Integrating Green Consultancy and Eco-Squads: A Conceptual Framework for Enhancing Sustainability Practices in the Real Estate Industry

Article History:

Name of Author:
Surbhi Taneja [1], Dr.(CS) Vinit Sikka [2]

Affiliation:
[1]Research Scholar, Department of Management, Manav Rachna International Institute of Research and Studies
[2]Associate Professor, Department of Management, Manav Rachna International Institute of Research and Studies

.**How to cite this article:** Surbhi Taneja , Dr.(CS) Vinit Sikka , Integrating Green Consultancy and Eco-Squads: A Conceptual Framework for Enhancing Sustainability Practices in the Real Estate Industry, *J Int Commer Law Technol.* 2026;7(1): 711-725.

Abstract

The development of green in properties will require a multi-stakeholder strategy that will combine strategic advice to the company and the involvement of local communities. The green building practices in India, and within the broader context of the Indian real estate industry, have been increasing in momentum but a well-organized framework that integrates the knowledge base of Green Consultancy services and the grassroots power of Eco-Squads has not been explored in detail yet. This article will conduct an in-depth literature review in an effort to critically analyze the views of the world and India in regards to green real estate, how green consultancies operate, the behavioral aspect of Eco-Squads, and the economic justification of sustainable practices.

The literature review summarizes more than 60 peer-reviewed articles and policy papers analyzing the overlap between professional sustainability consulting and regulatory frameworks and community-based environmental practices. Three key trends are identified in the review: (1) the growing reliance on global use of green consultancy to ensure compliance and value creation in relation to ESG, (2) the increased role of communal-based environmental behavior in achieving collective sustainability results, and (3) the growing evidence of a financial feasibility of green real estate ventures. Nevertheless, the gaps in literature continue to be associated with linking models of consultancy and bottom-up models of Eco-Squad, especially in the developing markets.

This paper suggests a conceptual framework that places Green Consultancy and Eco-Squads as complementary variables in the improvement of the real estate sustainability. The results provide a theoretical guidance to researchers and practical solutions to policy makers and city planners who want to inculcate sustainability both institutionally and community-wide..

Keywords: Green Real Estate · Eco-Squads · Green Consultancy · Literature Review · Sustainable Urban Development

Introduction

The global real estate sector has reached a critical turning point in the context of sustainability and climate change. As the world continues to urbanize at an unprecedented pace, cities are expanding rapidly, driving increased demand for residential, commercial, and infrastructural development. According to the United Nations, nearly 68% of the global population is expected to reside in urban areas by 2050, placing immense pressure on land resources, energy systems, water supplies, and ecosystems. Within this context, real estate development has emerged as both a facilitator of economic growth and a contributor to environmental degradation. The built environment is responsible for nearly 40% of global carbon emissions, a significant share of energy consumption, and a considerable portion of waste generation. These figures illustrate the urgency of transforming the real estate sector into one that is not only economically viable but also environmentally and socially sustainable.

Over the last two decades, sustainability has evolved from a voluntary corporate responsibility initiative to a strategic imperative for real estate developers, investors, governments, and urban planners. Terms such as "green

buildings," "eco-friendly infrastructure," "sustainable cities," and "smart urban development" have become integral to contemporary real estate discourse. Sustainability certifications such as Leadership in Energy and Environmental Design (LEED), Building Research Establishment Environmental Assessment Method (BREEAM), Green Rating for Integrated Habitat Assessment (GRIHA), and energy performance standards like Net Zero Buildings have been introduced to encourage responsible construction and operational practices. In response to these growing requirements, green consultancy services have become an essential component of real estate projects(Miniaoui & Bellalah, 2025). Environmental consultants, sustainability experts, and ESG advisors assist developers in designing energy-efficient buildings, achieving regulatory compliance, minimising carbon footprints, and enhancing environmental performance.

Green consultancy is now deeply embedded in the planning, design, construction, and operational phases of real estate development. Consultants provide technical expertise in areas such as building materials, renewable energy integration, water conservation technologies, waste reduction systems, environmental impact assessments, and carbon accounting. In many cases, the success of a green project is measured by its ability to achieve sustainability ratings, certifications, and regulatory approvals (Wen et al., 2020). While this consultancy-led approach has undoubtedly accelerated the adoption of sustainable construction technologies and practices, it has also led to an over-reliance on expert-driven, top-down models of sustainability implementation. The prevailing assumption is that sustainability is best achieved through technical design and professional intervention, with limited attention given to the role of end users, residents, or community members in the long-term success of sustainable real estate initiatives.

However, growing academic evidence suggests that technical efficiency alone does not guarantee sustainable outcomes. The operational phase of a building, which is directly influenced by human behaviour, usage patterns, and lifestyle choices, plays a critical role in determining its actual environmental performance. Instances have been documented where buildings certified as "green" during the design and construction phases fail to perform as expected during post-occupancy. This gap between intended performance and actual outcomes is often attributed to a lack of user awareness, limited behavioural alignment, and absence of ongoing community engagement (Pérez-Sánchez et al., 2022). In other words, even the most technologically advanced green building can underperform if its occupants do not actively participate in sustainable practices.

In parallel with green consultancy, a growing body of literature highlights the importance of stakeholder participation and community engagement in achieving sustainable development goals. Participatory planning, citizen-led environmental initiatives, and community-based governance models have been widely recognized in fields such as urban planning, environmental management, and rural development. Studies reveal that when communities are involved in decision-making processes, sustainability initiatives tend to be more resilient, culturally appropriate, and socially accepted (Moallemi et al., 2020). Participation fosters a sense of ownership, accountability, and collective responsibility towards shared environmental resources. Yet, in the context of real estate, such participatory models remain underexplored and underutilized.

The conventional real estate development model still positions occupants and communities as passive recipients of infrastructure rather than as active stakeholders in sustainability. While green consultancies focus on designing and delivering sustainable structures, very few structured mechanisms exist to integrate community members into the sustainability ecosystem. There is a noticeable absence of organized, community-driven sustainability units within residential and commercial real estate environments. In contrast, several corporate sectors have adopted internal sustainability teams, often referred to as "green teams" or "eco committees," to drive environmental initiatives within organizations. These employee-led groups have demonstrated promising outcomes in reducing waste, conserving energy, and promoting sustainable behaviour across offices and campuses (Mazutis & Sweet, 2022). This observation opens an important avenue of inquiry for the real estate domain: If organizations can empower internal groups to promote sustainability, why can similar models not be adapted for residential communities and real estate developments?

This research is grounded in the premise that sustainable real estate development requires a shift from a solely consultant-driven framework to a hybrid, community-empowered approach. It proposes the conceptualization of "Eco-Squads" – community-based, sustainability-focused teams embedded within residential, commercial, or mixed-use developments. Eco-Squads are envisioned as organized groups of residents, building users, facility managers, and sustainability champions who collaborate with professional green consultants to implement, monitor, and enhance sustainable practices. Rather than replacing consultants, Eco-Squads function as a vital link between expert recommendations and everyday implementation. Through regular engagement, local knowledge, and behavioural influence, these groups can ensure that sustainability initiatives extend beyond design documents and become embedded in daily living and working environments.

