

HIGHER EDUCATION IN UKRAINE UNDER MARTIAL LAW: CHALLENGES AND WAYS OF RECOVERY

ВИЩА ОСВІТА В УКРАЇНІ В УМОВАХ ВІЙСЬКОВОГО СТАНУ: ВИКЛИКИ ТА ШЛЯХИ ВІДНОВЛЕННЯ

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The article discusses the challenging situation in higher education in Ukraine caused by the war and destruction resulting from the actions of the Russian Federation. The estimated educational losses exceed USD 9 billion. More than 6 million people, including students and educators, were forced to leave the country. Those who remained report a deterioration in their psychological state, which negatively affects the learning and teaching process. The article analyses data on the number of scientific, research, and teaching staff, revealing a clear and rapid decline. It also includes a comparative analysis of the number of higher education institutions and students in different forms of education. To address these issues, comprehensive reforms are necessary to restore and improve education, resume research activities, and provide psychological support to educators and students. Only by following this approach can Ukraine overcome the consequences of the armed conflict and achieve sustainable development in the future.

Keywords: direct losses, higher education, Ukraine, scientific potential, educational institutions.

В статті проаналізовано становище вищої освіти в Україні, яке є наслідком воєнного конфлікту та руйнувань, зумовлених діями країною агресором. З кожним днем кількість зруйнованих та пошкоджених закладів освіти збільшується. При цьому лише прямі приблизні збитки становлять понад 9 мільярдів доларів США. Шкідливий вплив цих подій відзначається не лише на інфраструктурі й безпосередньо закладах освіти, а й відчула науково-педагогічна спільнота та здобувачі, які були вимушені покинути свої домівки й виїхати за кордон. Крім того, більшість освітян та здобувачів освіти, які залишилися в Україні, стикаються з різними психологічними проблемами такими як: гнів, роздратування, занепад сил, апатія, відсутність мотивації тощо, що впливає негативним чином на якість навчання та викладання. Особливу увагу привертає втрата наукового потенціалу країни, оскільки кількість дослідників та науково-педагогічних працівників значно зменшується з кожним роком, а військова агресія пришвидшила цей процес. Треба пам'ятати, що науковий потенціал є важливим фактором для економічного розвитку не лише країни в цілому, але й впливає на життя кожного громадянина. Отже, основними заходами, що дозволять подолати наслідки воєнного конфлікту в Україні є зосередження на покращенні якості освіти, відновленні наукового потенціалу та наданні психологічної підтримки освітянам та студентам. Тільки таким чином Україна зможе подолати наслідки цього конфлікту та забезпечити стійкий розвиток у майбутньому.

Ключові слова: прямі втрати, вища освіта, Україна, науковий потенціал, заклади вищої освіти.

Statement of the problem. The educational system in Ukraine is facing significant challenges that impact the country's development and future. The effectiveness of higher education has become a critical issue, particularly in light of the ongoing conflict with the Russian Federation and the resulting destruction.

According to experts, Russian troops have caused nearly USD 136 billion in damage to Ukraine's infrastructure, with USD 9.7 billion (7%)

of that being damage to the country's educational infrastructure. A total of 365 educational institutions have been destroyed and another 3,428 have been damaged. The number of destroyed and damaged educational institutions is increasing daily. Most of the higher and vocational education institutions in Zaporizhzhia and Donetsk regions were destroyed, and those in Kharkiv region were damaged [1].

The extent of the damage is increasing daily, and the consequences of these destructions

remain uncertain, not only in the short term but also in the long term. It is necessary to reconsider the priorities for the development of national higher education and its post-war recovery.

Analysis of recent research and publications.

V.M. Zaharchenko is engaged in the issues of higher education reform. Works on the optimization of the network of higher education institutions are dedicated to such scholars as Kalashnikova S., Orzhel O., Kremen V. H., Lugoviy V.I., Saukh P.Yu., Drach I.I., Slyusarenko O.M., Skyba Yu.A., Zhabenko O.V., Kalashnikova S.A., Talanova Zh.V., Petroie O.M., Orzhel O.Yu., Regeilo I.Yu., Nabok M.V. in their works, they illuminate higher education in Ukraine in the conditions of wartime and post-war recovery.

Setting the task. The objective of this analysis is to assess the current state of higher education in Ukraine and quantify the damage inflicted on the country's educational infrastructure by the aggressor. The focus is on the educational losses resulting from the departure of students and teachers who were compelled to leave Ukraine for their safety. To conduct a comparative analysis of the number of educational institutions, students in various forms of education and teaching staff of higher education institutions by region in the pre-war and war periods.

Summary of the main results of the study.

