Urbanization, Biodiversity & Mental Health

Role of ACT
Academia | Communities I Technology

Report by: IGF Internet Governance Forum
Dynamic Coalition on Environment

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Acknowledgement

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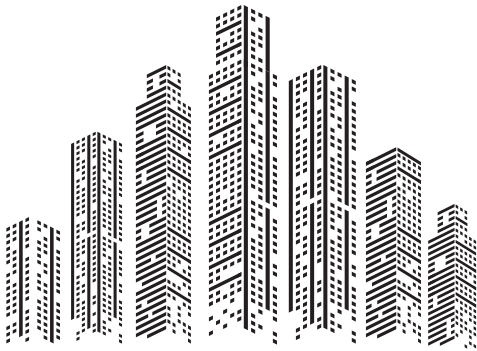

IGF Internet Governance Forum
Dynamic Coalition on Environment

Foreward

Increasing population, agriculture becoming a loss-making profession, focus on a few urban centers, increasing prices of real estate, and rapid modernization and greed-based development have led to the belief that urban centres are the hub of economic activity (job centers) and prosperity. Hence, the populations are moving from rural and semi-urban to urban areas. This is driving change in metropolitan areas resulting in the depletion of green cover, and what we are creating is a concrete jungle (skyscrapers replacing trees), resulting in economy at the cost of ecosystems, and growth at the cost of sustainability. While the world is moving towards greener businesses the green cover is diminishing faster than ever before!

This report was ideated during one of the webinars hosted by the Dynamic Coalition on Environment, where we were discussing biodiversity. I realized that urbanization did result in the loss of biodiversity but the more important aspect was the collateral damage; mental health. So, I asked the team led by Mr. Saptarshi Gargari to study this topic and draft a preliminary report as a starting point for wider discussion and debate and what role technology could play in addressing the triple burden of urbanization, biodiversity and mental health.

At the Dynamic Coalition on Environment, our goal is to tackle issues leveraging the internet and internet-based technologies that are critical for sustaining human habitats.

This report needs wider dissemination, discussions, and action. I encourage you to read this report and get back to us as to how you can help take this work to your communities, forums, and organizations and how soon we can do something about it. As former US President Barack Obama once said, “This is the first generation to feel the impact of climate change, and the last generation who can do something about it”.

Let us be a responsible generation. We would request you to join the ACT Alliance we are announcing at IGF today, and make a positive difference.

Dr. Rajendra Pratap Gupta, PhD.
Chairman
Dynamic Coalition on Environment
UN’s Internet Governance Forum
Website: https://www.intgovforum.org/en

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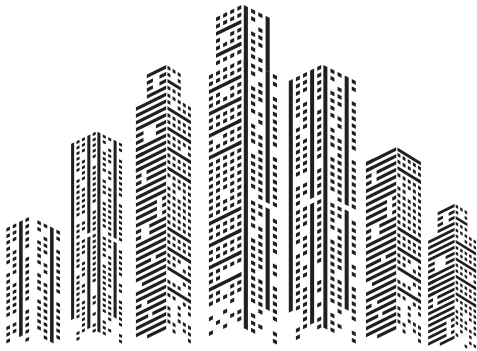


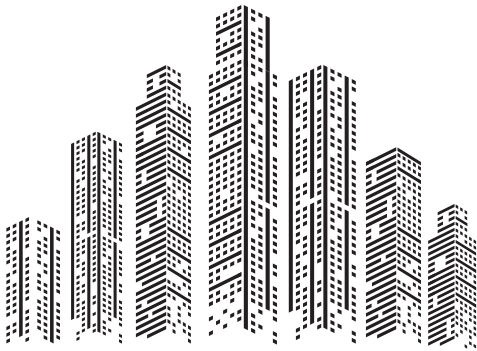
Background

There is not much debate on the fact that humans, the environment and technology are intertwined in the present times. Each has an impact on the other, whether positive or negative, it is for us humans to decide. Rapid urbanisation and the subsequent loss of biodiversity in all parts of the world have had an immense impact on our physical health. Many researches have been conducted on this pertaining issue, but very few have focused on the impact of rapid urbanisation and loss of biodiversity on our mental health and human behaviour.

Two choices: SDGs or Existential Crisis

SDG3 - Good Health and Wellbeing
SDG11 - Sustainable Cities and Communities
SDG12 - Responsible Consumption and Production
SDG13 - Climate Action
SDG15 - Life on Land
SDG17 - Partnership for the Goals

To ensure the good health and well-being of all living beings on our planet it is really important to put more focus on rapid and unsustainable urbanisation which is causing loss of biodiversity at a catastrophic level. Rapid and unchecked urbanisation is threatening life on land. It is of high importance to put focus on this pertinent issue and build partnerships to achieve these goals and work towards climate action with the help of technology and the internet else, our next generation will have an existential crisis.



