



Network
Nature

**Nature-based solutions
in light of the Pandemic
*Outcomes***





NetworkNature is a resource for the nature-based solutions community, creating opportunities for local, regional and international cooperation to maximise the impact and spread of nature-based solutions. The project is funded by the European Commission under the Horizon 2020 programme.

The NetworkNature semester theme `Nature-based solutions in light of the pandemic` running February – July 2021 was selected in consultation with stakeholders from the nature-based solutions community, as a topic that warranted a spotlight. Nature-based solutions (NbS) - specifically green spaces such as parks, urban forests and urban gardens are crucial in urban areas providing spaces for relaxation, recreation, physical activities and safe socialisation.

There are clear linkages between the health of the ecosystem and humans. Further nature positive planning and design can also drive the economy and create new job opportunities. The semester theme provided ample resources, discussions and opportunities on the integration of NbS in the urban-rural fabric and the subsequent health benefits, especially with regards to the COVID-19 pandemic.

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NbS - NAture-based solutions

NbS are defined by the European Commission as
“Solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions. Nature-based solutions must therefore benefit biodiversity and support the delivery of a range of ecosystem services”

Nature-based solutions - a a buffer for zoonotic disease spread

WCS Special Report Shows Links between Degradation of Ecological Integrity and Emerging Infectious Diseases – Wildlife Conservation Society

→ Land conversion, creation of new habitat edges, wildlife trade and consumption, and agricultural intensification increase the risk of emerging infectious disease to spread to humans. This is especially true when they are in, or linked to, areas of high biodiversity that elevate contact rates between humans and certain wildlife species.

→ Protecting ecological integrity should be a priority within any comprehensive plan to avoid zoonotic outbreaks, through actions such as spatial planning, the creation and management of effective protected areas, support to ecosystem management by indigenous peoples and local communities, and policies to minimize threats caused by particular economic sectors.

Biodiversity and ecosystem services: the foundation for human health and well-being - Urbes Project

→ Rapidly declining biodiversity may be a contributing factor to the rapidly increasing prevalence of allergies and other chronic inflammatory diseases among urban populations worldwide. A recent study in Finland suggests that contact with the natural environment could protect people from becoming sensitised to allergens. If contact with biodiversity-rich environments, especially certain kinds of bacteria, can help reduce sensitivity to allergens and boost immunological tolerance in general, this could have significant implications for urban planning, environmental protection and health policies.

The link between biodiversity loss and the increasing spread of zoonotic diseases – European Parliament

→ The response to the COVID-19 pandemic has mainly focused on containment and treatment. Containment measures have shown a dramatic social and economic impact on most societies. As in so many other cases, prevention is clearly more efficient than treatment and we need to better understand the conditions that favour or contribute to the emergence and spread of zoonotic disease in order to prevent it.

Nature-based Solutions and health; of humans and ecosystems

The importance of urban green and blue spaces for mental health - Unalab

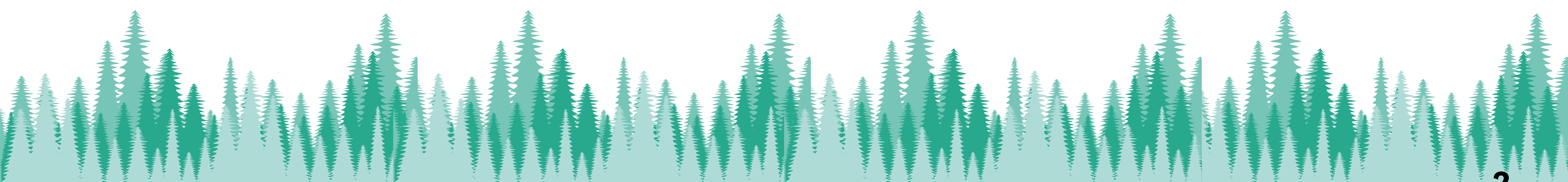
→ Spending time in urban green and blue spaces provides numerous mental health benefits. Parks, playgrounds, rivers and other urban green and blue spaces have proven to promote mental health and well-being by reducing stress, stimulating cognitive function, enhancing social cohesion, and supporting physical activity.

Ecopsychology: How Immersion in Nature Benefits Your Health – Yale School of Environment, Jim Robbins

→ A growing body of research points to the beneficial effects that exposure to the natural world has on health, reducing stress and promoting healing. Now, policymakers, employers, and healthcare providers are increasingly considering the human need for nature in how they plan and operate. The studies “point in one direction: Nature is not only nice to have, but it’s a have-to-have for physical health and cognitive function.”

Urban street tree biodiversity and antidepressant prescriptions – Scientific Reports, Marselle, M.R., Bowler, D.E., Watzema, J. et al.

