



BRIEF

Potential climate and environment impacts on children in Ukraine



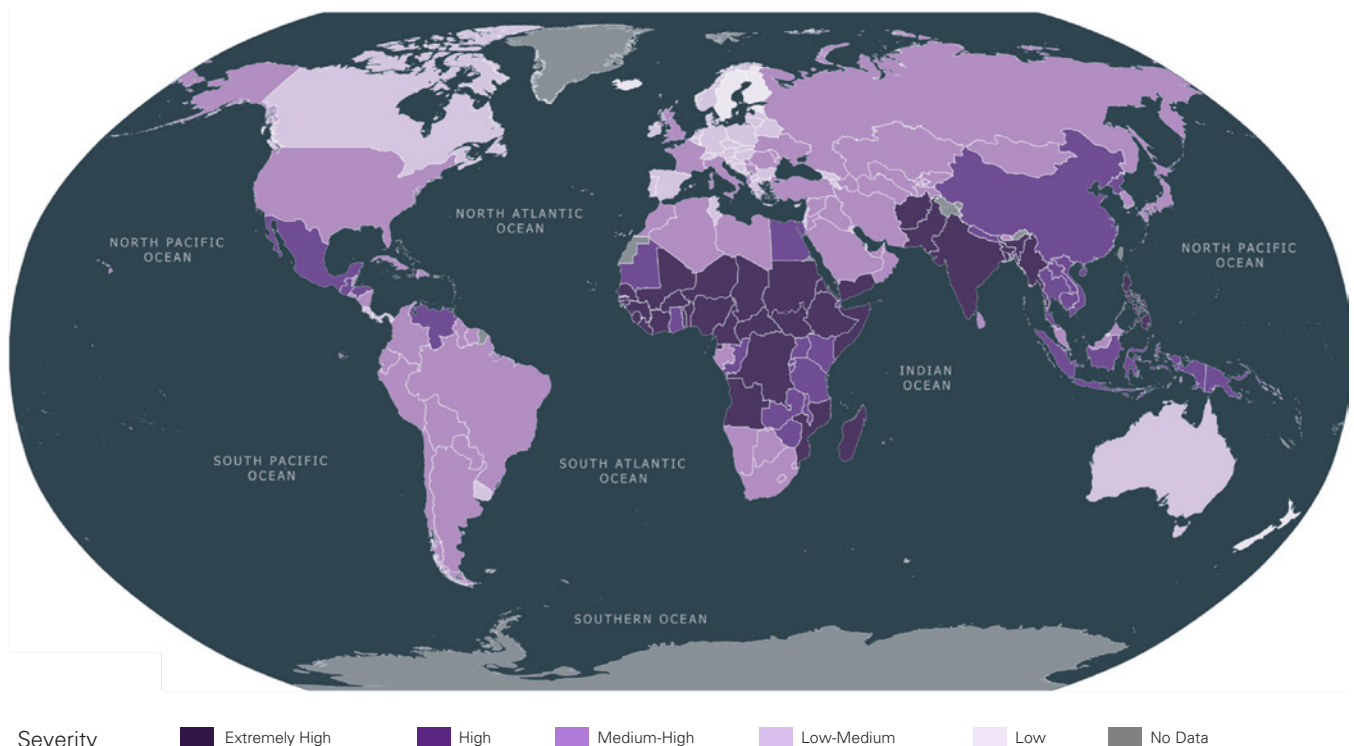
This brief is based on Climate Landscape Analysis in Ukraine (2021), the WHO-UNICEF-Lancet Commission report "A Future for the World's Children?" (2020) and UNICEF Children's Climate Risk Index report (2021). It explores the potential effects of climate and environmental hazards, shocks and stresses on children in Ukraine, and outlines steps to mitigate and address them.

Introduction

Children are among those most vulnerable to climate and environmental hazards. Climate and environmental risks have serious implications for their well-being and health. Almost every child in the world is exposed to at least one or a combination of climate risks, and Ukraine is no exception.

