

Харківський національний педагогічний університет
імені Г. С. Сковороди



*До 220 - ої річниці з дня заснування
університету*

ВІСНИК
СКОВОРОДИНІВСЬКОЇ АКАДЕМІЇ МОЛОДИХ
УЧЕНИХ

Збірник наукових праць

Харків – 2024

6. Kurtz, S., Silverman, J., Draper, J. (2016). Teaching and learning communication skills in medicine. 2nd ed. Boca Raton: CRC Press. Available from: URL: <http://gbv.ebib.com/patron/FullRecord.aspx?p=4711378>.

ECOLOGICAL SAFETY OF UKRAINE: PROBLEMS AND WAYS TO ADDRESS THEM IN ACCORDANCE WITH INTERNATIONAL OBLIGATIONS

Iryna LEVCHENKO

PhD, Associate Professor of the Department of International Economic Relations and Tourism

National University «Yuri Kondratyuk Poltava Polytechnic»,

Maria SOKOL

Student

National University «Yuri Kondratyuk Poltava Polytechnic»

This article provides an analysis of the environmental situation in Ukraine, revealing a series of serious problems including air and water pollution, loss of biodiversity, waste management issues, and the impact of agricultural and industrial enterprises. The environmental situation in the Poltava region is specifically emphasized along with prospective measures for its improvement. In the concluding part of the paper, a series of measures are presented to address the environmental situation in the country and specifically in the Poltava region.

Keywords: *ecology, environmental security, environmental protection, society, sustainable development.*

У статті проведено аналіз екологічної ситуації в Україні, що виявляє ряд серйозних проблем: забруднення повітря, водних ресурсів; втрата біорізноманіття; проблеми управління відходами; вплив сільськогосподарських та промислових підприємств. Окремо наголошено на екологічній ситуації Полтавського регіону та перспективних заходах щодо її покращення. У заключні

частині роботи представлено низку заходів, щодо вирішення екологічно ситуації в країні та в Полтавському регіоні окремо.

***Ключові слова:** екологія, екологічна безпека, охорона довкілля, суспільство, сталий розвиток.*

The modern world faces the challenge of ecology on a daily basis, which significantly impacts society's life. Ukraine, as a contemporary state, is no exception. Our country possesses rich natural potential, yet concurrently encounters difficulties in the ecological sphere. Air and water pollution, depletion of natural resources, and climate change pose hazards to our existence and future generations. In this context, the country's role in preserving the environment and improving people's lives becomes particularly crucial. Thus, we consider this topic to be relevant, especially in the current complex times

The aim of this paper is to analyze the environmental situation in Ukraine and explore ways to address the associated problems.

Environmental peril stands as one of the most serious challenges complicating our country's path towards sustainable development, particularly exacerbated during times of war. Considering the growing awareness among citizens regarding ecological issues and the international commitments Ukraine has undertaken in the sphere of environmental conservation, it is essential not only to identify factors influencing the country's ecological state but also to develop and implement effective strategies and programs to ensure sustainable development and nature preservation.

Thus, the preliminary analysis conducted by us of the environmental situation in Ukraine reveals a series of serious problems requiring immediate attention and resolution, as depicted in Figure 1.