According to the Institute for Analysis and Advocacy, as of August 2023, direct losses in the education sector amounted to USD 9.7 billion. Educational institutions in Kharkiv, Donetsk, Chernihiv, Zaporizhzhia, and Kyiv regions suffered the most damage and destruction. More than 6 million people were forced to leave the territory of Ukraine due to the hostilities. As of the end of September 2022, 4.18 million people have registered in European countries for temporary protection or similar national schemes. More than 8 million people have become internally displaced. A significant number remained in the temporarily occupied territories. According to official data, 665,000 students and schoolchildren (16% of the total) and 25,000 educators (6% of the total) left the territory of Ukraine [3; 4].

According to UNICEF, over 50% of refugees from Ukraine are children. In a report on Ukrainian refugee children living in the EU, the European Commission noted that as of May 2022, 528,110 school-age children were in Poland, 290,000 in Germany, 70,530 in the Czech Republic, and 30,000 to 40,000 in Italy, Romania, Spain, and Slovakia. Unfortunately, as of September 2022, accurate data for the new school year in all EU countries is not yet available. The Minister of Education of Poland said that 185,000 Ukrainian children started the school year in Polish schools [4; 5].

According to the Ministry of Education and Science, in the 2022/23 academic year, 743,460 students started offline education in

Ukraine, 1,732,638 started online education, and 1,039,782 started mixed education. There is no data on the number of children who started online education from Ukraine and abroad.

However, even if all those who study online do so from their homes in Ukraine, the number of those who will not attend Ukrainian schools is more than 600,000 children – those who live abroad and/or have not enrolled in any form of education in Ukrainian schools for the 2022/23 academic year. This huge figure is a harbinger of a potential large-scale loss of human capital, as it is impossible to predict how many of these children will return to Ukraine and when [4; 5].

According to the Ministry of Education and Science of Ukraine, as of 1 August 2022, 29 HEIs and 64 separate structural subdivisions of state-owned, municipal and private HEIs were relocated (including the first wave of relocation in 2014). Among them: 16 HEIs and 45 separate structural subdivisions of HEIs under the management of the Ministry of Education and Science; two HEIs and one separate structural subdivision of HEIs under the management of the Ministry of Health of Ukraine; one separate structural subdivision of HEIs under the management of the Ministry of Culture and Information Policy of Ukraine; two HEIs and one separate structural subdivision of HEIs under the management of the Ministry of Internal Affairs of Ukraine; one separate structural subdivision of HEIs of municipal ownership.

From the available information on the relocation of 19 HEIs to safer regions of the country, a number of conclusions can be drawn, namely: almost half of the relocated HEIs (9) moved from Donetsk region, 4 – from Luhansk region and 3 HEIs each from Kherson and Zaporizhzhia regions; all universities in Zaporizhzhia region were moved to the regional centre; among the regions in which the relocated HEIs found a new location, the leaders are Dnipropetrovska, Zaporizhzhia and Khmelnytska regions (three HEIs each); there is a high regional differentiation in the location of the relocated HEIs. A total of 11 regions of the country have received the relocated HEIs. In addition to the regions already mentioned, universities were relocated to Mykolaiv, Ivano-Frankivsk, Lutsk, Kropyvnytskyi, Ternopil, Kyiv, Rivne, and cities in Poltava region; mostly the relocated universities are located on the territory of industry-related HEIs or other educational institutions.

A comparative analysis of the number of institutions and students by field of study is presented in Table 1 [2].

Despite the increase in the number of higher education institutions in the 2022–2023 academic year, the number of students decreased in all forms of education compared to the 2019–2020 academic year: full-time by 10.3%, part-time by 38.2%, and part-time by 32.5%.

Consequently, many Ukrainian higher education institutions were forced to change their

Table 1

**Number of higher education institutions and students by form of study
in the academic years 2019/2020 and 2022–2023**

	Total number		including property-based ones					
			government		communal		private	
	2019– 2020 a.y	2022– 2023 a.y	2019– 2020 a.y	2022– 2023 a.y	2019– 2020 a.y	2022– 2023 a.y	2019– 2020 a.y	2022– 2023 a.y
Number of institutions, units	281	347	189	210	14	36	78	101
Number of students, persons	1 266 121	1 053 770	1139954	914 250	18 106	103971	108 061	35 549
Including the form of education								
full-time education	889 063	797 598	819 774	706 797	14 219	61 235	55 070	29 566
evening form of study	2224	1374	1147	466	502	376	575	532
part-time study	374 834	252 963	319 033	205 818	3385	41 694	52 416	5451
distance learning form	–	1814	–	1148		666		–
externship	–	21	–	21		–		–

location, establish the educational process, and communicate with academic staff and students. Today, a significant number of these higher education institutions have resumed their full-fledged activities and are involved in the processes of external quality assurance of higher education. As for higher education students, 3.9% of the total number of students in Ukraine are studying at displaced universities.

An online survey of teachers and students who remained in Ukraine showed that more than 80% reported a deterioration in their psycho-emotional state, depression, exhaustion, nervousness and anger. An unstable psycho-emotional state affects the ability to learn, teach, and master the material; it complicates the organisation of the educational process, affects the motivation to learn and the perception of educational material.

