

# Design with Nature

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*“To me a lush carpet of pine needles or spongy grass is more welcome than the most luxurious Persian rug.”- Helen Keller*

## ABSTRACT

*In today’s scenario design with nature is no more in choice, it has become a necessity. Green spaces are declining day by day. So there is an urgent need of either to insert green spaces which are almost impossible in the concrete jungle of any urban area; or to install green facades in the buildings. Designing with nature doesn’t only imply with the green facades but also including greenery into the interiors. To look iconic, a building must have either an exceptional form or a good planned landscape around it. Because there are rare buildings in the world which look attracting even without landscape visage.*

*Earlier people use to have large homes with courtyard planning. Trees used to be planted in the courtyard for shade and for lowering the temperature in summers. As the time changes, with the came of industrialization and urbanization, the planning of homes completely changed. If we talk about the old unplanned cities (Jodhpur, Amritsar, Ludhiana, etc.), houses and other spaces were built side by side without leaving any breathing area or open space. As the pollution levels are rising at an alarming rate now people feel the need and importance of open spaces and green areas.*

*Architects like Frank Lloyd Wright, Geoffrey Bawa, Le Corbusier and may others used nature as a main element in their projects. The paper tries to identify the use of nature in the buildings. And how the inclusion of nature in architecture has changed with time. The paper examines the various techniques like vertical gardens, terrace farming, organic gardening and many more that can be used for importing nature into our lifeless lives.*

**Keywords:** *nature, urbanization, organic architecture, green areas and living wall.*

## 1. DEVELOPMENT IN THE PLANNING SYSTEM

Today people have learnt to live without nature. Value of nature is declining due to the intricate lifestyle. If we talk about the earlier civilization nature was the first to provide shelter to an. Early man used to have shelter from tree only, followed by the caves.



**Figure 2 Plan of Mohenjodaro**

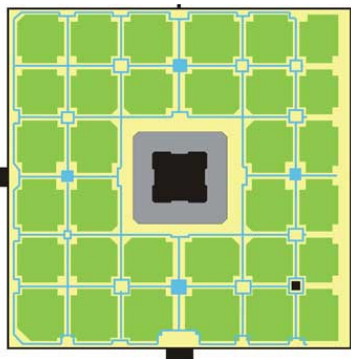


**Figure 3 No green areas**

It won't be wrong to say that even our earlier civilizations like Indus valley, Harappa and Mohenjodaro were deprived of green areas in the living area. No doubt they were very efficient in planning and were surrounded by vast agricultural lands and rivers but they were inefficient in green spaces in between the city.

Climate of India shows various colors varying from place to place. Like southern part of India has warm and humid climate and northern part has extreme hot and cold climate. So planning also varies accordingly, like courtyard planning is preferred in southern part of India for proper air circulation in the house. In case of northern India, landscaping was introduced by Babur (founder of Mughal Empire), he came up with the *charbagh* concept. *Charbagh* garden is defined as the rectangular or square garden divided into small squares or rectangles by water channels or walkways. Later tomb was introduced in the centre of a garden.

Take the comparison of two historical buildings like Padmanabhapuram Palace in Kerala and Humayun's Tomb in Delhi.



**Figure 3 Plan of Humayun's Tomb**



**Figure 4 Padmanabhapuram Palace's plan**

Both are same as well as different in several aspects. Both are designed in taking nature as their first priority but different in planning layout.



**Figure 5 Inadequacy of open areas in Jodhpur**

With the arrival of industrialization people started moving towards the cities which is called urbanization. In the lust of money and high life style in cities, more people were started moving to cities making the cities more congested. A phase came when cities started growing on their own and that is called organic growth. Cities like Amritsar, Jodhpur, Ahmedabad, Ludhiana, Kolkata, Mumbai and many more falls under this category. The main problem of organic growth of a city was the lack of green spaces in between the city because they were expanding without knowing the future consequences. Lack of open spaces can be easily seen in the aerial view of Jodhpur. Similar conditions prevail in the other cities too.

Then slowly people start realizing the problem of various environmental problems and after that architects with planned cities like Chandigarh, New Delhi, Navi Mumbai, Gandhinagar and many more came into the picture.

## 2. ARCHITECTS AND NATURE

Many architects earlier and some are till now using nature as their main element for design. Architects like Frank Lloyd Wright, Geoffrey Bawa, Le Corbusier, Edwin Lutyens, Charles Correa and many more used forms of nature in their design according to their philosophy and thinking.

“Any building which is built should love the ground on which it stands.”- Frank Lloyd Wright.

According to FLW nature and organic were equivalent and interchangeable. He always tried to follow the principles of organic architecture in his designs. Frank Lloyd Wright defined organic architecture as architecture that is:-

- Appropriate to time
- Appropriate to place
- Appropriate to man.

