

Urban Forest: Cultivating Greener and Healthier Urban Landscapes

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Introduction

Uncontrolled urbanization has resulted in the deterioration of natural resources and has adversely affected the green cover in urban areas. Due to this urbanization trend, the gap between city inhabitants and nature is increasing. Rapid urbanization has led to the depletion of forests, which in turn has adversely affected the ecological balance and economic stability of society. The health of people has also been affected.

Trees and forests play a significant role in the urban environment and have many important meanings to urban residents. Urban greenery/forestry is one of the ways to bridge this gap between people and nature. Cities across the world are realizing the benefits of urban forests.

Urban forestry is an integrated concept, defined as the art, science, and technology of managing trees and forest resources in and around community ecosystems for the psychological, sociological, aesthetic, economic, and environmental benefits trees provide to society. It emerged as a discipline in North America in response to better ways to deal with the growing importance of tree-dominated urban green space, as well as growing pressures on green areas. In recent decades, an international urban forestry research community has developed, as has an increasing body of knowledge and new approaches and techniques. Urban forestry has close links to forestry but tends to be more multidisciplinary.

Urban forests refer to all the trees and shrubs present in urban areas, including trees in yards, in the streets, and in protected green areas, and urban or linear parks. Urban forests are the most evident form of green infrastructure in cities. Green infrastructures are natural and semi-natural infrastructures that provide ecosystem services, such as air pollution abatement or stormwater management.

Urban Forest - A Global Phenomenon

Benefits Of Urban Forest

For urban populations

Urban forests can have a positive impact on cities and, especially, their population. They can contribute to the physical and mental health of people by creating spaces for physical activity and buffering

stress. In addition, they can improve air quality by removing harmful pollutants, as well as reduce noise. From a social point of view, urban forests can support local livelihoods, enhance community cohesion, increase food security for marginalized communities, promote urban residents' connection to nature, and enhance equity. For example, small land areas repurposed as pocket parks with trees and seating can become spaces for social interaction.

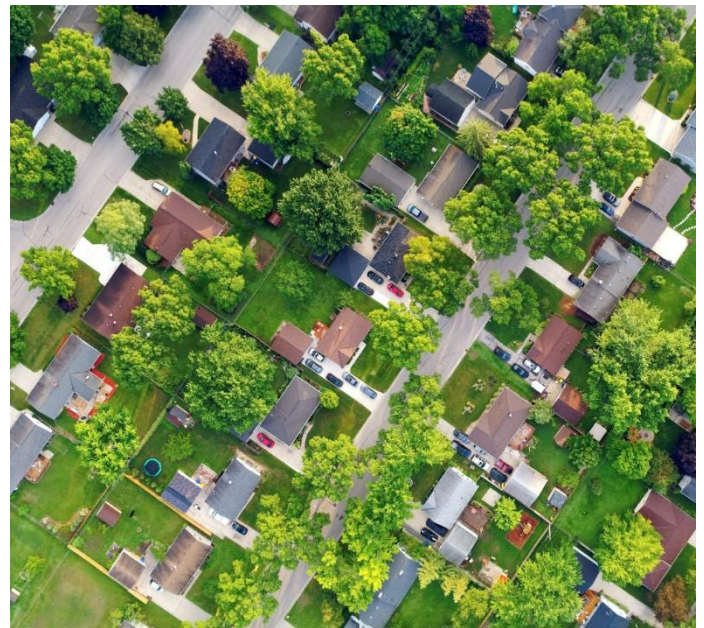


Fig. 1 Urban-forest in well-designed cities of developed countries (Source: Forestry Insights)

For the urban ecosystem

Urban forests can also be beneficial for the urban ecosystem. In particular, they can mitigate the heat island effect, improve water infrastructure, intercept rainfall and surface runoff to reduce erosion and sedimentation, enhance agricultural production in urban and peri-urban areas, and increase property values. Urban forests can even improve traffic and reduce driver speeds if properly incorporated along streets. In this regard, trees can play an important role in a "complete streets" policy. "Complete streets" are a transportation policy and design approach that requires streets to be planned and designed to enable safe, convenient, and comfortable travel. Urban forests can help achieve these objectives by reducing air temperature, providing shade, and in some cases protecting commuters from environmental and safety hazards, such as pollution. Some cities have already

started to implement the strategic use of trees. For example, the city of Medellin in Colombia achieved positive results with the adoption of such policies. They reduced the temperature of some corridors by 2-3°C, improving the everyday travel of over 1 million people.