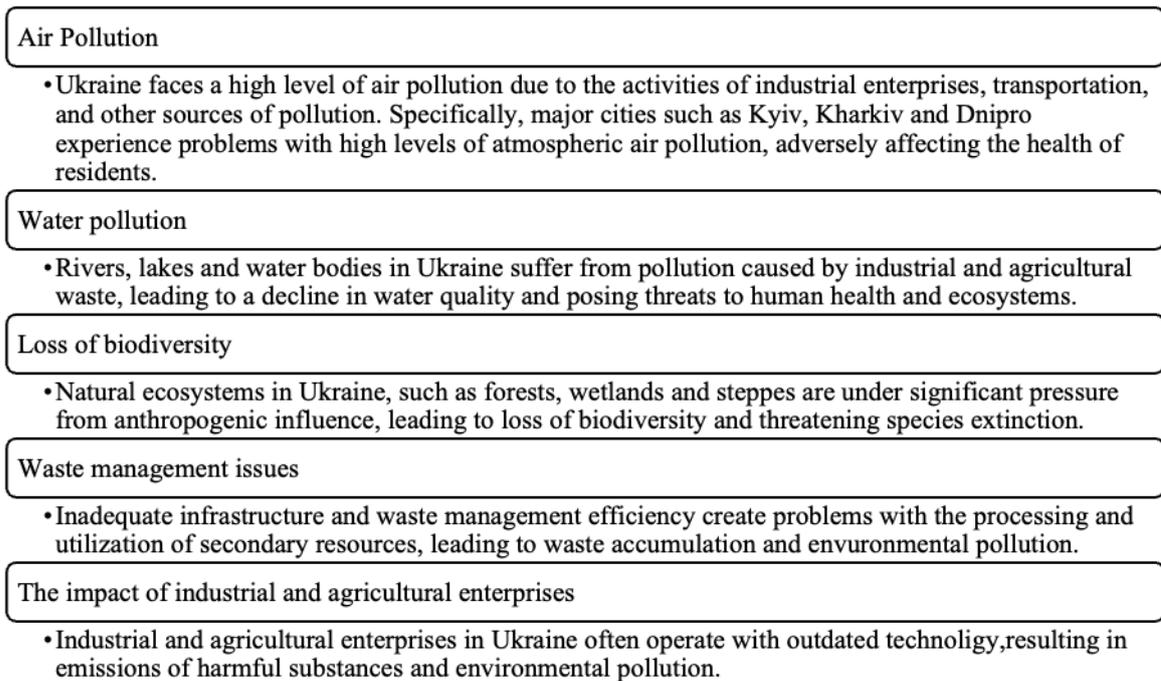


Fig. 1. Environmental Problems of Ukraine

Overall, the environmental situation in Ukraine requires a comprehensive approach and systematic measures to overcome problems and ensure sustainable development of the country [1-3]. Unfortunately, Ukraine has several examples that illustrate the current environmental problems, taking into account the military actions on the country's territory:

1. Kakhovka Hydroelectric Power Plant (HPP): The last step of the Dnieper cascade of hydroelectric power stations. Russian invaders captured the Kakhovka HPP on the first day of the full-scale invasion on February 24, 2022, and sabotaged it on June 6, 2023. This tragedy has its consequences:

- The Black Sea is contaminated with oil products: After the sabotage of the Kakhovka HPP, a significant amount of oil products entered the Dnieper River, then flowed into the Dnieper-Bug estuary and the Black Sea. Oil products were also found in the floodplains of the Viryovchyna and Koshova rivers.

- Fish mortality and accumulation of toxic substances: In the first days of the ecological catastrophe, a large volume of fresh water flowed into the Black Sea, flooding the Odessa Bay and moving further south, at least to the Dniester estuary. With this freshwater influx, a significant amount of biogenic elements, phosphates,

nitrates, and other elements, as well as several heavy metals, entered the sea. Consequently, fish mortality occurred due to the increased concentration of decomposition products of these biogenic substances, which could lead to the formation of anoxic zones [4].

2. Kremenchukmiaso: On February 24, 2022, at 08:20 in the morning, Russian troops launched an air strike on the chemical plant "Kremenchukmiaso" in the city of Kremenchuk, Poltava region. As a result of the bombing, a warehouse with ammonia was damaged, leading to the release of 50 tons of ammonia nitrate into the atmosphere. The consequences of this tragedy included the release of hazardous chemicals such as ammonia, chlorine, nitrogen oxide, hydrogen sulfide, and fluoride [5].

3. Azot Plant: On March 21, 2022, Russian occupiers shelled the "Azot" chemical plant in the city of Severodonetsk, Luhansk region. As a result of the shelling, a tank containing nitric acid was damaged, leading to the release of 40 tons of this hazardous chemical into the atmosphere [6].

4. Styrol Plant: On April 17, 2022, the occupiers shelled the "Styrol" chemical plant in the city of Horlivka, Donetsk region. As a result of the shelling, tanks containing nitric acid were damaged, leading to the spillage of 500 tons of this hazardous chemical into the Siversky Donets River [7].

Additionally, we have compiled information on the environmental situation specifically in the Poltava region. The environmental situation in the Poltava region is generally not critical, but there are several problems that need to be addressed (Fig. 2.) [8].

