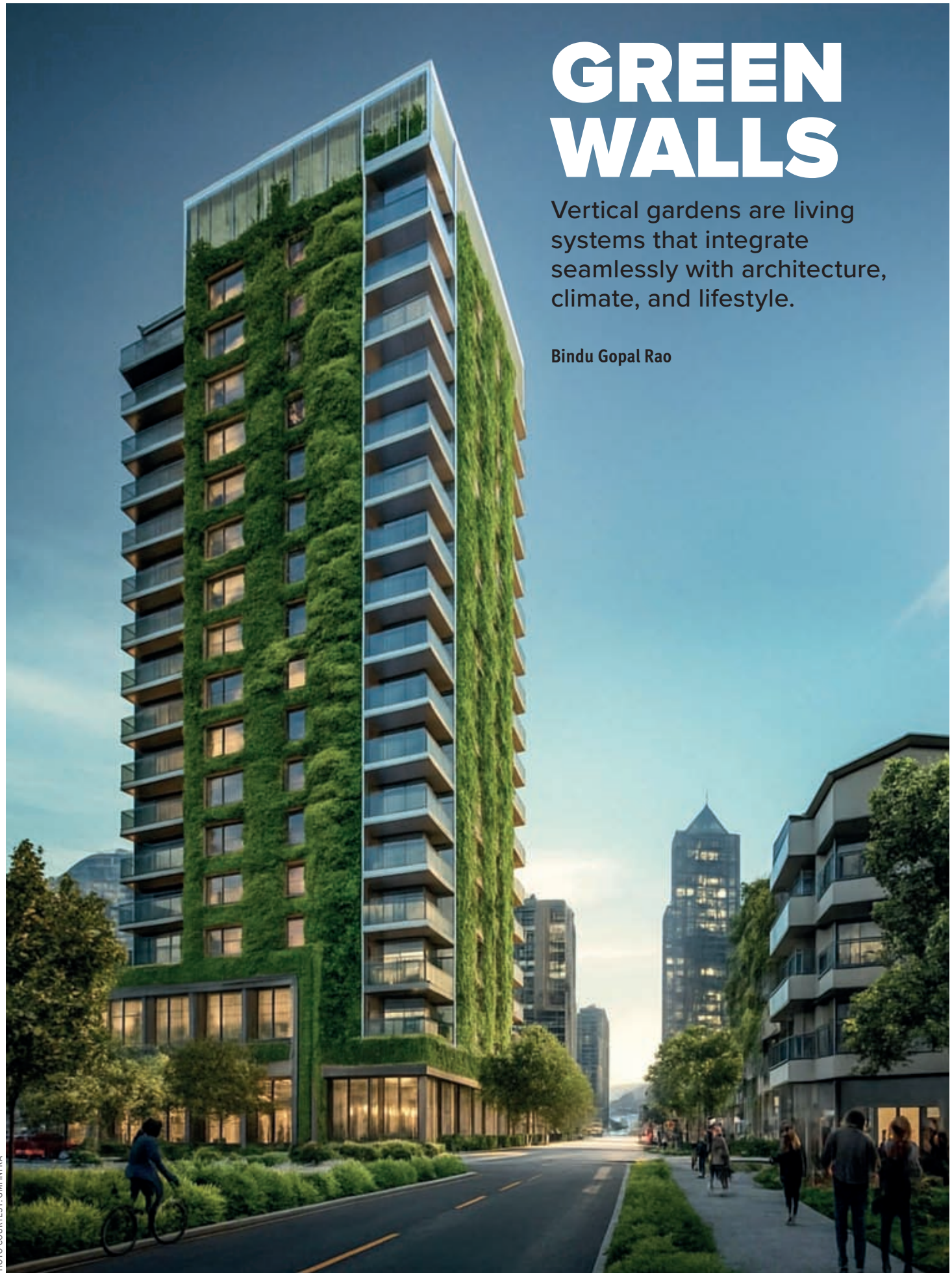


# GREEN WALLS

Vertical gardens are living systems that integrate seamlessly with architecture, climate, and lifestyle.

Bindu Gopal Rao

PHOTO COURTESY: GMI INFRA



Sky Green project showing vertical gardens.





Vertical gardens can be created both indoors and outdoors, each serving unique purposes and requiring specific design considerations.



Sowmya Lakhamraju, Founder, Kiasma Landscapes and Landscape Architect



Mukul Goyal, Principal Architect, MG Associates

Creating a vertical garden involves designing a plant system that grows upward, rather than outward, saving horizontal space while enhancing aesthetics and air quality. The trick is to get it right to ensure it meets its objectives. Experts weigh in.

#### THE SPECIFICS

Creating a vertical garden involves much more than simply adding greenery to a wall; it requires a deep understanding of structure, plant behaviour, microclimates, and long-term maintenance. There are broadly three kinds of vertical gardening systems, which include modular panel systems that use pre-planted panels or trays, often with built-in irrigation. They offer flexibility and are great for curated patterns or species arrangements. Felt or fabric systems are lightweight and ideal for herbs or smaller foliage plants. However, they require a controlled environment and a robust watering system to avoid drying out.

Trellis or climber-based systems rely on natural climbers like bougainvillea, ivy, or mandevilla, which grow vertically on a structural support. "This is a low-maintenance, passive way to green walls and is more rooted in traditional landscape

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practices. The key lies in choosing the right system for the right context. Site conditions, exposure, water availability, and the purpose of the vertical garden all shape the final design. Whether the goal is to cool a façade, bring nature indoors, or just create a focal point, the approach must be both aesthetic and ecological,” says Sowmya Lakhamraju, Founder, Kiasma Landscapes and Landscape Architect.