UNICEF’s Children’s Climate Risk Index (CCRI) ranks countries according to children’s vulnerability to environmental stresses and extreme weather events. According to the 2021 report, Ukraine has a moderately high risk index compared to other countries. The country scores even higher for temperature anomalies, especially exposure to heatwaves, baseline water stress and river flooding.

Map 1. The Children’s Climate Change Index.



Ukraine – The underlying context



42
million

Total population
of Ukraine

The total population of Ukraine is 42 million. One quarter — or 10.5 million — are children and youth aged 0-24. Of these, children aged 5-9 are the largest group, totalling 2.4 million.



10,5
million

Children and youth

Ukraine has a very high urbanization rate of 69.4 per cent¹. More and more children are expected to live in urban settlements.

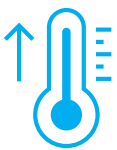
The average annual air temperature increased by 0.8°C between 1991-2010, compared to 1961-1990.

The number and frequency of natural hazards, such as floods, heatwaves, fires in natural ecosystems and water resource depletion, is increasing. Disaster risk reduction (DRR) is becoming a crucial focus area in response.



69%
urbanization rate

Ukraine is rich with natural resources, although mismanagement and poor protection are causing their deterioration, and climate change can be considered overall as a cross-cutting stressor.



The average annual air
temperature between
1991-2010 increased by

0,8°C

Main hazards, shocks and stressors related to climate and environment in Ukraine

HAZARD, SHOCK, OR STRESSOR	POTENTIAL RISKS/EFFECTS	LOCATION
Overall changes in climatic conditions	Increase in temperature; increase in number of hot and cold days; increase in number, temporal and spatial distribution of extreme events; changes in vegetation period; increase in frequency and intensity of heat waves; changes in precipitation; changes in air humidity; changes in surface runoff; and others.	All territory
Heatwaves	Enhanced air pollution; health effects; range of vector-borne diseases may increase; other related changes to ecosystems.	All territory
Floods	Destruction (partial or total) of infrastructure; disruption of livelihoods, services and economic activities; effects on ecosystems. Currently 165,000 km ² area is at potential risk.	Mainly West and Centre of Ukraine
Droughts	Effect on water availability and demand; disruption of livelihoods, services and economic activities; effects on ecosystems. Around 100,000 km ² area is at potential risk.	Mainly South of Ukraine
Changes in water quality and availability due to climate change	Heat contamination and eutrophication; range of water-borne diseases may increase; change in seasonal and spatial distribution of already uneven water resources.	All territory

HAZARD, SHOCK, OR STRESSOR	POTENTIAL RISKS/EFFECTS	LOCATION
Changes in water quality due to pollution from point and diffuse sources	The main risks are associated with pollution and treatment of water for drinking, households and other sectors; potential health effects; and impacts on ecosystems.	All territory
Fires	Air pollution and effects on health; disruption of livelihoods, services and economic activities; effects on ecosystems. In 2020, up to 200 km ² were affected.	Mainly Polissya (Zhytomyr, Chernihiv, Kyiv, Kharkiv oblasts) and steppe (Dnipropetrovsk, Luhansk, Kherson Odesa oblasts)



HAZARD, SHOCK, OR STRESSOR	POTENTIAL RISKS/EFFECTS	LOCATION
Air pollution	Impacts health and well-being due to ambient air pollution (mainly from transport, industry and energy sectors). The World Health Organization (WHO) lists Ukraine as one of the countries with the highest death ratio attributable to air pollution — totalling 123.6 per 100,000 population in 2016.	All territory, especially locations with high traffic load, or near industrial or energy sector sites
Desertification and salination	Impacts natural ecosystems, agricultural activities and livelihoods. Also impacts water quality and availability.	Mainly Kherson area (South Ukraine)
Sea level rise	Impacts natural ecosystems and coastal areas, livelihoods. According to some estimations, the projected increase of the Black and Azov seas is 115 cm by 2100.	Black and Azov seas, coast lines, deltas of the Dnieper, Danube, Dniester rivers