*FLW's theory can be explained perfectly with the example of one of his famous project i.e. Falling Water House.*

It appears as if house seems to merge in a nature without any boundaries of enclosure. From structure to the material the building fully interacts with the surroundings. Use of glass walls welcomes the even into the interiors too.



**Figure 6 Falling Water House**



**Figure 7 Tree was not cut but the design of trellis near the front door was changed to semi-circle**

The capital city of Punjab and Haryana is best known for its grid planning and perfect environment to live in. The architect Le Corbusier develops the plans of Albert Mayer and came up with the new

image. Le Corbusier was having an idea of the growing urbanization and population i.e. why even if today we can find the city more comfortable and relaxing although population has become 5 times or may be 10 times.

*“The city of Chandigarh is planned to human scale. It puts us in touch with the infinite cosmos and nature. It provides us with the places and buildings for all human activities by which the citizens can live a full and harmonious life. Here the radiance of nature and heart are within our reach.”*-  
Le Corbusier

Simply trees are an extension of architecture. Apart from the grid planning of Chandigarh the selections of trees and green areas were also done very wisely. The selection of trees was done accordingly to the requirement like the roads facing the problem of glare were provided with the trees having thick spreading canopies forming great vaulting shelter over the road.



**Figure 8 same species of trees along the road**

He used same species of trees along the particular road offering a splendid view. More than 100 species of trees have been planted in Chandigarh. Some of them are gulmohar (*Delonix regia*), amaltas (*Cassia fistula*), kachnar (*Bauhinia variegata*), pink cassia (*Cassia javanica*), silver oak (*Grevilla robusta*), kusum (*Schleicheta trijuga*) and pilkhan (*Ficus infectoria*). Use of red color brickwork for the building blocks makes the complementary color scheme which creates a sensational scene.



**Figure 9 Site plan of Lunuganga, Bentota**

Geoffrey Bawa is also one of the great nature loving architects. Other architects tries to maintain a relation of man with nature by different techniques, he was the one who actually allows the nature to enter in the aura of a human being. When he designs there is no boundary left between the interior design and landscape architecture. He converted the building blocks to a series of spaces separated by courtyards and gardens.

*“When one delights as much as I do in planning a building & having it built, I find it impossible to describe the exact steps in an analytical or dogmatic way. I have a very strong conviction that it is impossible to explain architecture in words; I have always enjoyed seeing buildings but seldom*

*enjoyed reading about them. Architecture cannot be totally explained but must be experienced*". - Geoffrey Bawa

To understand his theory perfectly one case example that can be discussed is *The Lunuganga, Bentota, Srilanka*. A house is a garden. It is inspired from the Italian garden with breathtaking views over lakes and tropical jungle together with a simply designed house. A huge chunk of land was acquired with rubber plantation growing on the land. Without bothering the existing landscape he planned the house not as an individual block but segregated into set of blocks.

By keeping the innate form of a garden, it is just an aggregation of tropical plants of different scale and texture, *a composition of green on green*, play of light and shade, a string of concealed astonishments and vistas. There is no seclusion of the exterior and interior foliage.



**Figure 10 Interior view of the house**



**Figure 11 Emergence of flora to the hard elements of a building**

### 3. AUGMENTING DESIGN WITH NATURE

Due to the rising levels of global warming there is a critical need of enhancing designing with nature. Numerous techniques and methods are there to improve our ecological system; few of them can be vertical gardening, green walls, terrace farming, organic gardening and several other.



**Figure 12 view of street**

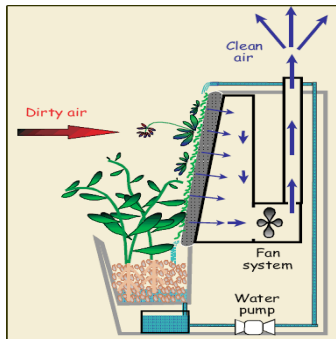


**Figure 13 Oasis in the concrete jungle**

In Porto Alegre, Brazil, there is great dazzling street called Rua Goncalo de Carvalho. The trees on the side of road form a green tunnel stretching approximately 500 meters. Green wall also known as living wall is a new concept flourishing the urban environment. Green color posses a healing quality and moreover it is soothing to the eyes. This concept can be used both on exteriors as well as on interiors.



**Figure14 green wall**



**Figure 15 section of a green wall showing working**



**Figure16 vertical organic farming**

Organic farming on a smaller scale can be done at homes. Awareness campaigns can be arranged regarding organic farming at homes. City agriculture can be introduced for the benefit of people as well as environment.

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