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INNOVATIVENESS AS A PREREQUISITE FOR THE POST-WAR DEVELOPMENT OF THE AGRICULTURAL SECTOR IN UKRAINE

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Abstract. *The article discusses innovation as crucial for Ukraine's agricultural sector's post-war development, emphasizing its importance due to economic risks from the Russian-Ukrainian conflict. It presents the innovation process as key to boosting the sector's competitiveness, exploring investment and innovation theoretical aspects. The paper notes the scarcity of research on post-war agricultural innovation, especially its role in sector recovery and modernization. Utilizing various economic research methods, it analyzes statistical data on agriculture and agri-food exports, drawing on open sources and official websites for information. The study examines employment dynamics, labor productivity, and other macroeconomic agricultural indicators, addressing the significant impact of the 2022 war on the sector. It highlights Ukraine's position in the global innovation index, identifying strengths and weaknesses in innovation. The importance of digitalization and the green economy in agriculture is underscored, concluding with the critical role of innovation for the sector's future. Future research directions are suggested, focusing on improving innovation support through infrastructure development, scientific personnel training, favorable business conditions, and investment attraction. The article advocates for developing an effective post-war innovation strategy for Ukraine's agricultural sector, incorporating green economy and digitalization, marking it as a scientific priority. Thus, developing an effective strategy for post-war innovative development of Ukraine's agricultural sector, reflecting current scientific research, including the implementation of the green economy, digitalization of the country's agricultural sector, etc., is a priority on the agenda for scientists.*

Keywords: *innovation; global innovation index; agricultural sector; post-war development; efficiency.*

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Introduction / Analysis of recent research and publications

At the current stage of development of the national economy of Ukraine, among the strategic tasks aimed at increasing the efficiency of agricultural production, a process of innovative provision occupies a central place. This process can direct the vector of development of this key sector of the agrarian sector towards a positive and effective direction, increasing its level of competitiveness. This is especially important in light of the war that has been taking place since 2022 on the territory of the Ukrainian state.

In the general scientific understanding, the innovative process is a complex of interrelated actions (stages, phases, systems) that combine scientific, technical, and economic research, in which innovative elements act as stimulating particles.

In particular, the theoretical foundations related to investment support and innovative processes are actively studied by scholars and discussed in the works of the following foreign scientists, such as: J. Schumpeter [1] – studied economic development and innovations, including the theory of economic cycles and the concept of "creative destruction," which explains the role of innovations and entrepreneurial activity in economic growth; B. Twiss [2] – focused his research on the management of technological innovations, studying how organizations can effectively develop and implement new technologies; F. Nixon [3] – was engaged in research related to the economic aspects of innovations. Regarding the studies of Ukrainian scientists, specifically: G.V. Yershova [4] – studied aspects of innovative activity and its impact on the efficiency of the agricultural sector; Y.O. Lupenko [5] – researched the economic aspects of agricultural innovations, particularly the role of investments in the development of agriculture, the introduction of new technologies, and increasing the competitiveness of agricultural enterprises; O.M. Havrysh [6] – mainly focused on strategic management of innovations in the agricultural sector, including the development and implementation of innovative projects, improvement of management practices, and analysis of investment efficiency; V.M. Heyets [7] – investigated the macroeconomic conditions of innovative development, the impact of government policy on the innovative activity of economic entities, including in the field of agricultural production, O.Yu. Yermakov [8] – dealt with the analysis of market mechanisms for stimulating innovations, evaluation of investment efficiency in innovative projects, and development of methods for assessing the innovative potential of enterprises, among others.Despite a significant amount of research, there is a noticeable deficit in the analysis of innovative processes in the context of the post-war recovery of Ukraine's agricultural sector. Particularly relevant is the study of the impact of innovations on the restoration and modernization of agricultural production, as well as the exploration of ways to attract investment in the sector under post-conflict economic conditions.

In view of the above, ***the main goal of this study*** is to analyze and substantiate ways to optimize the innovative provision of the agricultural sector of Ukraine in the conditions of post-war development and global changes in the world agricultural market. The research is directed at identifying key factors that affect innovative activity in the field and

developing recommendations to improve the efficiency of its functioning in the post-war period.

