Online at: https://researchtrendsjournal.com **ISSN No:** 2584-282X

INTERNATIONAL JOURNAL OF TRENDS IN EMERGING RESEARCH AND DEVELOPMENT

Volume 2; Issue 6; 2024; Page No. 273-279

(Special Issue)
"National Conference on Design Futures 2024"

Eco-friendly decorating styles in residential houses

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DOI: https://doi.org/10.5281/zenodo.14670762

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Abstract

The area of research on eco-friendly decorating styles in residential houses focuses on sustainable design practices that reduce environmental impact while enhancing the aesthetics & functional aspects of homes. This includes the use of renewable, recycled, & natural materials; implementing energy conservation measures; improving indoor air quality; & integrating biophilic design elements. The research aims to create living spaces that promote health & well-being, are economically viable & foster a stronger connection with nature. Eco-Friendly decorating styles in residential houses focuses on using sustainable materials, energy-efficient Products, & design Principles that minimize environmental impact. This includes incorporating natural, renewable materials like bamboo, reclaimed wood & cork, & non-toxic finishes to improve indoor air quality. The overall aesthetic tends to favour a minimalist, functional approach, often with earthy tones & plenty of natural light.

Keywords: Biophilic design, sustainable materials, energy efficiency, aesthetic appeal, upcycling

Introduction

Eco-friendly decorating styles in residential houses have become increasingly important in recent years as more people recognize the need to reduce their environmental footprint. These decorating styles incorporate sustainable materials, energy-efficient products, and practices that minimize waste and promote a healthier living environment. The importance of this topic lies in its potential to significantly impact both the planet and personal well-being by fostering sustainable living habits. Current research in this area focuses on the use of sustainable materials like bamboo and recycled glass, energy-efficient lighting and appliances, and biophilic design elements that bring nature indoors. Research methodologies often involve case studies, surveys, and experimental designs to assess the effectiveness and impact of various eco-friendly decorating practices. By adopting these approaches, homeowners can create aesthetically pleasing, functional, and sustainable living spaces that contribute to a healthier planet and improved quality of life.

Materials and Methods

Creating eco-friendly decorating styles in residential houses involves using sustainable materials and implementing energy-efficient methods. Here are some key materials and methods:

Materials

1. **Sustainable Materials:** Research often involves studying materials like bamboo, reclaimed wood, recycled glass, and natural fibres (e.g., organic cotton, wool, hemp).
2. **Energy Efficient:** This includes energy-efficient lighting (LEDs), appliances, and insulation materials that reduce energy consumption.
3. **Biophilic Elements:** Natural elements such as plants, natural light, and water features are also considered for their impact on well-being and sustainability.
4. **Low-VOC Products:** Paints and finishes with low volatile organic compounds (VOCs) are studied for their health benefits and reduced environmental impact.

Methods

1. **Literature Review:** Comprehensive reviews of existing research to identify trends, gaps, and best practices in eco-friendly decorating.
2. **Case Studies:** Analysis of real-world examples where eco-friendly decorating styles have been implemented.
3. **Surveys & Questionnaires:** Collecting data from homeowners and designers to understand preferences, challenges, and outcomes of sustainable practices.
4. **Experimental Designs:** Conducting experiments to test the effectiveness of different materials and methods in real-life settings.
5. **Systematic Reviews:** Using structured methodologies to synthesize research findings and develop actionable standards for sustainable interior design.

Analysis

1. **Quantitative Analysis:** Statistical methods to analyses data from surveys, experiments, and case studies, identifying patterns and correlations.
2. **Qualitative Analysis:** Thematic analysis of interview transcripts and open-ended survey responses to understand the subjective experiences and perceptions of participants.
3. **Cost-Benefit Analysis:** Evaluating the financial implications of eco-friendly decorating, including upfront costs, long-term savings, and return on investment.
4. **Environmental Impact Assessment:** Measuring the environmental benefits of sustainable practices, such as reduced carbon footprint and resource conservation.

Literature Review-Case study

Case Study 1: A Home in Ghaziabad That Works with Nature

Designed by Conarch Architects

The case study "A Home in Ghaziabad That Works With Nature," by Raghava Architects, is an exemplary model of sustainable architecture. It showcases how modern design can harmonize with natural elements to create an environmentally friendly and efficient living space.