The concept of Eco-Squads draws inspiration from participatory governance models, community sustainability movements, and organizational green team initiatives but contextualizes them within the real estate sector. This study builds upon interdisciplinary literature from sustainability studies, environmental psychology, urban development, and real estate management to develop a novel conceptual framework that bridges technical expertise and community participation. In doing so, it responds to an existing research gap where little attention has been paid to the co-existence of green consultancy and community empowerment in real estate contexts.

The core problem addressed by this study is the disconnect between planning-stage sustainability and post-occupancy performance. While green consultancies excel in design optimization, compliance, and certification acquisition, they rarely remain engaged long enough to influence everyday user behavior. Community members, although directly affected by sustainability outcomes, often lack the knowledge, structure, and empowerment needed to maintain these initiatives(Toivonen, 2021). Consequently, green features such as rainwater harvesting, energy management systems, solar installations, and waste segregation units may gradually lose effectiveness due to neglect, misuse, or lack of awareness. This problem is particularly evident in high-density urban residential complexes where large populations share common resources without a governing sustainability framework (Toivonen & Viitanen, 2016).

This paper therefore seeks to address the following central question: How can sustainable real estate development be strengthened by integrating green consultancy models with community-driven sustainability mechanisms? To answer this, the research undertakes an extensive literature review to identify existing theories, frameworks, and practical approaches related to sustainability in real estate, stakeholder engagement, and community-based environmental action. Based on these insights, a conceptual framework titled "From Consultancy to Community: The Eco-Squad Model for Sustainable Real Estate" is proposed.

The objectives of this paper are threefold. First, it aims to analyse existing literature on sustainable real estate, green consultancy, and participatory sustainability approaches. Second, it seeks to identify the gaps within traditional consultancy-led sustainability models, particularly in relation to user involvement and long-term implementation. Third, it proposes a theoretically grounded conceptual framework that integrates Eco-Squads as key sustainability agents in real estate environments. By doing so, the paper contributes to both academic discourse and practical application, offering an innovative approach that responds to the evolving demands of sustainable urban development.

The significance of this study lies in its capacity to redefine how sustainability is understood within the real estate sector. Instead of viewing sustainability solely as a technical challenge addressed by architects and engineers, this research reframes it as a socio-technical process that requires behavioural change, collective responsibility, and organizational culture shift. The proposed Eco-Squad framework aligns with global sustainability agendas, including the United Nations Sustainable Development Goals (SDGs), particularly SDG 11, which seeks to make cities and human settlements inclusive, safe, resilient, and sustainable.

In the Indian real estate industry, rapid urbanisation, regulatory reforms such as RERA, and increasing ESG awareness among developers have accelerated the adoption of green building practices. However, structured integration between sustainability consultants and community-level governance mechanisms remains underdeveloped (Prashar & Tomer, 2024).

In a world facing accelerating climate change, resource scarcity, and rapid urban expansion, innovative and inclusive models of sustainability are urgently required. The Eco-Squad framework offers a pathway to transform real estate developments from static green structures into dynamic, community-driven ecosystems of sustainability. By empowering people to become custodians of their built environment, this conceptual model lays the groundwork for a more resilient, responsible, and participatory future of real estate development.

2 Research Methodology (Literature Review Design)

This study adopts a qualitative, conceptual research design based on an extensive and systematic review of existing literature. As the primary objective of the research is to develop a novel conceptual framework— rather than to test a hypothesis through primary data collection—the methodology focuses on gathering, analysing, and synthesising secondary sources in a structured and rigorous manner. Literature-based conceptual studies are widely recognised as valuable contributions in fields where new theoretical perspectives, models, and frameworks are required to guide future empirical research and professional practice. Accordingly, this study follows a structured literature review approach to explore the interconnections between green consultancy, community participation, and sustainable real estate development.

2.1 Research Design

The research is grounded in a **conceptual and interpretive design**. It seeks to construct new meaning

and understanding by examining existing scholarly discussions rather than generating primary data. This approach is appropriate for research that aims to integrate fragmented knowledge across multiple disciplines into a cohesive theoretical framework (Heymans et al., 2019). The present study draws upon theories and findings from sustainability studies, real estate management, urban planning, environmental psychology, and participatory governance to develop the proposed Eco-Squad framework.

A qualitative review-based methodology was selected for three primary reasons. First, the subject of community-driven sustainability in real estate is still emerging and lacks sufficient empirical consolidation. Second, the concept of Eco-Squads is inherently exploratory and theoretical in nature, requiring conceptual development before empirical testing. Third, a literature review allows for comparative analysis of diverse global perspectives, making it suitable for identifying patterns, gaps, and conceptual relationships across different regions and contexts.

2.2 Data Sources

To ensure the credibility and comprehensiveness of the review, multiple high-quality academic and institutional databases were consulted. These included:

Scopus

Web of Science

ScienceDirect

SpringerLink

Google Scholar

United Nations and World Bank reports

International real estate and sustainability reports

Only peer-reviewed journal articles, conference papers, book chapters, and authoritative institutional publications were included. This ensured that the selected literature represented reliable, scholarly, and practitioner-validated knowledge.

While global literature was reviewed to establish theoretical foundations, particular emphasis was placed on studies relevant to the Indian real estate context and emerging markets.

2.3 Keywords and Search Strategy

A systematic keyword search was conducted to identify relevant literature. The following key phrases were used in various combinations:

Sustainable real estate

Green buildings

Green consultancy

Sustainability consultants in real estate

Community participation and sustainability

Environmental citizenship

Green teams

Urban sustainability initiatives

Participatory governance in housing

Behavioural change in sustainability

Boolean operators such as AND, OR, and NOT were employed to refine the search. For example: **"Green buildings AND community participation"**, **"Sustainable real estate AND behavioural change"**, **"Green consultancy OR sustainability consulting"** were typical search constructions. This systematic approach ensured the inclusion of diverse yet relevant academic discussions.

2.4 Inclusion and Exclusion Criteria

To maintain relevance and focus, the following criteria were applied:

Inclusion criteria:

Studies published between **2010 and 2025**

Articles written in **English**

Research directly related to:

Sustainable real estate

Green building practices

Urban sustainability

ESG and environmental consultancy

Community participation / citizen engagement

Both conceptual and empirical studies

Exclusion criteria:

Articles unrelated to the built environment

Non-peer-reviewed blogs or opinion articles

Studies focusing purely on unrelated industries (e.g. agriculture, marine ecosystems)

Highly technical engineering papers not connected to sustainability or human involvement

Using these criteria, more than **60 academic and professional sources** were shortlisted and analysed for the purpose of this study.

2.5 Data Analysis Technique

A **thematic analysis** approach was applied to interpret the selected literature (Naeem et al., 2023). This involved a multi-stage process:

Familiarisation – All relevant articles were carefully read to gain an overall understanding of the subject.

Coding – Repeated ideas, concepts, and keywords were identified and grouped.