HAZARD, SHOCK, OR STRESSOR	POTENTIAL RISKS/EFFECTS	LOCATION
Changes in land use	Impacts natural ecosystems that may have chain effects, livelihoods, recreation and agriculture.	All territory
Municipal waste	Landfills, where the majority of municipal solid waste is disposed of, are often in need of modernization, and can therefore potentially become threats to health due to leachates, fires, accidents or explosions.	Locations near official or unofficial landfills
Radioactive pollution and Chernobyl accident	Tailings damages and leakages of water from uranium mining sites may be of concern, but these are site-specific and should be studied separately. Radioactive pollution near Chernobyl is monitored but higher concentrations may occur, notably during fires. The impacts on human health due to the Chernobyl disaster are widely studied, although experts are not unanimous in their views, especially regarding evidence on the transgenerational effect.	Mainly site-specific
Specific pollution	Pollution related to industries, energy, construction sites, agriculture, wastewater treatment plants and so on depends on the processes and types of pollutants, their migration routes and exposure. This pollution may have adverse effects on health and well-being, especially for children. For example, chemicals from pesticides, plastics and other manufactured goods may eventually find their way into the food chain. However, this type of pollution should be reviewed separately on a sectoral or site-specific basis.	Sector-specific or site-specific



National policies, strategies and coordination between stakeholders

National legislative frameworks for addressing climate change are generally in place. Ukraine is a party to the United Nations Framework Convention on Climate Change (UNFCCC), has ratified both the Kyoto Protocol (2004) and Paris Agreement (2016), and has submitted its second Intended National Determine Contribution. A climate change adaptation strategy is being developed. Furthermore, the EU-Ukraine Association Agreement is another important instrument to support Ukraine's capacity strengthening on climate and environment.

However, coordination between different government bodies, international organizations, technical assistance projects and NGOs has been identified as a limiting factor. The need to improve coordination is recognized by the Ukrainian authorities. At the interagency and ministerial level, coordination initiatives have also been launched in the form of focal points, working groups and expert councils.

Donor coordination has resulted in horizontal synergies. Depending on donor agendas, programs and projects are generally scattered between different priority areas, and coordination occurs within thematic areas.

Environmental nongovernmental organizations (NGOs) and youth organizations exist at the national, regional and local levels, coordinating mainly within thematic areas.

None of the public sector coordination mechanisms or documents specifically address how climate, energy and environment (CEE) issues affect children.

Ukraine is a party to the United Nations Framework Convention on Climate Change (UNFCCC), has ratified both the Kyoto Protocol and Paris Agreement

Potential effects on children

The potential effects of climate and environment hazards, shocks and stressors on children's life and well-being are interconnected and complex. Some of the main concerns relate to child health, water, sanitation and hygiene (WASH), child protection and education.

Health

Children's ill health is also related to poverty, poor housing (including smoking), poor WASH services, living in the vicinity of heavy traffic, and living in disaster-affected areas and/or informal settlements.

Several oblasts have poor health indicators contributing to the environmental burden of diseases for children aged under five. These include infant mortality rate (IMR), under-five mortality, low birth weight, respiratory diseases (such as asthma), diarrheal- and vector-borne diseases, and injuries.

Air pollution is associated with an increased risk of IMR, preterm birth/perinatal diseases, low birth weight and respiratory infections in children. Household and ambient air pollution, second-hand tobacco smoke and poor housing are the main contributing factors to respiratory diseases. Deaths attributable to ambient air pollution in children under five in 2016 are estimated to be 58 (M27, F31) and 5,379 attributable DALYs² (M2515, F5379), according to WHO data. For household air pollution, there would be 15 (M7, F8) deaths attributable to Lower Respiratory Infections (LRI) in children under five and 1,408 (M658, F750) attributable DALYs due to LRI.

Heavy metals and other industrial pollutants, pesticides and other chemical compounds, plastics and other manufactured goods may affect children's health. But limited data is available for Ukraine.

