Agri Articles
(e-Magazine for Agricultural Articles)
Volume: 05, Issue: 04 (JULY-AUG, 2025)
Available online at http://www.agriarticles.com
©Agri Articles, ISSN: 2582-9882

Indoor Gardening and Urban Landscaping

*Aniketkumar L. Bijewar[1], K. Mohammed Asif Ulla[2] and Shoaib Adnan[2]
[1]Ph. D. Research Scholar, Department of Floriculture and Landscaping, Post Graduate Institute, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola, Maharshtra
[2]Research Scholar, Department of Vegetable Science, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir (SKUAST-K)
*Corresponding Author's email: aniketbijewar@gmail.com

We all know that plants are an essential part of life as they provide us many things like food, fiber, fuel, pharmaceuticals and building materials. Moreover they are used to decorate homes from both inside and outside and also use to mark special occasions as in our culture, plants has many spiritual values and man is born with these, live with these and finally dies with these. Around the world people used to grow plants in containers and keep those containers in their living rooms and plants has been considered beneficial to people, socially, physically and mentally since thousands of years. Recently, it has been observed that working in garden makes feel better to the people. It has been seen that plants are useful to solve both environmental and health problems. Changes in atmospheric composition, climate, land use and biodiversity are well-established components of current global change. However, there is another major component of global change that has not received the attention it deserves. Rapid increases in human population and economic development have led to tremendous urbanization and road construction, implying a mosaic of landscapes with most vegetation selected for their ornamental characteristics and resistance to urban conditions. Rapid urbanization has become an area of crucial concern in conservation biology owing to the radical changes in habitat structure and the loss of species as a result of urban and sub-urban development. The indoor natural environment is therefore very important to human health and comfort. Indoor plants exist as part of the three-dimensional environment and interact with human in many aspects. Photosynthesis is the process by which a plant converts car bon dioxide (CO_2), light, and water into energy and releasing oxygen (O_2) as a by-product. O_2 is essential for other organ isms to thrive, these processes forming the earth'scartonand oxygen cycles. People's health benefits from the negative air ions (NAIs) created during photosynthesis. The processes of photosynthesis and transpiration are crucial for plants, but they also have the potential to inspire human behavior that is frequently disregarded. In order to provide new clean energy, people have built artificial systems to increase solar energy conversion efficiencies based on the photosynthesis principle. The process that uses water to go from a plant's root to its leaves, where it is converted into water vapor and discharged into the atmosphere, is called transpiration. Because of this characteristic, plants can be used to control the relative humidity inside spaces. Participating in outdoor natural environments has been shown to have major positive effects on one's physical and mental well-being. Now-a-days, due to more construction and changes in recent life style, people spend 80-90% of the lives indoor and because of this, modern cities faces a number of health problems and societal challenges viz. urbanization, climatic changes, ecological issues, environmental quality and sustainable development (Raymond *et al.*, 2017). Living style of urban people is linked with many negative influences on the health of humans e.g. due to environmental pollutants such as nitrogen and carbon dioxide, heavy metals, radionucleus, benzene etc. Various health issues are associated with these pollutants

such as stroke, cardio-vascular problems, lung cancer, and both chronic and acute respiratory illnesses, headaches and dizziness, disruption of reproductive and immune systems, and premature death etc. Hence, the biggest issue of 21st century is promoting the health of urban population (Marcel *et al*., 2019).

Benefits of Indoor Gardening

Air Quality Improvement: Indoor plants absorb carbon dioxide and release oxygen. Plants like *Epipremnum aureum* (pothos), *Spathiphyllum* (peace lily) and Dracaena are effective at filtering toxins like benzene, formaldehyde and ammonia from the air.

Mental Health: Research has shown that being around plants reduces stress, improves mood and enhances concentration and memory.

Temperature and Humidity Control: Indoor plants contribute to a natural humidifying effect, reducing the need for artificial climate control (Bringslimark *et al*.,2009).

