“The “Ukrainian Science Diaspora” initiative in the wartime”

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SPECIAL ISSUE: ACADEMIC MANAGEMENT IN THE CONDITIONS OF WAR

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THE "UKRAINIAN SCIENCE DIASPORA" INITIATIVE IN THE WARTIME

Abstract

The devastating russian military invasion of Ukraine forced millions of people to flee their homes. Among those affected are highly skilled scientists, resulting in a significant loss of human capital for Ukraine, which is crucial for the post-war reconstruction. To address this pressing issue, the Young Scientists Council (YSC) at the Ministry of Education and Science of Ukraine launched the "Ukrainian Science Diaspora" initiative to mitigate the brain drain.

The purpose of this study is to outline the first steps taken by this initiative. Moreover, it demonstrates lessons learned from the pilot meetings. The essence of the initiative is to keep links with scholars who left Ukraine and join the efforts of different migration waves of Ukrainian scientists for the further rebuilding of Ukraine. The YSC and other institutions prepared the analytical report on the needs and plans of Ukrainian scientists abroad. In addition, the paper highlights various events and activities organized by the YSC and other self-formed associations of Ukrainian scientists worldwide, working together to establish networks that could take the form of public organizations or be part of local unions of scientists.

At present, efforts are focused on identifying Ukrainian scientists interested in joining this initiative, with the ultimate goal of identifying areas where Ukrainian scientists can participate in post-war reconstruction. The success of this initiative will undoubtedly play a crucial role in ensuring that Ukraine can retain its valuable human capital and continue to thrive in the face of adversity.

Keywords science diaspora, emigration, Ukraine, scholars at risk, scholar community, human capital, brain drain, brain circulation

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INTRODUCTION

In 2014, russian armed aggression against Ukraine began, which continued as a full-scale war after February 24, 2022. As a result, Ukraine is experiencing the biggest migration crisis in its history. According to the UN International Migration Service, 8.0 mln Ukrainian refugees temporarily live abroad (IOM, 2022b). The feature of the new wave of migration is the extremely high percentage of people with higher education and scientific degrees. According to the UNHCR (2022), as of November 2022, 46% of Ukrainian migrants have university or higher degrees. According to approximate calculations and the Ministry of Education and Science in Ukraine, there are about 5,000 researchers with scientific degrees and university and college teachers abroad. These people are scattered all over the world. Therefore, it is crucial to maintain contact with them and not lose them for Ukraine's further reconstruction and development. The solutions can be offered in the mobilization and joint efforts of a global network of Ukrainian scholars of different waves of migration.

The aim of the study is to summarize the experience of creation and the first steps of the "Ukrainian Science Diaspora" initiative, launched by the Young Scientists Council (YSC) at the Ministry of Education and Science of Ukraine, which emerged in response to the challenges resulting from the ongoing russian war against Ukraine.

1. RESULTS

1.1. Background information on diaspora studies

Diaspora has been a topic of interest for scholars from various disciplines, as it is a complex phenomenon that involves the dispersion of people from their homeland to different parts of the world. There are a lot of approaches how to identify the meaning of diaspora. This study uses the definition of the International Organization for Migration, "Individuals and members of networks, associations, and communities, who have left their country of origin, but maintain links with their homelands. This concept covers more settled expatriate communities, migrant workers based abroad temporarily, expatriates with the nationality of the host country, dual nationals, and second-/third generation migrants" (IOM, 2022a).

At the same time, science diaspora, which is the core interest of this investigation, is not only about common ethnical roots. Science diaspora has gained significant attention in recent years as a means to leverage the knowledge and expertise of scientists who have migrated from their home countries to contribute to scientific development in their host countries.

Gedeshi and King (2019) describe the scientific diaspora as a network of talented scientists from a particular country who have moved to work abroad. Scientific diasporas are primarily associated with working in joint laboratories, joint training, the availability of opportunities to study best practices in the field, as well as in the promotion dimension, and the need to implement these ideas in one's native environment (Flink & Schreiterer, 2010), contributing to science and learning. Echeverria-King et al. (2022) consider the modern diaspora communities as the institutions of science diplomacy for host countries.

