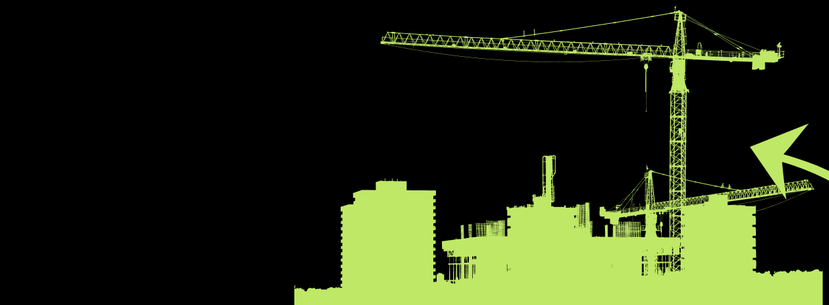
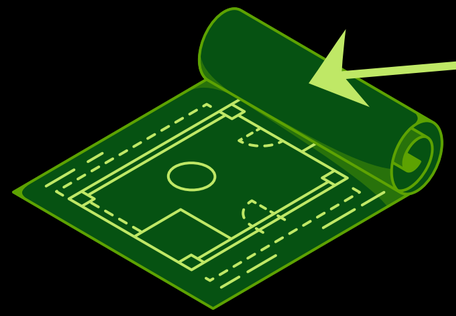
Bridging the Knowledge Gaps in Sustainable Construction: A Study of Stakeholder Perspectives in Hyderabad Real Estate Sector

By Prabhav Dabriwal

Agenda





Background of the Study

This study investigates knowledge gaps in sustainability among key stakeholders in Hyderabad's real estate sector. A survey of builders, developers, and consumers explores their understanding of sustainability and its importance in real estate purchases, aiming to identify differences in awareness between these groups.

This paper aims to critically explore the following research objectives:

- Assess the understanding of sustainability among various stakeholders in Hyderabad, Telangana.
- Examine the extent to which consumers consider sustainability as a key factor influencing their decision when purchasing real estate properties.
- Identify the relative knowledge gaps and differences in understanding sustainability between different stakeholders.

Past Research

Sustainability and Sustainable Development Goals

- The implementation of the UN Sustainable Development Goals (SDGs) faces challenges due to misalignment with national priorities, poor coordination, weak leadership, and inadequate financing.

- Many Fortune Global Top 500 companies align existing practices with SDGs but lack concrete strategies or tools to measure progress, with European firms leading in SDG engagement.

- Strong governance and public awareness are critical for SDG success, with countries like Denmark excelling, while India struggles with health and environmental sustainability.

Sustainability in Construction

- Sustainability in construction, integrating economic, environmental, and social dimensions, has gained attention since the 1987 Brundtland Declaration, with initiatives like LEED (1998) and the Indian Green Building Council (2004) promoting green practices.

- The sustainable construction market, valued at $476.19 billion in 2023, is growing at 9.64% annually, with Europe leading the market; 75% of organizations are increasing sustainability investments.

- Despite progress, construction remains the third-largest polluting industry, facing challenges such as high costs, limited eco-friendly materials, lack of awareness, and inadequate industry-wide commitment to low-carbon strategies.

Past Research

The role of consumers in promoting sustainability in construction

- Building owners' choices during construction significantly affect energy use, resource consumption, and disposal, making consumer attitudes and understanding crucial for sustainable development.
- A 2023 YouGov study highlights key barriers to adopting sustainable lifestyles, including cost (62%), lack of interest (58%), and insufficient information (50%), with consumer understanding of sustainability being highly subjective.
- A survey was conducted to assess consumer knowledge and motivations about sustainable building products, aiming to improve communication strategies and better align industry practices with consumer expectations.

The Indian Government and its role in promoting sustainability

- The global sustainability movement began with the 1987 Brundtland Declaration and saw key milestones like the 1992 Rio Earth Summit, the 2000 Millennium Development Goals, and the 2015 Paris Agreement, with India initiating efforts in 2008 through the National Action Plan on Climate Change (NAPCC).
- By 2024, sustainability is increasingly integrated into India's corporate and governmental strategies through ESG practices and alignment with the SDGs, but the country remains behind on key indicators such as access to basic services and child health.
- Despite Hyderabad's rapid urban growth, it ranks 11th in Niti Aayog's SDG India Index, facing significant sustainability challenges in construction and architecture amidst booming development.

Methodology

The methodology aimed to understand how different stakeholders—builders, engineers, architects, and consumers—perceive and implement sustainability in construction. A quantitative online survey was used to assess the knowledge and attitudes of both producers (builders, architects, engineers, and real estate employees) and consumers in Hyderabad.

