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# STRENGTHENING RESILIENCE TO NATURAL DISASTERS IN UKRAINE

Creating national and local mechanisms to reduce the risks of natural disasters caused by climate change — a contribution to achieving the Sustainable Development Goals

# The PROBLEM and the CAUSES

One of the most acute problems now facing the world, and Ukraine in particular, is climate change. Today, three out of four humanitarian crises are directly related to climate change. According to forecasts by leading international scientific centres for climate research, over the next century global average temperatures will increase by 2-5 degrees Celsius. Such a pace of global warming threatens various ecosystems and will increase the frequency and intensity of natural disasters – including flooding disasters.

 ~ 1.8 million ha.

of the territory of Ukraine will be flooded by 2100 if the overall temperature on the planet increases by 4 degrees Celsius. Under such conditions, 75,000 people in the affected areas could become climate refugees

Global climate change is a large-scale and long-term shift in the planet's weather conditions and average temperature that poses a major threat to global security, the environment, and the economic development of countries. There is no state in the world that has not experienced the serious effects of climate change. Over the last ten years, 83 percent of all disasters in the world have been caused by extreme weather and climate change-related phenomena such as floods and extreme heat. Climate change analyses show that precipitation effects will continue to become more extreme, with humid areas receiving even more rainfall, while arid lands become increasingly parched.

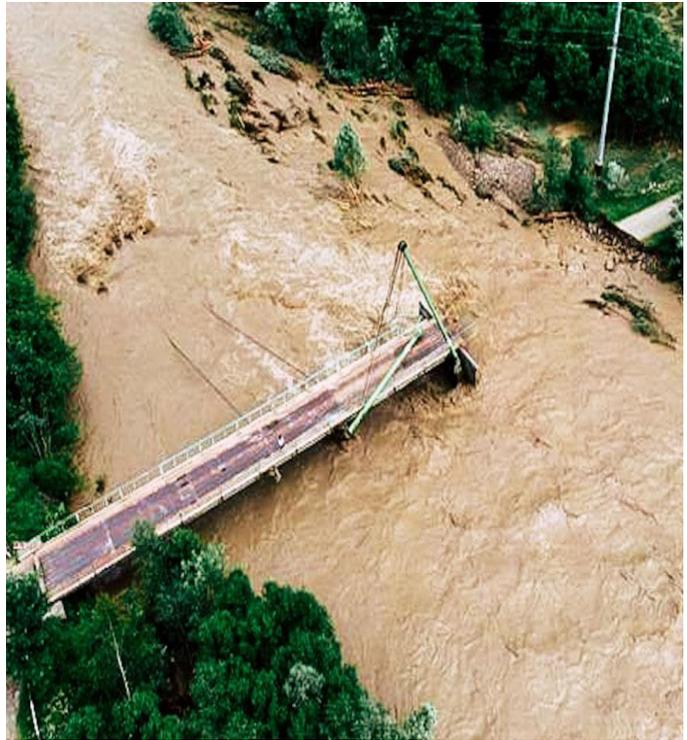


According to numerous scientific studies, about one-third of climate change can be accounted for by natural processes, while the other two-thirds are due to human activities – including increasing the amount of greenhouse gases in the atmosphere. It is the excessive concentration of these gases, which are emitted by transport and unsound agricultural and industrial practices, that is causing an increase in the greenhouse effect, and that is the primary cause of recent record-breaking extreme weather. Scientists have now proved that climate change is connected to human activities, and that humans are responsible for air pollution and negative changes in the planet's climactic balance. In 2016, this prompted the international community to create a milestone international instrument for climate action – the Paris Agreement. The agreement, which has been ratified by Ukraine, is designed to limit global greenhouse gas emissions in order to curb the rise in global temperatures, helping to mitigate the effects of climate change and increase our ability to adapt to its adverse effects.

# The EFFECTS

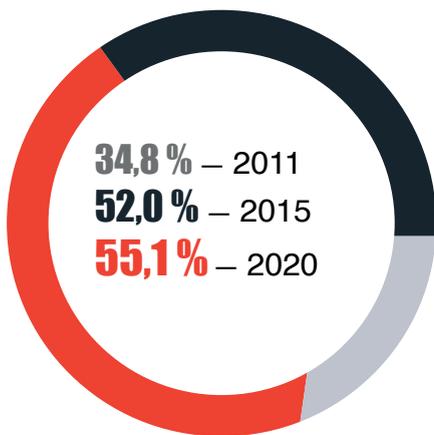


Drought in Odesa oblast (2020)



Floods in Western Ukraine (2020)

“ Over the last ten years, Ukraine has seen an upward trend in the share of emergencies triggered by natural disasters.



Global climate change is a slow and now irreversible process. In the coming years, it will radically change life on Earth, even if humans are able to reduce greenhouse gas emissions – the cause of global warming. Influenced by climate change, the hydrological cycle will continue to alter, thereby increasing the intensity of natural disasters. In the last ten years alone, more than 410,000 people have been killed in natural disasters globally, the vast majority of them in low- and middle-income countries. Such countries are not only more vulnerable to disasters precipitated by climate change – they also face much

more severe consequences.

