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HUMAN POTENTIAL IN THE AGRICULTURAL SECTOR OF THE ECONOMY

***Topicality.** The agricultural sector is one of the leading sectors, which plays a significant role in the economic development of many countries, including Ukraine. The sector has a strategic impact on food security, economic growth, rural development, and job creation. International achievements indicate that human resource potential is a determining factor in development, influencing the efficiency and competitiveness of agricultural production.*

***Aim and tasks.** The aim of the article is to highlight the main international benchmarks and institutional support of Ukraine's agricultural sector development. The objectives of this article are to analyze the legislation of EU countries regarding agricultural economy sector regulation, determine the impact of human resources on the sector's development, and justify a comprehensive approach of system modernizing by providing human resource potential in Ukraine's agricultural sector.*

***Materials and Methods.** The research utilized the theoretical foundations of human capital concept as an economic growth factor, institutional management of agricultural economics regarding and state policy impact of agricultural sector. The synthesis method was used to identify directions of Ukraine's agricultural sector development, explaining the impact of education and professional training on productivity.*

***Research results.** The study substantiates that focusing on the institutional support of the EU agricultural economy sector has prospects for implementation in Ukraine, as it encompasses the entire cycle of management and functioning, from providing human resources to ensuring ecological sustainability and economic development. In contrast, Ukraine's institutional framework is somewhat fragmented, leading to inconsistencies in management functions and, as a result, disparities in overall growth indicators.*

***Conclusion.** Human resource potential plays a crucial role in the development of Ukraine's agricultural sector and requires modernization due to the lack of modern knowledge and skills among many workers, the use of outdated technologies affecting labor productivity and overall efficiency, and the need for infrastructure restoration to prevent the outflow of personnel. There is a need to implement digital technologies and tools in the updating of educational programs and professional development programs, conduct research and innovations, provide legislative and regulatory support for state aid to attract investments for technical equipment and subsidization, and grant high-skilled personnel in the agricultural sector with development grants for their enterprises.*

***Keywords:** human resource potential, agricultural sector of the economy, institutional support.*

Problem statement and its connection with important scientific and practical tasks. The article is dedicated to the pressing issue of the development of the agricultural sector through its provision with human resources. This problem encompasses questions of economic growth,

environmental preservation, and social capital. The cooperation between Ukraine and the World Bank within the framework of the ARISE program is aimed at restoring the agricultural sector by providing concessional loans to micro and small enterprises. From the beginning of 2024 until the

end of May, Ukrainian enterprises received UAH 47 billion in loans for the development of their agricultural business (Ministry of Agrarian Policy and Food of Ukraine, 2024). The accelerated pace of changes in market conditions and technologies creates new needs for employers in the agricultural sector. It is important to ensure the training of personnel who can quickly respond and adapt to modern challenges and requirements. The efficiency of human resources in the agricultural sector of the economy should take into account theoretical training and practical experience, as well as the application of innovations and digital approaches in training.

Analysis of recent publications on the problem. The research on EU countries is primarily associated with the requirements of the new Green Deal aimed at improving the state of the agricultural sector. The analysis of the CAP Strategic Plan (Nadeu, et al, 2023) demonstrates that stimulating the development of the agricultural sector is not sufficiently effective considering environmental protection requirements. In their report, (Benton, et al, 2023) analyze how the agricultural sector impacts ecosystem services and public health. The emphasis is on the fact that population well-being is the main link in a country's economic growth through the use of circular economy principles in agriculture. The authors argue that the human resource in farming enables the implementation of cleaner technologies and production processes, which on one hand makes the products more expensive, but this tax burden is offset by reducing waste quantities.

In their study, "Agriculture in the Global Economy" (Alston & Philip, 2014), the authors compare high-income countries with middle and low-income countries, taking into account the research potential used in the agricultural sector. They conclude that high-income countries do not fully utilize their high-skilled potential and scientific achievements. Despite the high income from agricultural products, this trend will gradually decline due to associated costs such as waste management and technological equipment. In contrast, low-income countries that stimulate agribusiness towards scientific research and skill development will, within ten years, expand the export of their agricultural products through innovative approaches and preventive measures for environmental protection.