Industrialization and Urbanization

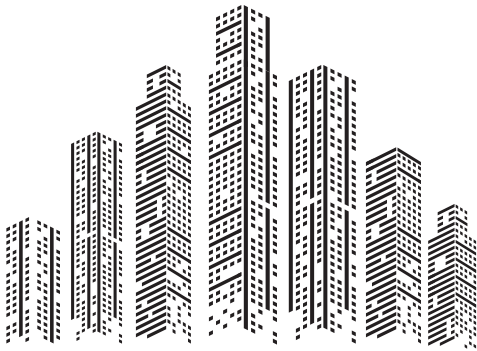
Greed-driven Growth (GDG)

Whenever one thinks of Urbanization in today's day and age, things that come to mind are skyscrapers that pierce the clouds, big fast cars, advancing technologies that are being made available to more and more people, and highways connecting large cities, that provide for an intricate transportation network. Urban centres have been acting as economic hubs, a place where trade and commerce flourishes. These urban centres are virtually running whole nations. As urban centres are a melting pot of trade, culture, education, and economic opportunity, throughout history, people have always been drawn to these spaces. The consequent expansion in the urban population has not always been consistent, in fact, the bulk of the populace lived in rural regions until recently. Urbanization therefore is a comparatively new occurrence.

The Industrial Revolution, which started in England in the middle of the eighteenth century and later moved to the United States and other areas of Europe, was a major factor in the development of cities. Ever-expanding industries during the Industrial Revolution created a shortage of urban labour. During the course of the following century, millions of individuals in the United States and England relocated from farmlands to cities. Other places of the world also went through rapid urbanization as a result of industrialization. The population of London, England, increased from one million in 1800 to over six million a decade later, in large part due to the Industrial Revolution. The alleged 'Second' Industrial Revolution accelerated urbanization in the United States. By 1950, the New York City metropolitan area had a population of 12.5 million, propelling it to surpass all other cities in the world in terms of population (National Geographic Society, 2022). The growth journey we have embarked upon is greed-driven (GDG) and not need-driven and hence the current growth (GDG) is not consistent with the SDGs. Where are we headed?

Are we heading towards a disaster?

According to experts, more than half of the world's population already resides in cities, and if estimations made by these experts are right, this number will have increased to about two-thirds by 2050. In recent years, urbanization has expedited the expansion of these ever-growing cities, which has resulted in the emergence of a new category of urban centre known as the 'Megacity' (minimum 10 million population). In the 1950s, New York City and Tokyo, Japan, were the first megacities in the world; by 2018, there were a total of 37 megacities worldwide (National Geographic Society, 2022).



While North America and Europe had the biggest cities during the Industrial Revolution, today's fastest-growing cities are in Asia and Africa as a result of industrialization. Tokyo is the largest urban area in the world as of 2019; Delhi, India, has a population of 32.94 million. The metropolitan areas of Shanghai, China; Mexico City, Mexico; and Sao Paulo, Brazil all have populations far over 20 million. By 2030, the United Nations (UN) projects that there will be 41 megacities. There are currently 5 cities in India with metropolitan areas of more than 10 million people, and by 2030 this number is anticipated to rise to seven. It is surprising to discover that some of the megacities are located in unexpected places, including Kinshasa, the capital of the Democratic Republic of the Congo (National Geographic Society, 2022).

Industrialization has been a boon and a bane for humanity. It has created a multitude of opportunities for many who migrate to these sprawling cities to transform their lives but these migrations have had a severe impact on the cities themselves. The resources of a city are now shared by millions and some cities are burdened with populations larger than a country! The influx of people means more pressure on resources, more waste generation and more people living in small & and densely populated areas due to the high costs of living. These spaces often are unhygienic and breeding grounds for disease and ailment. Rapid industrialisation and the subsequent urbanization have led to green cover loss at an unprecedented rate. Green spaces are cleared to make way for housing and ever-expanding industries. As a result, there is a loss of biodiversity in urban areas. Entire ecosystems are destroyed to make way for economic demands.

Migration Trends
Rural to Urban

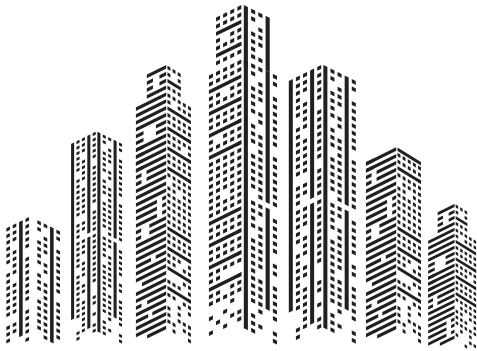
The global trend traditionally has been migration from rural to urban areas ever since the start of the industrial period. Population in a specific area and spatial patterns of the population are significantly influenced by migration.

More people now reside in cities than at any other point in human history, courtesy of rural-to-urban migration. Cities have grown to become hubs of business, culture, education, and entertainment. The allure of city life, numerous economic opportunities, and a dream of changing their lives for good have always enticed people to uproot and settle in cities (Castelli 2018).

Globally, rural-to-urban migration has been occurring for a number of reasons. Better employment opportunities and better educational institutions in urban regions have honey-trapped people to migrate. It can be a choice to relocate from rural to urban areas in order to enhance one's quality of life, but on the other hand, migration can also be a forced phenomenon. Violence, natural disasters, poverty, health, a failing rural economy, a decline in agricultural revenue, and a lack of alternatives to current employment. etc. can induce a forced migratory trend (International Organization for Migration, 2017).