Inferences from the Case Study

Architectural Design: The home in Ghaziabad is designed to integrate seamlessly with the natural landscape. The architects have employed various techniques and materials to ensure the structure does not dominate its surroundings but rather complements them. Key elements of the design include:

- **Natural Materials:** Using locally sourced materials reduces the carbon footprint associated with transportation and promotes the use of sustainable resources.
- **Open Spaces:** The design incorporates open spaces that allow natural light and air to flow through the house, reducing the need for artificial lighting and air conditioning.

Sustainability Features: The home is equipped with several sustainability features that help reduce its environmental impact:

- **Rainwater Harvesting:** The home has a rainwater harvesting system that collects and stores rainwater for use in irrigation and other non-potable applications.
- **Solar Panels:** Solar panels installed on the roof provide a significant portion of the home's energy needs, reducing reliance on non-renewable energy sources.
- **Insulation:** High-quality insulation materials are used to maintain indoor temperatures, reducing the need for heating and cooling.

Energy Efficiency: Energy efficiency is a core aspect of the home's design:

- **LED Lighting:** Energy-efficient LED lighting is used throughout the home.
- **Energy-Efficient Appliances:** The home is equipped with energy-efficient appliances that consume less power and contribute to overall energy savings.

Water Conservation: The home employs several strategies to conserve water.

- **Low-Flow Fixtures:** Water-efficient fixtures and appliances help reduce water usage.
- **Greywater Recycling:** A greywater recycling system reuses water from sinks and showers for irrigation.

Community and Social Aspects: The design of the home also emphasizes community and social interactions:

- **Shared Spaces:** Common areas are designed to encourage social interaction among residents.
- **Green Spaces:** The home features ample green spaces that provide a serene environment and promote mental well-being.

Case Study 2: A Charming Guwahati Home Ushers in Nature Designed by Krittika Agarwal Architect From Safe Design Studio This case study showcases a beautifully designed home in Guwahati, Assam, that embraces the natural environment around it. This home epitomizes the seamless blend of modern architecture with nature. The design not only focuses on aesthetics but also emphasizes sustainability, energy efficiency, and harmonious living.

Inferences from the Case Study Architectural Design

- **Integration with Nature:** The home is designed to coexist with its natural surroundings. Large windows, open spaces, and strategically placed greenery ensure that the residents are always connected to nature.
- **Use of Local Materials:** The use of locally sourced materials minimizes the carbon footprint and supports the local economy. Materials such as bamboo, local stone, and reclaimed wood are prominently used.
- **Open Plan Layout:** The open plan layout facilitates natural ventilation and lighting, reducing the need for artificial air conditioning and lighting.

Sustainability Features

- **Eco-Friendly Materials:** Sustainable materials are used throughout the home, including recycled wood, low-VOC paints, and natural fibres for furnishings.
- **Green Roofing:** The home features a green roof, which helps in insulating the building, managing stormwater, and providing a habitat for wildlife.

- **Rainwater Harvesting:** A rainwater harvesting system collects and stores rainwater, which is then used for gardening and other non-potable uses.
- **Solar Energy:** Solar panels are installed to harness renewable energy, significantly reducing the home's reliance on the grid.

Energy Efficiency

- **Natural Lighting:** The home is designed to maximize natural light. Skylights, large windows, and open spaces ensure that the interiors are well-lit during the day.
- **Energy-Efficient Appliances:** The use of energy-efficient appliances helps in reducing energy consumption without compromising on comfort.
- **LED Lighting:** Energy-efficient LED lighting is used throughout the home, further reducing energy consumption.

Water Conservation

- **Low-Flow Fixtures:** Water-saving fixtures are installed in bathrooms and kitchens to reduce water usage.
- **Greywater Recycling:** The home incorporates a greywater recycling system, which reuses water from sinks and showers for irrigation purposes.

Community and Social Aspects

- **Shared Spaces:** The home features shared spaces like community gardens and courtyards, which foster a sense of community among residents.
- **Green Areas:** Ample green spaces and gardens provide a tranquil environment and promote mental well-being.
- **Cultural Integration:** The design reflects the local culture and traditions, making the home a part of the community's identity.