Materials and Methods of Research

During the research, various general scientific methods were applied, including historical, analytical-empirical, inductive-deductive, statistical, and comparative methods. These methods allowed for the objectivity and depth of the analysis of the presented material. For the collection and analysis of data, statistical data from the State Statistics Service of Ukraine were used, as well as the results of research by other authors mentioned in the list of used sources. The methods of statistical data processing included quantitative analysis of macroeconomic indicators, such as gross domestic product, the share of agricultural production in GDP, and the volume of foreign currency earnings from the export of agricultural products, among others. Comparative analysis methods were also used to assess the dynamics of the development of Ukraine's agricultural sector in comparison with previous periods and the international context.

Research Results and Their Discussion

The functioning of an efficient agricultural production in the Ukrainian state as a cohesive complex and a defining component of the agrarian sector is closely linked to natural conditions, the availability of material and technical bases, technical and financial capabilities, and well-prepared and highly qualified human resources. Despite the complex demographic-political situation, combined with financial and economic instability, according to the State Statistics Service of Ukraine, macroeconomic indicators and the specific weight of agricultural production in the economy of the country indicate a trend of growth and development of the sector, which, in the pre-war years, became the main locomotive of socio-economic development, a key source of financial support.

As evidenced by the data in Table 1, Ukraine's GDP grew throughout the entire period under review, even despite the crisis period of the COVID-19 pandemic in 2019-2020. The total volume of GDP significantly increased from 1979.5 billion UAH in 2016 to 5450 billion UAH in 2021.

The share of agriculture in GDP gradually decreased, showing a decline from 12.1% in 2016 to 10.9% in 2021.

Foreign currency earnings from the export of agricultural products, according to Table 1, also showed significant growth, from 14.6 billion US dollars in 2016 to 27.7 billion US dollars in 2021. The share of agricultural production in the total volume of foreign currency earnings from the country's exports also increased, from 31.1% in 2016 to 40.7% in 2021.

Summarizing the above, it can be asserted that agriculture in Ukraine played an important role in the economy, growing both in terms of production volume and in terms of employment and export of products. This indicates the significant contribution of the agricultural sector to the gross domestic product and the international trade balance of Ukraine.

The trends of the last (pre-war) years indicate that the division of labor in agriculture across the spheres of production, processing, storage, and transportation of products has acquired a "non-agricultural" character and is shifting to the

1. Macroeconomic Indicators and the Share of Agricultural Production in Ukraine's Economy

Indicators	Years					
	2016	2017	2018	2019	2020	2021
GDP (in actual prices), total, billion UAH	1979,4	2383,1	3560,3	3977,2	4222,0	5450,0
including in agriculture, billion UAH	239,8	279,7	361,0	356,6	393,1	593,4
Share of agriculture in GDP, %	12,1	11,7	10,1	8,9	9,3	10,9
Gross agricultural value added, billion UAH	239,81	277,19	361	342,2	362,6	593,4
Share of agriculture in total gross value added, %	14,0	13,7	12,0	10,4	10,8	12,7
Number of people employed in agriculture, hunting, forestry, fishing, aquaculture, thousand persons	2871	2867	2938	3010	2721	2693
Share of employment in agriculture, hunting, forestry, fishing, aquaculture in total country, %	17,5	17,6	18,0	18,2	17,1	17,2
Volume of foreign currency earnings from the export of agricultural products, billion USD	14,5	15,2	18,4	22,1	22,2	27,7
Share of agricultural production in the total volume of foreign currency earnings from the country's exports, %	31,1	32,6	40,8	44,1	45,1	40,7

Source: [9].

industrial and services sector, which increases its own share in the GDP structure. For instance, in developing countries, 2/3 of the employed population, and in some places 3/4, work in agriculture, while in economically developed countries it is less than 1/10. However, the level of agricultural production in these countries occupies the highest ranks. Data on the number of employed people in Ukraine reflect an increasing trend (Figure 1), despite the fact that the overall share of the employed population in Ukraine is decreasing.

