

SYSTEM OF SUSTAINABLE DEVELOPMENT GOALS AND COMPETITIVENESS OF AGRICULTURE OF UKRAINE: CURRENT STATUS AND POSSIBLE PROSPECTS

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Ukrainian agriculture is one of the system-forming in the national economy. It provides the principles of state sovereignty – food and within certain limits of economic, environmental and energy components of national security. It also creates the basis for the development of technologically related sectors of the economy, forms socio-economic and environmental foundations of rural development.

In September 2015, the UN Summit was held, which approved 17 Sustainable Development Goals (SDGs) and 169 targets for the period up to 2030. Ukraine, like other UN member states, has joined the process of ensuring sustainable development. The result of the inclusive process of adaptation of Sustainable Development Goals for Ukraine, taking into account the national specifics, was a system of SDGs, which consists of 86 targets with 183 indicators for monitoring. Since 2015, Ukraine has launched reforms aimed at implementing socio-economic transformations and, thus, achieving the SDGs. For the agriculture, such transformations are defined in the economic dimension – an increase in the degree of processing and productivity; in the social dimension – raising living standards and reducing inequality in all its manifestations; in the ecological dimension – the cessation of the depleting use of land, forest and water resources [15].

Under such conditions, the question of the relationship between the achievement of the SDGs and competitiveness, as a basic category of economic system based on market principles of management, becomes relevant.

Sustainable development of the agriculture is the subject of research by both foreign and domestic scientists [2, 5, 19, 24].

Competitiveness as an economic category is in the field of scientific interests of P. Drucker, M. Porter, Stakhiv O.A. [21, 25].

Based on the achievements of leading scientists, we aim to analyze the dynamics of competitiveness of Ukrainian agriculture and progress in achieving SDGs. Such an analysis will contribute in the theoretical aspect to the establishment of the relationship and interdependence of these processes, in the applied aspect – the formation of the concept of development of the Ukrainian agriculture.

The category «competition» belongs to the main elements of the market mechanism. The essence of competition was first revealed by A. Smith, comparing competition with the «invisible hand» that rules the world in market conditions [3]. The modern understanding of competition has many interpretations. K. P. McConnell and S.L. Brew, define competition as the presence in the market of a large number of independent buyers and sellers and the opportunity for buyers and sellers to freely enter the market and leave it [4]. According to M. Porter, competition is a «specific mechanism that encourages entrepreneurs to follow the instructions of the «invisible hand» [20].

Generalization of approaches to understanding competition allows to determine its functional purpose:

- Regulation of the price-quality ratio in production;
- Promoting the efficient allocation of limited resources;
- Incentives for the implementation of scientific and technological progress.

The concept of «competitiveness» was first introduced in the late 1970s by M. Porter. In his view, competitiveness is the property of goods, services or the subject of market relations to appear on the market equally with similar goods, services or competing subjects of market relations [20].

Domestic researchers emphasize the complexity of the category Competitiveness and note that its advantages are realized through trade, but the basis of competitive advantages is created at all levels of social production [23].

The levels of coverage can determine the competitiveness of the enterprise, region, industry, national economy. The purpose of our study determines the identification of competitiveness at the industry level.

We agree with the opinion of M. Gelvanovsky, V. Zhukovskaya, I. Trofimova that competitiveness is determined by the presence of competitive advantages in the industry. Competitive advantages allow, firstly, to produce (with costs not higher than international) high quality products that would meet the needs of specific consumer groups, and secondly, to supply it to a competitive market in the optimal time, dictated by the market situation [9]. In substantiating the importance of sectoral competitiveness for national economy, we will use the position of M. Porter on this issue. M. Porter believed that «when trying to answer the question of competitiveness at the national level, it is necessary to focus not on the economy as a whole, but on specific industries and segments of the industry. It is necessary to understand how and why commercial viable skills and technologies arise, and it is possible to understand it quite fully only at the level of analysis of competitive industries» [20, 21].

The competitiveness of agricultural enterprises is interpreted ambiguously. A systematic vision of the competitiveness of agricultural enterprises is presented in the study of M. Malik and O. Nuzhna [13]. According to them, it is the ability of economic activity to adapt to new economic conditions, use their competitive advantages and win the competition in the markets of agricultural products and services.

Competitiveness provides the most efficient use of land resources, meeting the customer needs by analyzing the structure of the market and a flexible response to changing conditions. At the same time Fishchuk B.P., Lukashenko O.P., Khmaruk O.M. note that ensuring the competitiveness of agricultural enterprises is not limited to the use of land resources. The specificity of agricultural production is significantly dependent on weather conditions, long production cycle, etc. [8].

The specificity of the industry has given impetus to researches, which are devoted to the analysis of factors of agricultural competitiveness [7, 11, 10, 22, 13].