The report by (Clerco, et al, 2018) emphasizes the need for innovation, robotics, and investment in the agricultural sector. This is because analysts predict that by 2050, the demand for sector products will increase by 70%.

Research by (OECD, 2023) focuses on the growing risks to the agro-industrial sector caused by the war in Ukraine, with damages amounting to almost \$7 billion. The human resource also suffered, with 15% of the workforce protecting their families. Therefore, the authors emphasize the need for cooperation between governments and the expansion of public-private partnerships.

Allocation of previously unsolved parts of the general problem. A problematic issue of the agricultural sector development in Ukraine is, firstly, the adaptation of the institutional environment to the requirements of European legislation, and secondly, the modernization of workforce training to create competitive products for export to international markets.

Formulation of research objectives (problem statement). The purpose of the article is to highlight the main international benchmarks and institutional support for the development of Ukraine's agricultural sector. The tasks of this article are to analyze the legislation of EU countries regarding the regulation of the agricultural economy sector, determine the impact of human resources on sector development, and justify a comprehensive approach to modernizing the system of human resource provision in Ukraine's agricultural sector.

Materials and Methods. The research utilized the theoretical foundations of human capital concept as a factor of economic growth and agricultural economics regarding the institutional management of agricultural resources and state policy impact of the agricultural sector. The synthesis method was used to identify directions for the development of Ukraine's agricultural sector, explaining the impact of education and professional training on productivity.

An outline of the main results and their justification. The agricultural sector of Ukraine's economy holds potential for entering international markets during the recovery period. Therefore, it is necessary to gradually introduce modernization and innovations for the sustainable and efficient management of natural and social resources, which will enhance the productivity and competitiveness of Ukrainian agriculture on the global stage. This requires institutional support above all.

The Common Agricultural Policy (CAP) of the European Union is a key instrument for regulating and supporting the agricultural sector in EU countries, aimed at ensuring the stabilization of the sector in terms of food supply, subsidizing agricultural enterprises, anti-dumping regulation, and environmental sustainability.

In EU countries, institutional support for the

agricultural sector is provided according to the requirements of the Common Agricultural Policy (CAP, 2018), which includes the following directions:

Environmental Sustainability: Adapting to climate change and organic farming. Funding for this direction comes from the European Agricultural Guarantee Fund (EAGF) with a budget of €291 billion for 2021-2027, which finances agricultural subsidies, and the European Agricultural Fund for Rural Development (EAFRD) with a budget of €95 billion for 2021-2027, which supports sustainable development projects.

Demographic Changes: The outflow of human resources from rural areas, leading to an aging population, requires stimulation through

government programs or grants for qualified youth.

Economic Challenges: Competition between EU countries and non-EU countries producing cheaper agricultural products and exporting them to the EU, causing dumping in the market and decline in the agricultural economy. Farms lose profits and are forced to exit the market.

To normalize the effectiveness of these directions, the CAP provides funding and subsidies to producers and agricultural structures, stabilizes agricultural pricing policy between EU countries and other suppliers, and ensures compliance with environmental standards and norms. The CAP emphasizes innovations and new technologies such as digital farming and innovations in research and human resources. Detailed information by EU countries is provided in Table 1.

