How can people and nature prosper together in the urban context?

-different approaches to integrating nature in cities

Thomas Elmqvist Stockholm Resilience Centre

Urban centra and centra for biodiversity often coincide



Urban agglomerations in Germany and plant species diversity



Urbanization and impact on Biodiversity

In two decades, due to rapid urban growth particularly in the global south, 40 % of the world's protected areas will essentially be "urban parks"













Natures Future Framework three dimensions of nature and people



Pereira et $\stackrel{8}{al}$. 2020

Urban Nature Futures



Oke et al. 2021. Cities should respond to the biodiversity extinction crisis. npj Urban Sustainability

I. Urban Nature for nature

biodiversity and natural processes with the rewilding of urban parks with native species and increased connectivity to the wider landscape.



EU Nature Restoration Law: A boost for biodiversity and

climate

oday the European Commission proposed a new nature restoration law with binding targets on pollinators, wetlands, rivers, forests, marine ecosystems, urban areas and peatlands. The new law aims to bring nature back across the continent for the benefit of biodiversity, climate and people. It can be a gamechanger if fully implemented. It's now crucial that both the European Parliament and EU Member States endorse the law and move to swift implementation.



River in Gäddede, Sweden



II. Nature for society

utilitarian values, availability of nature-based solutions, such as green infrastructure, green roofs, artificial wetlands, to improve climate, air quality, water quality physical and mental well-being **Nature-based solution dimensions**



Climate change – Increase in Urban Temperature



Urban heat waves



Cooling effect of trees in the urban landscape



Increasing risks of flooding



Urban Response Paradigms



Grimm et al (2014)



Towards an EU Research and Innovation policy agenda for Nature-Based Solutions & Re-Naturing Cities

Final Report of the Horizon 2020 Expert Group on 'Nature-Based Solutions and Re-Naturing Cities' (full version)



200 million € invested in demonstration projects

Nature based solutions, integrating living systems with the built system



Linear Parks



Chonggyechon freeway in 1971





Linear Park in Mumbai



Linking affluent and poor neighbourhoods together



Green areas and health

An observational population study of the population of UK younger than retirement age (N= 40 813 236).

A significant association between residence in the most green areas and decreased rates for all-cause mortality in 2001-2005 (366 348 deaths) with control for potential confounding factors.

> Mitchell R, Popham F 2008. Effect of exposure to natural environment on health inequalities: an observational population study. Lancet 372(9650): 1655-1660.

#NATURE NEVER CLOSES: NATURAL BENEFITS OF PUBLIC PARKS AND GREEN SPACES - COVID-19



In all instances we strongly recommend people follow Government directives and guidelines regarding the use of these spaces and recognize that these vary from community to community.



Singapore - Green cover 1980 - 36%, 2016 - 47%



Singapore - rated as the most healthy city in the world. Bloomberg rankings 2015.



III. Nature as culture

cultural values, relationship between people and nature in cities, including the possibility of urban gardening, the historical heritage of city parks and botanical gardens, among others.

Pop up parks











Hogans Creek BIODIVERSITY F-E-S-T-I-V-A-L





Urban Soils: building better biodiversity Soils, Art & Harvest Festival October 12th 2019





8/25/2022

Cultural dimensions in the

Urban National Park, Stockholm



Opera singer: Jenny Lind





Painter: JC Linnerhielm



Composer: JM Krause

32

Urban Nature Futures

Nature for nature



Nature as culture

Nature for society





"Plan of action, local and subnational governments"



ICLEI is the leading global network of over 1,750 cities, towns & regions committed to building a sustainable urban future. Our dedicated global Cities Biodiversity Center works with cities & other subnational governments across the world to mainstream biodiversity and nature-based solutions into urban planning and development at the local level.

Protecting and enhancing urban nature through collective actions by local and regional government



7th Global Cities and Biodiversity Summit December 2022

Thank You