Throughout the analyzed period from 2010 to 2020 (Table 2), the overall labor productivity in Ukrainian agriculture increased from 380.4 thousand UAH to 857.2 thousand UAH per employed worker. This positive dynamic indicates an overall increase in labor productivity in the sector. Regarding the macroeconomic sectors, compared to 2010, in 2016, labor productivity in crop production increased by 22.6%, and in animal husbandry by 22%. Thus, we observe a positive dynamic of growth in labor productivity in both sectors of agriculture. However, it is important to note significant differences between them with respect to the analyzed indicator. In general, it can be said that during the considered period there was a positive growth in labor productivity in agriculture, especially in crop production. Nevertheless, it is import-

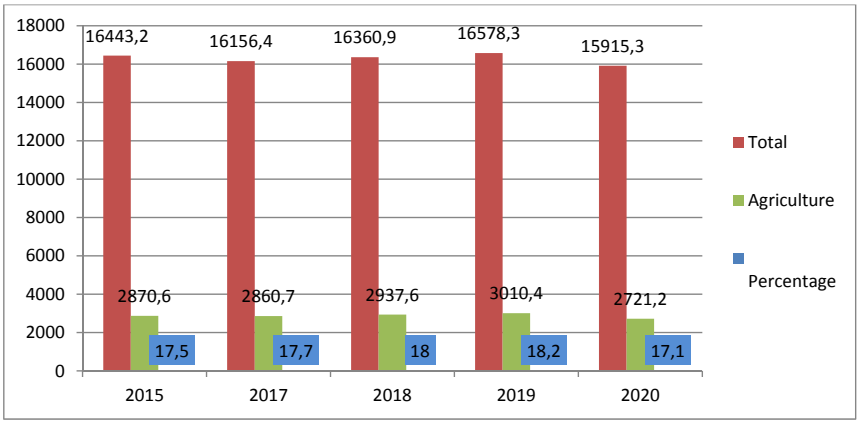

Fig. 1. Dynamics of employment in agriculture in Ukraine

Source: [9].

2. Labor productivity in enterprises engaged in agricultural activities

Year	Per employee in agricultural production at constant 2016 prices, thousand UAH.			In % to the previous year		
	agricultural production	crop	livestock farming	agricultural production	crop	livestock farming
2010	380,4	424,7	276,7	101,0	97,0	116,1
2011	472,4	532,3	310,3	124,2	125,3	112,1
2012	458,1	491,6	361,6	97,0	92,4	116,5
2013	583,2	636,5	424,9	127,3	129,5	117,5
2014	635,6	688,7	472,7	109,0	108,2	111,2
2015	624,0	660,0	503,9	98,2	95,8	106,6
2016	765,0	804,0	614,6	122,6	121,8	122,0
2017	755,4	777,4	664,8	98,7	96,7	108,2
2018	867,7	900,1	730,4	114,9	115,8	109,9
2019	928,6	954,4	815,2	107,0	106,0	111,6
2020	857,2	853,7	872,8	92,3	89,4	107,1

Source: [10].

ant to consider factors that may affect these changes and, if necessary, examine them more closely to understand the reasons for such fluctuations.

Thus, during the studied period (2010-2020), labor productivity in crop production increased by 89.4%, while in animal husbandry it increased by 7.1%, which is evidence of more intensive use of new innovative technologies for growing agricultural crops and increasing their yield.

However, these positive achievements were soon destroyed, as the agricultural sector of Ukraine suffered significant damage as a result of the Russian-Ukrainian war that began on February 24, 2022. This reflected on both the economic and the technical-technological indicators of agricul-

ture and its related sectors of processing, storage, and transportation of products. According to the National Institute for Strategic Studies and the assessment results of the Ministry of Agrarian Policy and the Kyiv School of Economics [11], the total amount of losses inflicted on the agricultural sector due to the large-scale Russian invasion of Ukraine, as of September 15, 2022, reached 6.6 billion USD. Meanwhile, indirect losses in Ukraine's agriculture due to reduced production, blockade of ports, and increased production costs are estimated at 34.25 billion USD (specifically in crop production due to reduced production – 11.2 billion USD; in animal husbandry – 348.7 million USD; losses due to reduced production of winter crops are estimated at 3 billion USD; perennial crops – at 322 million USD; losses due to disruption of logistics amount to 18.5 billion USD).

The total number of agro-industrial complex entities that suffered losses due to the Russian Federation's armed aggression is 2,653 units (with arable land areas reduced by 1.9 million hectares, perennial plantings – by 9 thousand hectares). In addition, an area of agricultural land of about 1 million hectares requires inspection for the presence of explosive objects.

