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GREEN BUILDING FOR QUALITY LIVING.

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***Abstract*--** Green Building Technology is one of the most important topic nowadays for all over the world which is been put forward to reduce the significant impact of pollution\construction industry on the environment, society and economy. The globe is in an urgent need of sustainable and smart development as the problem of pollution and global warming is rapidly increasing all over. This paper presents the need of sustainable development especially 'GREEN BUILDING' all over especially developing countries like India which has a huge mass of land and resources.

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***Keywords*—IGBC (green building), LEED (Leadership in energy & environmental design), Sustainable, Affordable, Energy efficient**

1. INTRODUCTION

There are many definitions of a green building as per different researchers. Green building (also known as green construction or sustainable building) expands and complements the building design concerns of economy, utility, durability and comfort. A Green Building is one which uses less water, optimizes energy, conserves natural resources, generates less waste and provides healthier space for occupants as compared to conventional buildings. The concept of green building mainly stands on four points which are.

- Reduction of effects or rather the side effects of structure on environment.
- Minimize resources; maximize the reuse, recycling and utilization of renewable resources.
- Protect occupant's health and increase productivity.

There has been a lot of research works carried out on aspect of green building in different context but some lack in reviewing the existing material of knowledge. This paper will help develop green building in India as it included easy and simple ways to implement for achieving green homes and also the importance and long term benefits involving green homes.

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2. LITERATURE REVIEW

Green Building Technology is one of the most important topic nowadays for all over the world which is been put forward to reduce the significant impact of pollution\construction industry on the environment, society and economy. The globe is in an urgent need of sustainable and smart development as the problem of pollution and global warming is rapidly increasing all over. This paper presents the need of sustainable development especially 'GREEN BUILDING' all over especially developing countries like India which has a huge mass of land and resources.

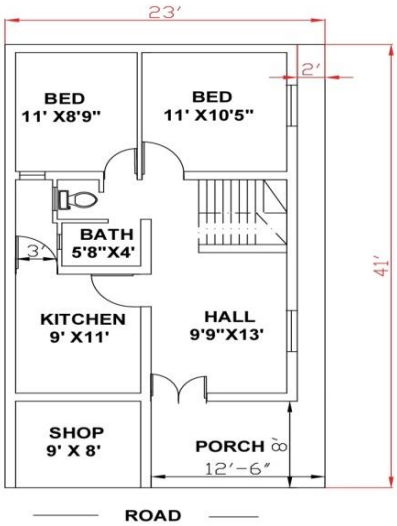
3. METHODOLOGY

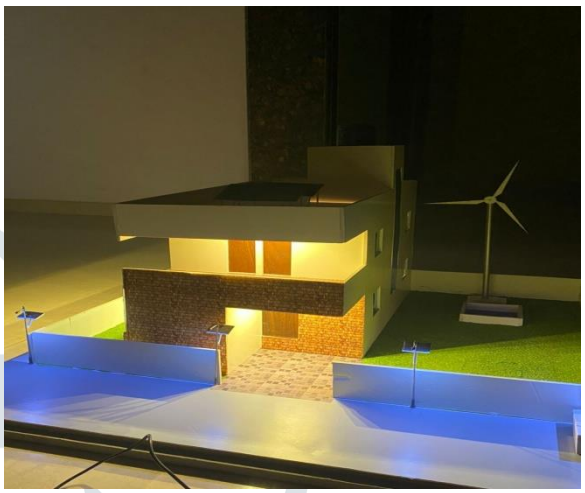
This study is aimed at research, study and development of the green building construction techniques in order to save our planet from pollution and global temperature rise. It aims at spreading awareness among people all over the world, about the advantages of green building and long term cost saving from green buildings. Further, the structural methodology is structured below.

1. Introduction
2. Literature review
3. Study of research topic in detail
4. Collection of information with help of web surveys.
5. Finding new ways and techniques for development of green building construction.

4. DESIGN OF GREEN BUILDING

- We took an initiative to design a building which is elf-sufficient to generate and utilize its own renewable energy.
- For this purpose we studies different designs and plans of current green building structures and came up with our design and constructed it in a smaller scale.
- We designed 943 square feet, G+1, 3BHK bungalow which can comfortably accommodate up to 6 people. The installation of the solar panels would be initially costly but if installed in future would give great cost saving on the energy bill. Also using sustainable materials such as wooden flooring, brick walls. Thermal installation, etc would be affordable on the pocket and also environment friendly.





5. MATERIAL CHART

Following are the various type of materials used for the construction of green building with their understanding.

- Greco Tuff Board use for: Wardrobe units, kitchen. Greco Tuff board is water proof, termite proof, fire retardants, and bores free in screw holding capacity is five times more than normal plywood.
- Cane: used for sofa set and living room furniture. Caning is a traditional method of weaving cane into furniture. It is then finished with dark polish.
- UPVC Windows: this material is resistant to weathering, resistant to UV rays, durable, light weight and 100% recyclable and low thermal conductivity.

6. ADVANTAGES

- Increased comfort due to more uniform interior temperature.
- Extra cost is minimized for new construction compared to an afterthought retrofit.
- Reduced requirement for energy austerity.
- The fabrication of housing is much faster than conventional housing leading to quick project implementation and faster move in for users.
- Using standardized building technique and energy cost modeling these buildings can be affordable to build.

7. CONCLUSION

This paper study reported all technical and also economical aspects related to green buildings. Also, through this case study of a small residential bungalow it is expected to attract at least some people but can attract readers towards planning of their ne green homes or modifying their existing ones for long term saving and also for saving our environment.

The goal of a green building and sustainable architecture is to use resources more efficiently and reduce buildings negative impact on the environment. Green buildings may or may not be considered “green” in all areas; such as reducing waste, using recycled products, building material etc. however, these structures tend to have a much lower ecological impact over the life of building compared with other green building they require imported energy or fossil fuel to be habitable and meet needs of occupants.

8. REFERANCES

1. Green rating for Integrated Assessment. http://www.grihaindia.org/
2. Life Cycle Assessment (LCA) of building materials for the evaluation of building sustainability http://www.researchgate.net/publication/316645292-Life_Cycle_Assesment_LCA_of_building_material_for_the_evaluation_of_building_sususstainabilty_the_case_of_thermal_insulation_materials
3. Life cycle energy analysis of buildings. T.Ramesh, Ravi Prakash, KK Shukla
4. LEED Certified building gbci.org
5. Suzlon One Earth- LEED Rated Green Building In Pune
6. Fundamentals of Town Planning: G.K. Hiraskar
7. Doon School- Dehradun (India’s first green school campus)