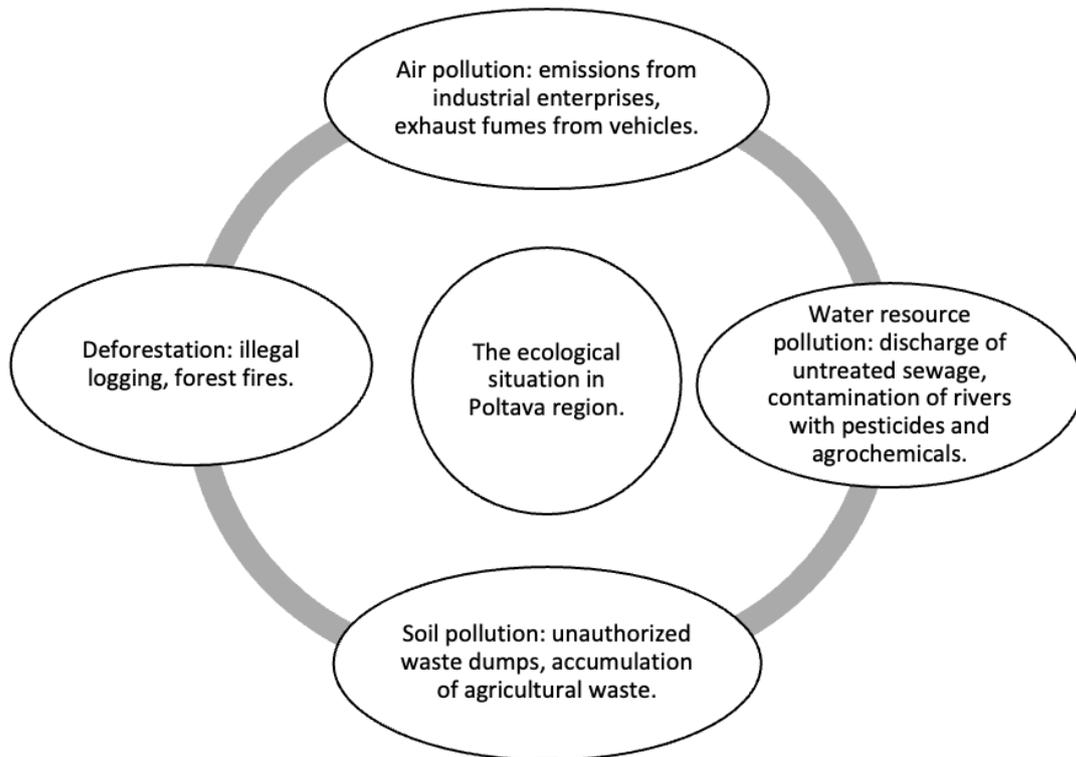


Fig. 2. Main Environmental Problems of Poltava Region

The problems presented in Figure 2 have a negative impact on human health, biodiversity, and soil fertility. However, it is beyond our capabilities to foresee all force majeure circumstances and anticipate every situation that could be avoided. Therefore, we propose several simple measures that will contribute to improving the overall environmental situation and in the Poltava region [9-11]:

1. Firstly, the issue we would like to address is the modernization of waste collection processes and logistical routes to landfills. Poltava has been struggling with improper waste collection and disposal for several years. Below are proposed solutions to address these problems.

2. Another way to support socially responsible producers is to reduce the tax rate for them. This will allow such producers to have a competitive advantage and increase their production capacity.

To implement these ideas, we propose the following solutions:

– The Poltava Regional State Administration can adopt a resolution that defines the criteria for socially responsible producers and establishes a reduced corporate income tax rate for them.

– The Poltava Regional Council can decide to introduce a preferential tax regime for small businesses, which includes a reduced corporate income tax rate and exemption from property tax.

3. Another relevant measure is the organization of seasonal cleanup events and tree planting under the slogan "Save Nature - Save the Future" in the Poltava region, which can have positive outcomes. We propose considering several specific examples of how this idea can be implemented:

– The Poltava Regional State Administration can develop a plan for organizing seasonal cleanup events and tree planting in the region.

– Local authorities can coordinate the implementation of these events.

– Civil society organizations and volunteers can participate in organizing and conducting cleanup events and tree planting.

For successful implementation, it is important to involve a wide range of stakeholders, including government agencies, local authorities, civil society organizations, and volunteers.

We propose considering additional measures that can be implemented to enhance the effectiveness of this idea:

– Conducting informational campaigns for the population about the importance of nature conservation and the necessity of organizing cleanup events and tree planting.

– Providing participants of cleanup events and tree planting with necessary tools and materials.

– Rewarding participants of cleanup events and tree planting for their active involvement in nature protection.

The implementation of the above-mentioned measures will not only make the Poltava region cleaner and greener in the future but will also contribute to raising the level of environmental awareness among the population.

Our presented work attests that the environmental situation in Ukraine requires immediate measures and systematic changes to ensure sustainable development and preservation of the environment. The research has confirmed that the main problems include air, water, and soil pollution, loss of biodiversity, inadequate waste

management efficiency, and underestimation of the importance of conserving natural resources.

To address the environmental challenges in Ukraine, we recommend a series of measures [9-11]:

1. Strengthening control over compliance with environmental standards and implementing strict sanctions for violators.

2. Supporting environmental initiatives and projects aimed at reducing pollution and utilizing renewable energy sources.

3. Conducting systematic educational campaigns to raise environmental awareness and promote active citizen participation in environmental conservation efforts.