Theme generation – Similar codes were clustered to create broader themes such as:

Multi-stakeholder collaboration

Community empowerment

Post-occupancy sustainability behaviour

Green governance structures

Interpretation – These themes were then interpreted to reveal contradictions, overlaps, and gaps.

Framework Development – The final stage involved using these recurring themes to construct the proposed Eco-Squad conceptual framework.

The themes identified in the analysis provided the foundation for the model proposed in this study, allowing the Eco-Squad framework to directly reflect dominant patterns observed in the literature.

2.6 Conceptual Framework Development

Based on the thematic analysis, a conceptual model was formulated that integrates two previously separate domains: professional green consultancy and community-driven sustainability initiatives. The Eco-Squad framework was structured around three primary pillars:

Expert Knowledge (Green Consultancy)

Community Engagement (Eco-Squads)

Sustainable Outcomes (Environmental, Social and Economic)

This model illustrates how sustainable real estate is not the product of technical design alone, but of ongoing collaboration between experts and end users. The framework emphasises interaction, feedback loops, behavioural change, monitoring, and collective accountability. It also highlights the transitional relationship between planning-stage sustainability efforts and long-term community governance of environmental practices (Soekotjo et al., 2025).

The conceptual framework is therefore rooted in interdisciplinary integration, combining insights from environmental science, social sustainability, and real estate management. It provides a visual and theoretical representation of how sustainable real estate can evolve from a consultancy-driven model to a community-empowered system.

2.7 Ethical Considerations

As this study is based solely on secondary data and publicly available literature, no human subjects were directly involved, and therefore no ethical approval was required. All sources have been appropriately acknowledged, and academic integrity has been maintained through proper citation and referencing.

3 Thematic Literature Review

The literature reviewed for this study spans three major strands: (i) green consultancy and expert-led sustainability in real estate, (ii) community participation and grassroots environmental initiatives, and (iii) broader sustainability frameworks in the built environment, including green buildings, ESG, and smart cities (Anthony, 2023). A thematic analysis of these strands reveals three cross-cutting themes that underpin the proposed Eco-Squad framework: **collaboration**, **local empowerment and innovation**, and **continuous engagement and monitoring**. This section presents the key insights from each strand and shows how they conceptually converge.
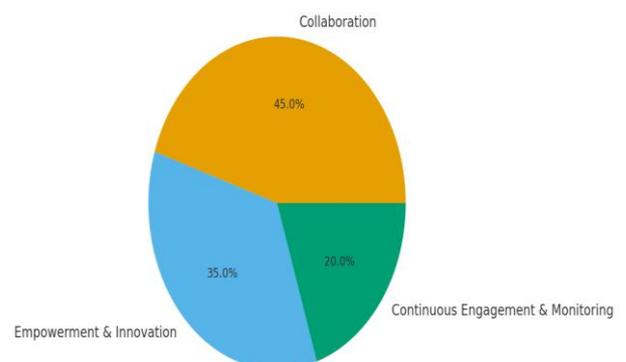

Figure 1. Thematic Distribution Chart: Collaboration, Empowerment, Continuous Engagement(Source: Self Created)

3.1 Green Consultancy in Sustainable Real Estate

The first body of literature focuses on the role of **professional sustainability consultancy** in real estate. Green consultants, ESG advisers, environmental engineers and energy auditors play a central role in assisting developers to design and deliver sustainable projects (Zang et al., 2022). Studies in this domain examine how consultants contribute to:

Achieving green building certifications (e.g., LEED, BREEAM, GRIHA)

Reducing energy consumption and carbon emissions

Integrating renewable energy and water-saving technologies

Ensuring compliance with environmental regulations and ESG reporting standards

This literature consistently highlights several strengths of consultancy-led approaches: **technical expertise**, **regulatory knowledge**, and the ability to optimise design and construction processes for environmental performance. Consultants are often positioned as key change agents who translate global sustainability standards into project-specific strategies (Kempeneer et al., 2021).

However, a recurring limitation emerges: most consultancy engagements are **project-based and time-bound**. Consultants typically exit once design, certification, or early operational goals are achieved. Post-occupancy behaviour, long-term user engagement, and day-to-day sustainability practices largely fall outside their scope. As a result, there is a structural gap between **expert-led planning** and **user-driven operation**, which can lead to performance gaps and underutilisation of green infrastructure.

3.2 Community Participation and Grassroots Sustainability

The second strand of literature comes from urban studies, environmental governance and social sustainability. It emphasizes that **sustainable development is more effective and resilient when communities are actively involved**. Research on participatory planning, citizen assemblies, neighbourhood environmental initiatives, and grassroots climate movements shows that:

Local stakeholders contribute **context-specific knowledge** that experts may overlook.

Participation fosters **ownership, accountability and trust**.

Community-led initiatives often lead to **innovative, low-cost and socially embedded solutions**.

Some studies analyse **green teams or eco-committees** within organisations such as universities or corporations. These internal volunteer groups work on recycling programmes, behavioural nudges, energy-saving campaigns and awareness initiatives. Evidence suggests that such teams can significantly influence organisational culture and day-to-day practices when they are supported by leadership and given a clear mandate (Ferreira et al., 2020).

Despite this rich literature, there is a notable gap when it comes to **structured, community-based environmental teams inside real estate developments**. While resident welfare associations, neighbourhood committees or informal groups sometimes take initiatives (like tree planting or waste segregation drives), these efforts are often ad hoc, fragmented and

lack formal integration into the overall sustainability strategy of a project (Shandas & Messer, 2008).

This gap points to the need for an organised, recognised community structure—such as the proposed **Eco-Squad**—that can work alongside professionals to sustain and deepen environmental outcomes in real estate environments (Christensen et al., 2019).
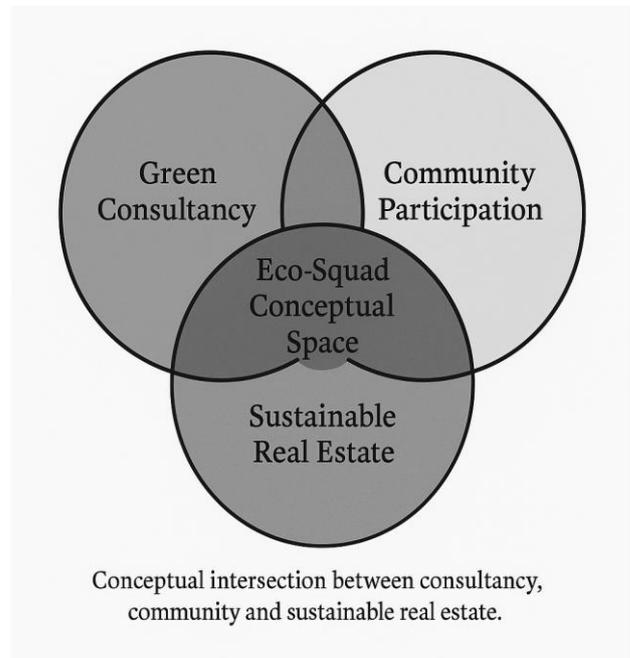

Conceptual intersection between consultancy, community and sustainable real estate.