In comparison, Meyer and Brown (1999) suggest that policymakers should consider the potential benefits of scientific diasporas when designing policies to address brain drain. Writer (2013) discusses the concept of scientific diaspora and its potential to mitigate the adverse effects of brain drain. However, the authors also highlight some of the challenges that scientific diasporas face, such as difficulties in maintaining connections with their home countries and limited support from host countries. Thus, policymakers should recognize the potential of scientific diasporas and take steps to support their activities.

Nikolic et al. (2010) study the potential of scientific diasporas to contribute to developing their home countries. They analyze the motivations and barriers of Serbian scientists living abroad to engage with their home country and the potential benefits of their engagement for Serbia, such as knowledge transfer and access to international networks. Teferra (2003) explores the potential of the diaspora as a resource for development in their home countries. The author argues that advances in information and communication technologies (ICTs) have made it easier for diaspora communities to remain connected with their home countries and contribute to their development. Finally, Stanica (2013) explores the potential for diaspora engagement in action, highlighting the importance of institutional support, the quality of ICT infrastructure, and the degree of engagement between the diaspora and their home country.

Docquier et al. (2007) thoroughly analyze the challenges and opportunities associated with brain drain and highlight the importance of policies that can mitigate the negative consequences of brain drain while promoting diaspora engagement in development. The article provides a fascinating case study of the construction of a scientific diaspora and its role in shaping the development of a nation-state. Brown (2002) examines the potential of intellectual diaspora networks to mitigate the negative effects of brain drain. The study argues that academic diaspora networks

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can be critical in fostering knowledge transfer and promoting scientific cooperation between countries.

Bonilla et al. (2021) examine the role of the Converciencia program in engaging Guatemalan scientists living abroad. Converciencia is an example of best practices for engaging diaspora scientists in their home countries, particularly in the Global South. Prieto and Scott (2020) explore the role of scientific diasporas in promoting science diplomacy, particularly in the context of US-China relations. Fangmeng (2016) argues that the international migration of Chinese scientists has both positive and negative impacts on China's scientific progress. The extent of these impacts is influenced by various factors, such as scientific discipline, destination country, and individual characteristics of the migrant scientists. Finally, Nedelcu (2019) explores the emergence and development of the Romanian scientific e-diaspora: a group of Romanian scientists who have migrated abroad and are connected through online platforms. The study uses qualitative methods to investigate how the e-diaspora mobilizes and engages in transnational activism to influence domestic policies and contribute to the scientific development of Romania.

The literature review shows that scientific migration has always occurred in different countries and at different times. However, the current unprecedented flow of scientists from Ukraine is the largest since the Second World War. The science migration is full of problems and contradictions and is understudied. On this path, many efforts are made mainly on volunteer terms and on one's own initiative. Some authors have already targeted the case of Ukraine. For instance, Fiialka (2022) discusses how the ongoing war in Ukraine has impacted Ukrainian scholars' research and publishing activities and how this has affected the country's scientific output. The study analyzes the publishing trends of Ukrainian scholars before and after the onset of the war. It identifies the factors contributing to changes in their scientific interests and research priorities.

Suchikova et al. (2023) investigate the impact of the war on the productivity and research output of Ukrainian scientists, as well as their ability to collaborate and access funding. They analyze the results of a survey of Ukrainian scientists and compare their responses to those of scientists from other countries. Finally, the authors recommend policymakers and funding agencies support scientific research and collaboration in conflict-affected regions.

Despite the existing studies, there is a need to research the ways and areas of collaboration between Ukrainian scholars within the diaspora community. Therefore, this study is focused on how these communities are developing and setting up.