Research Paper Summaries

Research Paper: Sustainable Environment In Interior Design: Design By Choosing Sustainable Materials

- Effectiveness of design topics concerning reducing the negative impact on the natural environment.
- Reducing the economic consequences and the performance effects of internal spaces within the building.
- Achieving considerations related to measures of the quality of the inner spaces and their effect on psychological and physical comfort.

Research Paper: Environmentally Sustainable Interior Design: A snapshot of Current Supply of & Demand for Green, Sustainable or Fair-Trade Products for Interior Design Practice

- It highlights the importance of using eco-friendly materials like bamboo, recycled glass, and repurposed wood to reduce environmental impact.
- Incorporating natural elements into interior spaces to improve well-being and connection to nature.
- The research discusses energy-efficient design strategies such as daylighting, efficient lighting, and passive heating and cooling.

Stakeholders in Karnataka

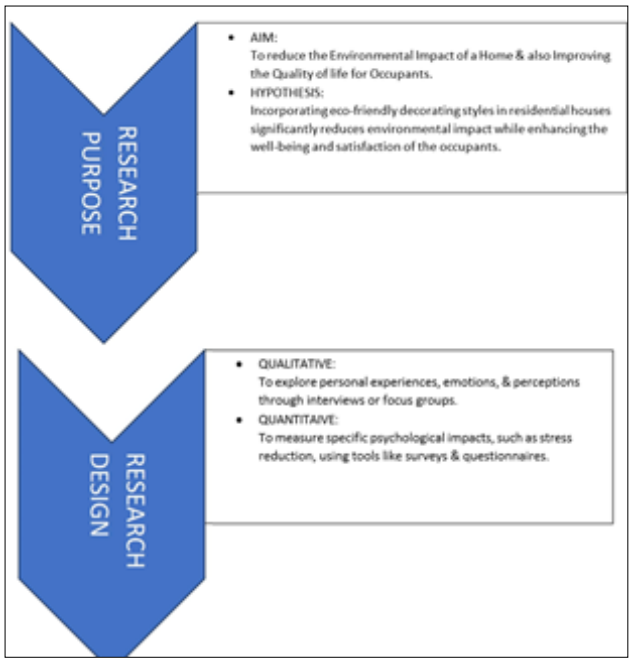
Stakeholders are important in a research proposal because they offer useful advice, resources, & help to make sure that the research is practical & relevant. Their support also helps to make sure that the research is successful & can be used in real-world situations.