Figure 2. Eco-Squad Conceptual Space

3.3 Sustainability Frameworks in the Real Estate Context

A third major area of literature covers broader **sustainability frameworks focused on the built environment**, including:

Green building design and performance

Smart city initiatives and digital monitoring

ESG integration in property portfolios

Climate-resilient infrastructure and urban planning

These studies often adopt a **systems perspective**, viewing real estate as part of a larger socio-technical and ecological system. They highlight the importance of:

Integrating energy, water, waste, mobility, and land-use planning

Embedding sustainability into governance, not just infrastructure

Using data, digital tools and performance indicators to monitor outcomes over time

However, even within such holistic frameworks, the **social and behavioural dimension inside individual developments** is often under-specified. Many models assume that once sustainable technologies and policies

are in place, the system will function effectively. In reality, user behaviour, informal norms, and community culture play a decisive role in whether sustainability potential is fully realized (Moloney & Strengers, 2014).

This literature underscores the need for **governance mechanisms at the micro-level**—inside housing societies, office complexes, and mixed-use developments—that can translate high-level sustainability frameworks into consistent everyday practice (Muneepeerakul & Anderies, 2017).

3.4 Cross-Cutting Themes and Rationale for Eco-Squads

Synthesising these three strands, the thematic analysis surfaced **three core themes** that underpin the conceptualisation of the Eco-Squad framework (Macedo et al., 2020):

Collaboration as a foundation

Studies across all strands highlight that no single actor—whether government, consultant, developer or citizen—can drive sustainability alone.

Real estate sustainability is most effective when there is **multi-stakeholder collaboration**: consultants, developers, facility managers, policymakers and end users working together.

This supports the idea of Eco-Squads as a **collaborative bridge** between expert knowledge and lived experience.

Local empowerment and innovation

Community-oriented literature and organisational "green team" studies show that **empowered local actors** often generate creative, context-sensitive solutions.

Empowerment strengthens **ownership and motivation**, leading to more durable behavioural change.

The Eco-Squad model builds directly on this theme by formally empowering residents and building users to participate in sustainability governance.

Continuous engagement and monitoring

Sustainability is a **process, not an event**. Post-occupancy behaviour, regular monitoring, and iterative improvement are critical.

The literature emphasises that stakeholders should not only participate in planning but also in **monitoring and evaluating sustainability performance** over time.

Eco-Squads are conceived as **persistent, embedded structures** that stay active throughout the project life cycle, ensuring continuity beyond the consultant's contract.

Figure 3 – Conceptual Flow Diagram
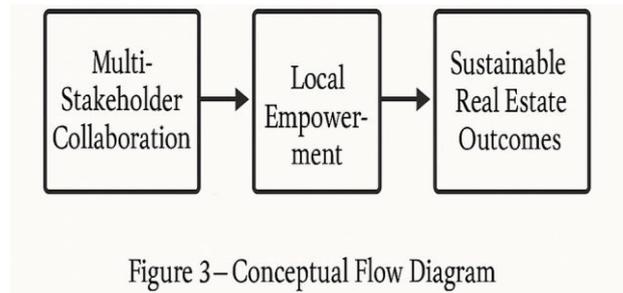
These themes collectively demonstrate that a combined model—where professional green consultancy is complemented by organised, community-based Eco-Squads—can address the weaknesses of both purely top-down and purely grassroots approaches. The literature strongly supports the logic that **sustainability in real estate must be co-produced by experts and communities**, rather than designed by one and passively received by the other (Perera & Manesh, 2019).

This conceptual insight provides the foundation for the **Eco-Squad framework** developed in the next section, which integrates these thematically derived principles into a structured model for sustainable real estate management.

Conceptual Framework – Eco-Squad Model
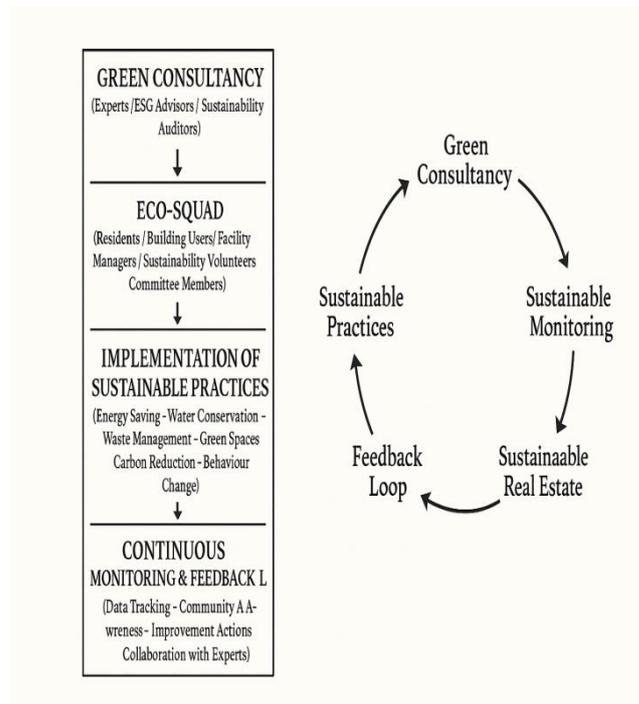
4.1 Conceptual Explanation of the Eco-Squad Framework

The Eco-Squad framework is a theoretical, integrative model developed to enhance sustainability outcomes in real estate by bridging the disconnect between professional green consultancy and community-level implementation. It is designed around the idea that sustainable real estate development cannot be achieved solely through technical mechanisms or policy-driven

strategies (Brundiers et al., 2010). Instead, it requires continuous human involvement, behavioural alignment, and collective responsibility.

The model consists of **five interconnected components**: (1) Green Consultancy, (2) Eco-Squads, (3) Sustainable Practices, (4) Continuous Monitoring and Feedback, and (5) Sustainable Real Estate Outcomes. Together, these elements create a collaborative and adaptive system that incorporates both expert knowledge and community-based action (Baldassarre, 2020).

1. Green Consultancy (Expert Knowledge Base)

In the first stage of the framework, green consultancies and sustainability experts play a pivotal role in designing environmentally responsible real estate strategies. Their responsibilities include conducting environmental impact assessments, recommending energy-efficient designs, advising on material selection, assisting with green certifications, and aligning projects with ESG and regulatory standards (Cooper, 2024).

Within the traditional model, the role of consultants often ends after the design and certification stages. However, in the Eco-Squad framework, consultants take on an additional role as **mentors, facilitators, and knowledge partners** for the Eco-Squad. They provide initial training, guidance, performance benchmarks, and occasional expert evaluations. Rather than operating in isolation, consultants become part of a collaborative learning system (Mian et al., 2024).

2. Eco-Squad (Community-Based Sustainability Unit)

At the heart of the framework lies the Eco-Squad – an organised, community-led group composed of residents, building users, sustainability volunteers, facility managers, and key representatives of the development.

