

Developing a Framework to Aid Sustainable Assessment in Indian Buildings

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Abstract : Buildings qualify to be the major consumer of energy and resources thereby urging the designers, architects and policy makers to place a great deal of effort in achieving and implementing sustainable building strategies in construction. Green building rating systems help a great deal in this by measuring the effectiveness of these strategies along with the escalation of building performance in social, environmental and economic perspective, and construct new sustainable buildings. However, for a country like India, enormous population and its rapid rate of growth impose an increasing burden on the country's limited and continuously degrading natural resource base, which also includes the land available for construction. In general, the number of sustainable rated buildings in India is very minimal primarily due to the complexity and obstinate nature of the assessment systems/regulations that restrict the stakeholders and designers in proper implementation and utilization of these rating systems. This paper aims to introduce a data driven and user-friendly framework which cross compares the present prominent green building rating systems such as LEED, BREEAM, and GRIHA and subsequently help the users to rate their proposed building design as per the regulations of these assessment frameworks. This framework is validated using the input data collected from green buildings constructed globally. The proposed system has prospects to encourage the users to test the efficiency of various sustainable construction practices and thereby promote more sustainable buildings in the country.

Keywords : BREEAM, GRIHA, green building rating systems, LEED, sustainable buildings

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