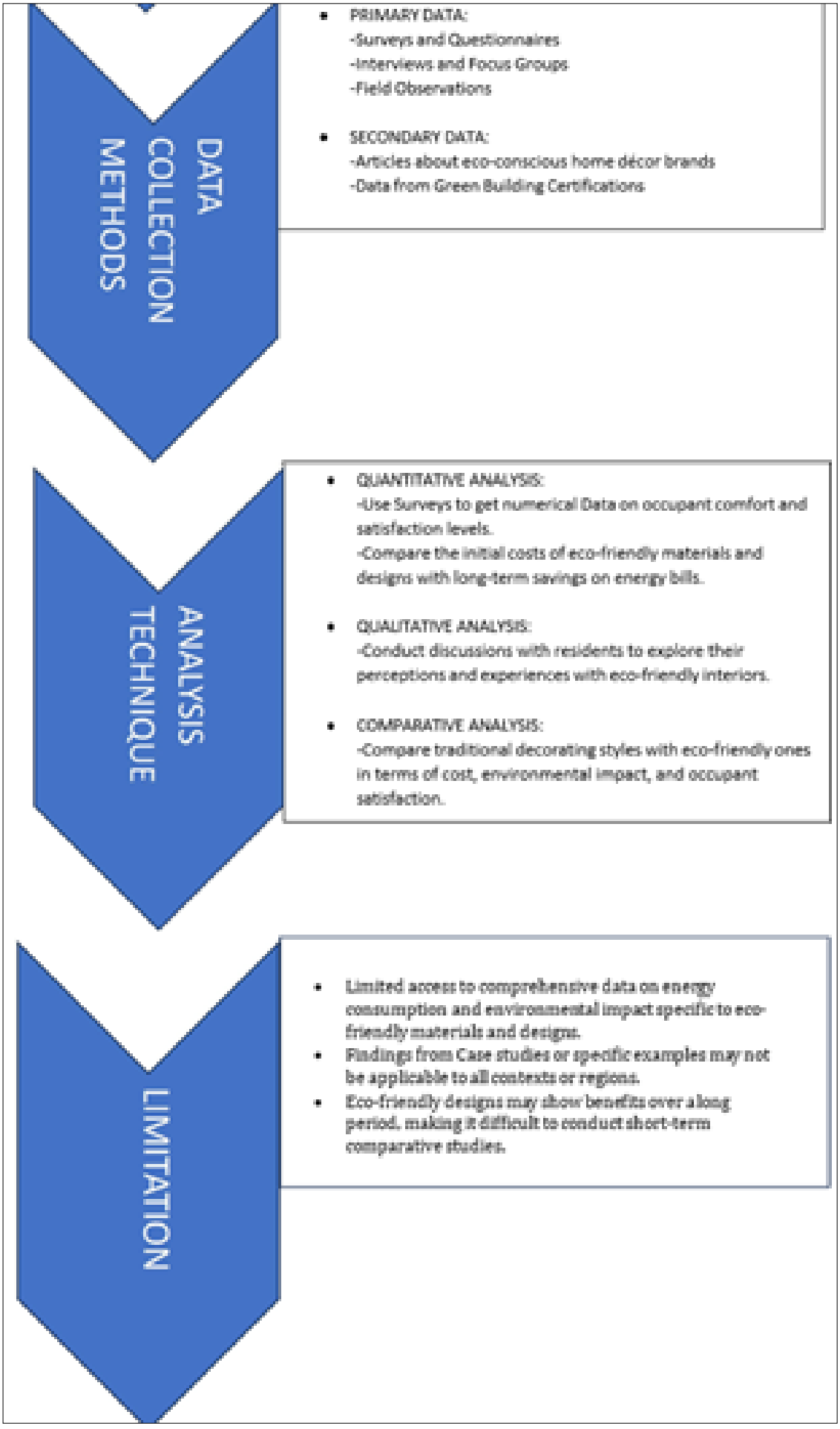
IGBC (Indian Green Building Council): This organization promotes sustainable building practices and provides green certifications for eco-friendly buildings.

Karnataka State Council for Science and Technology (KSCST): They support research and development in sustainable architecture and technologies.

By engaging these stakeholders, the research could gain depth & practical relevance to encourage and implement eco-friendly decorating styles and sustainable living practices in residential houses across Karnataka.

Research Methodology




DATA COLLECTION METHODS
PRIMARY DATA:
-Surveys and Questionnaires
-Interviews and Focus Groups
-Field Observations
SECONDARY DATA:
-Articles about eco-conscious home décor brands
-Data from Green Building Certifications
ANALYSIS TECHNIQUE
QUANTITATIVE ANALYSIS:
-Use Surveys to get numerical Data on occupant comfort and satisfaction levels.
-Compare the initial costs of eco-friendly materials and designs with long-term savings on energy bills.
QUALITATIVE ANALYSIS:
-Conduct discussions with residents to explore their perceptions and experiences with eco-friendly interiors.
COMPARATIVE ANALYSIS:
-Compare traditional decorating styles with eco-friendly ones in terms of cost, environmental impact, and occupant satisfaction.
LIMITATION
Limited access to comprehensive data on energy consumption and environmental impact specific to eco-friendly materials and designs.
Findings from Case studies or specific examples may not be applicable to all contexts or regions.
Eco-friendly designs may show benefits over a long period, making it difficult to conduct short-term comparative studies.