The Eco-Squad is not an informal gathering but a **structured sustainability cell** embedded within the governance structure of a real estate projec (Williams & Dair, 2007)t. Its main responsibilities include:

Translating consultancy recommendations into daily action

Promoting sustainable behaviours among residents or users

Organising awareness programs and green campaigns

Facilitating cooperation between consultants and the community

Encouraging innovation and locally suitable solutions

By empowering the Eco-Squad with responsibility and recognition, the model fosters a sense of **ownership, accountability, and environmental citizenship** among stakeholders.

3. Implementation of Sustainable Practices

Guided by the knowledge shared by consultants and the motivation of community members, the Eco-Squad facilitates the implementation of practical sustainability measures within the real estate environment. These include:

Water-saving systems and rainwater harvesting

Segregation and recycling of waste

Energy conservation programmes

Promotion of renewable energy usage (e.g. rooftop solar)

Green landscaping and biodiversity protection

Sustainable mobility practices (cycling, EV use, carpooling)

Unlike conventional approaches that rely primarily on administrative enforcement, this implementation is **people-driven, participatory, and continuous**.

4. Continuous Monitoring and Feedback Mechanism

A unique strength of the Eco-Squad model is its emphasis on continuous monitoring. Sustainability is treated as a dynamic process, not a static checklist.

Eco-Squad members are responsible for:

Regularly reviewing energy, water, and waste metrics

Tracking usage patterns and identifying inefficiencies

Gathering feedback from community members

Reporting challenges to consultants or authorities

Making improvements based on real-world outcomes

This feedback loop transforms sustainability into a **learning system**, where data, human experience, and expert guidance interact to refine practices over time.

5. Sustainable Real Estate Outcomes

The final outcome of the Eco-Squad framework is a more resilient, inclusive, and environmentally responsible real estate environment. These outcomes span three dimensions:

Environmental: Reduced carbon emissions, efficient resource use, improved biodiversity

Social: Increased community engagement, shared responsibility, enhanced quality of life

Economic: Higher property value, lower operational costs, stronger ESG performance

By nurturing sustainability as a community culture rather than a technical compliance requirement, the Eco-Squad framework strengthens the long-term viability and impact of real estate projects.

5 Discussion

The emergence of green building practices, ESG-driven real estate investment, and community-oriented sustainability efforts has generated a diverse body of evidence regarding the environmental, economic and social benefits of sustainable real estate. However, most studies individually explore either technical/design-oriented interventions (e.g. energy-efficient buildings) or community engagement at a broad urban-policy or grassroots level — rarely combining both (Baeroom et al., 2025). The Eco-Squad framework proposed in this paper attempts to integrate these otherwise separated streams. The following discussion juxtaposes empirical data on green building performance with the theoretical benefits of combining professional consultancy and community engagement through Eco-Squads.

5.1 Empirical Evidence for Green Building Performance

Buildings certified under green building standards have been shown to deliver significant reductions in energy and resource consumption. For instance, a widely cited analysis of 7,100 certified construction projects reports that **over 90 % achieved at least a 10% improvement in energy performance** compared to conventional buildings (Tafirenyika et al., 2025).

More recent data indicate stronger gains in fully implemented green buildings: LEED-certified buildings reportedly consume **25% less energy and 11% less water**, while reducing CO_2 emissions by ~34% compared to traditional buildings (USGBC, 2018).

Additionally, several studies highlight cost-savings from lower utility and maintenance costs. Green buildings often offer **long-term economic benefits** as operational expenses tend to decline, offsetting any premium in initial design or construction costs.

There are also documented benefits for occupant health and wellbeing. Sustainable architecture prioritizing resource efficiency, indoor air quality, and environmental comfort can lead to improved indoor environmental quality, reduced environmental impact, and enhanced occupant satisfaction.

This empirical evidence establishes the **technical and economic viability of green real estate practices** when design and implementation are robust. Although much empirical evidence is drawn from international case studies, similar trends are increasingly observed in India's tier-1 and tier-2 urban real estate developments. However, as many studies caution, achieving these benefits requires more than design — it requires **sustained, proper use and maintenance**, long after construction or certification.

5.2 The Case for Integrating Community Engagement – Rationale for Eco-Squads

Despite proven performance potential, several problems continue to undermine the long-term sustainability of green buildings:

Performance Gap Problem: Many studies note a discrepancy between a building's projected sustainability (in design) and its actual performance during occupancy. Technical efficiency is not a guarantee if residents, users or facility-managers are not engaged or informed about sustainable usage.

Behavioural and Governance Void: While structural design helps, occupant behavior — such as water use, waste habits, energy use — significantly affects lifecycle performance. Without a governance mechanism involving end-users, sustainability features may not be properly used or maintained.

Limited Post-Occupancy Oversight: Most green building certifications and consultancy roles end at the construction or commissioning phase. There is seldom a built-in mechanism to encourage ongoing accountability, monitoring, or community-driven maintenance.

These limitations underscore a critical insight: **sustainability in real estate is not just a technical challenge — it is also a social one.** Realising energy and resource savings, carbon reduction, and enhanced occupant wellbeing requires consistent community engagement, collective behaviour, and shared responsibility. This is precisely where the Eco-Squad framework becomes relevant. By institutionalizing a **community-based sustainability cell** within the real estate project governance structure, the framework addresses the human and institutional dimension missing in many existing models.

5.3 How Empirical Evidence Supports the Eco-Squad Concept?

The empirical findings on green building benefits provide concrete targets and benchmarks — such as 25–34% energy savings, 11% water reduction, and CO_2 emissions reduction — that Eco-Squads can help maintain or even improve over time. Specifically:

Sustainability maintenance: When a building is handed over, Eco-Squads act as ongoing custodians who monitor energy, water, and waste metrics, ensuring that design efficiencies remain effective throughout the building lifecycle.

Cost and resource optimization: As green building operation costs generally decrease over time, Eco-Squads can ensure that savings continue through vigilant management and encourage practices like water recycling, efficient use of resources, and waste separation — maximizing the economic gains documented in empirical studies.

Behavioural sustainability: By engaging residents/users, Eco-Squads can foster environmentally responsible habits. This can lead to more consistent realisation of environmental benefits, such as lower emissions and better indoor environmental quality, than what citation-based or design-based models alone can achieve.

Feedback and improvement loops: The combination of expert consultancy and community feedback enables adaptive improvements — for example, when inefficiencies are detected, Eco-Squads can report them, and consultants (or trained community members) can suggest corrective measures, thus closing the gap between design intent and operational reality.

5.4 Broader Implications for Real Estate Development and Policy

For Developers and Investors: The combined model of consultancy + community ownership reduces long-term risk — not only in terms of environmental compliance but operational sustainability. Buildings managed through Eco-Squad-enabled frameworks are more likely to maintain efficiency, reducing lifecycle costs.

For Regulators and Urban Planners: Incorporating community-based sustainability cells in regulation and building approval processes can institutionalize long-term environmental responsibility. Eco-Squads could become part of post-occupancy compliance, similar to maintenance committees or resident welfare associations, ensuring accountability beyond certification.

For Social Sustainability & Community Well-being: Eco-Squads foster environmental awareness, occupant involvement, and shared responsibility — enhancing social cohesion, accountability, and occupant satisfaction. This can lead to better community health, stronger social capital, and more resilient real estate ecosystems.

