

Home Fashion

Living Walls, Living Green

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Vertical garden has gathered around itself a number of significant dimensions in the wake of the environmental crisis and growing awareness for sustainable development. Human beings have been witnessing wonderful vegetative spectacle of the greeneries on hillside, the vertical rocks and the mossy cliffs, but the vertical garden as a designing practice has come into being with the exclusive initiatives of Patrick Blanc with his spectacular design projects like first green wall made at Museum of Science and Industry in Paris, Garden festival of Chaumont-sur-Loire, Green wall at the aquarium in Genoa, Italy and many more.



Picture 1. *Fytogreen Vertical Garden* "A random array using Begonia, Tall green mondo, Black mondo, Liriope variegated, Festuca, Veronica, Babys Tears and a few more plant types as a backdrop to a courtyard." (Courtesy: www.fytogreen.com.au)

In the hectic schedule of urban life and the dearth of open space leave a little scope for the people to grow a garden at home. In this situation living walls are the best option for creating a splash of nature inside a home which needs only a vertical wall for plant cultivation and minimum maintenance. Living wall not only provides a chance to create garden, but also reduces the heat of the building and purifies the grey water (slightly polluted water) by absorbing the dissolved nutrients in it.

Vertical gardens are generally grown on three types of medium. The first one is on the loose soil kept in a bag and installed into a wall structure.

The second one is a mat-like medium where the plant is cultivated in a mat like structure of coir or felt mat. This process is useful for seismic areas.



Picture 2. *Fytogreen Vertical Garden* "A double sided wall, providing a garden to each house split by a common wall. The sunny side design comprised of Gold Mound Sedums and Echeverias 'Black Prince', with Baby's Tears in the shady alcove, whilst on the predominantly shady side the design included Black Mondo and Baby's Tears." (Courtesy: www.fytogreen.com.au)

The third kind is of an architectural structure which survives for a long time.

The vertical gardening in architectural medium can be carried out in three ways. One is trellising, the second one is tumbling and the last one is terracing.

In trellising an architectural frame is required as an aid to the creepers so that the plants can climb up with the help of the structure. Ivy, Pea bean, Snow peas, Pole beans are apt examples of this kind of plants.

In process of tumbling hanging planters are used to cultivate the plants so that the leaves of the plants like tomatoes, cucumbers, strawberry, thyme etc. can sprawl towards the ground and create vertical vegetation process.

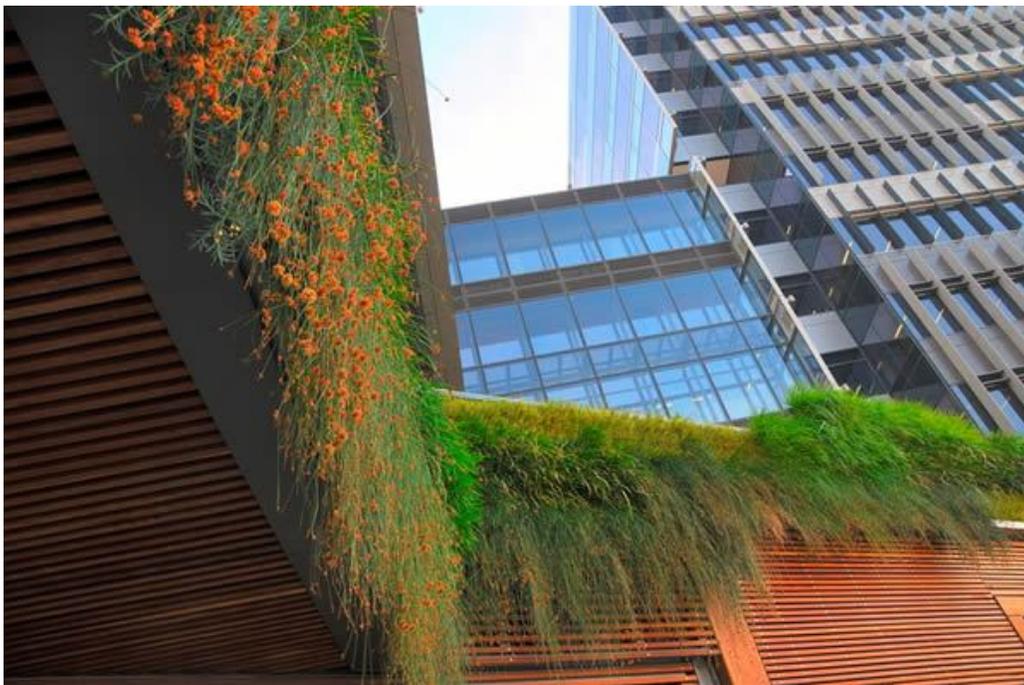
In terracing the plants are stacked in a stair step like sequence in containers. Hydroponic system, though a kind of somewhat terracing process, has some different aspects of itself. Instead of stacked planters a PVC pipe is permanently mounted on the wall and the plants grow up outside the pipe horizontally through the holes instead of growing vertically upward.