1.2. Concept of the "Ukrainian Science Diaspora" initiative

The Young Scientists Council (YSC) is an advisory body that protects the interests of early-career researchers in Ukraine. One of its tasks is preparing analytical reports on the situation in the academic sector related to such researchers. Among the YSC's studies is the joint research with the Polish Academy of Science, the Centre of Migration Studies at Warsaw University, and the SHG Warsaw School of Economics. The authors identified the needs of 618Ukrainian scientists who left Ukraine because of the russian war in Ukraine. The respondents' answers showed that most of them ended up in Poland (27%) and Germany (22%). Almost 29% are representatives of social sciences, little less natural sciences (25%), humanities (17%), medicine (16%), engineering (8.5%), and agriculture (3.6%). Almost 70% are representatives from HEIs and 16.4% come from the institutions of the National Academy of Science. Most represent Kyiv region (41.5%) and Kharkiv region (28.5%). 40% work remotely in their home institution. Almost 42% claimed that they will return when the war is completed, 30% do not know, and 28% said that they are not planning to return (Maciej et al., 2022). Therefore, there is a high risk of losing those scholars, and keeping contact with them is crucial.

In addition, the YSC receives requests to invite Ukrainian institutions into the different types of consortiums for Horizon Europe submission projects. Thus, the YSC has become one of the informational bridges between Ukrainian scholars from various countries. The need for organizing

and mobilizing the efforts of Ukrainian scientists has become ripe, and the activation of the "Ukrainian Science Diaspora" initiative has become urgent.

After exploring the experience of scientific diasporas in different countries, conducting interviews with key informants, and running workshops with Ukrainian scholars in the diaspora, the YSC developed a concept of the "Ukrainian Science Diaspora" initiative. It aims to unite the efforts of Ukrainian scientists abroad of different waves of migration for further joint research projects, develop tools for their support programs, and their return to Ukraine.

According to the concept of the initiative, a part of the Ukrainian science diaspora considered those persons who

1) do not reside in Ukraine,

2) have Ukrainian citizenship or consider themselves Ukrainians by origin (have Ukrainian roots),

3) have or have had the status of a scientist/researcher,

4) are interested in joint research and other projects related to the restoration and development of Ukraine.

It is worth emphasizing that the authors of the conception are aware of the convention of this definition. The "Ukrainian Science Diaspora" initiative tasks to achieve multiple objectives, including strengthening cohesion among Ukrainians abroad, improving the global image of Ukrainian science, establishing effective networking in various scientific fields, facilitating institutional cooperation between Ukrainian and foreign universities and research institutions, initiating mentoring programs, increasing representation of scientific activity within the community, and launching and implementing charity projects (Figure 1).

By creating a community of Ukrainian scientists living abroad and establishing effective networking and collaboration with scientists in Ukraine, the initiative promotes scientific excellence and innovation, supports post-war reconstruction projects, and improves the global image of Ukrainian science. The initiative also seeks to increase the representation of scientific activity

Figure 1. Opportunities offered by the "Ukrainian Science Diaspora" initiative

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Figure 2. Activity plan of the "Ukrainian Science Diaspora" initiative

within the community and launch and implement charity projects. Overall, it aims to leverage the expertise and resources of the Ukrainian scientific diaspora to benefit Ukraine and the world.

The "Ukrainian Science Diaspora" initiative has an activity plan that includes several vital actions (Figure 2).

These actions aim to implement the "Ukrainian Science Diaspora" initiative, which is focused on creating a community of Ukrainian scientists living abroad, facilitating communication and collaboration among them and scientists in Ukraine, and supporting their involvement in post-war reconstruction. Furthermore, the specific actions outlined in the activity plan are intended to identify the needs of Ukrainian scientists and establish a framework for supporting their professional development and involvement in scientific initiatives.

1.3. The progress in the development and implementation of the initiative

The initiative is generally based on the methodological tools of the International Organization for Migration, which is part of the United Nations (IOM, 2022a).

In the initial stage of implementation of the "Ukrainian Science Diaspora" initiative, the primary research methods were:

- Desk review to explore the diaspora activities of scholars in different countries, including their organizational structures, types of activities, and other relevant information.
- Interviews with various organizations such as IIE-SRF in Belgium, At-Risk and Displaced Academics and Artists in Canada, and Israel Academy of Science to understand how diasporas operate and the benefits they receive from their native scientists residing abroad.
- Workshops to gather data and insights from participants in a group setting on digital instruments for "Ukrainian Science Diaspora."