For Research & Future Studies: The Eco-Squad framework bridges a critical gap — the missing link between technical design and real-world use. It offers a theoretical base for empirical studies to test, validate, and refine. Case studies, pilot implementations, and longitudinal monitoring can build on this to generate robust data on community-driven sustainability in real estate.

5.5 Limitations of Existing Data and the Need for the Eco-Squad Approach

While empirical evidence supports the efficacy of green buildings, it also reveals limitations:

Many performance gains are **measured shortly after construction** or certification; long-term post-occupancy data are rare.

Few studies account for **occupant behavior**, maintenance practices, or community-level governance of sustainability features.

There is limited evidence on **contextual adaptability**, especially in mixed-use, high-density, or emerging-market real estate developments.

Thus, while green buildings show promise, their long-term success remains uncertain without a structured, community-based mechanism — reinforcing the need for conceptual frameworks like Eco-Squads.

6. Implications of the Eco-Squad Framework

The proposed Eco-Squad framework extends beyond a purely conceptual contribution and offers meaningful practical and academic value. By shifting the sustainability focus from a solely consultant-driven approach to a collaborative, community-based model, this framework holds strong implications for key stakeholders in the real estate ecosystem — developers, policymakers, urban planners, and researchers.

6.1 Implications for Real Estate Developers

For real estate developers, the Eco-Squad framework offers a strategic advantage in both implementation efficiency and market positioning.

Better Implementation of Sustainability Practices

Traditional green building approaches often face a performance gap between design intention and actual operational effectiveness. The Eco-Squad model bridges this gap by ensuring continuous community involvement in sustainable actions such as water conservation, waste segregation, energy efficiency, and green maintenance. When building users become active participants rather than passive occupants, sustainable measures are more likely to be followed, monitored, and improved over time.

Higher Property Value and Market Demand

Green real estate already demonstrates improved long-term financial performance through reduced operational costs and enhanced asset value. By embedding a structured community-led sustainability mechanism, developers can reinforce the real environmental and operational efficiency of their projects. This contributes to a stronger return on investment, improved resale and rental value, and increased demand from sustainability-conscious buyers and investors.

Stronger Brand Positioning and ESG Alignment

Adopting the Eco-Squad model enables developers to position themselves as leaders in participatory sustainability. Beyond technical compliance, they can demonstrate genuine social responsibility and environmental commitment. This strengthens brand image and improves alignment with ESG goals — a

critical factor for international investors, impact funds, and sustainability-driven stakeholders.

6.2 Implications for Policymakers and Urban Planners

For governments and municipal authorities, the Eco-Squad framework presents a scalable and community-inclusive approach to sustainable urban development.

6.2.1 Alignment with Indian Urban Sustainability Frameworks

The Eco-Squad framework aligns closely with India's evolving urban sustainability agenda. National initiatives such as the **Smart Cities Mission** emphasize citizen participation, digital governance, and environmentally responsible infrastructure development. While these programs provide structural and technological foundations, sustained environmental performance requires active community involvement. Embedding Eco-Squads within residential and mixed-use developments can operationalize citizen participation at the micro level, translating policy intent into everyday sustainability practices (Prasad & Alizadeh, 2020).

Similarly, the **Atal Mission for Rejuvenation and Urban Transformation (AMRUT)** focuses on improving urban water supply, sewerage systems, green spaces, and sustainable mobility. These initiatives primarily address infrastructure creation and service delivery. However, long-term effectiveness depends on responsible usage, monitoring, and behavioural alignment by end users. Eco-Squads can function as localized sustainability governance units, supporting water conservation, waste management, and green mobility practices within real estate developments (PIO, 2017).

At the building level, certification frameworks such as **GRIHA (Green Rating for Integrated Habitat Assessment)** and the **Indian Green Building Council (IGBC)** have significantly advanced sustainable construction practices in India. Likewise, the energy efficiency provisions under the **National Building Code (NBC)** and related energy conservation guidelines establish technical performance benchmarks. However, these systems predominantly emphasize design-stage compliance. The Eco-Squad model complements such standards by institutionalizing post-occupancy monitoring, behavioural awareness, and continuous sustainability management throughout the building lifecycle (Team, 2025).

In addition, increasing regulatory focus on **ESG disclosures for listed real estate firms**, particularly under SEBI's Business Responsibility and Sustainability Reporting (BRSR) framework, has elevated expectations for measurable environmental and social accountability. Developers are now required to demonstrate credible sustainability outcomes rather than symbolic compliance. Integrating structured community-based sustainability mechanisms such as Eco-Squads can strengthen ESG reporting transparency, enhance stakeholder engagement, and improve long-term governance credibility within the Indian real estate industry.

6.2.2 Community-Based Execution Models for Sustainability

While many sustainability policies exist on paper, execution remains a challenge. The Eco-Squad concept provides a practical mechanism for translating urban sustainability goals into on-ground action. Eco-Squads can function as localised sustainability management units embedded within residential societies, commercial complexes, or public developments. This allows governments to decentralise responsibility while strengthening local ownership.

6.2.3 Support for Smart City and Sustainable Development Goals

Eco-Squads support the implementation of Smart City initiatives by encouraging data monitoring, community participation, environmental awareness, and real-time problem solving. The framework also directly aligns with UN Sustainable Development Goal 11 — Sustainable Cities and Communities — by promoting inclusive, participatory, and resilient urban development practices. It enables cities to move beyond infrastructure-only models to people-centred sustainability.

6.2.4 Strengthening Local Governance and Civic Participation

The Eco-Squad model strengthens the role of local bodies, resident welfare associations, and community committees by giving them an active stake in environmental governance. This collaboration between government, professionals, and citizens encourages transparency, accountability, and long-term behavioural change at the grassroots level.

6.3 Implications for Researchers

From an academic perspective, the Eco-Squad framework opens up a new interdisciplinary research domain.

Creation of a New Research Stream in Sustainable Real Estate

Current literature frequently separates environmental technology from social participation. This framework introduces a new integrated perspective that can be explored through empirical studies, case-based analyses, and longitudinal research. Researchers can investigate the effectiveness of Eco-Squads in various geographic and socio-economic contexts.

Integration of Social Sciences with the Built Environment

The Eco-Squad model encourages collaboration between real estate studies, environmental science, sociology, psychology, and urban governance. It provides opportunities to explore how group dynamics, behavioural change, leadership, and community culture can influence environmental outcomes in built environments.

Opportunities for Future Empirical Research and Comparative Studies

Researchers can build on this conceptual work by testing the Eco-Squad model in live real-estate settings — such as housing societies, corporate campuses, smart townships, and educational institutions. Comparative studies focusing on projects with and without Eco-Squads can further validate the framework and refine its structure.

The Eco-Squad conceptual framework is not only a theoretical contribution but also a practical roadmap for transforming how sustainability is governed in real estate. It empowers developers to enhance long-term value, assists policymakers in achieving sustainable urban goals, and provides researchers with an innovative domain linking social participation with environmental performance. In doing so, it marks a shift from isolated consultancy models to collaborative ecosystem-based sustainability practices.