Crop production suffered significant losses. In particular, the loss of crop production volumes in natural units for 2022, compared to the previous year, is 35–40%, due to reduced sown areas (because of the temporary occupation of Ukrainian territories) and lower crop yields compared to the previous year [3].

The livestock sector was severely affected. According to the Ministry of Agrarian Policy of Ukraine, due to military actions, 15–20% of the livestock population of cattle, pigs, and poultry was lost. The most affected were farms in Chernihiv, Kharkiv, Sumy, Kyiv, Donetsk, Luhansk, Mykolaiv, Kherson, and Zaporizhzhia regions, where at the beginning of 2022 all categories of farms concentrated: cattle – 25.3%, cows – 25.8%, pigs – 31.5%, sheep and goats – 28.2%, poultry – 24.9%. Production of livestock products in these regions accounted for: meat – 20%, milk – 28.7%, eggs – 44.8% [11].

Considering the prospects of post-war reconstruction of Ukraine's agricultural sector, we note that innovations are a key element of the success of countries in the modern global space. The world is changing extremely fast, and only those countries that can quickly adapt to changes remain competitive. Therefore, assessing the innovativeness of countries is an important topic that attracts the attention of many researchers, analysts, and experts. Various criteria are used for this assessment (of countries' innovativeness), namely: expenditures on research and development, intellectual property, education and research levels, release of new products and services, etc. In this regard, the assessment of countries' innovativeness helps to understand trends and prospects for the development of a particular country in the field of scientific research and technology. In this context, research and analysis of countries' innovative indicators become an important tool for making relevant decisions in the economy, science, and technology fields.

It is pertinent to note that the global trends of forming a resilient and sustainable type of economic growth are characterized by the transition from a raw material and industrial economy to an innovative one. The latter, as is known, is based on intellectual resources, sci-

3. Ukraine's position in the Global Innovation Index 2023 (GII)

Indicators	Year									
	2019		2020		2021		2022		2023	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
GII	37,4	47	36,3	45	35,6	49	31,0	57		55
Institutions	53,9	96	55,6	93	56,2	91	47,4	97	38,4	100
Human capital and research	35,6	51	40,5	39	38,2	44	36,6	49	35,6	47
Infrastructure	36,0	97	33,1	94	32,3	94	38,7	82	36,9	77
Market sophistication	43,3	90	42,1	99	42,3	88	38,7	102	23,2	104
Business sophistication	34,8	47	29,5	54	28,9	53	32,3	48	32,4	48
Knowledge and technology outputs	34,6	28	35,1	25	32,3	33	32,9	36	30,0	45
Creative outputs	33,5	42	29,9	44	30,9	48	19,8	63	34,6	37

Source: [10].

ence-intensive and innovative technologies, efficient use and qualitative improvement of all factors at all stages of production.

An increased role of education, knowledge, and innovation characterizes the rapid development and the highest positions in the world rankings of such countries as Switzerland, Singapore, the USA, Japan, the Netherlands, and Germany, which for the past years have been among the top ten global leaders of countries with the most innovative development. Thanks to new knowledge, on the basis of which efficient production technologies are created, high-quality products are released, and organizational and managerial mechanisms of production are changed and improved, these countries see an increase in the share of labor productivity and GDP, and the pace of growth in the country's competitiveness, its products, and overall state security.

In light of this, it is worth taking a closer look at the Global Innovation Index 2023 and Ukraine's position in the ranking (Table 3 and Figure 2).

We should note that Ukraine has been categorized by the authors of the ranking among countries with indicators that are higher than expected given its current level of development. It is noteworthy that there has been a slight increase in the ranking; 2023 has become a year of progress in innovative development, as Ukraine ranked 55th overall (compared to 45th in 2020, 49th in 2021, and 57th in 2022).

