

## GLOBAL AREAS OF AGRARIAN BUSINESS DEVELOPMENT

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### ABSTRACT

The following research methods are used to achieve this goal: theoretical synthesis, analysis, abstract and logical – to reveal the relationship of the global food crisis in the context of achieving food security goals; interpretation and comparison – to determine the prospects for improving food security; tabular and graphical – for a visual representation of food security in the world. It has been established that food security is an objective necessity for human development. Its provision is a guarantee of regular access of the population to high-quality food necessary for leading an active and healthy life. Taking into account the analysed indicators of food security, reserves have been identified for improving the growth of food security in the strategy of sustainable development of Ukraine and the world. A cumulative interrelated analysis of pandemic and post-pandemic poverty growth, declining profitability, and price differentiation in food security has been conducted. The assessment of divergent changes in the food sector of Ukraine and other countries is carried out taking into account the challenges of the environmental environment. The results of the study on food security can be used in the management of the economy and the agro-industrial sector as one of the goals of sustainable development.

**Key words:** food security, pandemic, poverty, reduction of profitability, strategic development goals, global environment, food security indicators, consumer price index

**JEL codes:** Q14, Q18

### INTRODUCTION

Economic globalization in the process of its development affects the involvement in commodity-money relations of a large number of new regions and areas of human activity. International trade and capital movements are growing sharply between countries, and national economies and their respective industries are gaining a strong export orientation. At the present stage of expansion and liberalization of international trade, economic and political integration, internationalization of aggregate effective demand, development of science, and exacerbation of global environmental

problems, completely new forms of globalization are being created. As a result, the world economy in all its multilevel structures is involved in the competition, in which the decisive role belongs not to national but to international competitive advantages. In particular, T. Levitt (1983) notes that the internationalization of markets is accompanied by an increase in the level of international specialization. Whether we examine agrarian relations as conditioned by global forces, or as intrinsically political because states are institutions of the world market (McMichael, 1987), the agrarian question has always been situated globally. We agree with the opinion of scientists such as E.F. Lambin

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and P. Meyfroidt (2011) that globalization increases the worldwide interconnectedness of places and people through markets, information and capital flows, human migrations, and social and political institutions.

Such trends should determine the clarity of specialization in a particular regional part of the world economy because each country or group of countries has certain types of resources located in a certain geographical zone, which affects the natural and climatic features, which is the result of a specific type of economic activity. In the current context, globalization has a significant impact on all spheres of society, but this phenomenon plays the most important role in the world economy in the 21<sup>st</sup> century. It provides a powerful impetus and creates new conditions for the functioning of international relations and the interaction of national economies.

The purpose of the article is to consider current trends in agricultural development in terms of individual countries and their impact on the formation of global agricultural business.

## **THEORETICAL BACKGROUND**

According to the United Nations, globalization is a general term meaning an increasingly complex set of cross-border interactions between individuals, businesses, institutions, and markets, which is manifested in the expansion of flows of goods, technologies, and funds, in the steady growth and strengthening of the influence of international civil society institutions, the global activities of multinational corporations, a significant expansion of cross-border communication and information exchanges (Globalization. Resource library). Thus, globalization has a significant impact on all economies of the world. At the same time, new development trends are emerging, which are forming structural changes due to globalization processes and influencing the new transformation of the agri-food market. At the same time, there is a changing trend of globalization, characterized by the intensification of the food crisis and increasing threats to food security:

- population growth causes a shortage of food resources;

- the natural potential of biological resources is exhaustible, so it is unable to meet the growing needs of mankind;
- there is a development of traditional and non-traditional technologies that contribute to the intensification of agricultural production;
- in the conditions of the imperfection of the international relations inefficiency of mechanisms of the international trade in agro-food is shown;
- the effectiveness of agricultural development in the context of global competitiveness is manifested only in the production of goods with high added value;
- most countries with high agri-food potential export mainly raw materials, losing a significant share of income (Van der Ploeg, 2008). Thus, the largest share of agriculture in world value added is observed in poor countries with significant external debt. The smallest share of agriculture is formed in the value-added of North America and the Eurozone – 1.6–1.8%. For low-income countries in Europe and Central Asia, this figure is slightly higher – 6.5%. The share of agriculture in East Asia and the Pacific region is 5.4% (FAO database).

## **MATERIALS AND METHODS**

The data used for documenting the paper was collected mainly through desk research. Different information sources from the European and national level, such as reports, country fact sheets, and articles were consulted.

The work included an analysis of available scientific literature on the development of agrarian business and the export of products. The criterion for choosing literature for consideration was the current and potential impact of the dynamics of agricultural production, imports, and exports.

