



SUSTAINABILITY IN GREEN BUILDINGS: A FAITH-BASED APPROACH

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Abstract

The emergence of green buildings in the early 2000s marked a significant milestone in the global sustainability movement, emphasizing ecological responsibility and environmentally friendly design. While the concepts of "green" and "sustainability" are often used interchangeably to describe eco-conscious environments, there remains a notable gap in exploring these principles through the lens of faith-based approach, particularly from Islam. This study aims to identify enduring faith-based values that influence the design of green buildings. Guided by a research question, the thematic analysis reveals seven core values: worship, balance, community orientation, prevention of harm, avoidance of waste, protection of privacy, and climate consciousness. These values reflect a holistic, faith-based approach to sustainability, offering both scientific insight and practical guidance. The study contributes to the growing discourse on integrating religious principles with sustainable development, positioning faith-based values as a foundational framework for green building practices in contemporary contexts.

Keywords: Green Values, Green Buildings, Sustainability, Religion, Faith-Based Values

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INTRODUCTION

Green buildings, also referred to as sustainable or high-performance buildings, play a crucial role in sustainable development by reducing environmental impact (Zuo & Zhao, 2014; Bhamra & Lofthouse, 2007). Studies show that they can lower carbon emissions by up to 40% compared to conventional structures (Yudelsohn, 2008) and reduce energy costs by more than 55% (Lau et al., 2009), with some research reporting savings as high as 71.1% (Dwaikat & Ali, 2018). Despite these advantages, the building sector remains one of the largest global energy consumers, accounting for nearly 40% of total operational energy use (WBCSD, 2015). These figures highlight the urgent need for sustainable solutions. Research measuring the effectiveness of green buildings, including assessments of carbon dioxide emissions conducted by Suh, Tomar, Leighton and Kneifel (2014), demonstrates that such buildings not only reduce environmental impact but also function as value-added assets, enhancing both building performance and overall asset value.

The environmental and climate crisis, driven by human activities, resource mismanagement, and increasing energy demand, has pushed the global community to explore renewable energy sources such as solar, biomass, geothermal, hydroelectric, and hydrogen energy to support green building initiatives (Bhamra & Lofthouse, 2007). In response, international frameworks like Agenda 21, adopted during the 1992 Earth Summit, emphasize sustainable development through global and local collaboration (UN, 2012; Edmondson, 2007). This growing attention has also influenced the development of green buildings within faith-based contexts, including Islamic traditions, where the idea of sustainability aligns with long-standing ethical and spiritual principles (Zhao, He, Johnson & Mou, 2015).

Interest in faith-based sustainability is particularly visible in *masajid* architecture, with several mosques in countries such as Germany, Britain, Russia, Saudi Arabia, Oman, and Malaysia receiving green certification, including Masjid Al-Ikhlâs in Shah Alam, Masjid Ara Damansara in Petaling Jaya, and Masjid Cyberjaya (GBI Malaysia, 2020). While religion has begun to surface within green building discussions, existing attention often focuses on the physical building rather than its philosophical or spiritual underpinnings. Given the deep historical linkage between Islam and sustainable architectural traditions, evident in enduring structures such as the *kulliye*, *imaret*, and *hamam* in Turkey (Oktay, 2014), examining sustainability in green buildings through a faith-based approach is necessary to fully understand how environmental responsibility, cultural identity, and spiritual values can be integrated into contemporary sustainable development.

This study analyses authoritative scholarly sources on green values in green buildings to identify gaps in their connection to Islamic sustainability principles. Using a structured and transparent analytical approach inspired by

Higgins and Green (2011), the article organises and synthesises relevant research through clear and replicable procedures. The findings contribute to the body of knowledge by revealing overlooked intersections between Islamic sustainability concepts and green building practices, thereby offering a conceptual basis for integrating faith-based values into future sustainable building research and development.