Nature sustainability: Urban areas have very less vegetation and because of this, they experience a severe temperature. As much as 12%, properly planted indoor plants can cut heating and cooling cost and also minimizes the demands of power. The most common element of nature and often regarded as the most representative of nature is plant and even in manmade structures, this is true. The plants in a room differs from the outdoor environment. The dynamic interrelationship between thermal comfort needs, chemical factors, physical and biological factors is indoor environment.

Urban landscape Planning

Urban landscape planning is the process of creating and arranging parks, streets, open spaces, and common places in cities to improve ecological balance and livability. Its main goal is to create easily accessible green places that enhance urban beauty, offer recreational opportunities, and promote biodiversity. A comprehensive base plan serves as the foundation for urban landscape planning, directing the design process and resolving possible problems.

The process includes six main steps

Assessment of Needs and Capabilities: Defines budget, area use, maintenance, labour, tools, soil and drainage needs, utilities, lighting and preferences for plants and materials.

Site Survey: Identifies existing structures (walls, sidewalks, water features) and topography, assessing drainage, soil conditions, vegetation and climate factors impacting plant choice.

Site Analysis: Combines interview and survey data to evaluate problem and beneficial areas, often visualized through sketches.

Pot Plan: A scaled drawing showing lot layout, drainage and elevation details.

Site Plan: Updates the pot plan to include any new structures, topography changes and utility placements.

Structures and Utility Blueprints: Detailed plans showing utility placements and existing structure layouts, usually obtained from local authorities or original builders.

Key Components of Urban Landscape Planning

Green Roofs and Green Walls: These installations provide insulation for buildings, reduce the urban heat island effect and improve air quality. Research has shown that green roofs can reduce building energy consumption by up to 30% (Liu & Minor, 2005).

Community Gardens and Urban Farmer: Urban farms can reduce food deserts and provide access to fresh produce (Thibert, 2012).

Street Trees and Urban Forestry: Street trees not only beautify neighbour hoods but also provide shade, reduce storm water runoff and improve air quality.

Construction of Design for urban landscape

In urban landscape planning, the "construction of design" refers to the process of translating conceptual designs and master plans into physical urban spaces. This process is multi-faceted, combining ecological, social, aesthetic and functional elements to create sustainable, attractive and usable environments. The preliminary or draft designs in landscape construction help determine plant, tree and shrub placement, taking into account factors like climate, sun exposure, existing trees and surrounding structures. These designs bring the

space to life by defining plant beds and layout. In urban design, there is an increased focus on creating accessible public spaces, including parks, plazas, bike lanes and pedestrian friendly streets. By adding these spaces, urban planners can foster vibrant, nclusive communities, encouraging social interaction, physical activity and improved mental well-being for residents.

Conclusion

These days, urban landscapes prioritize protecting natural resources while creating areas for people and wildlife. In addition to producing food, urban gardening boosts sustainability, improves health, increases property values, and fortifies communities. Community gardens and other green areas are essential for building more resilient, inclusive, and livable cities as they grow. These landscapes enhance the surrounding area, provide habitat for wildlife, and foster a better environment for coming generations by integrating nature into urban areas-an important objective during periods of global transition.

References

1. Marselle, M. R., Stadler, J., Korn, H., Irvine, K. N., & Bonn, A. (2019). *Biodiversity and health in the face of climate change* (p. 481). Springer Nature.
2. Raymond, C. M., Frantzeskaki, N., Kabisch, N., Berry, P., Breil, M., Nita, M. R., ... & Calfapietra, C. (2017). A framework for assessing and implementing the co-benefits of nature-based solutions in urban areas. *Environmental science & policy*, *77*, 15-24.
3. Bringslimark, T., Hartig, T., & Patil, G. G. (2009). The psychological benefits of indoor plants: A critical review of the experimental literature. *Journal of environmental psychology*, *29*(4), 422-433.
4. Liu, K., & Minor, J. (2005). Performance evaluation of an extensive green roof. *Presentation at Green Rooftops for Sustainable Communities, Washington DC*, 1-11.
5. Thibert, J. (2012). Making local planning work for urban agriculture in the North American context: A view from the ground. *Journal of Planning Education and Research*, *32*(3), 349-357.