As noted above, about 25,000 educators have left the country. The number of scientific personnel is one of the most important indicators that characterises not only the development of the country's scientific sphere, but also the entire economy as a whole. High-quality education contributes to increased labour productivity, innovation and competitiveness of the country. The teaching staff also plays an important role in conducting research and developing new technologies that can contribute to economic growth. The level of professional qualification and creative activity is one of the main indicators of the state of science and intellectual potential of a society. Table 2 provides information on the teaching staff of higher education institutions by region [2].

The number of researchers in 2022–2023 compared to 2019–2020 decreased by 90.4%

from 5966 to 572. In the same academic year, the number of scientific and pedagogical staff increased slightly by 3.6% and the number of teaching staff decreased by almost half, 49.8% from 22 783 to 11 442.

In 2022, the total number of employees involved in research increased by 1.4% compared to 2021 and amounted to 54.2 thousand employees, of which 68.2% were researchers, which is 4.3% more than in 2021, but compared to the period 2018–2020, there is a significant decrease in the number of researchers, which may lead to a gradual degradation of scientific potential in the future [4; 5].

In the total number of researchers, the share of Doctors of Philosophy (Candidates of Sciences) and Doctors of Sciences is 37.3% and 15.3%, respectively. The largest number of employees involved in the implementation of R&D falls on such fields of science as Natural Sciences and Engineering and Technology, respectively, 35.4% of the total number of performers, of which 74.3% or 13 787 people are researchers and 35.1%, of which 56.4% or 10368 people are researchers.

The scientific potential has been rapidly and steadily declining over the previous five-year period. Currently, the number of researchers is 38.0% lower than in 2018, and the number of organizations is more than 40.0% lower [2; 4; 5].

Ukraine's knowledge intensity of GDP is steadily declining – from 0.70% in 2013 to a critical value of 0.29% in 2021, with a slight increase to 0.33% in 2022. According to experts, with a research intensity of less than 0.9% of GDP, it performs only a cognitive function, and with less than 0.3% of GDP, it performs only a socio-cultural function.

Table 2

Teaching staff of higher education institutions by region in 2019–2020 and 2022–2023 academic years

	Research staff		Scientific and pedagogical staff		Pedagogical staff	
	2019–2020 a.y	2022–2023 a.y	2019–2020 a.y	2022–2023 a.y	2019–2020 a.y	2022–2023 a.y
Ukraine	5966	572	104710	108500	22783	11442
Vinnytska	49	30	2797	3317	448	306
Volynska	–	14	1456	1994	284	487
Dnipropetrovska	584	48	7002	7302	1999	1494
Donetska	58	–	2098	–	665	–
Zhytomyrska	–	5	1152	1430	210	156
Zakarpatska	218	5	2118	2669	378	255
Zaporizka	58	11	3491	3551	1091	360
Ivano-Frankivska	77	9	2797	4103	551	804
Kyyivska	72	5	1374	1386	428	36
Kirovohradska	6	22	763	2078	145	68
Luhanska	15	–	1081	–	259	–
Lvivska	462	33	10 301	10 961	1886	508
Mykolayivska	99	3	1646	1893	409	263
Odeska	350	13	8108	7406	1603	522
Poltavska	51	4	2333	3230	824	593
Rivnenska	5	8	1721	2007	1082	378
Sumska	76	5	2102	2160	720	115
Ternopil'ska	76	7	2410	2629	545	127
Kharkiv'ska	1143	59	15 186	14 764	1428	920
Kherson'ska	41	–	1303	–	357	–
Khmelnytska	165	39	2008	2694	456	314
Cherkaska	51	14	2117	2848	787	966
Chernivetska	52	9	1893	2039	215	187
Chernihiv'ska	19	7	994	1079	133	23
Kyiv	2239	222	26 459	26 960	5880	2560

Conclusions. The article discusses the challenges faced by Ukraine's educational system due to the war and destruction caused by the Russian Federation. According to the article, the education sector has suffered losses of over USD 9 billion, and more than 6 million students and educators have left the country due to exhaustion.

It is important to note that many educators and students who have stayed in the country have reported a decline in their psychological well-being, which poses a threat to the quality of teaching and learning.

Furthermore, a significant issue is the loss of scientific expertise, as the number of researchers and academic staff has decreased compared to previous years. The intensity of scientific research and development in Ukraine is declining, as evidenced by the decreasing contribution of

science to the country's GDP. This suggests that the country's scientific potential is being used inefficiently.

Therefore, comprehensive reforms and support are needed to improve the quality of education, restore scientific potential, and provide psychological support to educators and students. Only then can the country overcome the consequences of the war and ensure sustainable development in the future.

Further research should focus on developing an effective system for quality control in education, implementing measures to enable informed choices for higher education, improving the management system, and creating mechanisms to overcome the losses in education caused by the COVID-19 pandemic and Russia's armed aggression against Ukraine.

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