## **RESEARCH RESULTS AND DISCUSSION**

The main patterns of globalization in agrarian business are:

- weakening of the natural and climatic factors and industrialization of agricultural production with the widespread use of all elements of the post-

- industrial economy – knowledge, information, management and control technologies, etc. This reduces the negative effects of natural and climatic factors and creates additional competitive advantages;
- development of processes of centralization and concentration of production. Fierce competition in international markets obliges agricultural producers to use high-performance equipment, knowledge-intensive and energy-saving technologies, train staff, and invest heavily in their retraining and further training;
  - the use of the latest advances in science, innovation, the development of biotechnology, reducing the use of pesticides and herbicides and thus reducing the chemical impact on the soil, maintaining a high level of better resources becomes possible only for large industries that attract significant investment;
  - territorial disparity in food production and consumption in the world. Disparities in food production are growing in some regions of the world (China, India, Pakistan, Iran, Africa) and the volume of effective demand for food, due to the standard of living that has formed in this or other countries. There is a significant gap in income and consumption levels between the population of developed countries and developing countries. This affects the caloric content and quality of the diet of the population of the world;
  - unification of normative and legal bases of agricultural production within the framework of international norms and standards. At the present stage in international trade, the issue of safe and quality food is becoming relevant, and environmental safety and quality of agricultural products in modern conditions are the main factors of its competitiveness.

Standards are now a significant new vector in the global food production complex. The World Trade Organization regulation of trade relations is complemented by a far-reaching private regulation of production standards, regarding quality, food safety, packaging, and convenience. It is integral to the centralization of retailing capital, and the dual imperatives of satisfying quality demands of relatively affluent con-

sumers and replacing smallholding by global/factory farms to realize those standards. UK supermarkets, for instance, believe that concentrating their grower base will reduce their exposure to risk by giving them greater control over the production and distribution processes (Dolan and Humphrey, 2000).

- strengthening the regulatory role of countries in establishing international economic relations in agricultural segments of the world market and strengthening neoprotection policy – a more latent, flexible, and effective mechanism for protecting the national market, based on non-tariff methods of regulation that are constantly modified, complicated and are the main problem area of multilateral negotiations in the World Trade Organization;
- disparities in the use of intensive and extensive methods of agriculture, which lead to increased production of agricultural raw materials and food production and the efficiency of the industry while reducing the share of the agricultural sector in total world production. However, there are exceptions. So, the universalization of the Northern model of industrial agriculture through the 20<sup>th</sup> century has resulted in the loss of 75% of the genetic diversity of crops across the world. Green revolution crops (new, bioengineered varieties) now account for more than half of the South's rice culture. The adoption of transgenic technology substitutes monopoly for diversity, threatening ecological and social sustainability, and local food security. A century ago, hundreds of millions of the world's farmers controlled and reproduced their seed stocks, whereas today 'much of the seed stock has been bought up, engineered, and patented by global companies and kept in the form of intellectual property, converting farmers into consumers of genetically altered seeds (Rifkin, 1998).

Modern globalization has allowed agricultural production to grow much faster than in the past, in particular, in the 70–80s it was 3% per year, today it is 4–6%. However, this growth is due to significant changes in the factors of this growth and the structure of food production. Thus, much of the increase was due to non-food rather than basic foodstuffs; the possibilities of export markets have changed (trade

restrictions); increasing the share of goods of higher value in the structure of world trade; TNCs have provided high incomes for their agricultural enterprises in high-income countries, which has given rise to their 'disinterest' in agricultural production in small niche markets in less developed countries, not to mention the 'poverty belt' countries.

Examples are the coffee and tea markets, the export market for horticultural products, which have grown tremendously in recent decades and continue to grow today. Thus, the largest share of agriculture is in countries such as Sierra Leone – 60%, Chad – 50%, the Central African Republic – 45%, Mali – 38% and other countries in Central Africa, Central, and East Asia, where the share of agriculture is more than 25%. Among European countries, Albania has the greatest dependence on agriculture, with 23% of agriculture in GDP. The country specializes in growing corn and wheat, as well as tobacco and cotton. The second place in the ranking is occupied by Moldova (16%), half of the export in the structure of foreign trade is occupied by an agricultural business.

The agrarian sector of Ukraine with its basic component of agriculture is increasingly becoming the system-forming factor in the national economy. It creates the factors for maintaining the sovereignty of the state: food and, within certain limits, the economic and ecological, energy security of the state, ensures the development of technologically related branches of the national economy, forms the market for food products (Putsenteilo, Klapkiv, and Kostetskyi, 2018). Ukraine ranks third with a 13% share of agriculture in GDP.

