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SUSTAINABLE BUILDING TECHNIQUE

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ABSTRACT

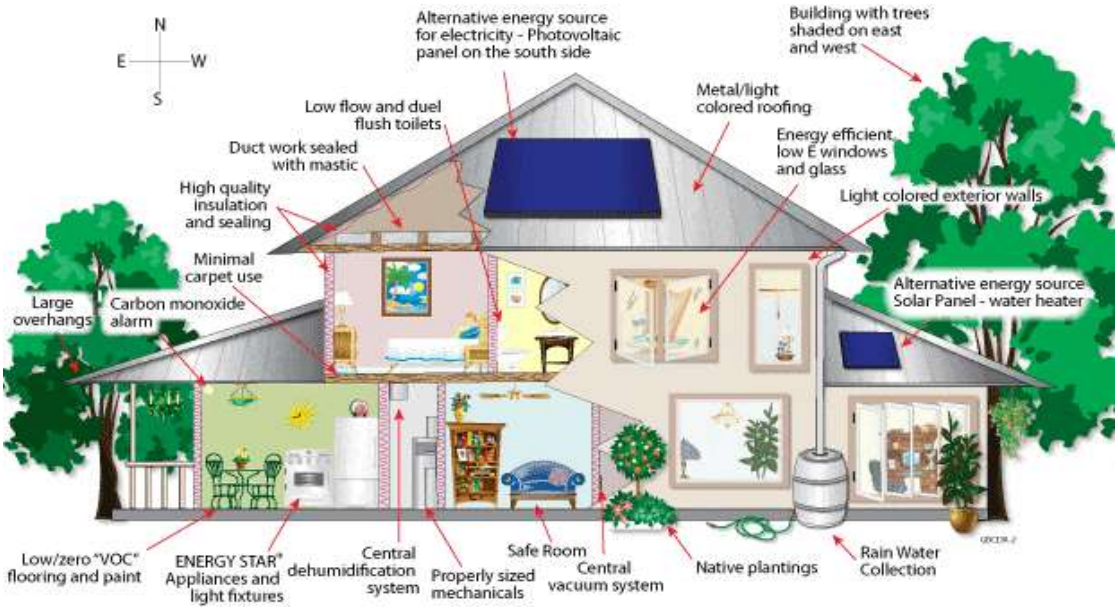
Green building technology is one of the most trending topics all over the world which is been put forward to reduce the significant impact of the construction industry on the environment, society and economy. The globe is in an urgent need of sustainable and a smart development as the problem of pollution and global warming is rapidly increasing all over the world. A Drastic climatic changes also been noticed and being experienced all over the world due to increase in the Green House Gases (GHG's). In the developed countries like United States of America, Russia, Australia, United Kingdom, there are already strict measures been taken to achieve a sustainable development and also rules and regulations are been made by their respective governments to support and achieve a sustainable and an eco-friendly development of their nations. However, in the developing countries like India, China, Srilanka, Pakistan, etc., they are far behind in achieving a sustainable development and eco-friendly constructions. Also, there is a lack of awareness amongst the people about this global issue in these developing countries.

Keywords: GRIHA (Green ratings for integrated habitat assessment); IEQ (indoor environmental quality, LEED (Leadership in energy & environmental design); Energy Efficiency; Waste Reduction.

1. INTRODUCTION

Green buildings are structures having positive impacts on our environment. These buildings are eco-friendly and contain non-toxic materials. Materials used in Green buildings are obtained from natural, renewable resources that have been managed and harvested in a sustainable way. Sustainable development is to make the world a better place for everyone without destroying the possibilities for the next generation.

A green building lowers or eliminates negative effects on our climate and natural environment through its design, construction, or operation. Green building concept construction helps to protect natural resources while also improving our quality of life.



2. METHODOLOGY

SUSTAINABLE MATERIALS

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- CLAY
- RAMMED EARTH
- DUNG

SUSTAINABILITY TECHNIQUE EMPLOYED

1.CLAY

During the manufacturing process very little energy is required, no water is used, and there is zero waste produced. Amongst the most sustainable wall finishes available, clay plasters are recyclable, repairable and compostable.

2.RAMMED EARTH

Rammed earth is a unique and highly sustainable building material that benefits homeowners, builders, and architects. It is made from locally sourced, natural materials, making it environmentally friendly. It has a high thermal mass, allowing it to absorb and store heat, resulting in energy savings.

3.DUNG

It is utilized as compost or pattings for fuel. The cow dung has antifungal and bug spray properties. The use of cow dung likewise improves soil saltiness and alkalinity.

3. MODELING AND ANALYSIS

Applied in the conventional manner with a hawk and laying on trowel. Can also be applied with a spray machine. Application is similar to gypsum with the exception of the finishing process. A smooth finish is preferred for durability and cleaning. This is achieved by hard polishing with a plastic trowel or a Japanese Trowel.

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4. RESULTS AND DISCUSSION

The outcome of this project is that the clay wall concept and its possible application.As the increasing energy demands and consumptions, this can be an alternate energy-efficient concept applied in homes along with the passive daylight energy designing for proper illumination inside the building and also providing proper ventilation to the wall so that the outcomes are maximized and the sustainable solution of natural clay wall can be used. The watering of the wall can be done by the water collected by the rainwater harvesting systems.

5. CONCLUSION

Sustainable materials are identified and it can be replaced with the existing conventional building materials. There are various advantages of using these sustainable green materials for building constriction. This will helpful to the people, communities and general public and they will be aware about the benefits of using green building materials for sustainable environmental development and management. Nowadays energy sources are decreasing fast.

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