



CASE STUDIES ON GREEN BUILDINGS & ITS RATINGS

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ABSTRACT: CONSTRUCTING A GREEN BUILDING IS AN IMPORTANT STEP TOWARDS BUILDING AN ENVIRONMENT, FREE OF NEGATIVE IMPACT. THEREFORE, THE RESEARCH PAPER FOCUSES ON EXPLAINING THE INTERNATIONAL GREEN BUILDING RATING SYSTEMS THROUGH SEVERAL COUNTRIES AND WHAT CRITERIA THEY USE TO EVALUATE THE BUILDINGS. ALSO, THE MAIN AIM OF THIS PAPER IS TO SHOW SOME IMPORTANT CASE STUDIES, SELECTED FROM DIFFERENT CLIMATE REGIONS THAT APPLY THOSE CRITERIA. MOREOVER, TO HIGHLIGHT HOW IS THE IMPLICATION OF THE ENVIRONMENTAL SUSTAINABLE ASPECTS ACHIEVED FROM AN ENGINEERING AND ARCHITECTURAL PERSPECTIVE. THIS STUDY AIMS TO ESTABLISH THE OPPORTUNITY TO EXPLORE IN DEEP SEVERAL ISSUES THAT ARE USUALLY FACED BY ARCHITECTS, ENGINEERS, AND DESIGNERS, AND HOW ARE THE CONSTRUCTIVE SOLUTIONS ACHIEVED BY ENHANCING OF THE BUILDINGS QUALITIES. THE ACHIEVED CATEGORIES OF EACH CASE STUDY ARE STUDIED AND ANALYZED BASED ON THE CRITERIA OF GREEN BUILDING RATING SYSTEM IN EACH COUNTRY. AT THE END OF THIS PAPER, A COMPARISON ANALYZES BETWEEN THE SELECTED PROJECTS MEASURES HOW EACH PROJECT IS DEALING WITH SITE, ENERGY, WATER, INDOOR ENVIRONMENTS, MATERIALS, WASTE, POLLUTION, AND MANAGEMENT.

Index Terms – Solar Panel, Power reduction.

I. INTRODUCTION

A Green Building Is An Environmentally Sustainable Building, Designed, Constructed, And Operated To Minimize The Total Environmental Impacts. A 'Green' Building Is A Building That, In Its Design, Construction Or Operation, Reduces Or Eliminates Negative Impacts, And Can Create Positive Impacts, On Our Climate And Natural Environment. Green Buildings Preserve Precious Natural Resources And Improve Our Quality Of Life. There Are A Number Of Features Which Can Make A Building 'Green'. These Include:

- Efficient Use Of Energy, Water And Other Resources
- Use Of Renewable Energy, Such As Solar Energy
- Pollution And Waste Reduction Measures, And The Enabling Of Re-Use And Recycling
- Good Indoor Environmental Air Quality
- Use Of Materials That Are Non-Toxic, Ethical And Sustainable
- Consideration Of The Environment In Design, Construction And Operation
- Consideration Of The Quality Of Life Of Occupants In Design, Construction And Operation
- A Design That Enables Adaptation To A Changing Environment
- Any Building Can Be A Green Building, Whether It's A Home, An Office, A School, A Hospital, A Community Centre, Or Any Other Type Of Structure, Provided It Includes Features Listed Above.



Fig-1: Savings Of Green Building

METHODOLOGY:

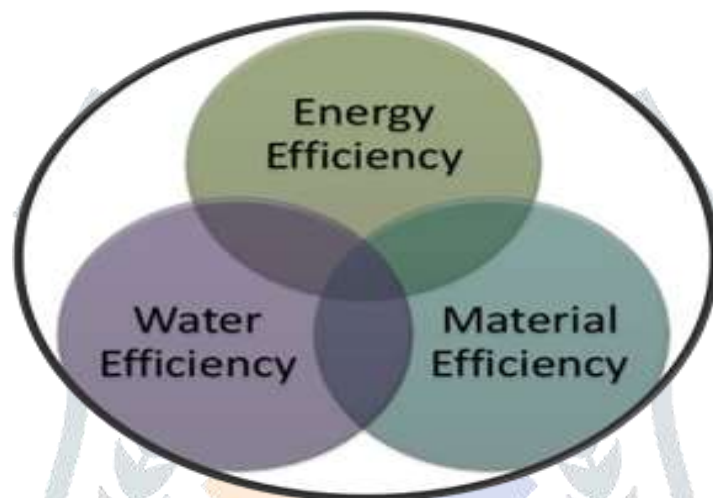


Fig-2: Methodology of green Building

ENERGY EFFICIENCY:

ENERGY EFFICIENCY CAN BE ACHIEVED BY AS FOLLOWS

- Using a non-conventional and renewable sources of energy
- Reducing energy consumption.
- Optimize energy performance.
- Use of alternative renewable sources of power such as solar power, bio mass, wind power, hydro power etc.
- In buildings, it is achieved by installing solar panels and photovoltaic, solar water heater, natural lighting and ventilation and by use of low consumption electrical appliances.