#### WEIGHING THE PROS AND CONS

The best part of a vertical garden is that it consumes minimal space and can be used to screen large areas, including a neighbouring balcony. They can be put in tight spots and dead corners, which suddenly spring to life with the right type of plants. The biggest challenge of these systems is maintenance, as regular watering and pruning of the plants are required to keep them in shape. Mukul Goyal, Principal Architect, MG Associates, explains, “If it is a bucket system, then the plants require a regular feed of manure and insecticides to keep intact. These aspects make it an expensive solution, and therefore, not affordable for everyone. Also, the plants used are generally very sensitive, so they must be replaced from time to time. The best solution for these problems is to hire full-time help to ensure the plants get enough moisture, sunlight, and

manure to keep them healthy. An AMC with the local nursery would be a good idea.” An irrigation system is a must in any kind of vertical garden. Gravity does not allow water to be retained; therefore, the soil must be mixed with coco peat for better retention.

#### COMPLEX SYSTEMS

While vertical gardens can be visually compelling and space-efficient, they aren't necessarily the simplest way to grow plants. They require a thoughtful balance of horticulture, engineering, and maintenance. “Unlike traditional gardening, where plants grow in natural soil with more forgiving conditions, vertical gardens rely

##### Tips

- With irrigation as a top priority, one must employ drip systems, sensors, or hand-watering to provide uniform moisture.
- Regular pruning and deadheading are crucial steps to ensure shape and health.
- Replace the soil or growing medium employed, repair leaks, and clean panels if necessary.
- Replant species as required according to the varying local climatic conditions; check irrigation and structural integrity every year.



PHOTO COURTESY: KIASMA LANDSCAPES

As many large cities lack space, vertical gardens are making sure that there is an element of greener in constrained spaces.

on artificial systems, which means irrigation, drainage, light exposure, and plant selection must be carefully calibrated. A poorly designed vertical garden can quickly become high-maintenance or even fail altogether. That said, for compact urban spaces or interiors with limited access to green patches, vertical gardens offer a smart solution but only when planned well,” adds Sowmya.

From an architectural standpoint, vertical gardens are a harmonious blend of functionality and artistry. “Their setup requires some planning, wall structure assessment, irrigation systems, lighting conditions, and plant selection. While not plug-and-play, once designed thoughtfully, they are surprisingly easy to manage. Self-watering systems, automated lights, and modular panels can minimise daily involvement. What makes them increasingly preferred isn't ease alone; it's efficiency. Vertical gardens turn underutilised walls into green, oxygen-generating assets. They offer insulation benefits, reduce indoor temperature, improve air quality, and add biophilic value to interior and exterior spaces,” explains Amrita Maitra, Founder & Principal Architect, I.M. Design & Development.

#### SPACE CONTEXT

Vertical gardens can be created both indoors and outdoors, each serving unique purposes and





### Cost Factor

- Beginner DIY (gutters/pallets): ₹1,500–₹5,000.
- Mid-range systems (felt panels, modular systems): ₹5,000–₹20,000.
- High-end green walls (automated irrigation, sensors): ₹25,000–₹100,000+ depending on size and technology.



Amrita Maitra, Founder & Principal Architect, I.M. Design & Development.



Mohit Bansal, Founder & CEO, GMI Infra



PHOTO COURTESY: KIASMA LANDSCAPES

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requiring specific design considerations. Indoor vertical gardens are perfect for enhancing air quality, reducing stress, and creating a natural focal point in homes, offices, or commercial interiors. Outdoor vertical gardens, on the other hand, can transform bare walls, fences, or balconies into green sanctuaries. “They can be designed both indoors and outdoors. While the felt, panel and modular systems function best indoors, care must be taken to ensure they are exposed to sufficient lighting and waterproof backing for proper plant growth. Trellises, container walls, and media-free systems are more practical in outdoor facades and patios that benefit well from the natural sunlight and ventilation. Ferns and low-light foliage plants are more likely to grow well in indoor vertical systems. Climbers, compact shrubs, and herbs





Rubeena Singh, Founder, The Verve Collective

fit well in outdoor gardens. Leafy greens and medicinal herbs are also widely used in Indian vertical gardens. One needs to provide structural support because bigger plants need stronger support systems and corresponding pot sizes,” says Mohit Bansal, Founder & CEO, GMI Infra.

#### DESIGN DETAIL

As many large cities lack space, vertical gardens are ensuring an element of greenery without worrying about the same. Rubeena Singh, Founder, The Verve Collective, explains, “Maintenance of



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An irrigation system is a must in any kind of vertical garden system.



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Indoor vertical gardens are perfect for enhancing air quality, reducing stress, and creating a natural focal point.

these bespoke vertical conditions is critical, and much depends on the choice of plants selected for the vertical garden. The level of natural light, ventilation and climatic conditions in the space should determine which plants to go for. In tropical climates, a mix of profusely flowering bushes, topiaries, colourful shrubs, and cascading creepers can be chosen to create a green screen/vertical garden that one can be proud of. Regular maintenance includes periodic soil checks, pruning, use of natural, organic pesticides, and, in general, tending to them every alternate day is recommended.”

Ultimately, the plant palette is tailored to the space’s lighting, moisture availability, and design intent, ensuring not just survival but a thriving, verdant display that evolves with the seasons and strengthens the built-nature connection. After all, vertical gardens not only provide a green escape when we feel caged in by concrete but also elevate and tie together the look of any space. **A&I**