8. Limitations and Scope for Future Research

While this study presents a novel and integrative conceptual framework for sustainable real estate development through Eco-Squads, certain limitations must be acknowledged. At the same time, these limitations provide direction for meaningful future research.

7.1 Limitations of the Study

Conceptual Nature of the Framework

This research is based entirely on a theoretical and literature-driven approach. The Eco-Squad framework has not yet been implemented or tested in real-world projects. As a result, its practical feasibility, operational challenges, and measurable effectiveness are not empirically validated at this stage. The findings, therefore, remain propositional and need future testing through case studies or pilot implementations.

Dependence on Existing Literature

The insights and structure of the framework are drawn from available literature on green buildings, sustainable development, ESG frameworks, community engagement, and participatory governance in the built environment. This literature may contain inherent regional, sectoral, or publication biases. For instance,

much of the available research is concentrated in developed economies, with comparatively fewer studies from emerging and developing real estate markets. As a result, the model may need contextual adaptation in diverse socio-economic environments.

Limited Coverage of Informal Practices

This study relies only on documented and published sources. Informal, indigenous, or undocumented community-led sustainability practices – which may be common in certain regions or traditional settlements – are not fully represented. These practices could provide valuable insights, but they fall outside the scope of formally published academic literature used in this review.

Implementation and Governance Challenges Not Fully Explored

Although the study proposes a structured Eco-Squad model, it does not fully account for the complexities of real-world implementation. Issues such as leadership conflicts, lack of participation, power imbalances within communities, budget constraints, policy limitations, and resistance from traditional stakeholders (e.g., conventional consultants or project managers) are not empirically examined. These operational challenges could significantly affect the success of the proposed model.

7.2 Scope for Future Research

The Eco-Squad framework opens extensive opportunities for future empirical and interdisciplinary research.

Pilot Implementation and Case Studies

Future research should focus on implementing the Eco-Squad model in real-world settings such as residential housing societies, commercial campuses, smart townships, or institutional buildings. These pilot projects can generate empirical data on adoption rates, behaviour change, energy consumption, water usage, and waste management outcomes.

Quantitative Performance Assessment

There is a strong scope for conducting longitudinal studies comparing sustainability metrics between real estate projects that use Eco-Squads and those that follow traditional consultancy-driven models. This can include measurements of energy efficiency, carbon emission reduction, cost savings, and environmental performance over time.

Psychological and Behavioural Dimensions

Further research may explore the motivation, attitude, leadership dynamics, and social behaviour of Eco-Squad members. Understanding what drives or hinders

participation could contribute to better training modules, incentive structures, and governance policies.

Policy and Governance Integration Studies

Researchers can analyse how the Eco-Squad model can be integrated into urban planning regulations, green building standards, municipal governance frameworks, and smart city initiatives. Comparative studies across different countries and policy environments could determine its scalability and adaptability at a larger scale.

Technological Integration

Future studies may also assess how digital platforms, IoT systems, smart meters, mobile applications, and data dashboards can support Eco-Squad activities. The integration of PropTech and community engagement tools can enhance transparency, monitoring, and real-time decision-making.

While this study is conceptual in nature, it lays a strong foundation for empirical exploration. The Eco-Squad framework highlights the untapped potential of combining community agency with professional expertise in sustainable real estate. By addressing the limitations through future fieldwork, quantitative assessment, and policy integration, the model has the potential to evolve into a powerful mechanism for achieving long-term sustainability in the built environment.

CONCLUSION

Sustainable real estate development is no longer defined solely by energy-efficient technologies, green materials, or certification systems. While these technical elements remain essential, this study argues that they are not sufficient on their own to guarantee long-term environmental performance. Sustainability in the built environment is, at its core, a *human and social process* that depends on the behaviour, commitment and participation of the people who design, occupy and manage these spaces.

This research proposed a novel conceptual model — the **Eco-Squad Framework** — which shifts the focus "from consultancy to community." By integrating professional green consultancy with structured, community-led sustainability teams, this framework addresses a critical gap in existing literature and practice. Current studies often treat sustainability as either a design problem or a policy challenge. Very few recognise it as a continuous, participatory, and collective responsibility embedded in daily human activities. The Eco-Squad model bridges this missing link by formalising how expert knowledge and grassroots action can work in collaboration over the entire lifecycle of a real estate project.

Through a comprehensive thematic literature review, this paper has highlighted three recurring truths: collaboration is essential, community empowerment leads to stronger sustainability outcomes, and continuous engagement is necessary for long-term success. The proposed framework operationalises these ideas into a structured mechanism where Eco-Squads act as local sustainability stewards, supported by professional guidance and driven by collective ownership.

Although conceptual in nature, the Eco-Squad framework offers significant practical promise. It can potentially improve post-occupancy performance, reduce the green performance gap, enhance user satisfaction, and strengthen environmental accountability within real estate developments. Further, it aligns naturally with global agendas such as the United Nations Sustainable Development Goals, particularly SDG 11 — Sustainable Cities and Communities — by encouraging inclusive, participatory, and resilient urban development.

This research contributes a new interdisciplinary perspective by linking sustainability, real estate management, behavioural science, and community governance into a single structured model. It creates a foundation for future empirical investigation, pilot implementation, and policy innovation. As urban populations grow and environmental challenges intensify, the future of sustainable real estate will depend not only on smarter buildings — but on more aware, engaged, and empowered communities.

In conclusion, the Eco-Squad framework redefines sustainability as a shared journey rather than a top-down mandate. It offers a pathway where professional expertise and community participation coexist, reinforcing one another in the pursuit of a more resilient and responsible built environment

REFERENCES

1.   Anthony, B. (2023). The Role of Community Engagement in Urban Innovation Towards the Co-Creation of Smart Sustainable Cities. Journal of the Knowledge Economy, 1(1), 1–33. https://doi.org/10.1007/s13132-023-01176-1

2.   Baeroom, A. A., Md. Faisal Hossen, Abid, M. A., & Shahzad, F. (2025). Green Buildings and Sustainability: A Review of Economic and Environmental Impacts. International Journal of Multidisciplinary Research and Growth Evaluation, 6(1), 1089–1094. https://doi.org/10.54660/.ijmrge.2025.6.1.1089-1094

3.   Baldassarre, B. (2020). Implementing sustainable design theory in business practice: A call to action. Journal of Cleaner Production, 273(2), 123113. https://doi.org/10.1016/j.jclepro.2020.123113

4. Brundiers, K., Wiek, A., & Redman, C. L. (2010). Real-world learning opportunities in sustainability: from classroom into the real world. International Journal of Sustainability in Higher Education, 11(4), 308–324. https://doi.org/10.1108/14676371011077540

5. Christensen, A. G., Laage-Thomsen, J., & Blok, A. (2019). Urban green communities. The Role of Non-State Actors in the Green Transition, 114–135. https://doi.org/10.4324/9780429280399-7

6. Cooper, R. G. (2024). Eco-Stage-Gate: Building Sustainability into Product Innovation. IEEE Engineering Management Review, 1–10. https://doi.org/10.1109/emr.2024.3493492