In order for both the migrants and the cities to grow and prosper, the effects of this migration on cities must be taken into account for sound urban planning and development. Millions of rural households worldwide are projected to continue to be affected by the slow and quick onset of disasters. Towns and cities will act as a draw for immigrants and displaced persons, potentially increasing the number of urban poor people, which will perpetuate biodiversity and green cover loss in urban spaces. Addressing the underlying causes of displacement is essential to preventing it.

Studying the global migratory trend and how the concentration of population has shifted across decades is important. The first monumental change one can notice is when we compare the year 1950, when only 30% of the world's population resided in cities, to recently in the year 2021, when the urban population stood at 57.5% of the total population of the world. This percentage is expected to be 68% by the year 2050 (Patuzzi and Benton 2022). Such a huge chunk of the population moving into these economic hubs will result in nothing but more concrete jungles, biodiversity and habitat loss, plundering of green spaces and pollution (air, water and noise).



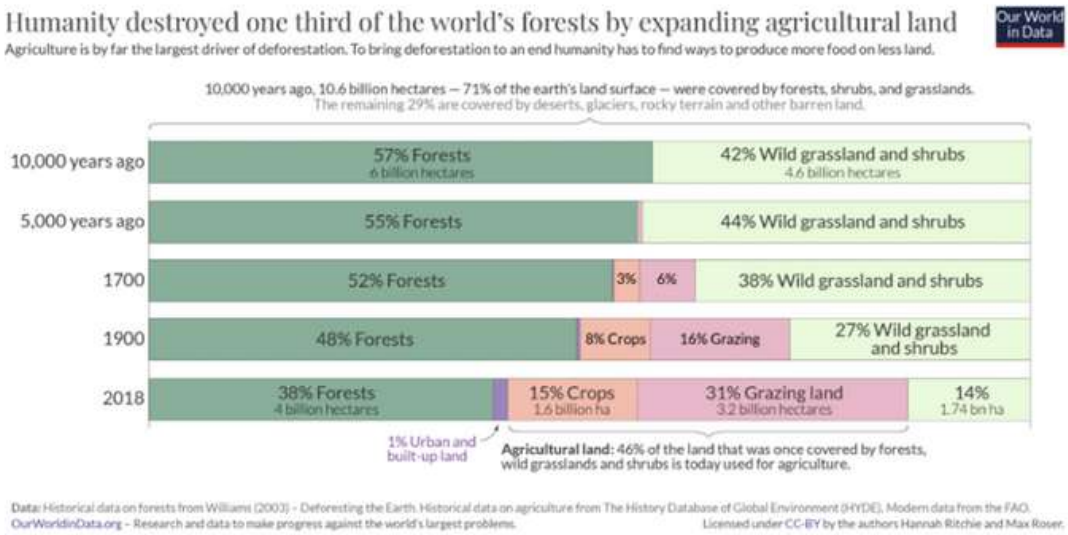
Governments across the globe see this as a challenge. Municipalities are beginning to recognise themselves as major players in managing migration and have begun including migration in their urban planning, development and implementation. Data on migration and urbanization are crucial for effectively managing migration in cities. However, particularly in low-income nations, these data are not always available or readily accessible. Even when the data is available, it is disaggregated, not thorough, or comparable.

