

TRADITIONAL ARCHITECTURE OF KERALA AND SUSTAINABILITY

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Abstract – Environmental Sustainability is more directly related to architecture. Whereas lifestyle has a direct impact on architecture which justifies the involvement of social and economic sustainability factors. Taking up specific parameters of sustainability which has an impact on architecture or on which architecture can have its effect. Architectural sustainability is mainly achieving indoor comfort and effective energy usage as far as residential architecture is considered. Traditional buildings are the perfect examples of how architecture evolved according to human needs, sustaining ecological balance. This paper deals with the study features of traditional architecture of Kerala and its contribution towards sustainability.

Key Words: Sustainability, Traditional architecture, Parameters, Impact, Lifestyle

1. INTRODUCTION

“Environmental sustainability has been defined as meeting the needs of the present, without compromising the ability of future generations to meet their needs”[1]. Human settlement is used to be self-sustainable. Be it in a single or community settlement it used to be self-sustainable in its own way. As the emerge of new technologies and changed life style, led to a situation that people live their life differently, which sometimes seem to be out of the context as far as social, cultural and environmental makeup of the place is concerned.

1.1 Sustainability in Traditional Architecture

Sustainability in architecture holds an important role. We can find the parameters of architectural sustainability in traditional and vernacular architecture and find a way into in the present and future. Regarding the limitation of resources being used on the earth, using these resources correctly and wisely and concerning the coming generations in the future, is important. In corrected and uncontrolled ways of using the resources have caused damages to the nature and environment. So, there is a need of alternative strategies of optimizing and correcting the ways of using limited existing resources and also causing minimum damages to the environment and life.

In every place, the functional needs and environmental conditions, leads to some situations, being provided by the local people. It is purely natural evolution of adaptation according to the needs and resources available. They tend to evolve means, techniques and principles for the betterment of living conditions which never harmed the nature. This

architecture can be called traditional architecture of that place.

The objective of vernacular and traditional architecture is also based on local needs, local building materials, and reflecting the local traditions. This type of architecture is normally not built by formally trained architect but more rely on design skills and tradition of local builders. Most of the elements used in vernacular are outcome of function needs .On the other hand traditional architecture involves special type of building typologies such as temples, palaces or house for rich people. The elements used in traditional architecture are most of times functional but few elements also to be added for the sake of aesthetic reason, continuing the some tradition without knowing its functionality. The both type of architecture traditional as well vernacular evolves throughout centuries. This is the reason that element used in these type of architecture are based on functional need most of times , taking care of climate , building material, social and cultural need of people as well economics . The technology involved in this type of architecture is very appropriate to the local needs.

1.2 Architecture of Kerala

Kerala Architecture is one of the most exciting examples of preservation of traditional and vernacular styles; multiple foreign influences, and Aryan invasion, and Dravidian culture of different rulers.

The architecture, environment and culture of Kerala stand in marked contrast to that of rest of India. Kerala is blessed with abundant water, verdant forests and rich lands. Traditional Kerala architecture is primarily based on the principles of Thatchu Shashtra (Science of carpentry) and Vaasthu Shashtra (Science of architecture and construction). Houses were constructed facing the east, preferably and the design of the buildings as well as the materials used for construction is locally available and also conducive to geographical as well as climatic conditions of the state. The understanding and appreciation of environment and climate is reflected in traditional architecture. The Kerala architecture based on the structure can be divided into two: Religious and Domestic architecture. The traditional architecture is typically a rectangular structure where four blocks are joined together with a central courtyard open to the sky. The materials used for construction is mainly wood. The attic constructed in this manner provides required ventilation and are also energy efficient structures.

2. CASE STUDY

2.1 Timber Building in Kottayam



Fig -1: Timber building in Thazhathangadi

It is an old fashioned settlement house near Meenachil River in Thazhathangadi, Kottayam. This timber building constructed in the traditional way successfully overcame the effects of flood waters that hit Kerala.

The building consists of verandas, drawing rooms, bedrooms with granary (*pathayam*), dining and kitchen spaces, work areas and toilets and godowns for storage. Although not placed on a very high plinth, these wooden houses follow the traditional prefabricated system of construction. The *ara*, which are wooden-panelled walls, are used not only for storing but also as a vent in case of calamities, as spatially it is located within another walled enclosure. The attic floors inside, which are made of wooden planks on beams called *machu*, connected vertically using wooden stairs. The attic constructed in this manner provides required ventilation. It is important for modern house construction to take clues and information from this vernacular style of constructing buildings

3. CONCLUSION

Traditional and vernacular buildings preserve a history of their construction. The traditional and vernacular architecture gives solutions that are in perfect harmony with nature. Control of the indoor environment is always an important aspect of traditional architecture. Vernacular and traditional systems of construction are ecologically responsive and energy efficient. The transition in life style which knowingly or unknowingly change the character and sustainability of architecture. Appropriate use of materials and adoption of suitable traditional architecture is required for a sustainable and energy efficient construction.

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