Over the last decade, Ukraine has also seen an upward trend in the share of disasters attributed to natural disasters. While in 2011 this share was about 35 percent of the total number of emergencies recorded in the country, in 2020 this rate exceeded 55 percent. In addition, 2020 saw an increase in the severity of recorded emergencies and an increase in the assessed amount of losses caused by more than 6 times, compared to the previous year. This was in particular due to the drought in Vinnytsia and Odesa oblasts, and the catastrophic series of torrential rainfall events that hit western Ukraine.

# SOLUTIONS

The entrenched perception that natural disasters require only a timely and effective response must be replaced by recognition of the need for sustainable development approaches and building resilience. Shaping the severity of natural disasters – mitigating their adverse effects on the population, livelihoods, the environment, and property – is possible through effective risk management aimed at risk reduction.



The term **'resilience'** is defined as the ability of a system, community or society at risk to withstand, absorb, adapt to, and recover from the effects of disaster in a timely and effective manner, including by preserving and restoring basic structures and functions through risk management.



Disaster risk reduction covers various sectors of development, and aims not only to reduce existing risks and prevent the creation of new ones, but also to strengthen resilience. In the context of climate change, investment in disaster risk reduction, in particular by strengthening resilience to natural disasters intensified by climate change, is a prerequisite for the sustainable development of a country. Strengthening resilience is a shared goal of reducing disaster risks, combating climate change, and achieving sustainable development in general.

Risk is a combination of the probability of an event and its consequences,

and consists of the following components:

- threat
- vulnerability
- susceptibility (exposure)

## Disaster Risk Management

includes processes and actions to strengthen resilience, as well as minimize losses and damage during hazardous events

## Disaster Risk Reduction

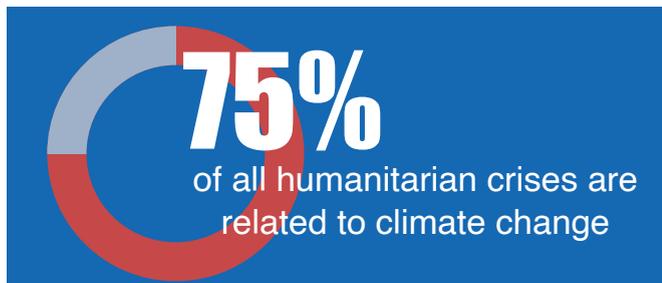
aims to prevent the creation of new risks, reduce existing risks, and manage residual risks, which will strengthen resilience and help in achieving sustainable development





Strengthening resilience and adaptive capacity to climate-related hazards should be a task for a national Sustainable Development Goal framework, under SDG 13 'Climate Action'.

Climate change is a slow but irreversible process, so it is important not only to mitigate the effects of climate change by limiting greenhouse gas emissions, but also to strengthen resilience and the capacity to adapt to climate change. This is done by raising awareness of climate threats and risks, increasing the level of preparedness of both communities and civil protection providers for natural disasters, improving early warning and public awareness systems and practices, and introducing nature-based solutions, among other things.



Strengthening resilience and adaptive capacity to climate-related hazards should be one of the aims of the implementation of national and local mechanisms (strategies) for disaster risk reduction. By strengthening resilience to natural disasters, including floods and droughts, taking into account climate risks and the need to adapt, and crafting national and local mechanisms (strategies) for disaster risk reduction will be part of the global strategy “Transforming Our World: The 2030 Agenda for Sustainable Development”, and will also contribute to Ukraine achieving the Sustainable Development Goals, such as “Sustainable Cities and Communities” (SDG 11) and “Climate Action” (SDG 13).



## A mechanism to reduce disaster risks as a contribution to sustainable development



In September 2015, the United Nations General Assembly approved a new global strategy, 'Transforming Our World: The 2030 Agenda for Sustainable Development', and approved the 17 Sustainable Development Goals (SDGs) and their 169 targets.



In Ukraine, a national SDG framework has been developed, consisting of the 17 goals with 86 targets. Some global targets, in particular that of strengthening resilience and adaptive capacity to climate-related hazards (Target 13.1 of the global SDG 13 'Climate Action', on strengthening resilience and adaptive capacity to climate-related hazards and natural disasters in all countries), have not been included among the national targets of Ukraine.

In 10 of the 17 SDGs (59 percent) currently observed by the countries of the world, including

Ukraine, there are 25 targets related to reducing the risks of natural disasters. The largest numbers of targets are defined under the SDGs dedicated to climate action and to the sustainability of cities and communities. The number of countries with national and local disaster risk reduction strategies is a global indicator for reviewing progress in achieving the 'Sustainable Cities and Communities' Goal (SDG 11) at the global level. This clearly demonstrates the important role disaster risk reduction plays in achieving the sustainable development of a country.



### Global Sustainable Development Goal 13 'Climate Action':

**Target 13.1.** Strengthen resilience and adaptive capacity to climate-related hazards

**Target 13.2.** Integrate climate change measures into national policies, strategies and planning

**Target 13.3.** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

**Target 13.A.** Implement the commitment undertaken by developed-country parties to the UN Framework Convention on Climate Change to mobilise financial resources

**Target 13.B.** Promote mechanisms for raising capacity for effective planning and management, including focusing on women, young people and local and marginalized communities



### National SDG 13 Target 'Climate change mitigation'

**Target 13.1.** Reduce greenhouse gas emissions in the economy

