

Proposal for Sustainable Construction of a New College Hostel Building

Authors : Reshma Raskar-Phule, Abhay Shinde, Manesh Konkani, Rohit Nighot, Shrirang Mahajan, Viraj Thorat

Abstract : Sustainability in construction projects can be considered from three dimensions - environment, economy and society. Key concepts of sustainable construction include the protection of the natural environment, choice of non-toxic materials, reduction and reuse of resources, waste minimization, and life cycle analysis. The present paper attempts to identify and analyze the use of sustainable construction materials for a new college hostel building in terms of sustainability development indices (SDIs). Low SDI materials, say as composite fiberglass reinforcement (SDI 4074.96), compressed earth blocks (SDI 0.47), and fiber-reinforced doors (SDI 0.13) are the proposed sustainable materials for the hostel building. Indian Green Building Certification (IGBC) is applied for the hostel building and it earns 5 points out of total 16 points for criterion 5 - Building Materials and Resources of IGBC.

Keywords : sustainable development, construction materials, IGBC, hostel building

Conference Title : ICSBPD 2023 : International Conference on Sustainable Building Projects and Design

Conference Location : Athens, Greece

Conference Dates : April 03-04, 2023