Source: Asylum and Migration, UNHRC

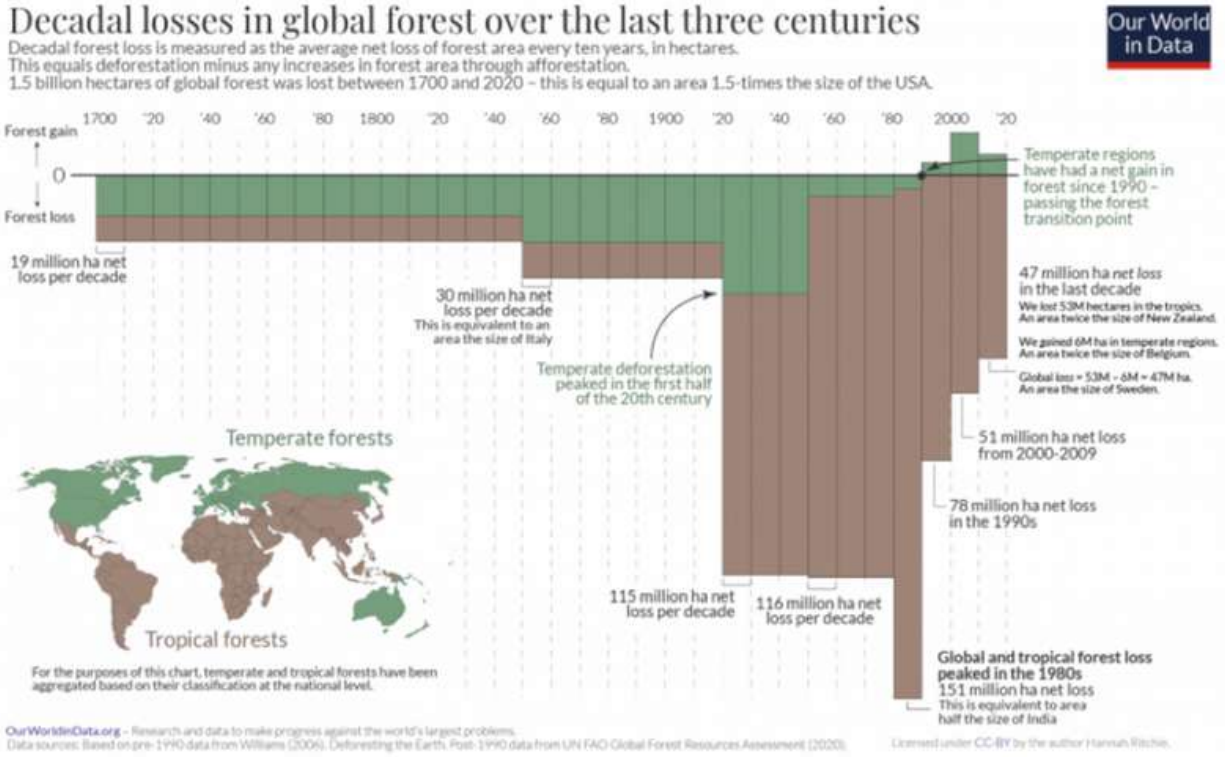
Loss of Green Cover

Biodiversity Loss over the Decades

Forest covered 57% of the world's habitable land 10,000 years ago. That equates to 6 billion hectares. Only 4 billion hectares remain now. One-third of the world's forests have been lost. Until 5,000 years ago, only 10% of this was lost. The turn of the twentieth century marked the midway point in worldwide forest loss: half of total forest loss happened between 8,000 BC and 1900, with the other half occurring in the previous century alone. When we think about modern population constraints on land, we frequently envision sprawling megacities. However, urban land accounts for only 1% of the world's habitable land. What we consume has the greatest impact on the environment, not where we live. (Ritchie 2021)



Forest loss quantifies the net change in forest cover, i.e. forest loss due to deforestation plus forest expansion owing to afforestation. The rate of forest loss has altered dramatically. Every decade from 1700 to 1850, 19 million hectares were cleared. Losses were around 50% higher between 1850 and 1920, at 30 million hectares per decade. As the twentieth century progressed, there was a gradual shift in demand for agricultural land and wood-fired energy. The rate of deforestation has increased. Decadal losses doubled to about 120 million hectares between the 1920s and the 1980s. Global deforestation peaked in the 1980s. We lost 150 million hectares, with the clearing of the Brazilian Amazon for pasture and croplands being a major contributor. (Ritchie 2021)


Decadal losses in global forest over the last three centuries
Decadal forest loss is measured as the average net loss of forest area every ten years, in hectares.
This equals deforestation minus any increases in forest area through afforestation.
1.5 billion hectares of global forest was lost between 1700 and 2020 – this is equal to an area 1.5-times the size of the USA.
Our World in Data
1700 '20 '40 '60 '80 1800 '20 '40 '60 '80 1900 '20 '40 '60 '80 2000 '20
Forest gain
0
Forest loss
19 million ha net loss per decade
30 million ha net loss per decade
This is equivalent to an area the size of Italy
Temperate deforestation peaked in the first half of the 20th century
Temperate regions have had a net gain in forest since 1990 – passing the forest transition point
47 million ha net loss in the last decade
We lost 53M hectares in the tropics. An area twice the size of New Zealand.
We gained 6M ha in temperate regions. An area twice the size of Belgium.
Global loss = 53M - 6M = 47M ha. An area the size of Sweden.
51 million ha net loss from 2000-2009
78 million ha net loss in the 1990s
115 million ha net loss per decade
116 million ha net loss per decade
Global and tropical forest loss peaked in the 1980s
151 million ha net loss
This is equivalent to area half the size of India
Temperate forests
Tropical forests
For the purposes of this chart, temperate and tropical forests have been aggregated based on their classification at the national level.
OurWorldInData.org – Research and data to make progress against the world's largest problems.
Data sources: Based on pre-1990 data from Williams (2006). Deforesting the Earth. Post-1990 data from UN FAO Global Forest Resources Assessment (2020).
Licensed under CC-BY by the author Hannah Ritchie.

Biodiversity and Mental Health

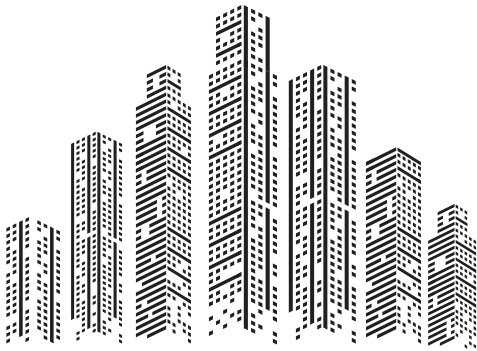
Climate change, biodiversity loss and environmental degradation can have a variety of psychopathological manifestations, which have recently been more actively addressed by scientific research. While much research focuses on the size of a natural landscape or the amount of time spent in a greenspace, few studies look at the impact of biodiversity in greenspaces on mental health and well-being. Indeed, catastrophic weather events and environmental changes have been linked to a variety of mental health issues. Natural settings and greenspaces are good for one's mental health and well-being. (Shanahan 2017)