There has been minor but notable progress in the "Human Capital and Research" indicator – ranking 47th compared to 49th in 2022, "Infrastructure" – 77th compared to 82nd the previous year, which is largely associated with the operation of the "Grain Corridor" and the breakthrough of the maritime blockade in the Black Sea. The "Business Sophistication" indicator remains stable, holding 48th place in the overall ranking. Indicators that require significant development include "Institutions"

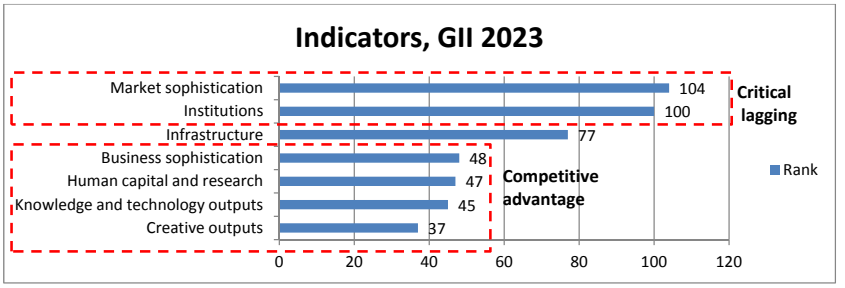

Fig. 2. Indicators of the Global Innovation Index 2023

Source: [12].

4. Strengths and weaknesses of Ukraine in GII 2023

Code	Strengths/Indicator name	Rank	Code	Weaknesses/Indicator name	Rank
2.1.2	Government funding/pupil, secondary, % GDP/cap	10	1.1.1	Operational stability for businesses	130
2.1.5	Pupil-teacher ratio, secondary	14	2.3.3	Global corporate R&D investors, top 3, mn US$	40
5.1.5	Females employed w/ advanced degrees, %	2	3.2.3	Gross capital formation, % GDP	124
6.1.3	Utility models by origin/bn PPP$ GDP	1	3.3.1	GDP/unit of energy use	115
6.2.3	Software spending, % GDP	6	4.1.3	Loans from microfinance institutions, % GDP	52
6.3.4	ICT services exports, % total trade	6	4.2.1	Market capitalization, % GDP	75
7.1.2	Trademarks by origin/bn PPP$ GDP	22	4.2.3	VC recipients, deals/bn PPP$ GDP	90
7.1.4	Industrial designs by origin/bn PPP$ GDP	16	4.2.4	VC received, value, % GDP	75
7.3.4	Mobile app creation/bn PPP$ GDP	12	6.2.1	Labor productivity growth, %	129
			6.2.2	Unicorn valuation, % GDP	97

Source: [13].

– 100th place (compared to 97th in 2022) and "Market Sophistication" – 104th place (compared to 102nd in 2022). We also note a decrease in the "Knowledge and Technology Outputs" indicator to 45th place (from 36th in 2022). However, there has been an increase in the "Human Capital and Research" indicator to 47th place (from 49th in 2022), and in the "Creative Outputs" indicator to 37th place (from 63rd in 2022).

It is also worth considering in more detail the strengths and weaknesses of Ukraine in the Global Innovation Index.

When examining the strengths and weaknesses of Ukraine in the GII 2023 (Table 4), we note, for example, a high level of women receiving tertiary education (2nd place in the world) and a significant contribution of the export of information and communication services to the country's total exports (7th place

5. Receipt of applications for industrial property rights

Industrial property rights	2018	2019	2020	2021	2022
Total	**54787**	**57189**	**46034**	**49134**	**28971**
Inventions	3975	3856	3194	3390	2760
Utility models	9115	8454	5273	4427	2378
Industrial designs	3042	2679	2026	1838	819
Trademarks	38652	42194	35539	39472	23014
Geographical indications	3	6	2	7	-

Source: [14].

in the world). However, the weaknesses traditionally include: political stability (121st place); attracting venture capital (a range of indicators – 99th, 88th, and 122nd place); gross capital formation (125th place in the world), indicating low institutional development; and GDP per unit of energy used, reflecting the low energy efficiency of the national economy.

Analyzing the current state of innovative activity in Ukraine, it is appropriate to pay attention to the indicators of the filing of applications for industrial property objects (Table 5). According to the data in Table 5, the most applications were filed in 2019 (57,189). Subsequently, there has been a significant reduction in their number. For example, in 2022, only 28,971 applications for industrial property objects were submitted to the National Intellectual Property Authority (NIIPA) (Table 5), of which over 2.7 thousand were applications for inventions, about 2.4 thousand for utility models, 819 for industrial designs, and 23,014 for trademarks (including 16,095 applications via the national procedure) [14]. This reduction in the filing of applications for industrial property objects in 2022 is undoubtedly related to the war, which negatively affects the investment and innovation activities of the agro-industrial complex entities in Ukraine.