LITERATURE REVIEW

Research on green buildings affirms their environmental and economic benefits while noting enduring gaps. Foundational reviews point to three core strands, definitions and scope, quantified benefits, and delivery approaches, yet social and ethical dimensions remain insufficiently examined despite strong evidence of energy, emissions, and cost advantages (Zuo & Zhao, 2014). Recent bibliometric analyses also show rapid growth in technologies, assessment methods, and policy tools, but stress the need for integrative frameworks that link performance metrics with cultural and value-based contexts (Li et al., 2021).

Within the faith–sustainability nexus, the Islamic worldview is increasingly recognised as a normative resource for reframing sustainability beyond technocratic approaches. Al-Jayyousi et al. (2022) show how concepts such as unity (*tawhid*), stewardship (*khilafah*), and balance (*mizan*) support a value-based sustainability discourse. Building on this, Al-Jayyousi et al. (2023) demonstrate that Islamic ethical commitments shape policymakers’ climate-action narratives, indicating that faith-inspired perspectives can strengthen legitimacy, equity, and behavioural uptake in sustainability transitions. Together, these studies highlight the potential for aligning green-building strategies with Islamic ethical principles to connect environmental performance with culturally embedded motivations.

Applications within the built environment, particularly *masjid* architecture, illustrate both advancement and gaps. Malaysian cases, such as the GBI-Platinum Raja Haji Fi Sabilillah Mosque in Cyberjaya, demonstrate the feasibility of renewable energy systems, passive cooling, daylighting, and inclusive access features, while also revealing operational and climatic challenges unique to *masajid* (Ismail & Abdul Rashid, 2023). Complementary studies identify passive bioclimatic design, water stewardship, material sustainability, and community functions as key strategies, yet emphasise the need to embed spiritual–ethical intentions within performance frameworks and certification tools (Mat Sobri et al., 2021). A faith-based lens particularly that of Islam, therefore offers a meaningful contribution by connecting measurable building outcomes with ethical commitments and user practices in religious and communal settings.

METHODOLOGY

This study adopts a structured analytical approach informed by the general principles of the ROSES Highlights Protocol (Haddaway et al., 2018), with adaptations to suit the aims of this research. Guided by these principles, a clear research question was formulated - What are the everlasting values embedded in green building design from the sustainability concept from a faith-based approach? The research question serves as the foundation that directs the overall review and analysis process (Kitchenham & Charters, 2007). Following this, the study employed a transparent and organised procedure to gather and assess relevant literature. This procedure involved three key stages: identifying sources, applying filtering criteria, and determining eligibility, ensuring that only studies aligned with the research focus primarily on green values, green architecture, green buildings and sustainability in Islam, were included in the final analysis.

The quest for article search is also focused on the criteria that the articles consist of both theoretical studies, and empirical studies published in journals indexed in Malay and English languages acquisition limited to the year from 2000 until 2020.

ANALYSIS & DISCUSSION

Analysis of secondary data spanning 20 years shows a notable gap in the literature on integrating faith-based principles, particularly Islamic perspectives, into discussions of green buildings and sustainability. Publications addressing sustainability in green buildings from a faith-based angle remain scarce, often appearing only once per year, and key terms such as “sustainability concept” and “faith-based” are frequently absent or insufficiently emphasised.

From the analysed data, seven themes were identified, covering values such as social and environmental values. The publication pattern shows one article published in 2018 and 2020, two in 2014 and 2017, and four in 2016 and 2019.

Overall, the findings reaffirm that studies on sustainability in green buildings from faith-based perspectives are limited, with typically only one relevant article per year, and that key terms such as “sustainability concept” and “faith-based” remain underrepresented. This confirms that the topic is relatively new and insufficiently explored. Interest in the Islamic dimension of sustainability appears strongest among researchers in Muslim-majority Asian countries, specifically Malaysia, Indonesia, Iran, Iraq, Egypt, and Qatar, with limited contributions from Western or non-Muslim contexts, highlighting the need for broader and more diverse research.