There is some evidence that the diversity of plant and animal species has a favourable impact on mental health and well-being. In Germany, plant species richness was linked to better mental health at the regional district level. In terms of mental well-being, more diversity of tree and plant species was associated with improved mood and psychological well-being. Species richness of flora and fauna was positively associated with subjective well-being. Greater bird species richness was related to greater levels of life satisfaction, positive affect (emotions) and psychological well-being at several spatial scales. (Marselle and Lindley 2021)

Urbanization - Depression, Anxiety and Stress

One study reported that people in urban areas exposed to more visible and identifiable natural features (plant cover, abundance of afternoon birds) showed a lower prevalence of depression, anxiety and stress; for example, residents of urban areas moving to neighbourhoods with vegetation reported a reduction in depressive symptoms by up to 11%, and the number of anxiety and stress cases fell by up to 25% and 17% respectively. Another study showed that the presence of sufficiently large green spaces close to a community can reduce the risk of schizophrenia. (Cianconi, Hirsch, and Chiappini 2022). In another study, greenspaces with higher biodiversity were related to better well-being compared to greenspaces low in biodiversity. (Hoisington 2019)

In another study, adults assigned to public housing units in neighbourhoods with more green space showed better attentional functioning than those assigned to units with less access to natural environments. Experiments have found that being exposed to natural environments improves working memory, cognitive flexibility, and attentional control, while exposure to urban environments is linked to attention deficits (Schertz and Berman 2019).



Biodiversity loss and its consequences in terms of psychopathology for individuals and communities is becoming an area of great interest for mental health. Psychological symptoms, including anxiety, frustration, and depression that cannot be attributed solely to intra-psychological or family issues may arise from a 'disconnection' from the natural world. One study found that people residing in the lowest amount of green space had a 24% higher risk of developing schizophrenia. Biodiversity loss can also have an impact on individuals and communities through emotional and affective responses that result not directly from a traumatic event, but rather from the simple observation and ascertainment of climate change effects worldwide, for example, territories known to specific populations for generations can be dramatically modified by climate change. (Cianconi, Hirsch, and Chiappini 2022)

Climate anxiety and eco-anxiety (distress relating to the climate and ecological crises) are gaining attention worldwide as people become increasingly aware of the current and future global threats associated with our warming planet. The climate crisis and the subsequent biodiversity loss have important long-term implications for physical and mental health. (Hickman, Marks, and Pikhala 2021)

Source: Image by Sophia Davirro/GreenBiz

Projections for the future

Urbanization, Endangered Species, and Extinction

The principal issue we face because of urbanization is the loss and fragmentation of the original natural environment, as well as its replacement with structures and impermeable materials (asphalt, concrete, and so on), which poses a significant threat to biodiversity. (Szabó and Korányi 2023)

Extinction is happening at a rate scientists have never seen before. Whereas historically, natural extinction amounted to about five species annually, the Earth now loses species at a rate of 1,000 to 10,000 more than it was. Humans have undoubtedly been the primary cause of wildlife endangerment. The species has led to over 500 extinction events in 500 years — of which there are more than 142,500 threatened or endangered species on the International Union for Conservation of Nature's (IUCN) Red List. (Ferguson 2019)

Common human-centric causes for wildlife extinctions are:

- Poaching wild animals
- Overharvesting plants
- Habitat loss due to construction/development activity
- Pollution
- Human-wildlife conflicts
- Release of invasive species in the wild

Less time, less space and loss of species!

If we look at African Forest Elephants, they have less room to roam than ever before as expanding human populations convert land for agriculture, settlements, and developments. The elephants' range shrank from three million square miles in 1979 to just over one million square miles in 2007. Commercial logging, plantations for biofuels and extractive industries like logging and mining not only destroy habitat but also open access to remote elephant forests for poachers. Poverty, armed conflict and the displacement of people by civil conflict also add to habitat loss and fragmentation. All of these push elephants into smaller islands of protected areas and hinder elephants' freedom to roam (WWF, n.d.).

With the worldwide urban population predicted to increase by 2.5 billion over the next 30 years, urban land conversions are expected to become a major cause of habitat and biodiversity loss. Mitigating these implications urgently demands a better knowledge of where and how biodiversity losses may occur.

These biota consequences lead to global biodiversity decreases. For example, between 1992 and 2000, urban land expansion resulted in the loss of approximately 190,000 square km of habitat, accounting for 16% of total habitat loss during this time period. It is also predicted that approximately 8% of terrestrial vertebrate species on the IUCN Red List of Threatened Species are largely threatened by urban growth. (Simkin and Seto 2022)

In a recent study, it was discovered that urban land growth is a contributing driver of habitat loss (5% of total loss) for roughly one-third of the species studied (26 to 39%). Urban land is a direct driver of species imperilment for up to 855 species (2 to 3% of those studied), accounting for at least one-quarter of a net habitat loss of 10% or more. Urban clusters with the greatest threats to species due to projected expansion are predominantly located in the developing tropical regions of sub-Saharan Africa, South America, Mesoamerica, and Southeast Asia. (Simkin and Seto 2022). So, in conclusion, the green cover is depleting, and along with other species, we have less time to get into action. We are in a state of EMERGENCY!