In 2021 (the last pre-war year), the investment and innovation activity of agricultural producers was invigorated, reaching a maximum result of 2.5 billion USD, which is one of the best results since Ukraine's independence. In recent years, the total size of capital investments per hectare of land ranged from 70 to 100 USD. However, according to economists, it is only with capital investments from 150 USD/ha that it can be asserted that the country is developing towards innovation and investment modernization. In 2022, there was a decrease in investments to 1.5 billion USD. Their share in the value of the main means of agricultural production was only 10.6% of the value of the main capital. Currently, over 90.8% of all investments are the own funds of enterprises and organizations, 8.5% are bank loans and borrowings, and the state's share is only − 0.4% [15]. On the one hand, we see that the number of active agricultural enterprises decreased by 18.5%, while the volume of gross production increased by UAH 25.9 billion, or by 8.8%. On the other hand, the assessment of the dynamics of net profit from the sale of agricultural products by agricultural enterprises in Ukraine shows that its growth almost tripled, which, in turn, makes the agricultural sector an investment-attractive branch of the economy and demonstrates its profitability [16].

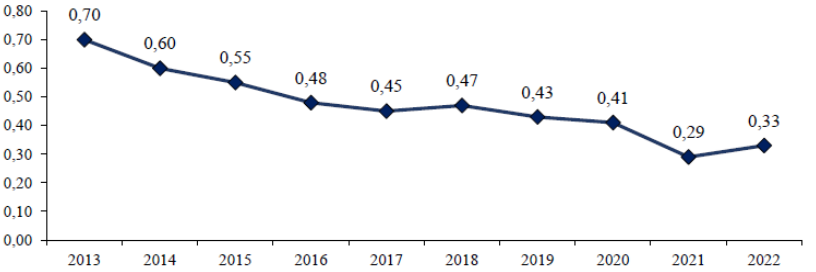

Fig. 3. Dynamics of the science intensity of Ukraine's GDP, %

Source: [19].

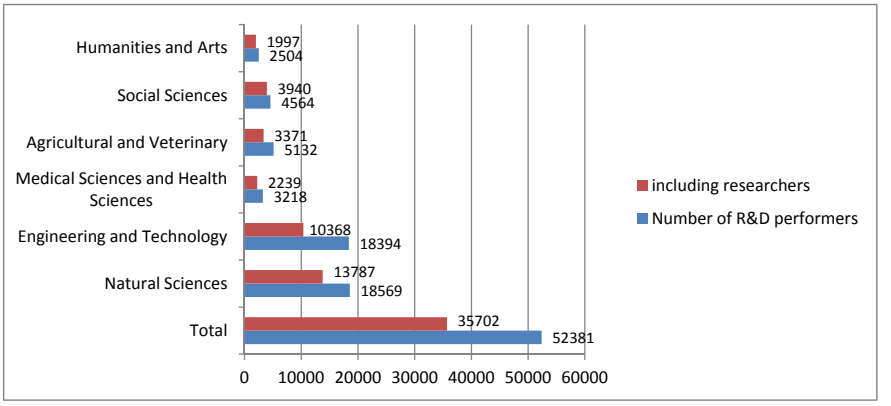

Fig. 4. Distribution of employees involved in R&D activities by scientific fields in 2022, persons

Source: [19].

In Ukraine, the share of enterprises engaged in innovations amounts to 17.1% of the total number. The share of enterprises that have implemented innovations is 14% of the total. For comparison, the share of innovative enterprises constitutes 70-80% in Germany, France, the USA, and Japan. This is indicative of an insufficient level of domestic technological innovation adoption by businesses, leading to an ineffective use of the innovative potential. Another indicator supporting this conclusion is the share of innovative products in the industrial volume, which did not exceed 3.8% during the years 2011-2015 but increased to 6.1% in 2017.

The experience of foreign countries shows that national production loses its competitiveness if the share of innovative products in GDP is less than 20%. The average European indicator is 25-35%. In China, it reaches 40% [17].

