

The term “natural disasters” is often used, but we should know that there are only natural hazards that do not have to turn into disasters if we act in an informed manner to identify and reduce risks, reduce exposure and vulnerability of the population, said the Civil Protection Directorate. However, it is extremely important to reduce the risks by our actions in accordance with nature, and not against it.

“Nature-based solutions must play a key role in disaster risk management,” said Mami Mizutori, UN Secretary-General’s Special Envoy for Disaster Risk Reduction and Head of the UN Office of the same name, in July 2020 during the publication of the Global Standard for solutions based on natural principles ”published by the International Union for Conservation of Nature and Natural Resources (IUCN), the Directorate of Civil Protection of the Ministry of the Interior of the Republic of Croatia announced.

The biggest risks facing humanity today are related to the right to the environment - these are extreme weather conditions caused by climate change, loss of biodiversity, environmental disasters and pandemics. Degraded ecosystems further exacerbate the negative effects of climate change, and climate change consequently causes further ecosystem degradation. Therefore, key solutions are based on natural principles (so-called Nature-based Solutions - NbS, or Ecosystem-based Solutions) which can play an important role in disaster risk reduction (“Eco-DRR”).

### **The fastest solutions are usually the worst**

When it comes to preventive measures in the urban environment, the Directorate of Civil Protection points out that the fastest solutions, such as those in Split’s Znan and Katalinic care for the prevention of landslides and erosion, should not be used. Namely, at the above locations, the risk of landslides is prevented by jet concreting, the so-called by torqueting, but at the same time the pressure on the stormwater drainage system is increased as this surface has lost its useful absorption property. In addition, this Split example represents the permanent degradation of the natural environment, which further increased the ambient temperature, ie the effect of thermal islands. Investments and development choices that are not based on awareness of the effects of climate change on the increase in risk increase the vulnerability of communities to disasters, point out the Directorate of Civil Protection. City administrations are therefore obliged to recognize, assess and strengthen the resilience of the most vulnerable parts of their cities - most often over-concreted neighborhoods, and not to make them even more vulnerable with the wrong preventive solutions.

### **Green infrastructure**

The global community and the EU strongly advocate solutions based on an understanding of the benefits that nature provides to human society and encourage the integration of these “green” solutions into local disaster risk reduction strategies as well as local climate change adaptation strategies. A turning point in the valorisation of nature-based solutions in risk management occurred in 2015, when global agreements such as the Sendai Framework for Disaster Risk Reduction 2015-2030, the Paris Agreement, the Convention on Biological Diversity and the 2030 Agenda for Sustainable Development were adopted. Considering that the conservation and sustainable management of ecosystems reduces risks in the long term, while providing numerous benefits to humans and biodiversity. In addition to strengthening the community’s resilience to climate change, green infrastructure mitigates the effects of climate change by storing CO<sub>2</sub> in biomass and soil and reducing direct (reducing greenhouse gas emissions in buildings and infrastructure) and indirect (reducing the impact of urban heat islands) energy needs. By incorporating natural solutions into long-term spatial planning and development processes guided by the goals of disaster risk reduction and adaptation to climate change, green and blue areas become a permanent, aesthetic and socially and economically useful feature of urban areas, which strengthens disaster resilience and creates harmony and better connection between people, environment and sustainable economic development, points out the Directorate of Civil Protection.

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