

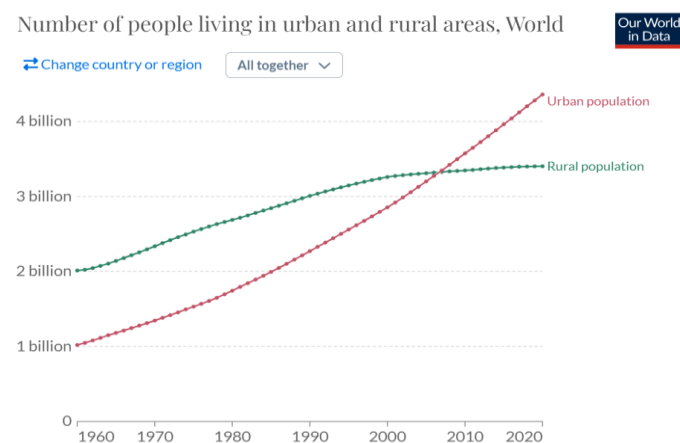
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## CITIES AND NATURE

- Cities are home to 4.4 billion people — well over half of humanity. This figure is projected to reach 6.7 billion by 2050.
- Rapid and uncontrolled urbanisation brings dramatic environmental change, most often negative.
- Cities have ecological footprints that are orders of magnitude larger than their physical area, exerting heavy impacts also on distant peri-urban and rural ecosystems.
- Well-managed urban areas can support rich biodiversity, with many species rapidly adapting to the built environment. Green and blue infrastructure can also cost-effectively enhance the liveability, sustainability, and resilience of cities, but it suffers from chronic underinvestment.

### What is the issue?

**Cities are growing rapidly.** The urban population is projected to grow from 4.4 to 6.7 billion people by 2050. And by 2030, it is estimated that cities will expand to cover an additional 290,000 km<sup>2</sup> of natural habitat, particularly in the tropical forests of Africa and Asia, which are amongst the most biodiverse places on Earth.



### Local impacts

**Rapid and uncontrolled urbanisation dramatically changes the local environment.**

It affects the temperature, light, noise, and substrate of habitats, and how and where species can live. In

the vast majority of cases, **these changes have negative impacts on biodiversity.** For example, air pollution in industrial urban areas in Johannesburg, South Africa, has affected the foraging capacity of the Blue Swallow, one of the most threatened bird species in the region.

The loss of biodiversity in urban areas **threatens the functioning of ecosystems**, and thus the benefits that ecosystems provide to local people. Urban biodiversity supports, amongst others, air and water purification, pollination, and climate regulation.

A case in point: The decrease in urban tree coverage has exacerbated extreme heat waves, affecting climate regulation. Different cities, such as Milan, Italy and Freetown, Sierra Leone, have committed to planting millions of trees and increase vegetation cover to reduce urban temperatures.

### Global impacts

As centres of consumption and production, **cities have negative impacts on nature far beyond urban areas.** Although they cover only 2-3% of land, cities account for 75% of natural resource consumption, up to 80% of energy consumption, 70% of greenhouse gas emissions, and 50% of waste production.

**Solutions exist to help address local and global impacts of cities** on nature. However, the challenges posed by weak interdepartmental cooperation in governance systems that hinder integrated urban planning, as well as the lack of cost-benefit analyses and documentation of impacts of

Nature-based Solutions, means these are often not deployed.

## Why is this important?

The sustainable governance of cities is essential to achieve global biodiversity and sustainable development goals. For instance, Target 12 of the [Kunming-Montreal Global Biodiversity Framework](#) aims to increase the area of, access to, and benefits from nature in urban areas.

**Poorly planned urbanisation exacerbates social inequities and harms human wellbeing.** Low rates of urban biodiversity make cities more vulnerable to the impacts of climate change, such as rising sea levels, flooding, drought and heat stress. These phenomena cause poverty, food insecurity, and the displacement of communities, and will have a growing impact on economies too. It is estimated that European cities will spend over EUR 190 billion annually to address extreme weather events by 2070.