An important indicator of the innovative development of the sector is the scientific potential and the science intensity of the economy, that is, the share of GDP expenditure.

The science intensity of Ukraine's GDP (R&D expenditures from all

sources as a percentage of GDP) has been steadily decreasing – from 0.70% in 2013 to a critical value of 0.29% in 2021, with a slight increase to 0.33% in 2022 (Figure 3). At such levels, Ukrainian science has practically ceased to perform an economic function.

The situation particularly deteriorated in 2015–2016 when there was no indexing of the salaries of scientific and pedagogical staff. By 2019, the level of salaries in education was 22.5% lower than the average indicator in the Ukrainian economy. The average monthly nominal salary of employees of scientific institutions of the National Academy of Agrarian Sciences of Ukraine in 2019, compared to 2013, decreased and was 1.8 times lower than the average level across Ukraine, and 1.4 times lower than in the education sector [18].

From the data presented in Figure 4 for the year 2022, it can be concluded that only 9.7% of the total number of employees involved in R&D activities are allocated to agricultural and veterinary sciences.

If we consider the absolute number of scientific R&D performers, in 2022, in the agricultural and veterinary sciences, there were concentrated 5,132 individuals, including 3,371 researchers. The rotation of scientific personnel plays an important role for domestic science, as can be commented on by the following indicators. In 2022, the most numerous among Ukrainian researchers was the age group of 65 years and older (22.0% of the total number of researchers). It should be noted that significant portions of researchers also belong to the age groups from 45 to 54 years (over 19.0% of the total number of researchers) and from 55 to 64 years (18.4%), indicating the experience of the main part of researchers. The share of researchers under the age of 44 years was 40% in 2022, which is 4 percentage points less compared to 2018, indicating the need to address the issue of rejuvenating the workforce.

The digitalization of Ukraine's agricultural sector plays a key role in ensuring its development and competitiveness. According to analysis, both hard and soft digital infrastructure is crucial for efficient logistics and adaptation to market conditions. For example, the use of scoring in Kenya demonstrates effective access to credit for small agribusinesses. The importance of geoinformation technologies and precision technologies in agriculture contributes to efficiency and soil conservation, reduces crop losses, and increases yield. Additionally, according to a study by the "Rendle" institute, Ukraine ranked first in Europe in the transit coefficient in 2014, and according to the World Bank's Logistics Performance Index, it ranked 80th in terms of logistics efficiency in 2017. Digital technologies have led to a 30-50% reduction in the need for fertilizers and pest control measures, demonstrating their impact on resource-economic factors. The annual growth rate of the agricultural drone market is 30%, indicating rapid development in this area. Thus, digitalization in the agricultural sector acts as a mechanism that promotes economic growth and ensures a healthy society through the production of quality agricultural products [20].

The implementation of a green economy has significant potential, especially in the agricultural sector. An important aspect is the use of renewable energy sources, particularly through the mechanism of "green" tariffs, which encourage the production of energy

from environmentally friendly sources. In 2019, the share of renewable energy in Ukraine's total energy balance was about 8%, with plans to increase it to 25% by 2035. However, current challenges, such as the war in Ukraine, have necessitated a reevaluation and adaptation of these approaches.

The development of the agricultural sector is key to implementing a green economy in Ukraine. Agriculture affects environmental sustainability, food security, and socio-economic development. For example, Ukraine's agricultural sector occupies more than 70% of the country's territory and generates about 14% of GDP [21]. The viewpoint of Professor Yermakov O.Yu. and Associate Professor Kostetskaya I.I. reflected in this source [21] is also pertinent, suggesting the importance of revising plans and creating a new model of food security to prevent hunger. We believe such a model of food security should reflect innovation as a prerequisite for the post-war development of Ukraine's agricultural sector economy.

O. Yermakov and V. Nahornyi investigated the development of corporate social responsibility (CSR) in the agricultural sector of Ukraine, using the agroholding IMK as an example. CSR in agribusiness is considered as the obligation to voluntarily fulfill commitments to employees, partners, and society at large. The authors focus on IMK's strategies in social policy, environmental protection, and resource conservation, highlighting the importance of such initiatives to reduce the harmful impact of production and economic activities on the environment. The necessity for socially responsible companies to support local communities, including socially vulnerable groups, and to develop their personnel through training, professional growth, and maintaining a high level of motivation is discussed. It can be concluded that the implementation of CSR strategies enhances competitiveness, reputation, and investment attractiveness of the company by responsibly addressing the needs of employees, engaging stakeholders, and effectively managing social programs [22].