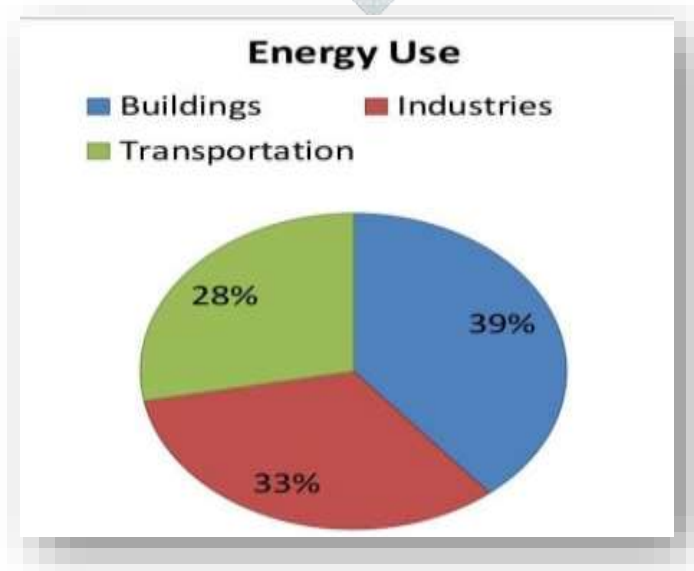


Fig-3: Energy use

WATER EFFICIENCY:

The strategies and technologies involved in a green building aim at reducing the amount of potable water consumed in buildings. Today there are several water conservation strategies which involve a low cost of implementation and have a very quick payback

1. Rain Water Harvesting
2. Grey Water Recycling
3. Pressure Reduction
4. Cooling Towers
5. Low-Flow Plumbing Fixtures

CERTIFICATION COUNCILS

Fig-4: Certification Councils

SURVEY ON AWARENESS OF GREEN BUILDINGS IN THE SOCIETY:

Which of the following is not the purpose of a green building?

95 responses

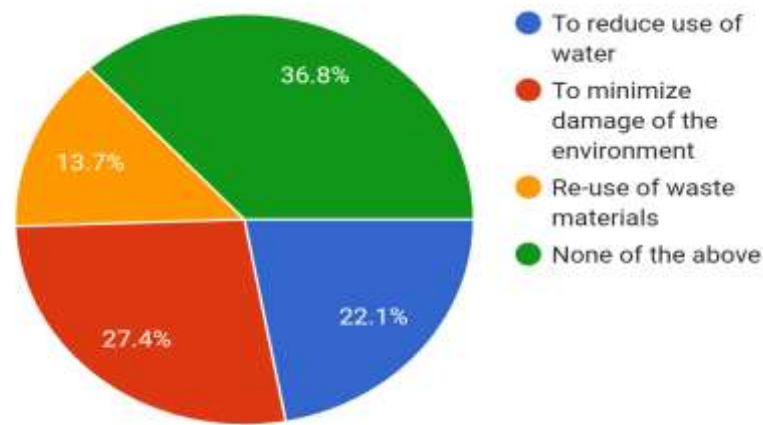


Fig-5: Survey of green building

Why is green building so important especially today

98 responses

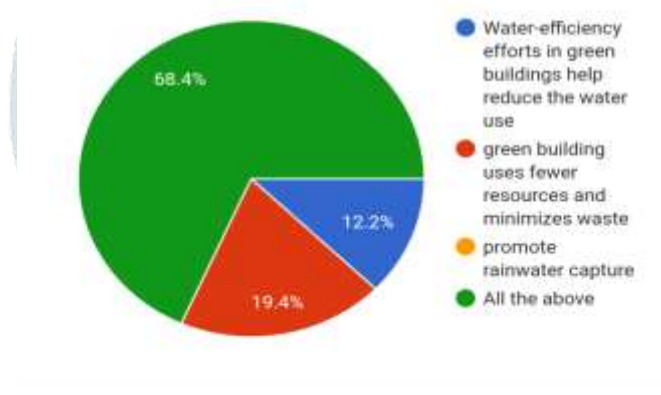


Fig-6: Importance of green Building

CONCLUSIONS:

The aim of the project was to understand concept of plan and design green building

- That has been achieved by studying different green technologies for buildings.
- In these buildings construction for ecofriendly construction materials can be known.
- Nontoxic “VOC” paints used in green buildings finishing can be studied
- Water management system is efficient in green buildings and recycled water can be used
- Rain water can be harvested and it can be used for ground level increases.
- Study on literatures for the green building.
- Green building certification councils and rating systems are studied.
- Understand the Case studies on green buildings in India

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