As one of the first steps of the initiative, the survey "Ukrainian Science Diaspora" was launched. Ukrainian scholars who continued their activities abroad were invited to complete the questionnaire. Besides, representatives of the Ukrainian Science Diaspora were invited to join the newly established Telegram chat[1] and the Facebook page[2].

The conception of mapping Ukrainian science diaspora in the humanities is developed with the support of the Institute for Human Sciences (Institut für die Wissenschaften vom Menschen, IWM) in partnership with the Ukrainian Research Institute (HURI) at Harvard University and the Harriman Institute at Columbia.

The "Ukrainian Science Diaspora" digital platform is also created in cooperation with the Massachusetts Institute of Technology (MIT). In the fall of 2022, MIT Science and Technology Initiatives launched a unique MIT-Ukraine program to promote student and faculty ties between MIT and Ukraine. As a

1 https://t.me/UkScDs
2 https://www.facebook.com/UkrainianScienceDiaspora

result, six students who were selected to create the digital platform of the "Ukrainian Science Diaspora" will be financially supported by this program. In addition, for two months, every Sunday, members of the YSC meet online with MIT students, working on the platform.

The YSC and Scholar Support Office (which is also the initiative of YSC) launched series of conferences of Ukrainian Science Diaspora in several countries:

- February 21 and March 21, 2023, the conference "Ukrainian scientific diaspora of France: Science for victory" (House of Humanities Foundation in Paris).
- March 9, 2023, the seminar "Ukrainian Community Together" (Jagiellonian University in Krakow).
- March 21, 2023, the event BENELURN – Ukrainian scientists from Luxembourg, the Netherlands, and Belgium (Luxemburg).
- April 6, 2023, the event "Legalization & Nostrification: Where does a scientist start?"(SGH, Warsaw School of Economics).

At the same time, "Ukrainian Science Diaspora" was presented in frames of other conferences and projects. For example, on March 11, 2023, the initiative was introduced during the conference "Humanities in Ukraine: Recent trends and challenges," organized by Ukrainian scholars at the University of Lausanne, Switzerland. On March 17, 2023, the initiative as a way for university collaboration was represented at the Krakow Conversatorium meeting organized by Konferencja Rektorów Akademickich Szkół Polskich. On March 24, 2023, the presentation "Ukrainian women scientific diaspora: mapping and connecting" was made in Dudelange (Luxembourg) at the annual meeting of the Women on the Move COST Action project, dedicated precisely to the problems of women migration. Finally, on April 4, 2023, it was presented at the Polish NAWA conference "Focus on Ukraine."

The "Ukrainian Science Diaspora" initiative became one of the central themes of the 2nd Conference on the Ukraine Crisis: "One year of war in Ukraine, exploring the impact on the science sector and supporting initiatives" (March 20-22, 2023), organized the International Science Council (ISC) and the European Federation of Academies of Sciences and Humanities (ALLEA). The Ministry of Education and Science and Office of President of Ukraine representatives participated as welcome speakers. The third day of the conference, "Ukrainian Science Diaspora: connecting scholars for the future," was entirely dedicated to the potential opportunities of scientific diasporas for continued international collaboration and was co-organized by YSC. Around 500 persons were registered for the event. They represented Ukraine and 42 other countries. The main work of the conference on March 22, 2023, revolved around the discussion of

- the presentation of the "Ukrainian Science Diaspora" conception, and
- ideas for improving the digital platform of "Ukrainian Science Diaspora."

1.4. Case of the Ukrainian scientific diaspora in Poland – The first steps at the Jagiellonian University in Krakow

The meetings of each country network are conducted in different ways. Usually, they focus on integrating Ukrainian scholars into the global research network, highlighting some research achievements of Ukrainians, and building networking. The study highlights the case of Poland because, so far, this is the biggest community of Ukrainian scholars in the EU.

The Jagiellonian University in Krakow became the first "Single window" for the unity of the Ukrainian academic community in Poland, where the administration sincerely supported the initiative of solidarity and unity of scientists abroad. The information about the date and plan of the meeting was distributed on the websites of all Krakow universities, on social networks Facebook, Instagram, and Facebook, as well as through personal contacts of the meeting organizers.

