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參展科別 環境工程科

作品名稱 **A STUDY ON TRADITIONAL
ARCHITECTURE IN ITANAGAR
CAPITAL COMPLEX AND TO
IMPROVE A MODIFIED TYPOLOGY
FOR A CLIMATE RESPONSIVE
CONTEMPORARY HOUSE**

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ABSTRACT

The lifestyle of the Arunachal Pradesh rural population demonstrates the example of sustainable living where bamboo plays a major role. Bamboo has its home in this tropical climate region of India. In order to understand various aspects of traditional bamboo constructions, a field visit was made to Rono, Emchi, Lekhi villages and Karsingsa, Pachin, NEEPCO areas. The paper studies the patterns affecting the housing styles of these regions, the traditional method of construction including bamboo treatments. Various parameters which are required to be considered for constructing a house are also studied. It has been found in the field survey that the utilization of bamboo is mostly in wall panels, columns, floor, door and windows. The question posed here is whether traditional houses perform better than a typical contemporary house in creating comfortable internal conditions. And if they do how it is possible for the contemporary house to benefit from the advantages presented in the design of the traditional house in terms of thermal performance. The results indicate that improved performance might be achieved by combining selected lessons from the traditional design e.g. improved shading, regional variations in window size related to orientation and adoption of adjustable ventilation and window openings.

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Introduction

Climate and weather: Climate can be defined as average weather conditions of a particular area in a stipulated period of time. The sub components of climate is not predictable as they undergo sudden changes frequently depending on the changes in one or another physical factors. The climate of a particular area is determined by analyzing all statistical weather information of a particular area during a specified period of time. Unlike weather, climate is predictable to certain extent as the average weather pattern has been existing in a particular place during course of stipulated time frame. Texture of soil, fertility of soil, water resource, vegetation in locality, diseases of plants and animals, health of human being are largely controlled and determined by climate, Besides, climate plays an important role in the welfare of particular society in a particular landscape.

Weather: Weather is a short term variation of environmental conditions such as temperature, pressure, moisture in air, precipitation etc; in a particular area at any given time. It is not feasible to predict weather as the physical factors are subjected to sudden changes due to one or more reasons.

The weather of human being in a particular area in a particular area is largely depending upon the existing favourable climatic conditions. Depending upon the existing climate, people construct their shelter (house) in a particular area for their better living.

Climate, weather & house: Different patterns of houses are built in a particular area by the people of that society. Climate and weather are main factors which determine the pattern of the houses constructed in the area. Certain building materials subside the heat during unbearable summer season whereas some other materials produce warm effect during winter season. So, climate demands the different nature of materials to be used in the construction of houses. Durability, safety, stability, comfortably are some of the important and advantageous aspects of a shelter, which are completely depending upon the nature of the climate, comprising of different weather. Of late, people analyze the resistance of houses against flood, incessant rainfall, storm, hailstone and tremors before they construct house as it is matter of life(safety).

Culture & houses: Culture is one of the important factors which determine the pattern of houses of a particular society. People of a particular society act as custodian of the culture through designing their houses in specific manner using locally available material. They ignore the attractive, double synthetic material and they chose the material of the culture to signify their unique culture in their houses.

At times, people may have problems due to the nature of material used in the construction of their houses, yet then are immensely happy in upholding the cultural identity.

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This study tried to combine the benefits of contemporary house and traditional houses. The advantages of earth quake damage prevention and ventilation as well as environmental and constructive benefits, then the value of this study can be more clearly shown.