

THE IMPACT OF GREEN BUILDING DRIVERS ON GREEN CONSTRUCTIONS**Akanksha Dixit¹, Amit Kumar Yadav², Dimpal Yadav³**¹ Assistant professor, Department of Civil Engineering, J.S University, Shikohabad, India, akankshadixit65@gmail.com² Assistant professor, Department Of Civil Engineering, J.S University, Shikohabad, India, amit.yadav2301@gmail.com³ Research scholar, Department Of Civil Engineering, J.S University, Shikohabad, India, dimpaly111@gmail.com**Abstract –**

Purpose: The purpose of the study is to examine the impact of the green building drivers on innovative construction, which is basically called "green construction." Green construction is now an emerging concept in the field of building construction and development.

Research Methodology: The study was empirical in nature, and analysis took place in the study. The structured questionnaire had been formulated and filled out by the 167 employees working on the construction process, and their responses had been evaluated with the help of statistical tools like IBM SPSS Statistics 20. The researcher used the correlation analysis to test the validity of the drivers of the green building.

Findings: The green building drivers are very important factors for innovative construction in the new era. The findings suggest that we have to shift our focus towards maintaining the balance between green building drivers to achieve the goal of green construction.

Implications: The study verifies the validity of the constructs of the Green Building Drivers, which explain that the practise of green construction can improve innovative techniques of construction.

Keywords: innovative construction, green building, green construction, environmental.

1. Introduction

Energy availability is now one of humanity's fundamental issues. Energy needs rise in step with technological advancements. As energy consumption increased as a result of development, so did the demand for fossil fuels. The demand for fossil fuels has become inescapable due to the effects of global warming, both in Turkey and around the world. Investigations conducted between 1980 and 1999 determined that a temperature increase of 1.8 to 4.0 °C is anticipated until 2100. Renewable energy sources are still being promoted as a key energy source. In order to protect the environment through sustainable growth, "green building" has emerged as a key idea in the worldwide construction industry. There are more than 140,000 green buildings registered worldwide, according to the World Green Building Council in California (World Green Building Council, 2013). More than 72,500 projects worldwide have used the Leadership in Energy and Environmental Design (LEED) green building rating system (USGBC, 2015). India is the third-best country in the world on the LEED scale, and Singapore is at the top of the list among 62 countries examined globally in the Asian setting (McGraw-Hill Construction, 2013). In reaction to the severe and irreversible climate crisis, the building industry is undergoing a "green revolution." By designing energy-efficient, productive, and

healthy structures, this revolution aims to significantly lessen or eliminate the negative effects that buildings have on urban life and the environment at large.

1. Theoretical Background:

- a) **Green Buildings:** This essay will present background information on green structures as well as a historical analysis of the global green building movement in general and the American movement in particular. The origins of this endeavor, like any other sincere attempt, are crucial to understanding its development and current state. High-performance green buildings are structures that are created, maintained, repaired, and demolished utilising ecological principles in order to promote occupant health and resource efficiency as well as lessen the effects of the built environment on the environment. High levels of energy and water efficiency, suitable use of land and landscaping, the use of environmentally friendly materials, and limiting the life cycle effects of the building's design and operation are all examples of resource efficiency in the context of green buildings.
- b) **Green Construction:** Solar batteries can be installed on the roof in the south direction to be able to supply electricity needs in the green construction design. Mounted solar collectors are used to provide hot water. Land-source heat pumps are designed to be installed to satisfy the needs of residential heating and cooling. In the home garden, polyethylene-welded pipes can be laid horizontally or vertically. Heat pumps are available to be circuited into if solar collectors are unable to generate enough hot water. In developing nations, the building construction industry still mostly uses brick, block, mortar, and concrete as the primary building materials for the finished product of a conventional building. Conventional structures are opposed to "green building" (GB) constructions since they don't pay attention to energy conservation, land conservation, storm water runoff reduction, material conservation, or pollutant reduction.
- c) **Green Building Drivers:** The adoption of the "green" idea has quickly become necessary in Sri Lanka's building industry due to the country's rapidly expanding construction activity. In Sri Lanka, there are already a number of laws and regulations that encourage local green growth. The National Environmental Act, passed in 1980, as well as the Central Environmental Authority, Environmental Council, and District Environmental Agencies established under said act, set forth a number of rules and regulations that control the environmental impact of local industries, including the construction industry.