‘Commercial and residential development’ is the third most frequently cited threat to species on the [IUCN Red List of Threatened Species™](#), affecting over **21,870 species**. These include the Javan Slow Loris in Indonesia and the Pink-headed Warbler in Mexico and Guatemala.

## What can be done?

**Nature-positive approaches are key to address these issues in urban ecosystems.** Preserving natural habitats; implementing Nature-based Solutions such as greenways, urban wetlands, and green infrastructure; planting native species; and protecting [Key Biodiversity Areas](#) all help enhance urban biodiversity.

Such measures benefit local people in many ways. For example, the city of Amman in Jordan has taken steps to **enhance urban agriculture** that include setting aside land for urban agriculture, releasing land-use guidelines, and promoting local food production. The residents of Amman have reduced emissions, gained access to healthy food, strengthened community relationships, and increased urban reforestation.

**All municipalities should therefore revise local land-use plans** to enhance biodiversity and ensure social environmental justice.

Considerations could include community consultations throughout environmental policymaking; rethinking of mobility systems to reflect environmental and social needs of neighbourhoods; and ensuring that the environmental right to a clean, healthy, and sustainable environment is upheld in low-income communities. Inclusive land-use planning can help increase access to nature, manage urban growth, and steer unavoidable urbanisation to places that prevent the loss of ecosystems. [Biodiversity offsetting schemes](#) can also help ensure development projects benefit biodiversity overall.



Images of the roof garden at the vocational training centre in the Gaza Refugee Camp in Jerash.  
© Greening the Camps, in Planning and delivering Nature-based Solutions in Mediterranean cities. (IUCN, 2021)

Given their size and reach, **local governments must address the ecological footprints of cities** by greening supply chains; enhancing resource-use efficiency through dedicated policies, technical solutions, and establishing a shared vision at a municipal level; and promoting sustainable consumption and production. In parallel, strong monitoring frameworks, such as the [IUCN Urban Nature Indexes](#), should be implemented to ensure transparency and set science-based targets.

Considering the limited living space of cities and the multitude of communities and stakeholders interacting therein, it is essential that innovative solutions are implemented collaboratively by local authorities, businesses and civil society, and that as many urban elements as possible contribute to nature conservation. For instance, **sporting events and infrastructure can play an active role in conserving and enhancing biodiversity**. Different guidelines, such as the [Sports and urban biodiversity framework](#), have been released to support sports clubs, federations, sports infrastructure owners, operators, developers, investors and local authorities to be stewards of urban nature.

Finally, **more research and investments are needed** to support the design, implementation, and monitoring of urban biodiversity actions. Governments, multilateral development banks, international organisations, and research institutions should join forces and support dedicated programmes to produce cost-benefit analyses and document the positive impacts generated by the enhancement of nature in urban ecosystems.

## ***Where can I get more information?***

IUCN Urban Alliance

<https://iucnurbanalliance.org/>

IUCN Urban Nature Indexes: methodological framework and key indicators (IUCN, 2023)

<https://portals.iucn.org/library/node/50782>

IUCN Urban Nature Indexes web-platform

<https://iucnurbannatureindexes.org/en>

IUCN Nature-based Solutions for cities

<https://www.iucn.org/our-work/topic/nature-based-solutions-cities>

PANORAMA Cities

<https://panorama.solutions/en/portal/panorama-cities>

Planning and delivering Nature-based Solutions in Mediterranean cities (IUCN, 2021)

<https://portals.iucn.org/library/fr/node/49779>

Sports and urban biodiversity - A framework for achieving mutual benefits for nature and sports in cities (IUCN, 2020)

<https://portals.iucn.org/library/node/49127>

Towards Nature-based Solutions at scale: 10 case studies from China (IUCN, 2023)

<https://portals.iucn.org/library/node/50761>