ability to continuously update and improve are the basic conditions for economic security. And, on the contrary, economic security provides only for sustainable development, so that the latter can be investigated in close connection with economic security (of countries, regions, enterprises) [1, 54, 158, 254].

Sustainable development ensures sustainable economic growth. Sustainable development is a process of consistent improvement of one state by another as a result of positive growth and balanced interaction of the components of the economic system in a long-term interval. The concept of sustainable development extends not only to economic processes. It is believed that sustainable development is a continuously supported development of social, economic and environmental spheres in their rational interaction that is able to satisfy the needs of the present and does not affect the ability of future generations to satisfy their needs [200, 201].

At the present stage, the concept of sustainable development combines the following approaches: economic, social and environmental, which should be considered in a well-balanced manner. The economic aspect is based on the theory of the maximum flow of Hicks-Lindahl's total income, which can be received under condition of maintaining the total capital through which this income is generated.

The approach is based on the optimal use of limited resources and the use of environment-friendly technologies [94, 226, 298].

From the environmental point of view, sustainable development should ensure the integrity of natural systems. Thus, the vital capacity of ecosystems on which the stability of the biosphere depends is important. The focus is on maintaining the ability to restore and adapt such systems to various changes. The environmental aspect of sustainable development involves the provision of social and economic development that does not destroy its natural background, and the social aspect is aimed at ensuring the quality improvement of the working environment [59, 104, 113, 163, 192, 200, 219, 248].

The social component of sustainable development is focused on the human resource (intellectual potential) and is aimed at maintaining the stability of social and cultural systems. An important aspect of this approach is the fair division of benefits and it is necessary to take into account the achievement of intergenerational justice. Within the framework of this conceptual approach, a person is not an object, but a subject of development and should participate in the processes that form the sphere of his/her life activity, facilitate decision making and monitor their implementation [13, 41, 135, 191, 201].

As for the concept of "sustainable economic development", its application is more logical at the macro level and can be defined as "(...) a constant, stable progressive change in the economy (or economic system) under the influence of internal and external factors" [204].

In a number of studies the problem of sustainable development is considered while taking into account the globalization processes. Sustainable development is the concept of a global partnership mechanism based on the creation of new levels of cooperation between states, key sectors of society and people [250, p. 615].

The literature sources analysis showed that the authors used different approaches to the definition of "sustainable enterprise development". V.Ts. Petushinova and V.V. Lepekhin identified conservative, systemic and evolutionary approaches. A conservative approach assumes that sustainable development is focused on preserving existing resources in order to pass them to future generations. An enterprise should develop in a way that provides a stable basis for future development. The evolutionary approach considers sustainable development from the position that global changes occurring in the environment make certain adjustments affecting the trajectory of the development of society as a whole. Thus, sustainable development contributes not only to self-preservation and reproduction of the enterprise as a system, but also to its continuous progress and growth of the well-being of the enterprise and its employees, which can be described as balanced social and economic development that does not destroy the environment. In terms of a systematic approach, the fundamental prerequisites for sustainable development include not only the function of reduction, but also the function of reproduction, which entails careful attitude to the available resources in order to preserve the enterprise as a system taking into account internal and external factors [163, 233].



Sustainable development relates to a specific level (object) (enterprise, industry, national economy, world economy) and, accordingly, you can explore it at the micro, meso and macro levels.

Since the activities of organizations represent a natural transition of the system from one state to another, sustainable development consists of both the sum of the stability of the system and the sustainability of its processes. At the same time, the stability of the processes "(...) is characterized by the following parameters: direction (vector), which characterizes spatial movements; duration, speed, adaptability, quality of the transformations taking place in the process of development" [158, p. 78–79].

In general, the sustainable development of an enterprise is determined by the following key factors: economic growth, as a determining factor; economic equilibrium (the state of the internal and external environment of the enterprise), which confirms the normal functioning of all subsystems of the enterprise and the level of management, ensuring the harmonious development of the enterprise in the course of its activities [61, p. 108].

Sustainable development of an organization is defined as "(...) stability, profitability, constant growth based on the results of its activities" [308]; as well as "the state of an organization in which the social and economic parameters characterizing it retain equilibrium and are within specified limits under the influence of the internal and external environment [33].

Based on the analysis of literary sources, the main properties that are most often associated with the concept of "sustainable development of organizations" are highlighted: ability, development, efficiency, productivity, duplication, stability, sustainability and balance, which allowed systematizing the existing approaches to its concept.

In the above definitions, the authors highlighted the main directions of sustainable development of organizations: ensuring their functioning in the long term perspective, achieving high quality indicators of workers' living standards and maintaining environmental safety.

The analysis showed that the authors use different approaches to the definition of "sustainable enterprise development" such as: integrated (systemic) [83, 138, 147, 163, 182, 191, 307], process-based [7, 60, 134, 158] and resource-based [34, 51, 97].

Sustainable development of organizations should be studied from the perspective of a systematic approach, since enterprises are an open social and economic system and represent a complex multi-level system with certain properties.

Sustainable development of the agro-industrial complex is determined primarily by objectives of an economic and social nature, the achievement of which provides for "the widespread use of low-energy and resource-saving, environmentally friendly technologies, and the rational use of biological factors in agricultural production. One of the primary tasks is to provide food for a growing population." At the same time, one of the main functions of organizations of the agro-industrial complex is "(...) ensuring the sustainability of the national food system, that is, the ability of subjects to dynamically maintain rational proportionality between the factors of agricultural production and the necessary rates of its development in

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