Conclusions and Prospects for Further Research

The role of the agricultural sector in Ukraine's economy and its contribution to the gross domestic product and international trade balance are significant at the current stage. The share of agricultural production in the total volume of foreign currency earnings from the country's exports in the pre-war years was growing and reached its maximum level in 2020 (45.1%). At the same time, labor productivity in the agricultural sector, especially in crop production, was increasing, reflecting positive innovative changes in agriculture. However, due to the military actions, starting from 2022, the agricultural sector has suffered significant losses, requiring a focus on its post-war recovery and modernization through innovation. The assessment of Ukraine's innovative development shows that, according to the Global Innovation Index 2023, our country ranks 55th in the global innovation ranking. This indicates not only the need for increased investment but also for improving the conditions of the investment climate to boost the country's innovative potential.

The prospects for further research lie in developing ways to improve innovation provision, including infrastructure enhancement, training of scientific personnel, creating favorable conditions

for business development, and attracting investments. Therefore, on the agenda for researchers is the development of an effective strategy for the post-war innovative development of Ukraine's agricultural sector, which should reflect contemporary scientific research, including the implementation of a green economy, digitalization of the country's agricultural sector, etc.

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Лазутін А.В. (2024).

ІННОВАЦІЙНІСТЬ ЯК ПЕРЕДУМОВА ПОВОЄННОГО РОЗВИТКУ АГРАРНОГО СЕКТОРУ УКРАЇНИ

ЕКОНОМІКА І УПРАВЛІННЯ БІЗНЕСОМ, 15(1): 125-141
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Анотація. *У представленій статті містяться результати досліджень щодо інноваційності як передумови повоєнного розвитку аграрного сектору України. Актуальність цього питання зумовлена ризиками, які з'явилися в економіці держави внаслідок російсько-української війни. Автор розглядає інноваційний процес як передумову підвищення конкурентоспроможності аграрної галузі, аналізуючи теоретичні аспекти інвестиційного забезпечення та інноваційних процесів. Він звертає увагу на обмеженість досліджень щодо інноваційності інновацій у контексті повоєнного розвитку аграрного сектору, особливо з огляду на вплив інновацій на відновлення й модернізацію сільськогосподарського виробництва. Стаття підготовлена з використанням різних наукових методів економічного дослідження (історичний, аналітико-емпіричний, індуктивно-дедуктивний, статистичний і порівняльний методи), містить аналіз статистичних даних про сільське господарство та експорт агропродовольчої продукції. Дослідження базується на відкритих джерелах інформації. Було прийнято до уваги й піддано оглядово-аналітичному аналізу інформацію з офіційних веб-сайтів. Так, автор аналізує динаміку зайнятості, продуктивності праці та інші макроекономічні показники в аграрному секторі; розглядає вплив війни 2022 року на аграрний сектор, вказуючи при цьому на значні втрати, які понесла ця складова національної економіки. У статті висвітлюється гло-*

бальний індекс інновацій і позиція України в ньому, аналізуються сильні й слабкі сторони держави в цьому контексті. Стаття підкреслює роль цифровізації та зеленої економіки в аграрному секторі й закінчується висновками про важливість інновацій для аграрного сектору України. Перспективи подальших досліджень полягають в опрацюванні шляхів покращення інноваційного забезпечення, включаючи поліпшення інфраструктури, підготовку наукових кадрів, створення сприятливих умов для розвитку бізнесу та залучення інвестицій. Тому на порядку денному для науковців одним із першочергових завдань є розробка ефективної стратегії повоєнного інноваційного розвитку аграрного сектору України, яка має бути відображенням сучасних наукових досліджень, включаючи впровадження зеленої економіки, цифровізацію аграрного сектору країни тощо.

Ключові слова: *інноваційність; глобальний індекс інновацій; аграрний сектор; повоєнний розвиток; ефективність.*