Source: Illustration by Frits Ahlefeldt

Role of Technology

The role of technology in tackling the issue of loss of biodiversity caused by urbanization is multifaceted. Urbanization, while contributing to economic growth and development, poses significant challenges to biodiversity and ecosystem services due to the conversion of natural habitats into urban areas. To address this issue, technology can play a crucial role in both understanding the impacts of urbanization on biodiversity and implementing solutions for sustainable urban development. (McDonald, Marcotullio, and Güneralp 2013)

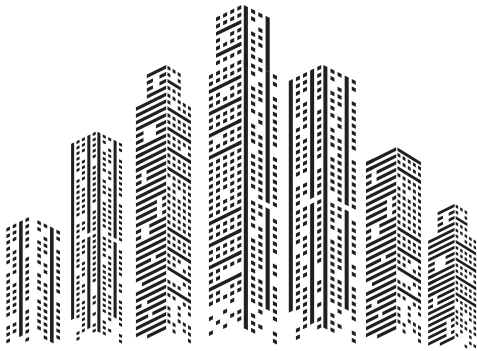
Here are some ways technology can be utilized:

Satellite Technology for Urban Planning: Satellites can be used to facilitate urban planning and control the expansion of urban areas. By analyzing satellite data, authorities can identify vulnerable areas to natural hazards like flooding, sea-level rise, fires, volcanic eruptions, and tsunamis. This can help in devising measures to minimize the impact of disasters on biodiversity and ecosystems. (UNCTAD 2022)

Monitoring and Mitigating Air Quality: Poor air quality is a significant problem in many urban areas, leading to adverse effects on both human health and biodiversity. Satellites can monitor air quality in cities, providing valuable data to understand pollution levels and formulate strategies to reduce emissions and improve urban air quality. (UNCTAD 2022)

Assessing Water Resources and Scarcity: Water scarcity is a critical concern in urban areas, affecting both human populations and biodiversity. Satellite technology can help monitor city water resources, identify periods of water scarcity, and assess water suitability for human consumption. This information is vital for implementing sustainable water management practices. (UNCTAD 2022)

Indirect Effects of Urban Growth: While direct effects of urbanization involve the conversion of natural habitats into cities, indirect effects are equally significant. These include the biodiversity impacts of resources consumed within the city and the pollution released from urban areas. Technology can aid in analyzing and understanding these indirect effects, allowing for more informed decision-making (German Center for Integrative Biodiversity Research, 2019).



Big Data and Artificial Intelligence: Leveraging big data and artificial intelligence algorithms can help analyze large-scale environmental data sets to understand urbanization's ecological impact better. This data-driven approach can guide policymakers and city planners to incorporate sustainable decision-making in their framework.

Enhancing Community Engagement and International Cooperation: Sustainable urban development and biodiversity conservation are global challenges which will have to be addressed locally as well and technology can facilitate local engagement and international cooperation efforts by pooling and transferring knowledge of effective science, technology, and innovation solutions for urban development. Collaboration between countries and communities can help share best practices and address common challenges.

However, it's important to note that while technology can be a powerful tool in addressing urbanization-related biodiversity loss, it must be complemented with effective policies, public awareness, and community engagement. The complex nature of urbanization and its impacts on biodiversity requires a holistic approach that combines technological advancements with sustainable urban planning and conservation efforts.

Source: Illustration by Nicola Dudich

Role of Education and Academia

Awareness, Evidence and Capacity Building

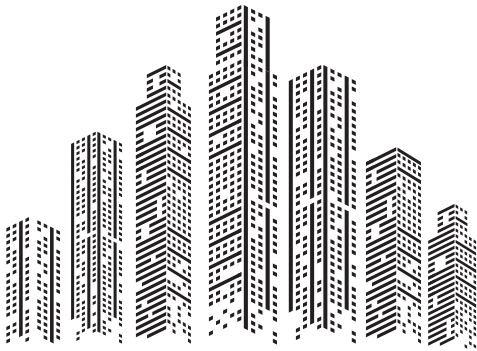
Biodiversity is the cornerstone of a healthy planet, providing ecosystem services critical to human well-being. However, it faces immense threats, one of the chief reasons being unsustainable urbanization. Education and academia play pivotal roles in addressing these challenges.

The role of education and academia in biodiversity conservation becomes evermore relevant in the present scenario. Education introduces students to the concept of biodiversity, fostering an understanding of its value. It teaches them about the intricate web of life, promoting empathy and respect for nature. Formal education equips individuals with not only the knowledge of conservation practices but also teaches them what not to do. Integrating biodiversity conservation into curricula helps build a generation of informed citizens and experts. Education empowers students to become advocates for biodiversity conservation. They can engage in public discourse, lobbying for sustainable policies and practices.