Consequently, the agrarian sector is a complex diversified set of economically interconnected production and technological division of labor of agricultural sectors specializing in the production of agricultural products, their industrial processing, storage, and sale, which also covers information and scientific support systems and is characterized by deep differences and specifics of individual elements, which requires the construction of an individual organizational, economic, and technological and technological policy regarding all business entities.

Also dependent on agricultural countries are Macedonia, Montenegro, Serbia, Belarus, Bosnia

and Herzegovina, Bulgaria, Romania, whose share of agriculture in GDP ranges from 11% to 5%, respectively. In terms of the world's countries, the largest share in the added value of agricultural production is occupied by China (975 billion USD) and India (362 billion USD), their shares in world production in 2018 were 32% and 12%, respectively. Also among the leaders of the agri-food market on this indicator are the United States, Indonesia, Nigeria, Brazil, Pakistan, Turkey, Argentina, Russia (FAO database).

Significant volumes of production in these countries are largely determined by the size of countries, so to assess the scale of development of the agricultural sector, it is advisable to calculate relative indicators. It should be noted that the value-added of Chinese agriculture is only 1.5% of the total GDP of the country. In India, this figure is 34% of GDP, indicating a significant dependence of the country on agriculture. Among European countries, the largest volumes of value-added production in agriculture were formed in Italy – 40 billion USD, France – 38 billion USD, Spain – 36 billion USD (FAO database).

Evaluation of the data in Table 1 shows that the production of certain types of agricultural products during 2015–2018 increased. This applies to wheat, soy, vegetables, and livestock products: beef and veal, pork, poultry, butter, and cheese. The largest increase in imports was in corn, soybeans, vegetables, and livestock products. Accordingly, there was an increase in exports of certain agricultural groups of goods: sugar and livestock products.

Thus, for example, in conditions where crops have continued to play an important role in ensuring food security in a global economy, and reduced cost of delivery, two conditions in developing countries could lead to increased imports of grain. Firstly, globalization and specialization can lead both to an increase in sown areas and an increase in the cost of goods, and potentially to a decrease in sown areas under cereals, but an increase in production intensity. Secondly, any differentiation in the distribution of income in relation to low-income levels, lack of food security, will stimulate increased demand.

Thus, low-income countries can benefit from lower grain prices, even when they lose from lower prices for other agricultural products. In addition,

**Table 1.** OECD Agriculture dynamics (thous. tons)

Commodity	Variable	2010	2015	2016	2017	2018
Wheat	Production	274 956.33	297 604.20	299 586.22	279 494.92	265 527.58
	Imports	32 476.69	35 846.23	36 406.23	39 272.56	38 592.25
	Exports	99 028.78	100 705.85	108 048.69	89 902.18	87 783.30
Maize	Production	419 508.88	453 107.83	499 695.96	487 072.01	483 367.68
	Imports	48 192.82	63 123.34	64 993.57	74 625.55	83 483.40
	Exports	50 853.76	53 734.37	64 704.08	68 311.65	59 212.76
Soybean	Production	96 956.00	116 638.71	127 088.93	131 475.98	131 636.13
	Imports	25 437.87	28 784.60	28 159.07	28 176.65	31 138.61
	Exports	43 789.19	56 169.64	62 791.38	62 479.28	52 527.09
Vegetable oils	Production	34 591.76	39 463.40	40 330.40	43 012.51	43 189.70
	Imports	17 707.20	22 067.05	22 366.56	23 150.87	23 814.08
	Exports	7 186.57	8 221.19	9 051.03	8 901.60	8 680.07
Sugar	Production	36 740.00	38 481.37	41 666.63	46 129.30	41 981.56
	Imports	14 924.83	13 288.77	11 844.09	10 987.47	11 624.30
	Exports	6 668.96	8 757.30	8 560.11	9 781.14	9 822.95
Beef and veal	Production	28 662.64	28 105.08	28 584.34	29 041.32	29 700.85
	Imports	4 231.14	4 673.47	4 718.14	4 773.72	5 245.52
	Exports	5 159.68	5 888.74	5 724.80	5 847.77	6 239.38
Pigmeat	Production	39 879.45	41 870.98	42 660.70	42 873.34	43 676.12
	Imports	4 069.31	4 837.46	5 006.09	5 286.89	5 578.29
	Exports	6 597.11	7 437.91	8 169.31	8 218.64	8 413.52
Poultry meat	Production	42 420.81	47 354.36	48 865.22	49 884.58	51 223.06
	Imports	3 262.42	3 877.43	4 032.10	4 001.56	4 097.39
	Exports	5 802.70	6 244.04	6 594.36	6 849.47	7 125.10
Butter	Production	3 902.02	4 444.58	4 591.11	4 579.49	4 619.42
	Imports	236.91	249.76	294.09	280.06	296.68
	Exports	809.16	861.12	931.36	837.98	831.07
Cheese	Production	16 199.11	17 654.86	18 167.80	18 771.90	19 045.97
	Imports	1 253.15	1 526.62	1 553.01	1 628.37	1 689.81
	Exports	1 921.58	2 282.37	2 472.05	2 459.62	2 471.06