4. Developing and implementing cutting-edge technologies in the field of ecology and natural resource restoration.

Only through the joint efforts of citizens, civil society organizations, and the government can Ukraine ensure a sustainable and environmentally safe future for its citizens and nature. Additionally, everyday actions that each of us can take play a crucial role in protecting the environment and maintaining it in a healthy state. These actions include:

1. Use reusable items: Instead of disposable plastic utensils and bottles, use reusable alternatives such as stainless steel water bottles and glass containers for food storage.

2. Avoid plastic bags: Transitioning to the use of fabric shopping bags or bioplastic and compostable bags can significantly reduce plastic usage. These bags are now available at any supermarket and can be used repeatedly.

3. Energy efficiency: Installing energy-efficient household appliances such as LED lights, energy-efficient refrigerators, and washing machines helps reduce energy consumption and emissions into the atmosphere. "Ukrposhta" provides us with the opportunity to exchange old bulbs for LED lights.

4. Separate waste collection: Separate waste for further recycling, including paper, plastic, glass, and organic waste.

5. Use of public transport, bicycles, or walking: Travel by public transport or use bicycles and walking where possible to reduce emissions from automobiles.

6. Use of environmentally friendly products: Choose products with ecological labels and certificates that indicate their environmental safety and compliance with sustainable development standards.

7. Reduction of chemical use: Use natural methods for cleaning and household care, such as vinegar solution, lemon juice, and baking soda, to avoid the use of chemicals that may be harmful to the environment.

8. Tree planting: Growing trees in your garden or purchasing a tree for planting in the community helps absorb carbon from the atmosphere and support biodiversity.

Implementation of the above-mentioned ideas for environmental protection can have a significant positive impact on the conservation of natural resources, reduction of negative environmental impact, and support of ecological safety. Refraining from the use of disposable plastic products, waste segregation, using energy-efficient devices and energy-saving measures, as well as supporting environmentally friendly products and local goods, will help conserve natural resources and reduce emissions of greenhouse gases and other harmful substances into the environment. Each of us can contribute to protecting the planet by making sustainable choices in our daily lives for the sake of sustainable development and preserving the environment for future generations.

The opportunities for demonstrating responsibility towards the country are endless, and everyone can contribute to the support and development of their country. Individual efforts of each citizen, united towards the common goal of improvement, are the key to a stable and prosperous society.

References

1. State Statistics Service of Ukraine. Available at URL: <https://www.ukrstat.gov.ua/>.
2. Ministry of Environmental Protection and Natural Resources of Ukraine. Available at URL: <https://mepr.gov.ua/>.

3. EcoDim Environmental Research Center. Available at URL: <https://www.ekodim.rs/pocetna.php> .
4. Kakhovka Hydroelectric Power Station. Available at URL: <https://uk.wikipedia.org/wiki/> .
5. Kremenchuk Meat Processing Plant. Available at URL: <https://uk.wikipedia.org/wiki/> .
6. Severodonetsk Association “Azot”. Available at URL: <https://uk.wikipedia.org/wiki/> .
7. Concern “Styrol”. Available at URL: <https://uk.wikipedia.org/wiki/> .
8. Golik Yu., Illiash O., Chuhlib Yu., Maksiuta N. (2020) “Environmental areas of Poltava planning development”. *Proceedings of the 2nd International Conference on Building Innovations (2020) - ISSN 2366-2565 Lecture Notes in Civil Engineering*, pp. 375-383, DOI: 10.1007/978-3-030-42939-3.
9. Levchenko I.V., Sokol M.V. (2024) “International cooperation of ukraine as a factor of implementation of the ecological component of sustainable development”. *Proceedings of the VII All-Ukrainian Scientific and Practical Internet Conference of the G.S. Skovoroda Kharkiv National Pedagogical University*, February 28, 2024, Kharkiv. P. 273-278. URL: <https://dspace.hnpu.edu.ua/server/api/core/bitstreams/d6e6aabf-c00f-4241-a8d0-d84cf78fa4e9/content#page=274> .
10. Buriak A., Levchenko I., Herashchenko V., Shevchenko O. (2023) “Impact of full-scale war on changes in the format of Ukraine’s cooperation with the European Union”. *The EU Cohesion policy and healthy national development: Management and promotion in Ukraine: monograph. In: Letunovska N., Saher L. & Rosokhata A. Szczecin: Centre of Sociological Research*, 2023. P. 369–378 (645 p.). DOI: <https://doi.org/10.14254/978-83-968258-5-8/2023> .
11. Buriak A.A. (2023) “State support for the development of agriculture for environmental safety and overcoming environmental threats: global experience and realities of Ukraine” / A.A. Buriak et al. // *Scientific professional journal "Agrosvit"*, No.18, 2023. P. 96-105. URL: <https://www.nayka.com.ua/index.php/agrosvit/article/view/2068/2093> .