2. Literature Review:

The sedative effect of positive intergroup contact on ethnic activism can be explained by studies revealing prejudice constructions of minority groups, and they can also help us think about integration strategies that would be compatible with social change in favour of underprivileged minority groups (Giroud et al., 2021). The building sector makes a sizable global contribution to greenhouse gas emissions, resource depletion, and landfill contamination. Green building activity has increased quickly as a result of growing public knowledge of how buildings affect the environment, with the South African market having the highest global rate of GB activity (Crafford et al., 2017). The analysis in this paper demonstrates an eco-friendly design paradigm for a highly atypical construction that appears to be in direct opposition to the modern architectural methods used in residential projects on the Aegean islands. However, the proposed design has strong origins in the folk tradition of cave

homes. As a result, the earth-sheltered residence capitalises on the benefits of the underground homes while still providing its residents with contemporary conveniences. The house creates a dynamic architectural shape in the façade area that can serve as a distinctive landmark while also being easily integrated into its natural surroundings (Benardosa et al., 2014). 70% of our country's energy comes from overseas, particularly when it comes to renewable energy sources; therefore, reducing our reliance on foreign energy is important for all stakeholders. Turkey, the first solar energy country in the world, is accessible in four nations. 7.2 hours on average every day, despite Turkey's limited usage of alternative energy sources due to the lack of sunlight. It will be made clear how frequently alternative energy is used and how green construction contributes to the nation's resources (Topacoglu et al., 2011).

3. Objectives:

- I. To find out the general awareness of green construction.
- II. To study the relationship between green building drivers and green construction.
- III. To suggest the benefit of implementing green innovative techniques in the construction.

Research Methodology:

Sample for the study: The 167 workers who were involved in the construction process were given a standardised questionnaire to complete, and their answers were then examined using statistical techniques like IBM SPSS Statistics 20.

Sampling Techniques: The data is gathered using the no-probability snowball technique and the basic random sampling technique. These methods are employed to support the study and to get accurate and timely data.

Data Collection Tools: The respondents filled out a standardised questionnaire, which was used to gather the main data. Additionally, secondary data from other research papers linked to the study is incorporated in the study.

Research Design: A descriptive research design is used in this study, and the research used empirical methods.

Findings:

Majority of the findings explain that the drivers of the green buildings have both negative and positive relationships. The values indicate the negative correlation value, which states that if one variable increases, then the other variable decreases, showing the negative correlation between them. As well, the analysis explains that there is also a positive correlation between the variables, which defines that if the value of one variable increases, the other variable will also increase in the same manner. The findings of the analysis also explain that the concept of green construction is not that new for the construction industry; people are aware of the concept of green buildings, green production, and green construction in their field, and in a similar manner, they want to utilize this innovative concept and enhance the quality of the constructional work. As the findings suggest, there is much more space to analyze the innovative green construction ideas and use them in a tech-friendly, innovative working style. This will lead the construction industry on a boom, along with environmental sustainability.

Conclusion

The paper describes the connection between green building drivers and green construction, how these drivers may be used to make green construction better, and how the development of the green construction industry is now required by society in order to enhance both the environment and business. The study demonstrates through statistical analysis how the importance of the drivers and their favorable effects on green building can elevate the idea to a new level and spur growth. The report reveals that the initiatives made by the construction sector are very beneficial and will extend the lifespan of the buildings and give societies environmentally friendly structures.

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Declaration of Interest Statement

State if there is any competing interest of any sort. If there is no financial interest, use the following format: The authors declare that they have no conflict of interests.

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