

An Overview of Green Building Ranking Systems with a Sustainable Architectural Approach

Abstract

Today, the construction sector is growing by investing 40-40% of the world's total resources, and energy saving through building energy efficiency has become a worldwide necessity. The construction industry is also an essential element for any economy, nonetheless, it has a significant impact on the environment, hence recognizing the various aspects of sustainability in green buildings can be a thought-provoking category. The present research is accomplished by descriptive and analytical methods and relying on quantitative and library data. First, the principles of sustainable construction were thoroughly examined, then a variety of rating systems such as: BREEAM, CASBEE, GBTool, Green Globes TM U.S. And LEEDs were observed, during which it was found that the LEED rating system has a more appropriate approach than other rating systems, and finally the approach of different countries in relation to the use of rating systems was studied. The research findings indicate that the sustainable and constructive development of green buildings is a global issue that can find regional solutions. In fact, global warming and all the environmental issues we face are global and affect every continent. Solutions to achieving sustainable development must take into account the characteristics of regions such as the climate, local raw materials, also including local governments.

Research aims:

1. An overview of the ranking systems of green buildings with a sustainable architectural approach.
2. A recognition of the factors affecting sustainable development and the role of green buildings.

Research questions:

1. What are the architectural dimensions of building sustainability?
2. What environmental factors play a role in achieving sustainable development and architecture?

Keywords: Green Buildings, Sustainable Architecture, Ranking System, Sustainable Development

Introduction

Buildings have a huge economic impact on society, they also account for a major share of the consumption of materials and energy, as well as the production of environmental greenhouse gases, both nationally and globally. Given such a significant impact on the construction industry, the sustainable building approach has great potential to contribute valuable aids to sustainable development. Sustainability is a broad and complex concept that has become one of the most important issues in the construction industry. The idea of sustainability requires improving the quality of life. Buildings have a huge economic impact on society, they also account for a major share of the consumption of materials and energy, as well as the production of environmental greenhouse gases, both nationally and globally. Given such a significant impact on the construction industry, the sustainable building approach has great potential to contribute valuable contributions to sustainable development. Sustainability is a broad and complex concept that has become one of the most important issues in the construction industry. The idea of sustainability requires improving the quality of life. Because of their activities, construction industry stakeholders have focused on controlling and repairing environmental damage. Architects, designers, engineers, and others involved in the building process have a unique opportunity to reduce their environmental impact by pursuing sustainable goals in the development phase of a building project. The construction industry has sought to reduce its energy and environmental impact. The movement gained momentum with the development of green certification systems such as the Energy Leadership Rating and Environmental Design (LEED) systems established by the United States Green Building Council (USGBC 2008a). LEED rating systems guide the implementation of sustainable design and construction strategies and green building certification. Because of the use of such strategies, sustainability goals must be translated into concrete practical steps using a comprehensive approach to facilitate decision making. However, new technologies such as building construction, Environmental Assessment Methodology (BREEAM), Building for Environmental and Economic Sustainability (BEES), Energy Leadership and Environmental Design (LEED), etc., are constantly being developed and updated to complement existing building

practices. Be stable. Structures The common goal is that buildings are designed to reduce the overall impact of the built environment on human health and the natural environment. Green building certification systems such as LEED and others have been successful as awareness and marketing tools, and their proponents have demanded environmental, social, and economic benefits from them. However, many researchers question the validity of the claim of environmental benefits from green certified buildings and criticize the LEED system for its lack of scientific approach and life cycle in assessing environmental impacts and evaluating alternative designs and practices. With these interpretations, conducting a fundamental and applied research on rating systems in green buildings can be helpful in this regard.

Studies on the background of research show that no independent work with this title has been written so far. This study seeks to develop a resource to help develop sustainable architecture by examining the green building ranking system in the construction industry and identifying key aspects, and to ensure that all building components work at 100% efficiency in all cases. Research in this area has been related to a specific field such as ranking systems, but in this study, the principles of sustainable construction and dimensions of sustainability, sustainability strategies and types of rating systems are fully described and this study can be a complete reference for people active in this field. This study also answers the question of what are the dimensions of building stability? And what are the solutions for building sustainable buildings? In this regard, by examining the rating systems of buildings, it answers the question of which rating system is more acceptable and practical, and clarifies the reasons for different countries to use rating systems. Since for the presence of their activities, construction industry stakeholders have focused on controlling and repairing environmental damage. Architects, designers, engineers, and others involved in the building process have a unique opportunity to reduce their environmental impact by pursuing sustainable goals in the development phase of a building project. The construction industry has sought to reduce its energy and environmental impact. The movement gained momentum with the development of green certification systems such as the Energy Leadership Rating and Environmental Design (LEED) systems established by the United States Green Building Council (USGBC 2008a). LEED rating systems guide the implementation of sustainable design and construction strategies and green building certification Because of the use of such strategies, sustainability goals must be translated into concrete practical steps using a comprehensive approach to facilitate decision making. However, new technologies such as

building construction, Environmental Assessment Methodology (BREEAM), Building for Environmental and Economic Sustainability (BEES), Energy Leadership and Environmental Design (LEED), etc., are constantly being developed and updated to complement existing building practices. Structures The common goal is that buildings are designed to reduce the overall impact of the built environment on human health and the natural environment. Green building certification systems such as LEED and others have been successful as awareness and marketing tools, and their proponents have demanded environmental, social, and economic benefits from them. However, many researchers question the validity of the claim of environmental benefits from green certified buildings and criticize the LEED system for its lack of scientific approach and life cycle in assessing environmental impacts and evaluating alternative designs and practices. With these interpretations, conducting a fundamental and applied research on rating systems in green buildings can be accommodating in this regard.

Studies on the background of research show that no independent work with this title has been written so far. The main aim of this paper is to develop a resource to aid develop sustainable architecture by examining the green building ranking system in the construction industry and identifying key aspects, and to ensure that all building components work at 100% efficiency in all cases. Research in this area has been related to a specific field such as ranking systems, but in this study, the principles of sustainable construction and dimensions of sustainability, sustainability strategies and types of rating systems are fully described and this study can be a complete reference for people active in this field. This study also answers the question of what are the dimensions of building stability? And what are the solutions for building sustainable buildings? In this regard, by examining the rating systems of buildings, it answers the question of which rating system is more acceptable and practical, and clarifies the reasons for various countries to use rating systems.

Conclusion

In this study, the factors of stabilization of buildings were fully studied, which finally identified 7 key factors of stabilization according to previous articles and studies. Sustainable development and construction of green buildings is a global issue that can find regional solutions. Global warming and all the environmental issues we face are worldwide and affect every continent, therefore. ways to achieve sustainable development must take into account the characteristics of regions such as the climate, local raw materials, but also local governments and the knowledge

and capacity of local companies; also, any solution that can be used in one country may not be compatible in another. This is why green building organizations, if they want to export their permits abroad, have to adapt their reference to the target market, such as BREEAM in Norway, or LEED in Europe. The construction sector of green buildings in the world is constantly evolving and it can be hoped that in a few decades green building and sustainable development in general will become the standard of construction and not just an exception for the well-being of the earth and human beings.

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