Table 1

EU Legislation on the Regulation of the Agricultural Economy Sector

Country	Subsidies to farms aimed at income support and market stabilization	Development programs: investments in infrastructure, environmental projects and grants to support human resources
France (Code rural, 2024)	The Agricultural Code regulates the issue of subsidies, land use, and agricultural infrastructure.	Environmental regulations ensure the protection of the natural environment.
Germany (Gemeinsamen Agrarpolitik, 2014)	The Agriculture Law includes provisions on ecological agriculture and regulation of the land market	Environmental regulations ensure the protection of the natural environment and include the control of the use of pesticides and fertilizers
Italy (Decreto Legislativo, 2005)	The Agrarian Code regulates issues of land use, subsidies	Small business support, stimulation of micro-entrepreneurship and agritourism
Spain (Explotaciones Agrarias, 1995)	The Agriculture Law includes provisions on ecological agriculture and regulation of the land market	Environmental standards include requirements for the preservation of water resources and environmental sustainability
Netherlands (Landbouw kwaliteitswet 2021)	The Agriculture Law regulates the issue of thermal management and export	Environmental regulations include requirements for environmental sustainability and emissions control
Poland (Ustaw o rolnictwie ekologicznym, 2023)	The Agriculture Law regulates subsidies, land use and exports	Rural development programs, namely investments in infrastructure and modernization of the agricultural sector
Greece (Ley Orgánica, 2007)	The Agricultural Code regulates issues of land use, subsidies	Support of small business, stimulation of micro-entrepreneurship and agritourism
Denmark (Landbrug, 2009)	The Agriculture Law regulates subsidies, land use	Environmental regulations include requirements for environmental sustainability and preservation of natural resources

The above indicates that the institutional support of the agricultural sector leads to the growth of the economic indicators of the country's economy. Thus, thanks to the SAR policy, the European Commission (European Commission, 2024) indicated that the gross added value of the agricultural sector of the EU countries in 2023 amounted to almost 226 billion euros. It is also

indicated that the total number of human resources employed in the agricultural sector of the economy amounted to 7.6 million jobs (Table 2)

Table data show that the personnel resource does not have a significant impact on the economic indicators of the agrarian sector of the EU economy. However, according to the requirements of European legislation, agricultural enterprises use

highly qualified potential, therefore, from the beginning, it does not have a negative impact on the sector.

The situation of the agrarian sector of the economy of Ukraine can be characterized by the following trends (UkraineWorld, 2024) Due to the reorientation of grain and oil crops, the total yield increased by 10% compared to 2022. Export

indicators of the agricultural sector of Ukraine were lower than in 2021, but despite military operations in the country, they amounted to 49 million tons. The development of the agricultural sector of Ukraine's economy requires some changes and should take into account the following areas:

Table 2

Indicators of EU countries in the sector of the agrarian economy

Country	Economic indicators for 2023	Human resources indicators for 2023
Portugal	+16.7% of the value of agricultural production	without significant changes
Romania	+15.1% of the value of agricultural production	without significant changes
Latvia,	-20% of the value of agricultural production due to economic and environmental changes	-6.1%
Lithuania	-20% of the value of agricultural production due to economic and environmental changes	without significant changes
Estonia	-20% of the value of agricultural production due to economic and environmental changes	without significant changes
Bulgaria	without significant changes	-7.3%
Hungary	without significant changes	-5.2%
Denmark	without significant changes	-5.0%
Slovakia	without significant changes	+2.3%
Netherlands	without significant changes	+1.9%

First, it is the land reform (Ulyanenko, 2024), which introduced the purchase of land plots to legal entities from the beginning of 2024, but not with an area of more than 10,000 hectares. Such a step will make it possible to create a more efficient land market, ensure land ownership rights and attract investments.

Secondly, the introduction of technologies and innovations, such as digitalization, development of scientific research solve modern problems of the sector.

Third, adaptation to the environmental challenges associated with hostilities and climate change.

Fourth, the personnel resource that requires the training of highly qualified specialists for the agricultural sector, with an emphasis on modern technologies and management and levers to stop their outflow.

Fifth, based on the creating permanent grant and subsidy programs EU policy, attracting grant support for agribusiness the latest approaches and technologies using.

Considering the above, the needs of employers in the agricultural sector are constantly changing, focusing on global trends and technological development and include technical knowledge and skills, management literacy for planning and organizing production processes, mastery of financial management and strategic planning.

Institutional support of the agrarian sector of the economy of Ukraine is carried out in the following directions: regulatory, tax, environmental and personnel support (Table 3).

The Land Code of Ukraine (2021) regulates the legal status of land, the procedure for its use, and protection. The Law of Ukraine "On State Support of Agriculture of Ukraine" (2004) defines the forms and mechanisms of state support for the agricultural sector, such as subsidy, grant, and compensation programs. The Law of Ukraine "On Farming" (2003) regulates the procedure for the creation and operation of farming enterprises, defines their rights and obligations, and regulates the legal, economic, and social foundations of their activities.