Source: the authors' calculations based on FAO database.

globalization generates a 'speed pulse' of technology transfer among countries with developed infrastructure. Therefore, low-income countries that do not spend significant funds on scientific research and distribution technologies, do not upgrade agricultural infrastructure, do not make efforts to reduce operating costs will be permanently held hostage to 'price collapses' of agricultural goods, but without compensation for reduced production costs.

In this context, high-income countries can likely facilitate this process by liberalizing trade in agricultural products, preventing dumping of agricultural products on world markets and in domestic support programs for national agriculture, increasing demand for agricultural products by financing public works programs to reduce operating costs in rural (including depressed) areas. In low-income countries, especially in Africa, authorities and government agencies need to reorient public spending on agricultural production, rural infrastructure development programs in the context of reducing trade restrictions, reducing customs barriers, and so on.

That the volatility of agro exporting has encouraged farmers, close to dynamic urban markets, to shift into 'fast crop' production (fruits and vegetables) to regularize cash income as a matter of sustainability (Ponte, 2002).

Most Eastern European countries, due to peculiarities of their historical development, faced an urgent need to make decisive institutional changes aimed at ensuring the economic growth of the agricultural business. However, the institutional environment that can ensure the agrarian business growth is developing slowly, with considerable deformations caused by certain negative phenomena. The existing structure of the institutional environment of the agricultural sector in these countries testifies to the need for revising strategic priorities of institutional transformation in the agricultural sector (Jiggins and Hunter, 1979; Wise and Murphy, 2012; Tucker, Haupt and Stanley, 2015). Specific features of institutional changes in the agricultural sector in conditions of constant imbalances and tectonic changes lead to the destruction of domestic and foreign markets for agricultural products and have a huge impact on the development of the domestic

economy (Adelman and Morris, 1979; Dalrymple, 2006; Jansson et al., 2013). At the same time, peculiarities of institution establishment can be understood and evaluated only in the context of the whole set of institutional changes of the national economy. The transformation of the agrarian economy into the market one took place against the backdrop of fundamental institutional changes: emergence of various forms of ownership and patterns, complex interaction between old and new economic institutions, revival of economic traditions and emergence of new technologies, changes in the traditional role of the state in current processes (Polanyi, 2001). Consequently, development agricultural production requires creating special conditions. Such conditions can be supported by two main driving forces: (1) based on active interest of agricultural producers themselves; (2) through appropriate measures of state institutional policy (Putsenteilo et al., 2020).

It is worth taking into account the experience of the EU countries, the USA, Canada, Brazil, China, which have achieved the best results in solving the food problem and have become world leaders in food production and export. Each country pursued its food policy, but they had much in common. Their achievement is ensured by implementing an active and effective agricultural policy, the main tools of which are the introduction of state support for agricultural producers, promoting technological modernization of the agricultural sector, implementing a balanced foreign trade policy to maintain the national priority of ensuring the country's food independence.

The EU's achievements in solving the food problem are due to the implementation of the common agricultural policy, which is based on the following principles:

- freedom of movement of agricultural products throughout the territory of EU member states;
- giving preference to agricultural products produced in EU countries;
- protection of the EU internal market from the receipt of cheap products from third countries;
- application of uniform prices for agri-food products and a mechanism that contributes to their stabilization, financial solidarity in the costs of implementing the common agricultural policy.

India and China are the world's largest producers of several major agricultural commodities. Countries' accession to the WTO has played an important role in this. This was facilitated by:

- development and implementation of state programs for the development of agriculture, the social infrastructure of rural areas, and the formation of human capital for the agricultural sector of the economy;
- active support of agricultural producers, mostly small farmers, by providing state subsidies for the purchase of resources, premium subsidies, and other forms of financial support for agricultural insurance (Klapkiv, 2016; 2020), support of domestic prices, and the implementation of environmental measures;
- introduction of intensive methods of agricultural development through the use of innovative technologies;
- active participation in international trade in agricultural products and food, a significant increase in imports to meet domestic needs;
- conducting a balanced policy of customs regulation aimed at protecting the interests of domestic producers and consumers of food, and supporting exporters of agricultural products, provided that the national priority of food independence of the country.