Results and Discussion

Survey Inferences: Graphical Representation

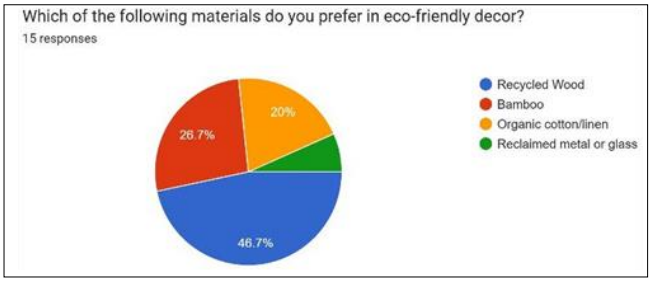


Fig 1: This chart reveals that recycled wood is the most popular choice among the respondents for eco- friendly decor, followed by bamboo, organic cotton/linen, and reclaimed metal or glass. It provides valuable insights into sustainable material preferences.

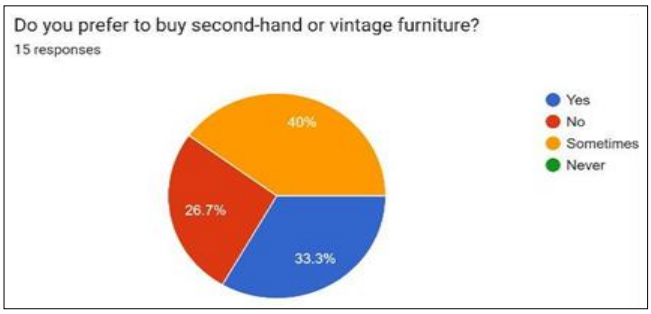


Fig 2: From this pie chart, we can see that the majority of respondents (40%) sometimes prefer to buy second-hand or vintage furniture. This suggests a significant interest in second-hand or vintage furniture, with a smaller percentage consistently favoring it (33.3%) and an even smaller percentage (26.7%) not preferring it at all.

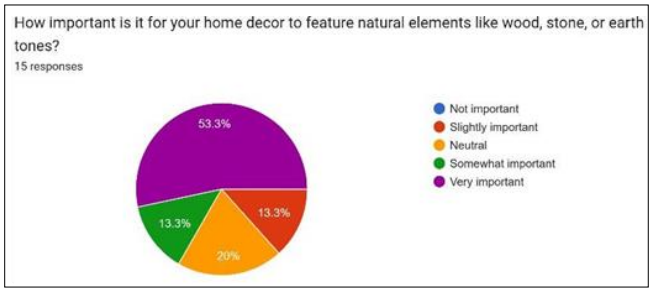


Fig 3: There are five segments in the chart representing different levels of importance: "Very important" (53.3%, purple), "Somewhat important" (13.3%, green), "Neutral" (20%, yellow), and "Slightly important" (13.3%, orange). The largest portion of respondents prioritizes natural elements in their home decor, reflecting a strong preference for integrating nature-inspired materials and colors into their living spaces. This chart suggests that the majority of respondents (53.3%) consider it very important for their home decor to feature natural elements like wood, stone, or earth tones.

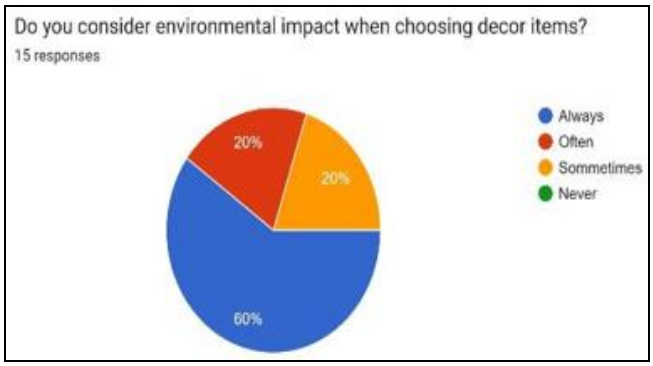


Fig 4: The pie chart illustrates responses to the question, "Do you consider environmental impact when choosing decor items?" Among the 15 respondents, 60% (blue) always consider environmental impact, while 20% (orange) sometimes do, and another 20% (red) often do. Notably, there are no respondents who never consider environmental impact, highlighting a strong tendency towards eco-conscious choices in decor.

