

**ENVIRONMENTAL CONSEQUENCES OF THE WAR IN UKRAINE –
CHALLENGES FOR WORLD CIVILIZATION**

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Environmental threats that existed in Ukraine until February 24, 2022, have become much deeper. Russian invasion of Ukraine has led to widespread and possibly serious and long-term environmental damage. The Ukrainian government, journalists and international observers describe the damage as ecocide. Destruction of the ecosystem refers to the deterioration of the ecosystem through the dwindling of natural resources such as water, air, and soil. Any disturbance or change to the environment is harmful or undesirable is also considered to be the destruction of the ecosystem. Explosions inflict toxic damage along with physical destruction. The war affected the country's environment and the state of natural ecosystems deteriorated. There was pollution from chemical and industrial substances, and the negative consequences of mining territories.

The list of negative consequences of the war is given below:

1. impact on the landscape and habitats;
2. loss of biodiversity;
3. threat to Red List Species;
4. fires in ecosystems caused by hostilities;
5. chemical pollution caused by shells and rockets;
6. soil and sea pollution caused by oil products;
7. consequences of fires at industrial facilities;
8. sewage pollution of the rivers and the seas.

Impact on the landscape and habitats. The hostilities form bases and fortifications. They occupy forests and territories of nature reserves. The movement of

heavy equipment, the construction of fortifications and combat operations damage the soil cover. It leads to the degradation of vegetation and increases wind and water erosion.

Loss of biodiversity. In December 2022 governments from around the world came to Montreal (Canada) to agree on a new set of goals to guide global action through 2030 to halt and reverse nature loss. Adoption of a global biodiversity framework that addresses the key drivers of nature loss is needed to secure health and well-being of the planet [1].

Threat to Red List Species. Warfare disturbs wild animals, and they either die or try to escape from hotspots. There is a great risk for the breeding of many birds and mammals. There are rare species listed in the Red Book.

Fires in ecosystems caused by hostilities. The risks of fires caused by shellings increase. In dry conditions, fires spread over large areas. In the occupied territories the emergency services are not able to work and eliminate fires. There are also conditions for spread of fire in pine forests in the north-east of Ukraine.

Chemical pollution from shelling and rockets. The enemy is attacking both civilian objects and military infrastructure (airports, ammunition depots, etc.) as well as military marine objects with missiles of various calibers and types in all Ukrainian regions. Burnt tanks, vehicles, downed planes, and other remnants of combat operations are sources of pollution too.

Soil and sea pollution caused by oil products. Russian forces are attacking port infrastructure along the coasts of the Black and the Azov seas. It leads to water pollution and the spread of toxic substances into the sea. Petroleum products form films on the surface of the water. It disrupts the exchange of energy, heat, moisture and gases between the sea and the atmosphere. They affect physical, chemical, and hydrological conditions, cause the death of fish, seabirds, and microorganisms.

Consequences of fires at industrial facilities. Fires at industrial facilities cause considerable damage and threaten the lives of the employees and in many cases lead to death. In this regard fires are synonymous with heavy economic losses.

Sewage in the rivers and the seas. Damage to public utilities leads to contamination of water with organic substances. Untreated discharges contain a lot of organic substances, helminth eggs, pathogenic bacteria, sulfates, and chlorides. Such pollution leads to large-scale water blooms in the Dnieper and the Black Sea.

To monitor and record the character, magnitude, and significance of conflict-related environmental impacts, the United Nations Development Program and the Government of Sweden are working with state institutions to set up a Coordination Centre for Environmental Damage Assessment, with an initial investment of USD \$ 6.7 million during 2023-2025. According to the Ministry of Environmental Protection and Natural Resources, about 30 percent of the country's protected areas, covering more than 1.2 million hectares, have been bombed, polluted, burned, or affected by military maneuvers [2].

REFERENCES

1. UN Biodiversity Conference (COP 15) URL: <https://www.un.org/un-biodiversity-conference-cop-15>
2. New coordination center to assess environmental impacts of the war on Ukraine. URL: <https://reliefweb.int/report/Ukraine/new-coordination-center-assess-environmental-impacts-war-ukraine-enuk>

THE IMPACT OF ENVIRONMENTAL REFORMS ON THE DEVELOPMENT OF PUBLIC FINANCES

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The impact of environmental reforms on the development of public finances Ukraine, a country endowed with diverse natural resources and a rich cultural heritage, is taking significant strides toward aligning its environmental policies with