→ Density of street trees at further spatial distances, and species richness of street trees at any distance, were not associated with antidepressant prescriptions. However, for individuals with low socio-economic status, high density of street trees at 100m² around the home significantly reduced the probability of being prescribed antidepressants. The study suggests that unintentional daily contact to nature through street trees close to the home may reduce the risk of depression, especially for individuals in deprived groups. This has important implications for urban planning and nature-based health interventions in cities.



Study on the Health and Social Benefits of Biodiversity and Nature Protection – Institute for European Environmental Policy

→ Many health- and nature-related activities take place at the city and regional scale, but national level activities can promote positive links between public health and nature through robust policy and institutional frameworks. The EU can support this by effectively implementing EU biodiversity policy and ensuring that various policies and financial mechanisms consider the links between health, social aspects and nature.

Saving biodiversity: why our mental and physical health depends on it – World Economic Forum

→ Research has shown that biodiverse environments can help alleviate stress and improve mental health. For example, people living in neighbourhoods with more birds reported being less stressed. A study involving stressed people looking at meadows found that people were most relaxed when looking at meadows with at least 32 different species of plants, compared to just one species. Another study, looked at the views people have from their houses and found that those with views of varied plants, shrubs and trees had significantly lower levels of cortisol – one of the main stress hormones. The damaging effects of humans on biodiversity, resulting in habitat loss or due to the wildlife trade, can increase the risk of interactions with animals that carry infectious diseases – making future pandemics more likely.

Green spaces & urban forests during the COVID-19 pandemic – CLEARING HOUSE

→ The survey confirms European-wide observations that the use and frequency of visits to urban green space increased during the COVID-19 pandemic. Further people intend to continue to visit urban green spaces at least as frequently as before the pandemic – over one third of the respondents indicated that they will visit urban green space more frequently. The increased use of urban green space is also reflected in an increase in the prioritisation of such spaces as a service that the authorities should offer to the society according to the respondents. Urban forests are critical infrastructure supporting societies, especially in times of crisis and disruption.

Nature-based solutions and economic recovery

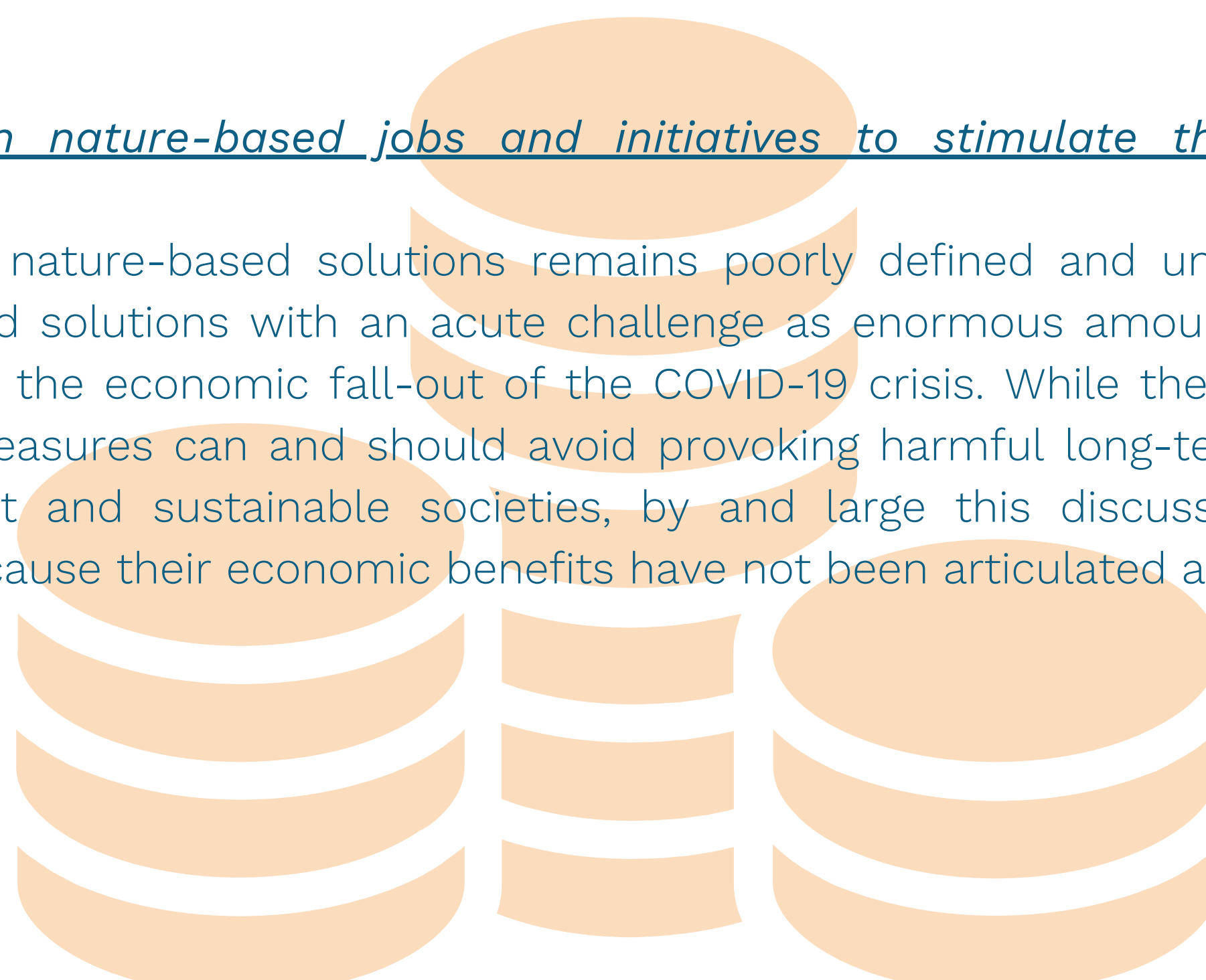
WHO MANIFESTO HEALTHY RECOVERY – World Health Organization