Climate change and related disasters are linked to a variety of internalizing and externalizing mental health problems, including anxiety, depression, aggression and substance abuse. There have been no studies carried out in Ukraine to specifically examine the impact of climate change on mental health outcomes for children.

Heatwaves are especially harmful in urban areas, due to their impact on the physical condition and mental health of children and their caregivers.

Nutrition is also likely to be affected by climate change through related impacts on food security, dietary diversity, care practices and health. The rural population will be more vulnerable due to food/agriculture insecurity following extreme weather events, as well as to loss of income, and may have lower adaptive capacities.

A life in health: The effects of environmental hazards

Children are exposed to a variety of hazards from the environment in which they live, learn, work and play. Children are especially vulnerable to these exposures because of their developing systems and behaviours. Environmental exposures in early life can have immediate effects or build over time to increase disease risk later in life. Exposure starts early — in the womb, and can have effects throughout life.

Graphic 1. The effects of environmental hazards on children. “Inheriting a sustainable world? Atlas on children’s health and the environment”, WHO, 2017.





WASH

Water quality may be affected by climate change and pose an additional pressure on health. The main diseases associated with WASH are diarrheal-, parasitic and vector-borne, in addition to neonatal and nutrition conditions (including in birth settings). The mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (per 100,000 population) would be 0.3 in 2016 in Ukraine.

Incidences of vector- and water-borne diseases, as well as food-borne diseases, may be increasing. At the present time in Ukraine, salmonella is the major cause of diarrheal infection outbreaks. Salmonellosis outbreaks were most often registered in Lviv (11.1 per cent of the total outbreak number) and in the Kyiv and Kharkiv oblasts.

Eutrophication — the chemical pollution of surface and ground waters — is a very relevant problem in Ukraine, but there is little data available on the impact on water supply services.

Water availability and quality will be affected by floods, droughts and falling water levels. Floods contaminate freshwater supplies, heighten the risk of water-borne diseases, and create breeding grounds for disease-carrying insects such as mosquitoes.

Ukraine is using outdated water treatment and wastewater treatment technologies. The infrastructure and networks, distribution facilities/tanks, and small water supply systems are in poor technical condition. The sector is poorly equipped to deal with additional pressures related to environmental hazards, shocks and stresses.

Access to drinking water at schools and preschools has deteriorated over the last decade. There is a need to ensure that climate resilient and sustainably measured water services are available on such premises.

Social policies and child protection

Climate change increases the risk of weather shocks and similar adverse events, which in turn create additional deprivations for individual households. Households with children are particularly at risk.

Major social issues related to climate change include migration and displacement due to extreme events (for example, during the floods in 2020 in western Ukraine, over 1,500 people were evacuated), infrastructure damage (no clear estimates at the national level), and disruption of households, livelihoods and economic activities.

When developing regional, social and economic development policies, there is a need to consider extreme weather events, not only in terms of their immediate impact (for example, through relief efforts) but also as potential social stressors, paying special attention to children's social well-being.

Social adaptation strategies do not sufficiently target the economic sectors and geographical regions that are most vulnerable to climate change-induced hazards. Early identification of vulnerable families with children is essential.

Schemes to convert and diversify the livelihood of households in climate shock-prone regions form a key part of social protection, especially for families with children and vulnerable groups.

The combined challenge of higher poverty rates in more polluted areas and a greater susceptibility of the most disadvantaged to environmental concerns due to their underlying health status calls for a two-pronged approach — both to address environmental issues in poorest areas and improve access to quality healthcare for vulnerable families with children.

The low standard energy efficiency of buildings is one of the key factors contributing to energy poverty.

The difference in rates of CEE-related institutionalization of children compared to other stressors is limited in studies.

Education

The State Standards of Primary Education includes environmental competences as part of the national key competences framework. Elements of environmental education are integrated into Ukrainian secondary school curricula.