Two tailored questionnaires were created: one for producers, which included a section on their perception of consumer knowledge, and another for consumers. These responses were compared to identify knowledge gaps.

Both surveys covered demographics, construction experience, sustainability knowledge, implementation, and marketing strategies. Distributed via Telegram, WhatsApp, and LinkedIn, the data was analyzed using Excel and DataTab for hypothesis testing.

Section 1 - Demographics

#	Question	Answers Provided in the Questionnaire
1	What is your name ?	-
2	To which age group do you belong ?	<18; 18–27; 28–40; 41–60; >60
3	What is your educational qualification?	High school Graduate; Undergraduate; Post Graduate; Above Post Graduation
4	What is your present occupation?	-

Additional Questions for Only Producers

5	Do you have any experience in the construction industry, if so what kind?	Yes, via an internship ; Yes, via higher educational studies ; Yes, via my profession ; Yes, via a real estate purchase ; No, no experience so far
6	How many years of experience do you have in the construction industry?	0 to 3 ; 4 to 6 ; 7 to 9 ; 10 + years
7	What kind of construction projects have you worked?	Residential ; Commercial ; Both
8	Do you have any experience in the field of sustainable architecture and construction, if so what kind ?	Yes, via an internship ; Yes, via higher educational studies ; Yes, via my profession ; Yes, via a real estate purchase ; No, no experience so far
9	How many years of experience do you have in the sustainability industry?	0 to 3 ; 4 to 6 ; 7 to 9 ; 10 + years

Section 2 - Understanding of Sustainability

10	What do you perceive as sustainability ?	Open Ended Short Answers
11	Do you consider the sustainability of products in your daily life?	Always—Never.
12	In what kind of products do you look for sustainability ?	Open Ended Short Answers
13	Do you care about sustainability when buying/creating a real estate property?	Always—Never.
14	Are you well informed about sustainability and green buildings?	Highly Aware – Not at all Aware
15	Do you believe sustainability influences your decision when buying a real estate property?	Always—Never.
16	Which of the following green building certifications are you aware of?	LEED ; BREEAM ; VinylPlus ; Cradle to Cradle ; IGBC ; None
17	What do you understand by the words "sustainable building"? (Rank in order of Relevance)	Green/Recycled construction material; Energy efficiency ; Cost saving construction ; Water Efficiency (Rain Water Harvesting) ; Waste Management
18	What do you understand by "energy management" in a property? (Rank in order of Relevance)	Energy Saving through improved construction processes ; Sourcing energy from Renewable Sources ; Use of LEDs, energy efficient lamps and appliances ; Maximise natural lighting and cooling systems
19	What do you understand by "water management" in a property ? (Rank in order of Relevance)	Permeable pavements ; Rainwater Harvesting ; Green roofs ; Rain Gardens ; Maintaining site topography
20	Which criteria is most important when buying / planning a property ? (Rank in order of Relevance)	Sustainability ; Facilities ; Price ; Location
21	Which of the following features are/were present in projects you have seen/bought?	Storm and Rain Water Management ; Waste Manager and reduction ; Energy Management through improv construction site processes and renewable energy sou ; Maximum utility of natural lighting and cooling syst Green roofs and rain garden ; Health and Safety Performance
22	What do you think prevents you from buying sustainable properties / adding sustainability to a property?	Restrictions on expenditure and reluctance to incu higher capital cost when needed ; Lack of understand awareness or clarity ; Insufficient Information ; insufficient/inconsistent policies ; Lack of incentives commitment by leadership
23	In which of the following stages are you likely / integrate to choose sustainability?	Purchase Of Land ; Purchase Of Land ; Building Desi Final Structure ; Interiors

ection 2.5 – ONLY FOR PRODUCERS

24	Do you believe customers care about sustainability when buying a property?	Always - Never
25	What percentage of consumers do you believe, are looking for sustainability?	0 to 5 % ; 6 to 10% ; 11% to 20% ; 21% to 30% ; 31% to 5 50% and above
26	Are consumers well informed about sustainability and green properties?	Highly Aware – Not At All Aware

ection 3 – Preferred Marketing Tools

27	Which attribute is most likely to indicate to you that sustainability criteria are being fulfilled?	Certificates/ Labels ; Appearance and design ; Detail product information by builder
28	What are your preferred marketing tools when buying a piece of real estate?	Social Media ; Articles and Magazine ; Info Events a Trade Fairs ; Face to Face meeting with the builder Advertisements ; Personal Networks
29	Do you think green buildings are good for economic growth ?	Strongly Agree – Strongly Disagree
30	Why would you buy a sustainable property?	Tax Breaks ; Product appeal ; Environmental protecti Energy Efficiency/Cost Saving ; Regulations

