

The ups and downs of vertical gardens



A vertical garden by field-leading French botanist Patrick Blanc in a corridor at the Sofitel Dubai The Palm Resort and Spa. Courtesy Patrick Blanc

Vertical gardens, or living walls, are springing up across the UAE, as innovative new technologies, coupled with increased horticultural understanding, have expanded the potential design permutations of this living art form. From the interiors of restaurants, such as Leopold's of London and Aprons & Hammers at The Beach in Dubai, to the public areas of countless hotels, spas and offices across the UAE, vertical gardens are adding a new dimension to the country's design landscape.

The early principles of "botanical bricks" (as they were dubbed in the 1930s by Illinois landscape architecture professor Stanley Hart White) have been built on, and now the creative possibilities for these green style statements in domestic and corporate design schemes are becoming evermore ambitious. Several hundred square metres can be covered at a single site, while a series of complex shapes, complete with built-in irrigation and drainage, can be created and maintained.

Not to be confused with a green facade, whereby plants grow from the ground up to cover a vertical surface, living walls gain their sustenance and are irrigated at their contact points across the entire vertical surface. They remain connected to, but separate from, the actual fabric of the building – essentially forming a living second skin.

Systems for the gardens can be soil-based, whereby planting is made in a variety of pockets, but the unique selling point of newer living walls is the adoption of soil-free systems and hydroponics. These enable designers to create lighter vertical gardens, and hence larger ones, because their weight doesn't negatively impact on the structure of the building, and getting appropriate nutrition to the plants is simplified.

French botanist Patrick Blanc is considered a leader in this field, pushing the boundaries of vertical gardens and further popularising this form of planting. Excellent examples of his work can be seen at the Sofitel Dubai The Palm Resort and Spa, where a stroll alongside one of the hotel's living walls is like a mini excursion to a rainforest.

Blanc has spent time in the actual rainforests of South East Asia and elsewhere, studying the indigenous plants he found there and observing how species are adapted for growth on tree trunks and branches, as well as soilless habitats such as granitic outcrops, limestone cliffs, caves and waterfalls. Plants found at these locations form the basis of planting plans for indoor vertical gardens around the world. However, exterior schemes, especially those in the UAE, have different climatic conditions to contend with, and the approach and species used must vary accordingly.

According to Blanc: "Soil is nothing more than a mechanical support. Only water and the many minerals dissolved in it are essential to plants, together with light and carbon dioxide to conduct photosynthesis ... thus the core innovation [for vertical gardens] is to use the root ability of the plants to grow not only in a volume of soil, but also on a surface; this is just what they do in their natural environment when their roots are growing on tree barks or among mosses covering rocks."

Vertical gardens are "a way to add nature to the daily life of city inhabitants", Blanc adds. It is little secret that the ability to connect with nature in urban centres enhances psychological well-being, while cooling the environment and benefiting air quality. In built-up environments, where there is little room left for large-scale planting schemes in the traditional sense, planting vertically is the perfect solution, as seen increasingly in cities across Europe and the US, and now the UAE.

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