Challenges for Urban Forest

Difficult conditions:

Urban trees grow in difficult conditions – they are constantly exposed to pollutants, high temperatures, drought, and inundation, and the limited space they have to grow their roots increases their susceptibility to insects and diseases.

Limited resources

Limited resources often hinder the proper maintenance of urban forests, which require the participation of multiple stakeholders and the collaboration of municipal governments.

Encroachment

Encroachment from development often results in the loss of urban forests and green spaces.

Lack of public understanding

The lack of public understanding of the benefits of urban forests also hinders their promotion. In particular, urban trees are often considered a financial burden or risk, and the benefits they provide are underestimated. In relation to this, urban forests' implementation still faces a lot of barriers from a policy point of view.

One reason is that cities face multiple urgent priorities, such as affordable housing or safe transportation, leaving the improvement of green spaces at the bottom of the list. Another reason is that municipalities often lack the technical skills and resources necessary to manage urban forests. Additionally, tight budgets and limited investment interest also represent a big challenge for the development of urban forests. Despite the potential economic and social benefits, cities fail to recognize the true value of urban forests, which are often considered an amenity.

Urban Forest Through People's Participation

Urban greenery development relies not only on investment and technology but largely on the attitude and involvement of urban residents. Planning and acting on issues relating to people's living environment has increasingly become a socially embedded practice, shifting from serving an abstract public interest to actively engaging the public. Central to this approach is a greater emphasis on the exchange of knowledge and the development of ideas through

communication with relevant stakeholders, including users, residents, and community groups.

Urban renewal strategies and environmental improvement schemes for creating livable cities and the growing attention to the social dimensions of sustainable forest management all provide a context to develop new interactions between society and forestry.

The urban population represents a huge potential, often largely untapped, to deliver creative ideas, skills, and manpower to take care of these spaces and to maximize their contribution to the quality of urban life. Engaging citizens actively in managing the assets of the city makes them more conscious, as they develop a sense of ownership towards the city, thus leading to strong positive associations with public goods and services. In various places throughout the world, urban foresters, local authorities, community workers, as well as individual activists, are placing higher priority on urban greening and a greater emphasis on ensuring that many different groups benefit from it, using approaches that tap into the energy and commitment of local people.

Multiple Goals Supported by Urban Forests

Who Should Care? -There are many stakeholders affected by urban forests

Multiple Stakeholders

National Political Administration

- Political leaders

State/Provincial departments

- Forestry • Horticulture
- Agriculture • Highway/roads
- Irrigation • Utilities

Municipal Council

- Parks and gardens • Town/urban planners • Landscape architects • Legal advisors • Mayors and city leaders • Policymakers • Waste managers • Transportation planners • Environmental protection departments • Public works departments • Hospitals and public health departments

Environmental NGOs:

- Local • International

Donor Agencies

- Bi-lateral (government to government)
- multi-lateral

Corporate Business

- Multi-national • National • Local

Academic Institutions

- Schools • Universities • Other research bodies

Local groups of Residents:

- Affiliated with the local school • Affiliated with local church/temple/Gurudwaras/Mosques •
- Environmental groups • Harvesters of tree products • Neighborhood organizations

Individuals

- Residents of all ages • Owners/managers of private tree nurseries • Private tree growers • Tree wardens • Urban foragers and gatherers • Visitors/tourists • Arborists • Foresters (both rural and urban) • Private businesses

Conclusion

The urban forest encompasses the trees and associated vegetation in an urban area. The urban forest is part of a larger network of green infrastructure. Urban forests can help to create more livable cities by providing ecosystem services, or benefits. They also create some dis-benefits, or costs, which should be considered during policymaking, planning, management, and consultation with

stakeholders. Urban Forestry is a vital component of urban development that holds the key to creating healthier, more sustainable, and resilient cities. By recognizing and embracing the multifaceted benefits of trees and green spaces, urban planners, policymakers, and communities can work together to weave a green tapestry into the fabric of our cities. As we move towards a future marked by increased urbanization, the importance of Urban Forestry cannot be overstated – planting trees is a beacon of hope for a greener, more harmonious urban landscape.

References

- Encyclopedia of Forest Sciences, 2004, Pages 471-478, LANDSCAPE AND PLANNING | Urban Forestry, C.C. Konijnendijk, T.B. Randrup, <https://doi.org/10.1016/B0-12-145160-7/00264-7>
- <https://cities4forests.com/wp-content/uploads/2020/06/C4F-Urban-Forests-for-Healthier-Cities.pdf>.

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