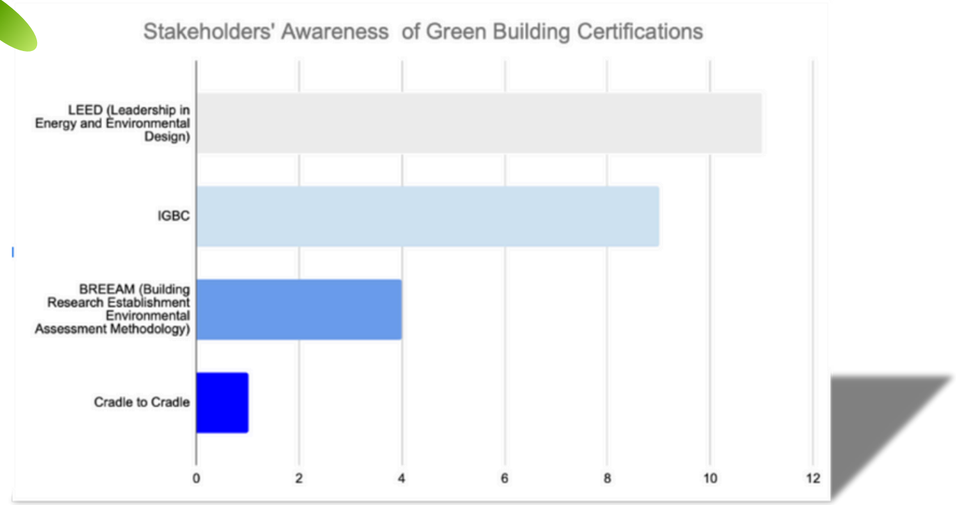
Analysis

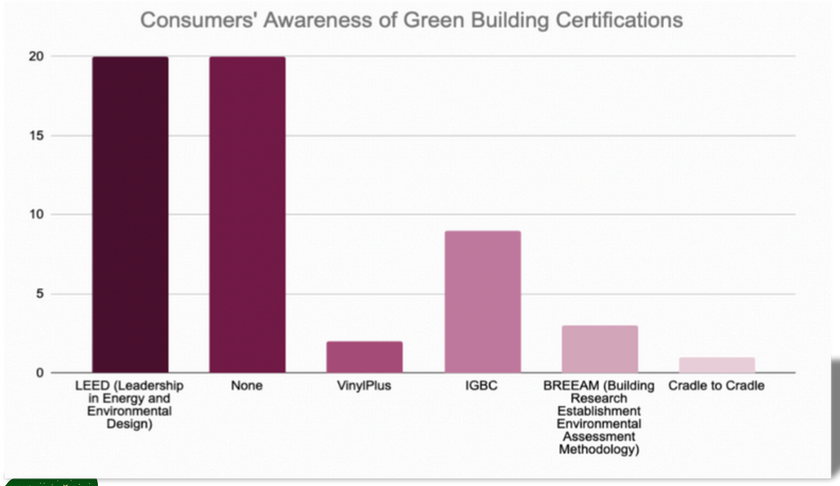
By the end of August 2024, 46 people participated in the consumer survey, with 59.6% female and 40.4% male. Most respondents (63%) were aged 41-60, 28.5% were over 60, 6.1% were 28-40, and 2.04% were 18-27. Those under 18 were excluded due to their lack of legal business decision-making rights. In terms of education, 43% held undergraduate degrees, 39% had postgraduate degrees, 12% were high school graduates, and 6% had higher-level qualifications.

The developer survey conducted in August 2024 had 19 participants, predominantly male (94.7%) and aged between 41-60 years (63.2%). Most respondents held undergraduate (57.9%) or postgraduate degrees (36.8%), with the majority (89.5%) having over 10 years of experience in the construction industry. Around 68.4% had experience in both residential and commercial construction, while 47.4% had direct experience with sustainable architecture, and 42.1% had no such experience. Only 5.3% learned about sustainable architecture through higher education.

A Chi-square test revealed no significant correlations between age, gender, or educational background, and the personal relevance of sustainability.

