

Climate Responsive Techniques of Vernacular Architecture: A Sustainable Approach

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Abstract:

India is recognized for its architecture, particularly its regional vernacular constructions. Vernacular structures have been constructed in response to local climates and thermal human comfort. The characteristics of Rajasthani havelis' vernacular architecture located in Jaisalmer have been examined in this study for its climatic responsiveness. This vernacular structure in Jaisalmer possesses fascinating details regarding how they were built & how they coped with the dry, scorching climate of the region. It has also been discussed how the traditional building techniques can be incorporated into energy efficient contemporary architecture following examples from the vernacular architecture. The identified haveli has been documented on site and various practices have been identified which promote energy efficiency thus addressing the principles of sustainability. Various Parameters of energy efficiency, i.e., orientation of building block with respect to sun & wind, selection of building material, ventilation system and building form have been considered for analysis.

Keywords:

Vernacular construction, energy efficiency, human thermal comfort, sustainability.