While data on the effects of CEE on education in Ukraine are scarce, the following threats may be identified based on the country's CEE profile:

- Disruptions in access to education due to damage to the infrastructure, in particular educational facilities, by natural disasters.
- Reduction in educational achievement and higher absenteeism due to the impacts of CEE on children's health.
- Decrease in the safety and supportiveness of learning environments due to climate change-related displacement and evacuations, and the effect on the overall well-being and mental health of children and their caregivers.

CEE and DRR

The current approach to DRR is overwhelmingly reactive, and proactive elements are very limited.

Issues related to the environment are part of the Ukrainian authorities' vision for school safety. There is a recognized need to further improve the inclusion of environmental safety as a component of school safety.

Climate-resilient facilities, including educational and health facilities, are scarce and there is a lack of guidelines for their construction or rehabilitation. Dwellings with inadequate living space for children are most commonly found in flood-prone western Ukraine, which also highlights the importance of resilient housing.

Children with special needs are made especially vulnerable by natural disasters and may be at higher risk of institutionalization in the aftermath of a disaster. However, more research is required on this issue.

While the general capacity to respond to rapid onset emergencies is increasing, progress is marred by systemic gaps as far as the impact of disasters on child protection and education is concerned.

The existing approach to DRR for children's resilience is somewhat fragmented and the concept of child-centered DRR is missing from the agenda.

CEE and child-friendly urban environment

Children in urban areas should be of particular concern due to increasing urbanization and child vulnerabilities in the urban environment.

Migration from CEE shock-prone areas (including possibly rural-to-urban migration) may result in the exacerbation of inequalities.

Development of child-friendly environments requires better understanding of cities' adaptive capacity.



Youth participation

Child and youth participation in CEE-related areas in Ukraine is promoted using both bottom-up and top-down approaches.

There are several examples of child and youth activists being involved in advocacy for legislative change.

Overall, the participation of children and youth in climate action remains largely fragmented rather than interconnected.

A better understanding of children's and youth role in climate action is needed, and actionable mechanisms for child and youth participation at all levels need to be proposed.

Teenagers from a small village of Maiaky in Donetsk region are about to decrease the amount of garbage around them and clean the local beach. To do that, they came together and founded an eco-club called Chysto Tak.





ИЖИ
ИЖИ



Paving the way forward

“My dream is about adult, clever people who can teach their children to appreciate our planet,”

says Yana from Dobropilia. Together with her friends she grows and plants trees, bushes, seedlings, flowers, sorted waste. Her small project is called EcoBoom and it was supported by UNICEF and the European Union.

In Ukraine, as in the rest of the world, climate change and environmental hazards are already impacting the health and well-being of children. If action is not taken, children and youth will face ever greater climate-related challenges, while being the least responsible. Ensuring that every child lives in a safe and sustainable climate and environment requires a society-wide response now, which should include:

1. Comprehensive and urgent action to reduce greenhouse gas emissions, in order to limit global warming to no more than 1.5 degrees Celsius and avert the worst impacts of the climate crisis.
2. Ensuring that critical services including water, sanitation and hygiene systems, as well as health and education services, are climate resilient.
3. Ensuring that DRR is child-sensitive and child-centered. Child, family and community resilience should be improved to ensure that children are better protected from CEE-related shocks.
4. Improving climate education and skills, which are essential for children’s adaptation and preparedness to the effects of climate change. Significant efforts need to be made to strengthen climate and environment education, raise awareness, increase participation, and empower children and youth.
5. Involving children and young people in all climate-related decision-making. Efforts should be made to provide a mechanism to mainstream children’s interests and needs, ensure youth participation in climate and environment discussions at different levels, and consider children as a target group in developing and implementing CEE-related policies.
6. A system of child-sensitive indicators, data collection and analysis on climate and environment issues should be established in Ukraine.



For further information, please contact:

Nina Sorokopud,

Communication Specialist

UNICEF Ukraine

Tel: +38 044 521-01-25

Email: nsorokopud@unicef.org

© United Nations Children's Fund (UNICEF),
November 2021