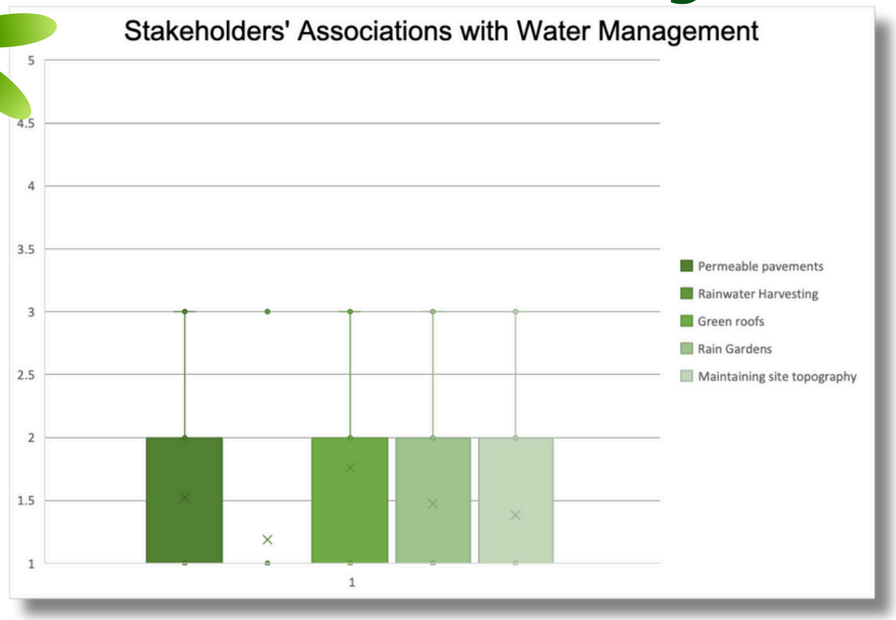
Analysis And Discussion

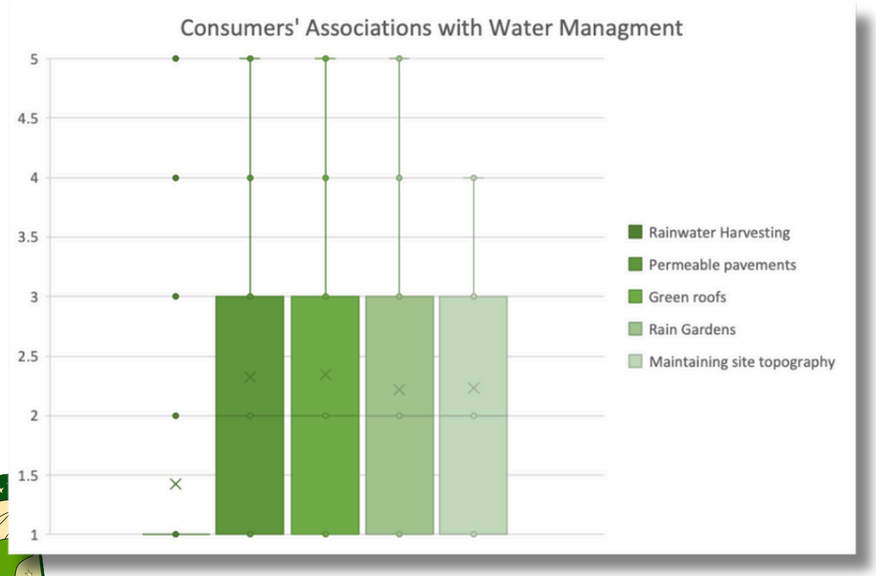




- A significant gap exists between consumers and developers in Hyderabad regarding sustainability knowledge, with 43.5% of consumers unaware of key green building certifications like LEED and IGBC.
- All real estate developers surveyed were familiar with at least one certification, demonstrating their industry expertise in sustainable construction.
- This consumer knowledge gap contributes to a lack of regulation in the construction sector, reflecting broader challenges in sustainability awareness and adoption.