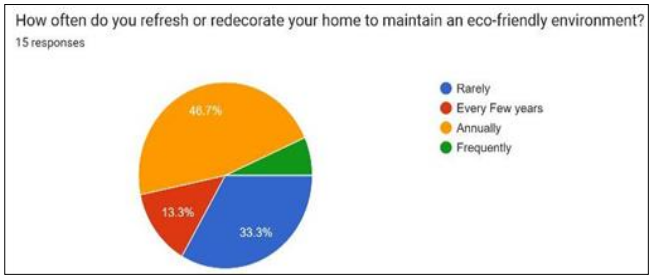


Fig 5: The pie chart illustrates how often 15 respondents refresh or redecorate their homes to maintain an eco-friendly environment. The segments show that 46.7% (orange) do it annually, 33.3% (blue) rarely, 13.3% (red) every few years, and 6.7% (green) frequently. The largest group updates their homes annually, indicating a strong commitment to maintaining eco-friendly spaces.

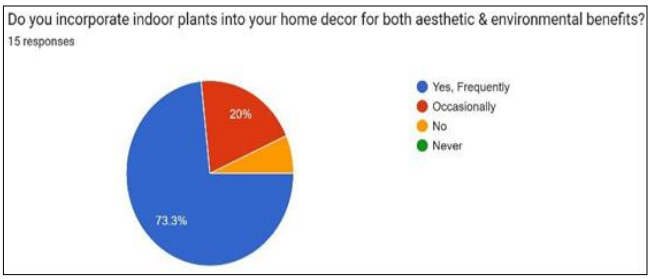


Fig 6: The pie chart illustrates the responses to the question, "Do you incorporate indoor plants into your home decor for both aesthetic and environmental benefits?" Out of 15 respondents, 73.3% (blue) frequently use indoor plants, 20% (red) do so occasionally, 6.7% (yellow) do not incorporate them, and 0% (green) never use them. This highlights the popularity and appreciation of indoor plants for their aesthetic and environmental benefits among the majority of respondents.

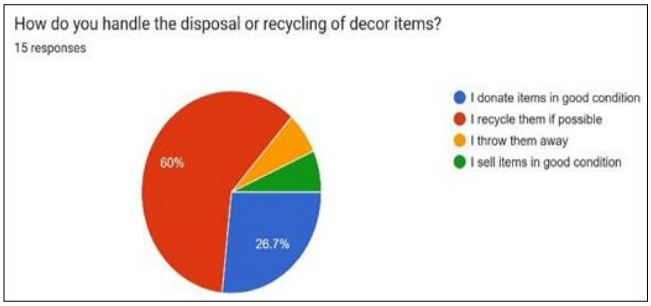


Fig 7: The pie chart illustrates the responses to the question, "How do you handle the disposal or recycling of decor items?" Among 15 respondents, 60% (red) recycle decor items, 26.7% (blue) donate them if they are in good condition, a smaller portion (green) sells them, and a few (yellow) throw them away. This chart indicates a strong preference for recycling and donating decor items over discarding them.

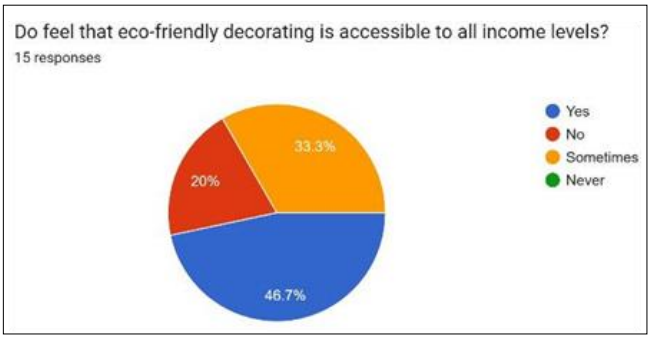


Fig 8: The pie chart shows responses to the question, "Do you feel that eco-friendly decorating is accessible to all income levels?" With 15 respondents, the chart reveals that 46.7% (blue) believe it is accessible, 33.3% (orange) think it is sometimes accessible, and 20% (red) feel it is not accessible at all. This indicates a mix of opinions, with nearly half of the respondents finding eco-friendly decorating accessible to various income levels.

