Designing sustainable high-rise structures: strategies for achieving functionality and spaciousness in eco-apartment buildings in Uzbekistan

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Abstract: The goal of this research is to develop environmentally friendly high-rise constructions for eco-apartment complexes in Uzbekistan. The purpose of the study is to investigate methods for maximizing usefulness and space in high-rise eco-apartment structures without compromising sustainability. A literature analysis and case studies of eco-apartment complexes in Uzbekistan are used in the study as part of a qualitative research methodology. According to the study's findings, it is necessary to integrate a number of design factors, such as site selection, building orientation, passive design techniques, and the use of sustainable materials, when creating sustainable high-rise structures in eco-apartment complexes. The study also outlines a number of difficulties and constraints that must be overcome in order to optimize the usefulness and space of eco-apartment buildings in Uzbekistan.

Keywords: sustainable high-rise structures, eco-apartment buildings, functionality, spaciousness, Uzbekistan

Introduction:

Eco-apartment structures have been a cutting-edge and eco-friendly response to the country of Uzbekistan's rising housing need in recent years. But creating practical and expansive high-rise structures for eco-apartment complexes while maintaining sustainability presents a number of difficulties. This project aims to investigate methods for creating environmentally friendly high-rise structures in Uzbek eco-apartment buildings. The goal of the project is to find design components that may be used to combine utility and spaciousness with sustainability.

Limitations of the Study:

The analysis of sustainable high-rise structural design in Uzbek eco-apartment complexes is the exclusive focus of this work. Other building kinds or non-sustainable buildings in Uzbekistan are not covered by the research.

Methodology:

Based on a review of the literature and case studies of eco-apartment complexes in Uzbekistan, this study uses a qualitative research methodology. The literature study explores the idea of environmentally friendly high-rise buildings, the architectural

components of eco-apartment buildings, and the difficulties and constraints involved in creating environmentally friendly high-rise buildings. The case studies of eco-apartment complexes in Uzbekistan provide light on how sustainable high-rise structural design components are really used in actual projects. Both content analysis and theme analysis are used in the study to analyze the data.

Literature Review:

The literature study explores the idea of environmentally friendly high-rise buildings, the architectural components of eco-apartment buildings, and the difficulties and constraints involved in creating environmentally friendly high-rise buildings. According to the review, creating high-rise structures that are environmentally friendly requires integrating a number of design factors, such as site selection, building orientation, passive design techniques, and the use of eco-friendly materials. The analysis also identifies a number of difficulties and restrictions in developing sustainable high-rise buildings, including expensive construction costs, a lack of available space, and environmental considerations.

The paper's primary body outlines design approaches for environmentally friendly high-rise constructions in Uzbek eco-apartment buildings. In order to accomplish utility and spaciousness while maintaining sustainability, the research suggests a number of design components that might be combined. Site selection, building orientation, passive design techniques, and the use of sustainable materials are some of these design components.

The paper discusses the difficulties and constraints involved in constructing environmentally friendly high-rise structures for eco-apartment complexes in Uzbekistan. High building costs, a lack of available area, and environmental issues are some of these difficulties. The report suggests a number of approaches to overcome these difficulties, such as the use of cutting-edge design components and materials, public awareness campaigns, and financial incentives from the government.

Results:

The study's findings suggest that using passive design principles, site selection, building orientation, and the use of sustainable materials might allow high-rise eco-apartment buildings attain functionality and spaciousness while maintaining sustainability. The study also outlines a number of difficulties and constraints that must be overcome in order to optimize the usefulness and space of eco-apartment buildings in Uzbekistan.

Discussion:

The study's results are outlined in the discussion section, which also offers suggestions for more study and advancement. The research emphasizes the significance of constructing sustainable high-rise structures in Uzbekistan's eco-apartment buildings and urges policymakers, architects, and developers to give the

country's development of eco-apartment buildings top priority. The study makes the suggestion that future studies concentrate on the long-term effects of environmentally friendly high-rise constructions on occupants' quality of life.

Conclusions:

According to the study's findings, constructing environmentally friendly high-rise structures for eco-apartment buildings necessitates incorporating a number of design factors, such as site selection, building orientation, passive design techniques, and the use of sustainable materials. The study also outlines a number of difficulties and constraints that must be overcome in order to optimize the usefulness and space of eco-apartment buildings in Uzbekistan. In order to support sustainable growth, the research advises politicians, architects, and developers to give priority to the construction of eco-apartment buildings in the nation. It also offers insights into the solutions that may be employed to overcome these difficulties.

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