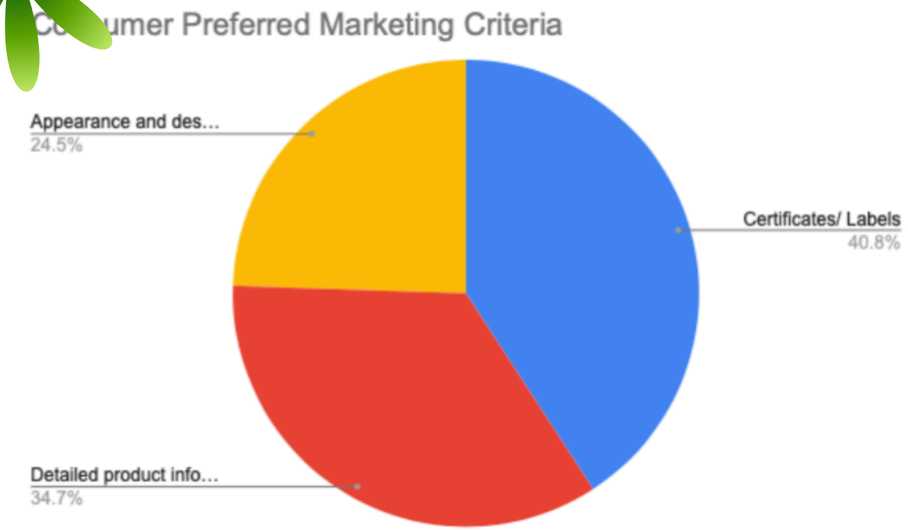
Analysis And Discussion

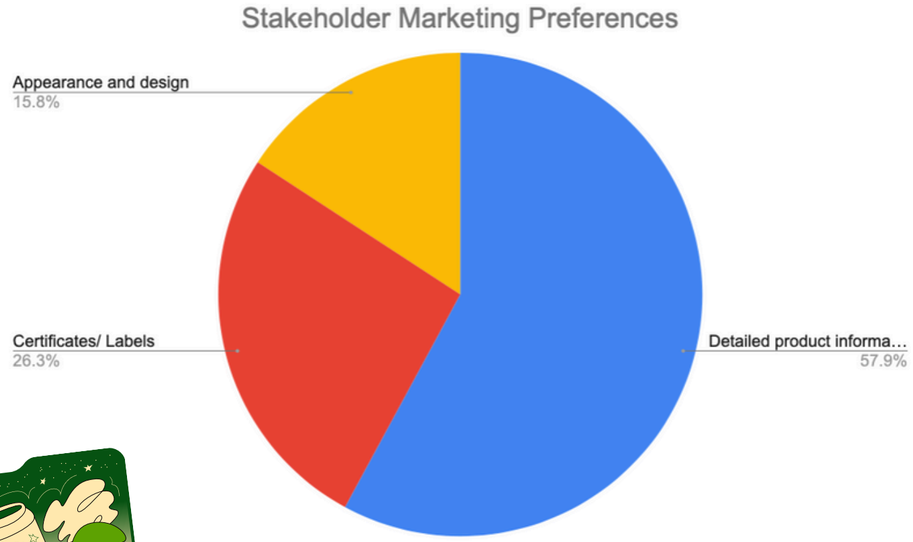




- Both consumers and developers recognize the relevance of sustainability in "Sustainable Real Estate," rating criteria like Green/Recycled Construction Material and Energy Efficiency similarly, indicating a shared acknowledgment of its importance despite knowledge gaps.
- While consumers rated Rainwater Harvesting as highly relevant, they lacked understanding of associated techniques like "Maintaining Site Topography" and "Permeable Pavements," highlighting a significant knowledge gap compared to developers.
- Both groups demonstrated similar awareness of energy efficiency, with a small margin of error (0.5), reinforcing the idea that energy-saving is a shared priority in sustainability discussions.

Analysis And Discussion





- Both consumers and developers shared similar views on sustainability, but consumers lacked understanding of certain techniques like "Maintaining Site Topography" in rainwater harvesting, while developers had a better grasp.
- A gap emerged in marketing preferences: consumers prioritized "Certificates/Labels" (40.8%), while developers focused on "Detailed Product Information" (54.65%), underestimating the importance of certifications.
- Despite developers accurately predicting consumer preferences with a 5% margin of error, the mismatch in specific priorities like sustainability certifications shows room for better alignment.

Conclusion

In conclusion, this study highlights a general alignment between consumers and developers in Hyderabad regarding the relevance of sustainability in real estate, particularly in areas like energy efficiency and the use of green construction materials. However, a significant knowledge gap persists, especially in consumers' understanding of specific sustainable practices, such as rainwater harvesting methods like "Maintaining Site Topography" and "Permeable Pavements."

Additionally, while developers have a good overall grasp of consumer preferences, evidenced by an anticipated margin of error of 5%, there is a misalignment in marketing priorities. Consumers place more importance on sustainability certifications ("Certificates/Labels"), whereas developers focus more on providing "Detailed Product Information." These insights suggest that developers need to adjust their marketing strategies to better align with consumer expectations, particularly in promoting sustainability credentials.

Ultimately, bridging these gaps in both understanding and communication will be key to advancing sustainable construction practices and meeting consumer demand in rapidly growing urban centers like Hyderabad.

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it's time to take action!

Take a step to make a positive impact, by reducing our carbon footprint to supporting sustainable products.