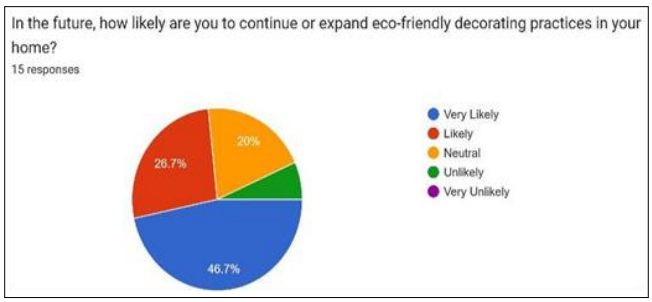


Fig 9: The pie chart displays the likelihood of respondents continuing or expanding eco-friendly decorating practices in their homes. Among 15 respondents, 46.7% (blue) are "Very Likely" to adopt these practices, 26.7% (red) are "Very Unlikely," 20% (orange) are "Likely," and 6.7% (green) are "Neutral." Notably, there are no "Unlikely" responses. This indicates a strong inclination towards eco-friendly decorating among the majority of respondents.

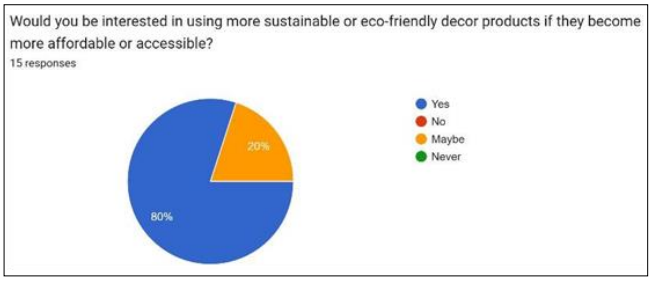


Fig 10: The pie chart illustrates the responses to the question, "Would you be interested in using more sustainable or eco-friendly decor products if they become more affordable or accessible?" Out of 15 respondents, 80% (blue) answered "Yes," expressing strong interest, while 20% (orange) answered "No," indicating a smaller portion not interested. This highlights a significant inclination towards sustainable decor if it becomes more affordable or accessible.

Result Interpretation

This survey show that a majority of respondents are interested in sustainable home decorating styles but face challenges such as higher costs or lack of availability of eco-friendly materials. It shows a growing trend of eco-conscious consumers, but also highlight a market gap in affordable and accessible eco- friendly home decor options. There may also be opportunities for businesses to educate consumers on the long-term benefits of eco-friendly choices (e.g., durability, energy savings).

Discussion

Area of Research: Sustainable Design Practices

Benefits

a. It will Reduce Environmental Impact.
b. Health & Well- Being.
c. Economically Viable.

Its Uses

a. Use of Renewable, Recycled, & Natural Materials.
b. Implementing Energy Conservation Measures.
c. Improve Indoor Air Quality.
d. Integrating Biophilic Design Elements.

Material Application

a. It Includes use of Renewable materials like Bamboo, Reclaimed Wood, Cork, Non-toxic Finishes to improve indoor air quality.
b. Colou Qr Palette: Earthy Tones.
c. Light Source: More of Natural Light, & Bright Light.

Which Style in Interior Matches Eco- Friendly Design Practices?

a. Shabby Chic Decorating Style.
b. Biophilic Design
c. Bohemian

Where we can apply the eco-friendly materials which are related to Biophilic Design?

a. In the Floors
b. On the Walls
c. On the Ceilings
d. Furniture Finishes, & Furniture Fabrics.

Methods & Analysis

a. Experimental Design
b. Qualitative Analysis
c. Cost Benefit Analysis
d. Environmental Impact.

Conclusion

The surveys conducted on eco-friendly decorating styles in residential houses reveal several key insights. The majority of respondents show a strong preference for incorporating natural elements like wood, stone, and earth tones into their home decor. There's a notable inclination towards using indoor plants, valued for both their aesthetic appeal and environmental benefits.

A significant portion of respondents are committed to recycling and donating decor items, reflecting a sustainable approach to home decoration. While opinions vary, many believe that eco-friendly decorating practices can be accessible to different income levels, highlighting the importance of affordability in promoting sustainable choices.

Overall, the findings suggest a growing trend towards eco-friendly decorating, with many respondents indicating a high likelihood of continuing or expanding these practices. The surveys underscore the positive reception and increasing popularity of sustainable decor options among homeowners.

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