

Urban Green Living-The New Way to Sustain Environment Prospects in Bardhaman, in West Bengal, India

Ms. Sohini Nath

Assistant Professor, Economics, Bejoy Narayan Mahavidyalaya

Abstract

Urban Green Living integrates nature into concrete cities to improve health, air quality and well-being. It features micro-farming (like vertical gardens), eco-friendly architecture, and community green spaces that cool urban heat islands and reduce stress. It is definitely a prospective way to sustain our environment and is becoming hugely popular in every modern developed country. Burdwan, in West Bengal, India is also experiencing urban greening massively in each and every modernization projects fostering development rapidly.

INTRODUCTION

Urban Greening is the incorporation of green spaces and elements into urban environments and infrastructures, such as streets, cities, roofs and walls. Urban Greening make up a part of green infrastructure. The aim of urban greening is to improve the relationship between urban landscapes and their inhabitants. Every developed country today is planning to greenify itself, which is actually a modernized version of afforestation policy. By 2050, the global population will have risen to 10 billion, with our cities being the most likely locations to experience the impact. This greater demand on our infrastructures means we need to work harder to preserve our natural environment and maintain the health and wellbeing of urban residents, amid the impacts of climate change, such as extreme weather events. Urban greening can help satisfy the demand for more infrastructure while ensuring growing cities remain in both sustainable and a positive, healthy place with recreational opportunities for residents.

Greenifying urban spaces can offer numerous benefits for both the environment and it's inhabitants, like

1. Offsetting carbon emissions or greenwashing

Incorporating urban vegetation into cities could help offset carbon dioxide emissions produced from vehicles. Trees and vegetation planted in cities act as a carbon sink, capturing emissions from the atmosphere through the process of carbon sequestration and therefore reducing poor air quality.

2. Improve the wellbeing of inhabitants

As with biophilia, natural environments have shown to provide health and quality of life benefits, with residential green space linked to a 55% reduction in mental health problems among children. Green public spaces and access to nature can reduce stress, improve morale, support immune system and even reduce the risk of chronic diseases like asthma.

3. Improves air quality

Every year, air pollution in both cities and rural areas is estimated to cause around 4.2 million premature deaths, according to WHO. This makes improving the air quality a significant priority as the population

and potential activity in cities grows.

As with carbon offsetting, green spaces absorb pollutants and harmful gases from the air and releases oxygen, this improves air quality and reduces health risks for inhabitants.

4. Reduces noise pollution

Noise is another form of pollution that can impact the health and wellbeing of a city's occupants by increasing stress, raising blood pressure, limiting sleep and contributing to hearing loss. However, it can be reduced through green space developments, as trees, plants and shrubs help dampen noise from cars and other vehicles.

5. Mitigate global heating

Cities are often identified as urban heat islands-concentrated areas that experience higher temperatures than their surroundings. In fact, according to a research, cities are warming up by 0.56c a decade during the day and 0.43c a decade at night. The same study showed that green urban spaces could address this problem by producing a cooling effect, decreasing urban citizens' exposure to extreme heat.

6. Reduce flood risk

Another impact of climate change with potentially catastrophic consequences, flooding can be mitigated through urban planning that incorporates greening. These green spaces can help intercept and slow down rainwater before it reaches waterways and sewage systems.

7. Creates a natural habitat for wildlife

Green spaces can help provide a habitat for biodiversity. Bees whose population has been decreasing at an alarming rate in recent years, would receive the food and resources they need to survive in green public spaces. Similarly, birds, who can rely on access to trees, would stand to benefit from the greenifying of urban spaces.

WAYS OF GREENIFYING CITIES AND INFRASTRUCTURE

There are a wide range of greening methods city planners and businesses can incorporate into their infrastructure, like

- **Groundscrapers:** A ground scraper (or landscaper) is a massive, low-to-medium -rise building that sprawls horizontally rather than soaring into the sky. By spreading out rather than building upward, these structures provide immense floor areas, while avoiding the isolation, complex evacuation requirements and aesthetic impact of traditional skyscrapers.
- **Street trees:** They are essential urban infrastructure. They provide crucial shade, mitigate the urban heat island effect, purify the air, and manage stormwater runoff. In local environments like Bardhaman, species like Neem and Ashoka are highly favoured for their pollution-filtering capacity and ability to thrive in narrow spaces.
- **Green roofs and walls:** These are sustainable architectural systems that integrate vegetation directly into building envelopes. They regulate indoor temperatures, lower energy costs and improve local air quality and biodiversity.
- **Small green spaces between buildings:** Transforming the narrow gap between two buildings into a lush green space maximises airflow and aesthetics. For a shaded alley, we can use shade-loving potted ferns and install vertical living walls. If it gets bright sunlight, we can opt for climbing vines on trellises and raised narrow planters.
- **Gardens:** A garden provides essential physical and mental health benefits, promotes sustainable living and connects us with nature. Whether growing fresh food, exercising outdoors, or creating a habitat

for pollinators, gardens significantly enhance human well-being and local environmental quality.

- **Urban-forests/mini-forests:** An urban forest is the network of all trees, shrubs and associated vegetation within a town or city. This encompasses street trees, backyard groves, urban parks, and surrounding protected natural areas, acting collectively as vital green infrastructure that supports local ecosystems and community well-being.

When we want to bring sustainability to our local environment, especially in Bardhaman, West Bengal, requires focusing on space-efficient and climate-adapted solutions.

Key Strategies for Small Spaces

Vertical Gardening

Maximize limited floor space by using hanging planters, trellises or modular wall-mounted pots. It boosts yields by growing plants upward rather than outward. Ideal for small spaces like balconies and walls, it improves sunlight exposure, increases airflow to prevent fungal diseases and keeps produce clean and easy to harvest.

