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IDEAL BUILDING DESIGN BY CREATING MICRO CLIMATE

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ABSTRACT

The Vernacular Architecture in India means variety of aspects of climate, materials, local craftsmen and utmost comfort. In true sense these designs are energy efficient. But in Modern Architecture majority of time buildings are designed based on passive, mechanical systems to consume more energy. But in comparative analysis they prove how they are energy efficient. But if these buildings are designed by understanding proper sun-path, climate and wind directions; these buildings can be more energy efficient than the former one. This paper is showcasing the different possibilities for building zonings, orientations, and fragmentation of the building foot-print to get more responsive design with respect to climate, sun-path and wind flows along with proper landscape to divert wind flows. If at schematic levels buildings are designed with these strategies energy consumption after building completion is reduced.

Designers need to use the tools and techniques to have a multifaceted approach in building design involving-climate responsive architecture, materials with low embodied energy, reduction of ecological footprint, efficient structural design, recycling and harnessing renewable energy to meet the energy needs of the building etc.

This paper deals with the relation between building form and envelope and its energy consumption in hot dry climatic zone of the country. The purpose of this paper is to provide the guidelines for creating micro climate in any building design focusing mainly on building form and envelope; without using passive techniques for heating and cooling. This design research paper refers to the various primers and manuals that exist for energy efficient buildings in India to arrive at an appropriate building form and then compares it with a base condition. Both considerations for comfort and energy efficiency are accounted for in the building.

KEYWORDS: *Sun-Path, Wind-Flow, Building Orientation*