

Sustainable Approach for Strategic Planning of Construction of Buildings using Multi-Criteria Decision Making Tools

Authors : Kishor Bhagwat, Gayatri Vyas

Abstract : Construction industry is earmarked with complex processes depending on the nature and scope of the project. In recent years, developments in this sector are remarkable and have resulted in both positive and negative impacts on the environment and human being. Sustainable construction can be looked upon as one of the solution to overcome the negative impacts since sustainable construction is a vast concept, which includes many parameters, and sometimes the use of multi-criteria decision making [MCDM] tools becomes necessary. The main objective of this study is to determine the weightage of sustainable building parameters with the help of MCDM tools. Questionnaire survey was conducted to examine the perspective of respondents on the importance of weights of the criterion, and the respondents were architects, green building consultants, and civil engineers. This paper presents an overview of research related to Indian and international green building rating systems and MCDM. The results depict that economy, environmental health, and safety, site selection, climatic condition, etc., are important parameters in sustainable construction.

Keywords : green building, sustainability, multi-criteria decision making method [MCDM], analytical hierarchy process [AHP], technique for order preference by similarity to an ideal solution [TOPSIS], entropy

Conference Title : ICUCDM 2022 : International Conference on Urban Construction Development and Management

Conference Location : Rome, Italy

Conference Dates : August 30-31, 2022