Popular Vertical Gardening methods

Trellises and Arches: Perfect for vining and sprawling crops like tomatoes, cucumbers, pole beans, and squash. Using cattle panels or woven twine doubles the growing surface.

Stacking Towers: Modular systems (like vertical towers) allow to pack dozens of plants into a tiny footprint. They are excellent for strawberries, leafy greens and herbs.

Pockets and Green Walls: Felt or fabric wall pouches are great for blank exterior or interior walls, instantly adding resort-style aesthetics and improving ambient air quality.

Obelisks and Teepees: Ideal for container gardens or whiskey barrels, offering built-in structures for climbing flowers or peas.

Air-Purifying Houseplants

Cultivating low-maintenance, hardy plants-such as snake plants and spider plants-to filter indoor air. Certain houseplants naturally filter indoor toxins like formaldehyde, benzene and trichloroethylene while boosting oxygen levels. Top choices range from hardy, low maintenance options to lush foliage. This includes plants like Snake Plant, Spider Plant, Peace Lily to mention a few.

Balcony Micro-Farming

This involves transforming small apartment spaces into high-yield sustainable gardens. By utilizing vertical racks, hydroponics, or microgreens, we can grow fresh herbs, leafy greens and fruiting vegetables all year in just a few square feet. Growing herbs like mint, basil and coriander in compact containers or raised beds. This can be done in the following ways-

Vertical Planters: Ideal for space-efficiency. Use of stacked modular pots or Vertical Hydroponic Towers to maximize square footage without cluttering the floor.

Grow Bags: These lightweight, breathable fabric bags are perfect for shallow-rooted plants. They prevent root-bounded plants and are easily rotated for optimal sun exposure.

Microgreens Systems: For the fastest turnover, growing microgreens on shallow trays yields highly nutritious greens in as little as 10 days.

Deep Water Culture (DWC): Perfect for beginners, simple desktop or railing hydroponic systems allow us to grow leafy greens without the mess of soil.

There are also other ways to sustain the environment by taking some local initiatives, which can be in the following ways.

Housing Projects

Modern eco-friendly housing in and around Bardhaman incorporates vast open spaces and rainwater harvesting to champion sustainable architecture.

Heritage & Eco-Tourism

Projects are emerging to integrate the region's historical sites with ecological sustainability, preventing commercial over-development. Furthermore, plans promote eco-tourism to renew post-mining landscapes in neighbouring Paschim Bardhaman.

Urban & Peri-Urban Planning

The Burdwan Development Authority (BDA) manages spatial planning across the district's rapidly expanding periphery, working to upgrade infrastructure while protecting fertile farmlands and heritage zones.

The urban population of West Bengal is estimated at approximately 36 to 37 million representing roughly 35% to 37% of the state's total population of 106 million as of 2026. It is the fourth-most populous as well as the eight-most populous country subdivision of the world.

On the other hand, the urban population of the Burdwan (Bardhaman) metropolitan area is estimated to be approximately 519,000 as of 2026. The official 2011 Census recorded a metropolitan population of 346,639 (with the core municipality at 314,265) spread across a planning area of 157.62 sq.km.

Thus the urban population growth is showing no signs of slowing down. But while the built environment has the responsibility to provide the green infrastructure needed to support a growing population, it also needs to ensure it places the environment front and centre in all of its projects and ambitions moving forward. Through the incorporation of green spaces into urban areas, this may well be possible.

CONCLUSION

Thus, there is no denying the fact that urban green spaces has a number of benefits to the urban population as also to a sustainable green future for our cities and towns. They are vital for city resilience, offering major-health and environmental advantages. Urban green spaces therefore promote physical and psychological well-being by providing areas for exercise and stress relief, while simultaneously cooling urban temperatures, improving air quality, and supporting local biodiversity.

REFERENCES:

1. Jabbar, M. & Yusoff, M. & Shafie, A. (2021) Assessing the role of urban green spaces for human well-being: a systematic review. *Geo Journal* 87(5):4405-4423. d.o.i:10.1007/s10708-021-10474-7
2. Kwon, O. & Hong, I. &.....Cha, M. (2021) Urban green spaces-a happiness in developed countries. *Springer Open Journal*, Vol.10, art.no.28(2021).
3. Godoi, N. & Gomes, R. & Longo, R. Contributions of urban green spaces to cities: A literature review. <https://doi.org/10.1080/27658511.2025.2464418>.
4. Haq, S. (2011) Urban green spaces and an integrative approach to sustainable Environment. *Journal of Environment Protection*, 02(05):601-608. d.o.i:10.4236/Jep.2011.25069.
5. Lee, A. & Jordan, H. & Horsley, J. (2015) Value of urban green spaces in promoting healthy living and wellbeing: prospects for planning. 131-137. d.o.i 10.2147/RMHP.S61654.

6. Nor, N. & Sahrir, S. (2024). The role of urban green space in promoting sustainable development: A study on Putrajaya, Malaysia. *Planning Malaysia Journal*, Vol.22, Issue 5.
7. Athokpam, V. & Chamroy, T. & Ngairangbam, H. (2024) The role of urban green spaces in mitigating climate change: An integrative review of ecological, social & health benefits. D.O.I: <https://doi.org/10.51470/ER.2024.6.1.10>
8. Wolch, J. & Byrne, J. & Newell, J. (2014) Urban green space, public health, and environmental justice: The challenge of making cities just green enough. *landscape and Urban planning* 125(1) DOI: 10.1016/J.landurbplan.2014.01.017.