Academic institutions are hubs for research and capacity building. They drive advancements in biodiversity conservation through studies on ecosystems, species, and sustainable practices and nurture human capital to address the pressing needs of time. The research from academic institutions informs policymakers and conservationists. Academia offers specialized programs in biodiversity and environmental sciences. These programs produce experts who can work in conservation organizations, government agencies, and international bodies, effectively tackling biodiversity loss. It helps in fostering partnerships with governments and NGOs to develop strategies for preserving biodiversity. Such collaborations can result in effective policy recommendations and on-ground conservation efforts.

Educational institutions can help in combating unsustainable urbanization, these institutions can offer urban planning programs that emphasize sustainability. This prepares future city planners to design urban spaces that accommodate both human needs and biodiversity conservation. Academia can promote interdisciplinary research involving environmental scientists, urban planners, and social scientists. This approach can lead to holistic solutions for urbanization challenges, balancing development with biodiversity preservation. Through awareness, knowledge, research, and collaboration, they have the potential to shape a sustainable future where nature and humanity coexist harmoniously.

In conclusion, education and academia are formidable allies in the quest to preserve biodiversity and combat unsustainable urbanization through evidence generation, thought leadership and capacity building.



Role of Multi-sectoral Partnerships
& Intergenerational Goals

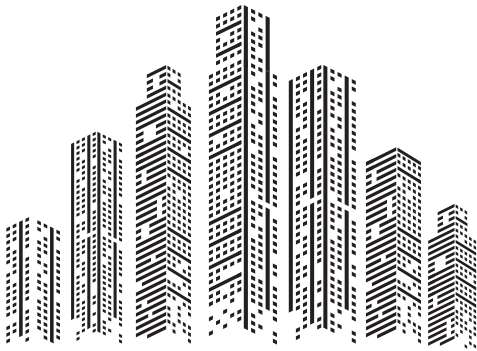
"Intergenerational" refers to the influence of interactions between/among various generations. Collaboration between generations provides both internal and external value, much like other types of diversity. It encourages the use of a flexible, cross-functional, and team-based approach to problem resolution. Multi-sectoral partnerships and intergenerational goals can be crucial for encouraging cooperation, attaining shared objectives, and igniting transformational change.

The role of Multi-Sectoral partnerships can bring together several leading parties from various sectors, including the government, civil society, academia, and the commercial sector, to collaborate towards a common objective. A government project targeting healthcare for example can be achieved with much more swiftness if the leading people or companies come together to resolve the issue (Cohen, 2022).

These can be used to address complex situations that need a coordinated response by combining resources, knowledge, and skills from several industries. It may also stimulate innovation and creativity by fusing various viewpoints and strategies that each sector can bring to resolve a common issue. It can also contribute to the development of relationships and trust between various sectors, which is crucial for sustained cooperation.

Intergenerational goals can encourage communication and knowledge exchange between age groups, such as young people and older persons. It can support the creation of a generational feeling of belonging and shared purpose. Such discussions have lately been actively taking place with regard to climate change where the youth has been involved in opening a dialogue between the leaders of today's and future generations who will be dealing with the conditions that are being created and have been created around the globe. This can help to encourage sustainable development by making sure that the requirements of future generations are taken into account.

In order to eradicate poverty, safeguard the environment, and ensure that everyone enjoys prosperity, the United Nations adopted the Sustainable Development Goals (SDGs) in 2015. Multi-sectoral partnerships can aid in advancing sustainable development and achieving the Sustainable Development Goals (SDGs) by 2030 through cooperation. Multi-stakeholder partnerships are collective commitments and contributions to specific sustainable development projects made by a number of partners with the goal of advancing the SDGs (Okitasari et al., 2020).



Shrinking green spaces and biodiversity loss in urban spaces is a challenge that requires a certain level of camaraderie between all sectors and across generations, without which a vicious cycle of continued deterioration will be created, causing irreversible damage.

Actions

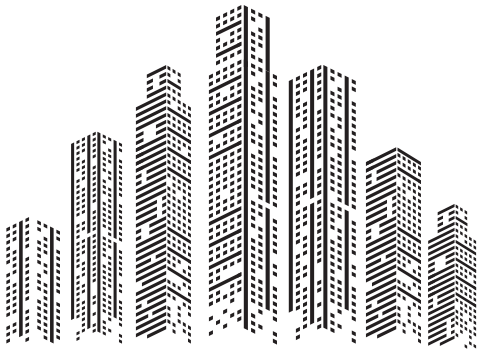
At the Individual, Community, and Government Levels

Individual

1. Mindset change begins at home, hence, educating the younger generation on sustainable consumption of resources.
2. Reducing and managing food waste.
3. Using reusable plastic and avoiding single-use plastic.
4. Creating and boosting green spaces for healthier environments and improved lifestyles at home.
5. Using renewable energy for some percentage of power needs.
6. Reducing carbon footprint by engaging in responsible consumerism.
7. Reducing digital carbon footprint. (Read: Responsible Internet Usage, 2022)
8. Switching off electrical appliances and devices when they are not required.
9. Use of public transportation or non-emitting transportation whenever there is an option.