Such studies have suggested conceptual approaches to assessing the competitiveness of the agricultural industry. N. Patyka made a significant contribution to the assessment of the level of agricultural competitiveness [16, 17, 18]. The researcher suggested using the author's integrated competitiveness index (ICI) to assess the competitiveness of Ukrainian agriculture. ICI is based on the generalization of six indices: the level of economic development of the industry, efficiency of production process management, profitability, financial stability and solvency, business activity and efficiency of sales management, participation in foreign economic activity.

Highly appreciating the author's achievements and the author's methodology for studying the level of competitiveness of the industry, we note, that the agricultural competitiveness, and in a broader sense – the agricultural industry, should be assessed against the functional purpose of this area at a particular stage of social development.

We believe that the agricultural competitiveness at the post-industrial stage of social development should be determined not only by economic indicators, but also take into account social and environmental components. The scientific basis of this position is the concept of multifunctionality of agriculture and its reflection in the European model of agriculture [1]. This model assumes that it is important for agriculture to ensure the growth of social welfare, food security, ecologically safe human environment and unique landscapes preservation for today's and future generations. The European Union's approach is based on the fact that multifunctional agriculture is the basis for achieving sustainable rural development.

The multifaceted nature of competitiveness at the industrial and national levels is evidenced by the methodology of compiling the Global Competitiveness Index. Competitiveness is influenced by twelve main factors, on the basis of which the global competitiveness index is formed, namely: institutions, infrastructure, ICT adoption, macroeconomic stability, health, skills, product market, labor market, the financial system, market size, business dynamism. and innovation capability.

Thus, according to the Global Competitiveness Index, Ukraine is ranked 79th out of 140 countries participating in the ranking in 2015, 85th out of 138 in 2016, 81st out of 137 in 2017, 83rd out of 140 in 2018, and 85th out of 141 in 2019 countries [28]. These indicators show the negative dynamics of Ukraine's competitiveness.

In 2015, the World Bank proposed a ranking of countries, which is formed on the basis of an analysis of bureaucratic procedures that affect the activities of farmers. Enabling the Business of Agriculture provides data on eight quantitative indicators: supplying seed, registering fertilizer, securing water, registering machinery, sustaining livestock, protecting plant health, trading food, and accessing finance [6]. Indicators range from 0 to 100, where 0 is the worst and 100 is the best. The analysis of the indicators of Enabling the Business of Agriculture in Ukraine showed the positive dynamics in the issues of registering machinery, accessing finance, securing water. The situation with protecting plant health was also positively assessed – 100 points. Regarding other indicators, there is a negative dynamic. This ranking helps to identify economic factors that hinder the development of agriculture and increase its competitiveness. It also identifies strategic guidelines for improving the agricultural business environment.

Despite the leading role of the agro-sphere in the national economy of Ukraine, its positive dynamics is achieved mainly due to low prices for factors of production, primarily land rent and wages.

Based on the First Voluntary National Review of the Sustainable Development Goals in Ukraine, we systematized and analyzed the achievements and challenges towards achieving certain goals (Table 1). The choice of these goals is due to the direct or indirect impact of the agro-sphere on progress in achieving them.

Table 1. Progress in achieving the Sustainable Development Goals in Ukrainian agriculture

Goals, targets, indicators	Years				
	2015	2016	2017	2018	2030
Goal 2. End hunger, promote sustainable agriculture					
Targets: Ensure accessibility to balanced nutrition to the level of scientifically based standards for all population groups:					
Consumption per capita, kg/year:					
- meat	50.9	51.4	51.7	52.8	80.0
- milk and dairy products	209.9	209.5	200.0	197.7	380
- fish	8.6	9.6	10.8	11.8	To be clarified
- vegetables	160.8	163.7	159.7	163.9	To be clarified
- fruit	50.9	49.7	52.8	57.8	90
Target: Double agricultural productivity					
Labour productivity in agriculture, thousands of USD per employee	8.68	8.71	9.30	10.8	15
The index of agricultural production, %	95.2	106.3	97.8	108.1	102
Target: Ensure the development of sustainable food production systems that help maintain ecosystems and improve the quality of land and soil, primarily through innovative technologies					
The index of food production, %	88.6	108.9	107.1	98.5	103
Share of food industry and agricultural raw materials processing production in exports of UCGFEA groups 1–24	38.3	42.0	41.0	39.4	65
Share of agricultural land under organic production, %*	1.0	0.89	0.89	0.67	1.7
The consumer price index for food, %	144.4	108.5	113.4	111.5	105