Globalization puts the environmental dimensions of the economic activity of agricultural enterprises in one of the leading places. In this aspect, export-oriented enterprises need to consider key theses:

- strengthening global requirements for various aspects of environmental impact in the implementation of production activities;
- expansion of potential market segments due to the promotion of organic food.

World trade in organic food over decades of active development has acquired characteristics and features that are uncharacteristic of the sectors of genetically modified and traditional goods. Since the effective demand for higher-value organic food is mainly concentrated in highly developed countries (EU, USA), the flows of world trade in organic food are directed here. That is, organic products fall mainly in countries with a high degree of food security. Developing

countries, seduced by the high price of organic products, also export high-quality products to developed countries, although they have significant domestic food problems.

A feature of the organic market is high prices for goods, which take into account several factors that do not play a role in shaping the price of traditional goods, namely: environmental protection and improvement of environmental conditions (the desire to avoid future costs of combating environmental pollution); higher requirements for cattle breeding; combating the risks to farmers' health associated with the misuse of pesticides (as well as the desire to avoid future medical costs); rural development by creating additional jobs on farms and ensuring high incomes of producers.

The high price of organic goods has several reasons: demand far exceeds their production; they have a limited shelf life, require special processing and transportation; marketing and delivery are more expensive due to their small volumes and long chains of intermediaries. In addition, there is a natural fluctuation in prices during the year, primarily due to seasonal harvests. The price also includes the cost of certification, inspection. The production costs of organic agriculture are much lower than in traditional production.

Organic agricultural products have lower yields than traditional ones, but this fact is offset by the fact that the prices of organic goods are much higher. Excluding the difference in prices for organic and traditional goods, organic farms earn more than traditional ones due to lower variable costs. Taking into account the high level of prices and state aid to organic agricultural farms leads to a significant increase in profits.

Organic agricultural production significantly affects the social component of rural areas through the creation of additional jobs. Organic farms are often forced to compensate for the impossibility of using synthetic fertilizers and chemicals by hiring more workers. The amount of such additional labor varies for different regions, farms, and crops, but in general, the workforce for organic farms is usually 10–20% larger than for traditional ones. Also positive is the fact that organic producers use the method of crop

rotation of grain crops, plan their sowing and cultivation throughout the year to preserve the integrity of the ecosystem and soil health. And this creates all the conditions for permanent employment, not seasonal, as in traditional agriculture.

Thus, organic production of agricultural goods is a stimulus to economic development, rural development, creates additional jobs, and increases the income of the rural population. In addition, the organic type of production does not remain outside the solution of the problem of food shortages. Given the lack of need for significant expenditures on agrochemicals, it is considered more affordable for small farms and makes them self-sustaining and independent. The priority of traditional agriculture is high yields, but without taking into account the impact on the environment. This leads to climate change, soil and water pollution, negative impact on the biodiversity of the area. In contrast, organic agriculture uses an approach to soil management that preserves the integrity of the ecosystem. Soil conservation is the basis of organic agriculture, which promotes the development of soil flora and fauna, improves soil composition and structure, creates more stable ecosystems.

Thus, organic agriculture also affects food security. Organic production improves access to food by reducing the risk of various diseases. The issue of yield, in the long run, is decided in favor of the organic producer. This type of economy is a more stable system because it ensures the health of the environment.

## CONCLUSIONS

The main trends in the development of the global food problem and ways to solve it are identified, in particular:

- aggravation of the problem of food shortage in the world;
- strengthening global imbalances in food production and consumption, increasing instability in world food markets;
- the role of international food trade is growing in the solution of the world food system. At present, almost 30% of the world's food and raw materials go to consumers through foreign markets;
- cereals play a key role in shaping food market trends, as their share in the value structure of world exports is 18%;
- one of the main trends in the functioning of the world food system of the 21<sup>st</sup> century is the penetration of genetic modifications (agricultural biotechnology) into the industry of new products.

A characteristic feature of the modern development of the world food system is its greening, which is expressed in the formation and implementation of special regional programs of organic farming, development of organic nutrition standards, development of educational and training projects to protect the environment of agricultural production.

Thus, the modern world food system is formed under the influence of natural, economic, technological, trade, and political, social, environmental parameters. There is a significant gap in the level of development of food systems in highly developed and developing countries. The priority of the effective functioning of the global food system is to provide the world's population with food, which requires equalization of the development of national agricultural sectors, their integrated interaction with the natural environment, ensuring the conservation of biological diversity and food resources of the earth.

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