Community Level

1. Supporting local wildlife by building wildlife habitats, such as birdhouses or pollinator gardens.
2. Contributing towards the preservation of the regional biodiversity and local environment by helping out the animals that call your area home.
3. Engaging with local communities and indigenous people to understand them better.
4. Collaborating with neighbourhood groups can result in more inclusive and long-lasting conservation initiatives.
5. Promoting sustainable behaviour in communities can help lessen the negative effects on biodiversity.
6. Educating the community about the value of biodiversity and the dangers it confronts in order to increase awareness and motivate action.
7. Educating the community about the local flora and fauna and the importance it holds for our good health.
8. Supporting neighbourhood nurseries with a focus on native species.
9. Kitchen gardens at homes, and vertical gardens in urban spaces.
10. Community service should mandate and prioritize habitat conservation.



Government Level

1. Policies and laws for controlling invasive species and promoting native species with a mix of incentives and disincentives.
2. Addressing climate change proactively. Revisiting the Paris Agreement and making necessary amends to ensure complete adherence.
3. Increase public awareness through mandatory courses and compulsory social service for all government servants on the environment with actionable workshops for all educational institutions.
4. Policies and laws ensuring implementation of scientific urban planning.
5. Prioritizing green growth and allocation of sufficient funds for biodiversity conservation in the budget.
6. Subsidizing renewable energy for the population.
7. Policies and laws for disposal of solar panels, EV batteries, etc.
8. Revisiting Electric Vehicles as a solution for environment-friendly transportation.
9. Blueprint for achieving carbon neutrality in a realistic time frame and considering striving towards the concept of carbon 'negative' once carbon neutrality is achieved.
10. Mandatorily incorporating environmental governance at all levels.
11. Making a tech-enabled public dashboard showing the decreasing green cover, loss of biodiversity and its impact on our physical and mental health.
12. Encourage environmental, social and governance (ESG) investments.

What is ESG?

ESG, which stands for Environmental, Social, and Governance, represents an investment approach that incorporates a company's sustainability goals into decision-making. This holistic strategy considers three key dimensions:

Environmental Aspect: This dimension focuses on environmental factors, including assessing climate risks, managing resources sustainably, promoting clean energy solutions, addressing greenhouse gas emissions, and managing waste efficiently.
Social Perspective: In the social realm, ESG prioritizes aspects such as fostering diversity within the organization, upholding human rights, embracing corporate social responsibility, and safeguarding against cyber threats.
Corporate Governance: The governance dimension centers on ensuring ethical business practices, enhancing transparency in operations, and preventing corruption.

In essence, ESG is a comprehensive framework that evaluates companies not only based on their financial performance but also on their commitment to environmental stewardship, social responsibility, and sound corporate governance. It underscores the significance of sustainable practices and ethical behaviour in today's investment landscape, aligning companies with broader societal and environmental goals. (International Labour Organization, 2022)

Monitoring and Evaluation

Urbanization poses a great global challenge. It counters our quest for sustainable development. When we look at the data, urban areas are responsible for more than 75% of global energy consumption and for more than 80% of global greenhouse gas emissions. As we explored in this report, unchecked and unsustainable urbanization not only causes physical health problems but also a cause of mental health issues.

The root cause of many environmental issues and climate change is unchecked urbanization. To keep a check on unsustainable urbanization and the subsequent biodiversity loss we need to constantly monitor and evaluate using the latest technology and then take appropriate actions based on the evaluation. Noting down actionable agendas is just the beginning, real work lies ahead for everyone living on this planet.

A shared sense of responsibility can only be inculcated when there is a system of checks and balances. An actionable blueprint of what needs to be done has to be developed in consonance with every UN member country. Dynamic Coalition on Environment has already taken the first step towards this. Time is of the essence, we need to act fast to save our planet, or whatever is left of it at present.

The Dynamic Coalition on Environment proposes the formation of the **ACT Alliance**. This alliance will be a melting pot for Academia, Communities, and Technology Experts to discuss, debate and take action on saving our urban spaces.

After reading this report, take one step now and don't rest till we reverse the situation.

Join the DC on Environment: https://www.intgovforum.org/en/content/dynamic-coalition-on-environment-dce
Join our mailing list: https://mail.intgovforum.org/mailman/listinfo/dc-environment_intgovforum.org

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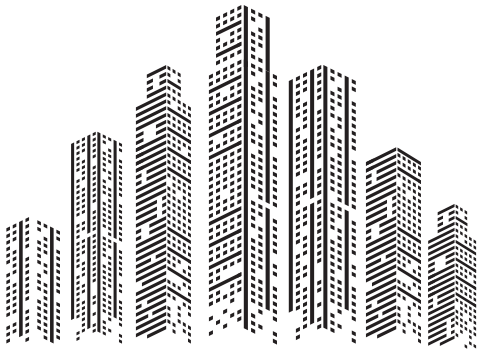

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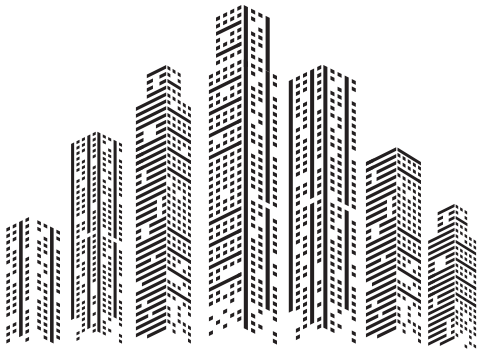

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