Through disseminating information through various channels, 81 participants registered to participate in the event, of which 71 persons (87.7%) are scientists

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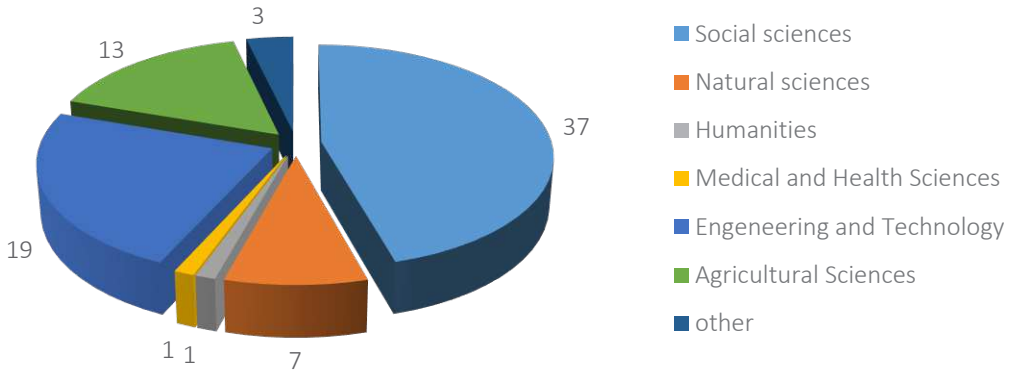

Figure 3. Distribution of scholars by science fields

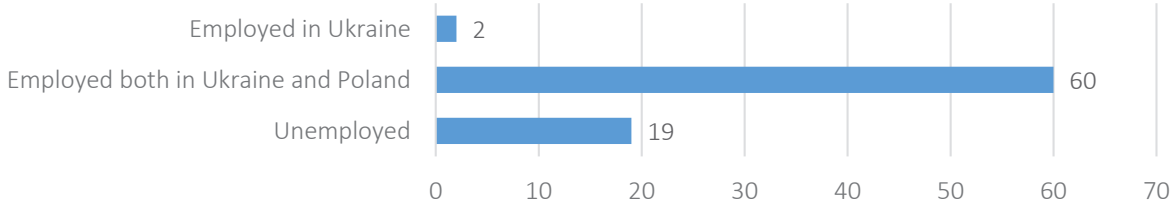

Figure 4. Distribution of scholars by their employment in Poland

who came to Poland after February 24, 2022. As for the gender distribution of the event participants, the central part (70 people) were women, whose specific weight in the total number of participants was 86% (Figures 3 and 4).

Thus, this event determined the need to implement international experience in Ukrainian higher education institutions, which became the central task of the Seminar. Similarly, a productive scientific discussion during the meeting gave inputs to forming further scientific contacts in the foreign academic environment. It helped those present to determine the purpose of the Ukrainian scientific diaspora in Poland's activity.

CONCLUSION

russia's full-scale aggression against Ukraine provoked an unprecedented wave of migration, which also threatens Ukraine's scientific potential. One of the responses to this challenge was the "Ukrainian Science Diaspora" initiative put forward by the Young Scientists Council. Currently, the "Ukrainian Science Diaspora" initiative is still in the process of forming and developing a network of Ukrainian scientists in different countries.

This initiative has generated interest from scientists of Ukrainian origin who are abroad, scientists from Ukraine, and non-Ukrainian scientists who want to promote Ukrainian science. Policymakers and diplomatic missions from various countries are also interested, as well as foundations that direct their resources to building networks. The development of programs to involve Ukrainian scientists abroad in reconstruction projects is necessary, and the initiative has the potential to promote scientific diplomacy. Although it is currently unsafe for Ukrainian scientists to come back, developing programs for their return is essential to strengthen international cooperation.

In summary, the "Ukrainian Science Diaspora" initiative can bring together diverse expertise, build bridges between other countries and Ukraine, address global challenges, contribute to brain gain, and enhance the reputation of Ukraine. Therefore, it should be supported to promote scientific innovation and progress.

AUTHOR CONTRIBUTIONS

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