Tax legislation is ensured by the Tax Code of Ukraine (2011), which includes the taxation system and establishes special regimes for the agricultural sector, such as the single tax for the fourth group, providing benefits: exemption from income tax for enterprises engaged in the production, processing, and sale of agricultural products.

The Law of Ukraine "On State Support of Agriculture of Ukraine" (2004) provides financial support such as direct subsidies, partial reimbursement of equipment and machinery costs, preferential lending, and elements of state insurance for products.

Institutional support of the agricultural sector of the economy of Ukraine

Normative direction	
Land Code of Ukraine (Land Code of Ukraine, 2021)	regulates the legal status of lands, the procedure for their use and protection
Law of Ukraine "On State Support of Agriculture of Ukraine" (Law of Ukraine "On State Support of Agriculture of Ukraine", 2004)	determines the forms and mechanisms of state support for the agricultural sector, such as subsidy, subsidy and compensation programs
The Law of Ukraine "On Farming (The Law of Ukraine "On Farming, 2003)	regulates the procedure for the creation and operation of farm enterprises, defines their rights and obligations, and also regulates the legal, economic and social foundations of their activity
Tax direction	
Tax Code of Ukraine (Tax Code of Ukraine, 2011)	includes the taxation system and establishes special regimes for the agricultural sector of the economy, such as the single tax of the fourth group, establishes benefits: exemption from income tax for enterprises engaged in the production, processing and sale of agricultural products
Law of Ukraine "On State Support of Agriculture of Ukraine" (Law of Ukraine "On State Support of Agriculture of Ukraine", 2004)	provides financial support, such as direct grants and subsidies, partial reimbursement of costs for the purchase of equipment and machinery, preferential lending, as well as elements of state product insurance
Ecological direction	
The Law of Ukraine "On Environmental Protection" (The Law of Ukraine "On Environmental Protection", 1991)	regulates the legal, economic and social foundations of rational use of natural resources and environmental safety
Law of Ukraine "On Environmental Impact Assessment" (Law of Ukraine "On Environmental Impact Assessment", 2017)	regulates the procedure for impact on the environment and establishes responsibility for violations
Personnel direction	
Labor Code of Ukraine (Labor Code of Ukraine, 1991)	includes special regulations for workers in the agricultural sector regarding working hours, vacations and wages
Law of Ukraine "On Employment of the Population" (Law of Ukraine "On Employment of the Population", 2012)	regulates highly qualified human resources and promotes self-employment of the population

Environmental regulation is carried out by the Law of Ukraine "On Environmental Protection" (1991), which regulates the legal, economic, and social foundations for the rational use of natural resources and environmental safety, and the Law of Ukraine "On Environmental Impact Assessment" (2017), which regulate the procedure for environmental impact assessment and establishes liability for violations.

Human resource provision is ensured by the Labor Code of Ukraine (1991), which includes special norms for agricultural sector workers regarding working hours, vacations, and wages. The Law of Ukraine "On Employment of the Population" (2012) regulates the highly qualified human resources and promotes self-employment of

the population.

Comparing the institutional support of the agricultural sector in Ukraine with that of the EU, we summarize that EU legislation more clearly outlines the entire process of sector functioning, from ensuring human resources, environmental sustainability, and economic development, while the Ukrainian institutional framework is somewhat fragmented, leading to inconsistencies in management functions and, as a result, disparities in overall growth indicators.

Ensuring the human resource potential of the agricultural sector in Ukraine requires modernization due to the lack of modern knowledge and skills among many workers, the use of outdated technologies affecting labor

productivity and overall efficiency, and the need to rebuild infrastructure to prevent the outflow of personnel. There is a need to implement digital technologies and tools in the updating of educational and professional development programs, the introduction of research and innovations, legislative and regulatory support for

state aid to attract investments for technical equipment and subsidies, and providing grants to highly qualified personnel in the agricultural sector for the development of their activities. Such a comprehensive approach will create conditions for the effective functioning of the agricultural sector of Ukraine's economy.

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