→ Attempting to save money by neglecting environmental protection, emergency preparedness, health systems, and social safety nets, has proven to be a false economy – and the bill is now being paid many times over. The world cannot afford repeated disasters on the scale of COVID-19, whether they are triggered by the next pandemic, or from mounting environmental damage and climate change. Going back to “normal” is not good enough.

→ National governments are committing massive amounts of money, to maintain and eventually resuscitate economy activity. These investments are essential to safeguard people’s livelihoods, and therefore their health. But the allocation of these investments, and the policy decisions that will guide both short- and long-term recovery, have the potential to shape the way we live our lives, work and consume for years to come. It is crucial to observe and monitor their effects on the environment and pollution, and particularly on greenhouse gas emissions.

Principles for investing in nature-based jobs and initiatives to stimulate the post-COVID economy – Nature4Climate

→ The economic case for nature-based solutions remains poorly defined and understood. This presents the proponents of nature-based solutions with an acute challenge as enormous amounts of finances are currently being mobilised to address the economic fall-out of the COVID-19 crisis. While there is much discussion about how economic stimulus measures can and should avoid provoking harmful long-term impacts, and hasten the transition to more resilient and sustainable societies, by and large this discussion overlooks nature-based solutions. In part, this is because their economic benefits have not been articulated and communicated effectively enough.



The importance of therapeutic gardens within the urban tissue

“The rapid development of urban settlements, technology and unhealthy lifestyles lead to the need for sustainable planning with an emphasis on the integration of healing gardens and therapeutic green spaces in the urban environment”

Alexandra-Mara Nicolaescu,

PhD student, urban landscape planner, Ion Mincu University of Architecture

Mental Health and Nature –How urban and peri-urban Blue & Green areas contribute to our well-being

“There is no magic recipe, which is why we will need variety in green spaces and blue spaces to suit different user’s needs, which may also depend on how that person is feeling that day”

Karla Locher

Researcher at Helmholtz Centre for Environmental Research

Dr. Allan Watt

Research Fellow at UK Centre for Ecology & Hydrology

Why cities need more green space than ever

“Natural outdoor public spaces such as parks, forests, road trees, rivers, lakes and seas are a great resource for people and society and an increased effort should be made to maintain and improve them to improve our mental health”

Mark J Nieuwenhuijsen PhD

Research Professor in Environmental Epidemiology, Director Air pollution and Urban Environment, Director Urban planning, Environment and Health Initiative, Editor-in-Chief Environment International, President International Society for Environmental Epidemiology - ISGlobal - Campus MAR - Barcelona Biomedical Research Park (PRBB)

Editorial: Nature is good for us and the society

“With most Europeans living in cities, NbS situated in urban and peri-urban areas have a large potential to contribute to the well-being of urban dwellers. Simple interventions have immediate impact on citizens’ health”

Prof Dr Rik De Vreese

European Forest Institute & Ghent University, CLEARING HOUSE project coordinator, European Forum on Urban Forestry Steering Committee member

Nature-based solutions and health outcomes

“Analysis of qualitative commentaries that accompany indicators published in the Urban Nature Atlas suggest NBS aim to influence health and well-being by reconnecting citizens with urban nature, improving liveability and establishing therapeutic landscapes in cities”

Clair Cooper

PhD Student Durham University - NATURVATION Project

NetworkNature expert



“It is imperative to create awareness and a broad understanding that human health is inextricably linked with healthy and functioning ecosystems that can continuously provide us with the services that our society and economy depend on. Infectious diseases are unpredictable and with increased environmental stressors, it is crucial that we focus on prevention and preparedness to pandemics - which is where nature-based solutions can truly help build resilience and foster health and wellbeing. NetworkNature’s running semester theme has put this connection into the spotlight.”

Bettina Wilk, NetworkNature coordinator, Senior Officer Sustainable Resources, Climate and Resilience at ICLEI Europe



**It is in our nature to network –
we will expand the NbS community and
help maximise the impact of nature-
based solutions.**

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