7. Ferreira, V., Barreira, A. P., Loures, L., Antunes, D., & Panagopoulos, T. (2020). Stakeholders' Engagement on Nature-Based Solutions: a Systematic Literature Review. Sustainability, 12(2), 640. https://doi.org/10.3390/su12020640

8. Heymans, A., Breadsell, J., Morrison, G. M., Byrne, J. J., & Eon, C. (2019). Ecological Urban Planning and Design: A Systematic Literature Review. Sustainability, 11(13), 3723. https://doi.org/10.3390/su11133723

9. Kempeneer, S., Peeters, M., & Compernolle, T. (2021). Bringing the User Back in the Building: An Analysis of ESG in Real Estate and a Behavioral Framework to Guide Future Research. Sustainability, 13(6), 3239. https://doi.org/10.3390/su13063239

10. Macedo, P., Huertas, A., Bottone, C., del Río, J., Hillary, N., Brazzini, T., Wittmayer, J. M., & Penha-Lopes, G. (2020). Learnings from Local Collaborative Transformations: Setting a Basis for a Sustainability Framework. Sustainability, 12(3), 795. https://doi.org/10.3390/su12030795

11. Mazutis, D., & Sweet, L. (2022). The business of accelerating sustainable urban development: A systematic review and synthesis. Journal of Cleaner Production, 357, 131871. https://doi.org/10.1016/j.jclepro.2022.131871

12. Mian, H. R., Hewage, K., & Sadiq, R. (2024). Responsible Financing and Investment: Identification, Development, and Assessment of Environmental, Social, and Governance (ESG) metrics. Sustainable Futures, 100246. https://doi.org/10.1016/j.sftr.2024.100246

13. Miniaoui, H., & Bellalah, M. (2025). Green Growth Opportunities and Sustainable Finance in the Gulf Cooperation Council Region. In Gulf Studies. Springer Nature Singapore. https://doi.org/10.1007/978-981-96-8287-4

14. Moallemi, E. A., Malekpour, S., Hadjikakou, M., Raven, R., Szetey, K., Ningrum, D., Dhiaulhaq, A., & Bryan, B. A. (2020). Achieving the Sustainable Development Goals Requires Transdisciplinary Innovation at the Local Scale. One Earth, 3(3), 300–313. Sciencedirect. https://doi.org/10.1016/j.oneear.2020.08.006

15. Moloney, S., & Strengers, Y. (2014). "Going Green"?: The Limitations of Behaviour Change Programmes as a Policy Response to Escalating Resource Consumption. Environmental Policy and Governance, 24(2), 94–107. https://doi.org/10.1002/eet.1642

16. Muneepeerakul, R., & Anderies, J. M. (2017). Strategic behaviors and governance challenges in social-ecological systems. Earth's Future, 5(8), 865–876. https://doi.org/10.1002/2017ef000562

17. Naeem, M., Ozuem, W., Howell, K., & Ranfagni, S. (2023). A step-by-step Process of Thematic Analysis to Develop a Conceptual Model in Qualitative Research. International Journal of Qualitative Methods, 22(1), 1–18. https://doi.org/10.1177/16094069231205789

18. Perera, U., & Manesh, C. A. (2019). Conceptualizing sustainability in the real estate development process. Sustinere: Journal of Environment and Sustainability, 3(1), 1–14. https://doi.org/10.22515/sustinere.jes.v3i1.62

19. Pérez-Sánchez, L. À., Velasco-Fernández, R., & Giampietro, M. (2022). Factors and actions for the sustainability of the residential sector. The nexus of energy, materials, space, and time use. Renewable and Sustainable Energy Reviews, 161, 112388. https://doi.org/10.1016/j.rser.2022.112388

20. PIO, P. (2017). PIB Headquarters. Pib.gov.in. https://www.pib.gov.in/PressNoteDetails.aspx?NoteId=154737&ModuleId=3&reg=3&lang=2

21. Prasad, D., & Alizadeh, T. (2020). What makes Indian Cities Smart? - A Policy Analysis of Smart Cities Mission. Telematics and Informatics, 55, 101466. https://doi.org/10.1016/j.tele.2020.101466

22. Prashar, R., & Tomer, A. (2024). THE ART OF SUSTAINABLE URBANIZATION: INSIGHTS FROM RERA'S IMPACT ON INDIA'S REAL ESTATE LANDSCAPE. ShodhKosh Journal of Visual and Performing Arts, 5(3). https://doi.org/10.29121/shodhkosh.v5.i3.2024.3394

23. Shandas, V., & Messer, W. B. (2008). Fostering Green Communities Through Civic Engagement: Community-Based Environmental Stewardship in the Portland Area. Journal of the American Planning Association, 74(4), 408–418. https://doi.org/10.1080/01944360802291265

24. Soekotjo, S., Sosidah, S., Kuswanto, H., Setyadi, A., & Pawirosumarto, S. (2025). A Conceptual Framework for Sustainable Human Resource Management: Integrating Ecological and Inclusive Perspectives. Sustainability, 17(3), 1241–1241. https://doi.org/10.3390/su17031241

25. Tafirenyika, S., Moyo, T. M., Ajirotutu, R. O., Lawoyin, J. O., Erinjogunola, F. L., & Adio, S. A. (2025). Green Building Certifications: Impact on

Sustainable Construction Practices. International Journal of Multidisciplinary Futuristic Development, 6(1), 65–72. https://doi.org/10.54660/ijmfd.2025.6.1.65-72

26. Team, S. (2025, May 2). IGBC vs. LEED vs. GRIHA: Choosing the Right Green Certification in India. Sustainability 101. https://www.sustainability101.in/post/igbc-vs-leed-vs-griha-choosing-the-right-green-certification-in-india

27. Toivonen, S. (2021). Advancing futures thinking in the real estate field. Journal of European Real Estate Research, 14(1), 150–166. https://doi.org/10.1108/jerer-01-2020-0003

28. Toivonen, S., & Viitanen, K. (2016). Environmental scanning and futures wheels as tools to analyze the possible future themes of the commercial real estate market. Land Use Policy, 52, 51–61. https://doi.org/10.1016/j.landusepol.2015.12.011

29. USGBC, U. (2018, May). Benefits of Green Building | U.S. Green Building Council. Www.usgbc.org.
https://www.usgbc.org/articles/benefits-green-building

30. Wen, B., Musa, S. N., Onn, C. C., Ramesh, S., Liang, L., Wang, W., & Ma, K. (2020). The role and contribution of green buildings on sustainable development goals. Building and Environment, 185(107091), 107091. https://doi.org/10.1016/j.buildenv.2020.107091

31. Williams, K., & Dair, C. (2007). A framework of sustainable behaviours that can be enabled through the design of neighbourhood-scale developments. Sustainable Development, 15(3), 160–173. https://doi.org/10.1002/sd.311

32. Zang, J., Royapoor, M., Acharya, K., Jonczyk, J., & Werner, D. (2022). Performance gaps of sustainability features in green award-winning university buildings. Building and Environment, 207, 108417. https://doi.org/10.1016/j.buildenv.2021.108417