Hydroponic system is a much adored process among the gardeners for its numerous advantages:



Picture 3. *Fytogreen Vertical Garden 2*. "Set up in a sport imaging reception space. All species are low light tolerant plants creating a natural ambience for clients to enjoy". (Courtesy: www.fytogreen.com.au)

a) No soil is required here for plantation and the roots float directly on the water and suck the dissolved nutrients from it. There are no such arduous jobs like tilling, digging and other soil maintenance process.



Picture 4. *Fytogreen Vertical Garden*. "On the outdoor north-east facing area of the ANZ headquarters, a garden fringes the building façade from levels 1 to 3. Native grasses were used in a simple patch-work array. Plants selected were robust and sustainable requiring minimal maintenance." (Courtesy: www.fytogreen.com.au)

b) The soil of a large piece of land contributes nutrients, minerals, clay contents in different proportions to the plants in different areas. But in Hydroponics the nutrients are easily distributed to every plant uniformly and quickly. In watery medium it is easier to add lost nutrients in it, where as in soil it

is a tough task of crop rotation for making the soil regenerative or to wait till the land naturally gets back its fertility.

c) The weeds those grow up in this system are easy to remove as a whole as the roots are suspended only in the water and not entangled firmly with anything, anywhere.

d) In hydroponic system the application of animal and human waste can cause no harm to the plant leaves. But in the soil the applications of fertilizers and animal or human waste may affect the low lying plants like lettuce or strawberry which can cause dysentery unless it is properly sterilized. But in Hydroponic system fertilizer is used in a particular location that does not come into contact with the fruiting body or leaves of the plant and also can diffuse easily through the entire system.



Picture 5. *Fytogreen Vertical Garden* "2 piece vertical garden supported by an architecturally designed host wall for a outdoor courtyard centrally located on the property. Using native grasses and some ferns, this stunning architecturally designed house has vertical garden views from most rooms". (Courtesy: www.fytogreen.com.au)

These are all advantages of the hydroponic system which are affecting the contemporary horticulturists to opt for more and more of this process.

Sunlight is an essential part of vertical gardening. The plants generally need a 6-8 hours of sun exposure. Different plants require different shades of sun light. Tomatoes and cucumbers need a full sun exposure where as the bean and peas can do with a full to partial sunlight. Root vegetables like radishes and potatoes can do with a lighter sun beam. Leafy

greens like spinach and chard can deal with very little sun. Mature bulbs of onions are fond of full light where as scallions or baby onions can grow in less sun lights.



Picture 6. *Fytogreen Vertical Garden* (Courtesy: www.fytogreen.com.au)

The home gardeners, specially the beginners should choose a variety of succulents or cactus in a spot of high sun exposure. In shaded areas they should opt for a variety of fern from a wide range of collection. They should go for varieties of grasses, flowers, herbs and vegetables in partly shaded areas. In interior they should opt for tropical plants that like to thrive in low light and warm atmosphere.

Apart from choosing the right plants the selection of planters are too essential today. Many beautiful planters are also available in the market in different materials like wood, metal, terracotta and many more. For mat base the flora frames or flora cells are good options for creating vertical gardens in seismic or other areas.



Picture 7: *Planter*
(Courtesy: www.twentyonestudio.com)



Picture 8. *Fytogreen Vertical Garden* (Courtesy: www.fytogreen.com.au)

Thus with a good drainage system, a proper light and shade management, a stylish medium of planters or a hydroponic system have encouraged a lot of people to experiment with awesome vertical gardens.

Acknowledgements:

1. *We are grateful to Fytogreen, Australia's leading provider of roof gardens, vertical gardens and green facades, for giving us permission to use the images liberally.*
2. *We are also grateful to the designer of the planter (www.twentyonestudio.com) for giving us permission to use the image.*

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