Goals, targets, indicators	Years				
	2015	2016	2017	2018	2030
Goal 10. Reduce inequality					
Target: Ensure access to social services					
Share of rural households which suffered from deprivation due to lack of access to ambulance services in the settlement, %	39.9	–	38.2	-	15
Share of rural households which suffered from deprivation due to the lack of regular daily transport to another settlement with developed infrastructure, %	22.7	–	22.5	–	10
Goal 12. Sustainable consumption and production					
Target: Reduce the loss of food along the production and marketing chains					
Share of post-harvest losses in the total production of cereals, %	2.3	2.0	1.8	1.8	0.5
Goal 13. Mitigate climate change impact					
Target: Limit greenhouse gas emissions					
GHG emission and removal in agriculture, mln t CO ₂ -eq.	39461	42178	41091	44239	To be clarified
Goal 15. Protect and restore terrestrial ecosystems					
Target: Ensure the combat land desertification, restore degraded lands and soils, achieve a neutral level of land degradation					
Share of arable land in total area of the country, %	53.9	53.9	53.9	53.9	47
Share of agricultural land of extensive use (hayfields, pastures), in total area of the country, %	13.0	13	13	13	15

Source: composed for [15]

The analysis of the tasks and indicators of the Sustainable Development Goals, summarized in the Table 1, allows us to state that progress is not uniform for all goals. Progress for Goal 1 is within 60-80%, for Goal 11 progress is within 20-60%, achieving targets for Goals 10, 13, 15 compared to the targets set for 2030 is unlikely (less than 20%). Progress towards Goal 2 has been facilitated by a more rational use of resource potential and technological renewal, which has increased labor productivity in agriculture. Thus, in 2018, labor productivity amounted to 10.89 thousand US dollars per employee, which is higher than in 2015 by 25.5%. Increasing productivity has made it possible to increase production. Thus, the volume of cereals in 2016 amounted to 66.1 million tons, in 2018 – 70.1 million tons, which solved the problem of food price volatility. In 2018, compared to 2015, the consumption of basic food products increased: meat, fish, vegetables, fruits. The only exception was milk consumption.

Along with the positive trends, there are indicators for which there is no progress or the progress is insufficient: there was a decrease in the share of agricultural land under organic production, a slow increase in the share of food industry and processing of agricultural raw materials in exports (from 38.3% to 44.3%).

In the approach to Goal 10, there is almost no progress in reducing the share of rural households that have suffered from the lack of timely ambulance services, the lack of regular daily transport. For Ukrainian villagers, the problem of timely medical care, education and other services, unfortunately, remains one of the most pressing.

Progress towards the goal 11 is ensured, inter alia, by reducing the share of post-harvest losses of agricultural products.

Goal 13 envisages limiting GHG emissions in the economy, while total GHG emissions in agriculture in 2018 increased by 12.1% compared to 2015. This dynamic is explained by the growth of arable land and the growth of mineral and organic fertilizers.

Progress towards Goal 15 is constrained by the dynamics of arable land and eco-stabilizing land indicators, as well as their shares in the total area of Ukraine. During 2015-2018, the area of arable land increased from 32531.1 thousand ha to 32544.2 thousand ha, and the area of agricultural land of

extensive use decreased from 7848.3 thousand ha to 7820.8 thousand ha. Such trends are caused by economic and institutional factors: an increase in agricultural production in the absence of effective mechanisms to stimulate land protection and soil fertility in the conditions, where over 70% of agricultural land and more than 80% of arable land is already privately owned.

The analysis of competitiveness and progress in achieving the Sustainable Development Goals of the Ukrainian agriculture allows us to draw the following conclusions.

Competitiveness as an economic category at the post-industrial stage of development should be interpreted and assessed in a broad sense: to cover economic, environmental, social components.

For agriculture, taking into account the concept of multifunctionality, competitiveness implies not only the production of competitive products, but also the ability of the industry to ensure social welfare, food security, ecologically safe human environment, unique landscapes preservation for today's and future generations. In this sense, competitiveness is an effective tool for achieving Sustainable Development Goals. Competitiveness and sustainable development become complementary and interdependent phenomena. Increasing competitiveness in a broad sense creates the basis for sustainable development. The transition of the agriculture to the trajectory of sustainable development, in turn, increases its competitiveness for the long term.

Generalization of research results of leading scientists, official statistics show that the competitiveness of Ukrainian agriculture is achieved through the economic component. Competitive advantages, as the basis of competitiveness, are mainly due to the use of natural resources and cheap labor, which corresponds to the linear model of the economy. Under such conditions, progress in achieving social and environmental Sustainable Development Goals is slow or absent. Therefore, there is a need to reconsider the ways of conducting economic activity. We believe that the result of such a revision should be a transition from a linear economy model to a circular model. For the agriculture, the circular economy model provides for the spread of organic production with the adoption of innovative technologies 4.0. This applies not only to the final product, but also to the whole complex of production and delivery of agricultural products.

The concept of circular economy has already become a priority in the strategic planning of post-industrial countries, in particular, the European Union, whose experience should be used by Ukraine in the process of developing a strategy for agricultural development.

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