Themes

Based on content analysis of the articles, the frequency of the themes that appear are tabulated in the form of Table 1. The higher the frequency of the theme

appearing indicates that the theme is very important in the green building discipline.

Table 1: Themes and Sub-themes on Green Values

AUTHOR	YEAR	LOCATION	Worship GC HC	Environment BI	Community- Oriented Ac	Preventing Damage PN	Preventing Waste C	Preventing Waste R	Privacy Protection Cl Cf	Climate Friendly EF ES
1. Oleivi et al.	2014	Iraq			I			I		I
2. Raoufeh Toosi	2014	Iran				I		I	I	I
3. Nu'Man	2016	Qatar	I		I	I		I	I	
4. Yazdani & MahmoudiNejad	2016	Iran				I		I		
5. Adi & Puspitasari	2016	Indonesia	I		I	I		I		
6. Bakri	2016	Indonesia			I	I				
7. Ali & Abdelmaksoud	2017	Egypt						I	I	
8. Nemati et al.	2017	Iran		I				I		I
9. Salam & Ibrahim	2018	Malaysia	I	I	I	I				
10. Sedayu	2019	Indonesia			I					I
11. Eleza & Sediadi	2019	Egypt							I	I
12. Ramadhan et al.	2019	Indonesia	I	I	I	I		I		
13. Muchlis et al.	2019	Indonesia	I	I						
14. Muchlis et al.	2020	Indonesia	I	I	I	I				
15. Fikriarini et al.	2021	Indonesia	I	I		I		I		I
16. Muchlis et al.	2024	Indonesia		I	I			I		I

Key:

Ac	-	Accessible	ES	-	Escology System
Bl	-	Balance	GC	-	God centric
C	-	Conserve	HC	-	Human centric
Cf	-	Comfort	PN	-	Protecting Nature
Cl	-	Cultural	R	-	Recycle
EF	-	Environment Friendly			

Table 1 presents the seven value-related themes that have been identified and lists the frequency of those merging themes. The higher the frequency of emerging themes indicates that the theme is very important in the discipline of green building. Of these seven themes, the theme on Preventing Damage has the most frequency followed equally by two themes on Community Oriented and Preventing Waste. Next, is the theme on Spiritual Veneration. Two themes on Environment and Climate Friendly equally share the same frequency whilst the theme with the least frequency (4) is on Private Protection. These seven themes are laden with values on green buildings. Values refer to an entity which is both valuable and appreciated. It is valuable because it is liked, wanted, desired and aspired to (Gazalba, 1998). In this study, values mean religious and social values that are valuable to society.

Preventing Damage

The most prominent theme in green buildings is the prevention of environmental damage, encompassing essential natural elements such as soil, water, and plants (Fikriarini et al., 2021; Toosi, 2014; Yazdani & Mahmoudi Nejad, 2016). In Islam, sustainability promotes care for the environment and the avoidance of harm as foundational values (Muchlis et al., 2020), emphasising respect for the local environment and its natural building materials. Allah SWT commands humanity not to cause mischief on earth, and Islam teaches that environmental care arises from inner purity and sincere intention (Al-Attas, 2020).

As the primary actors in the creation and maintenance of green buildings, human behaviour is central to their success; individuals are expected to treat nature with love and respect (Salam & Ibrahim, 2018) because the natural world carries spiritual meaning. This aligns with Islam's sustainability objective of upholding harmonious relations between humans and Allah SWT, between people, and between humans and nature. Conversely, destructive attitudes toward the environment inevitably lead to ecological degradation.

Community-oriented

Green building extends beyond environmental and energy responsibilities to include social and cultural considerations essential to community well-being (Muchlis et al., 2024; Fikriarini et al., 2021; Salam & Ibrahim, 2018). It

encompasses all aspects of life both physical and spiritual while ensuring that benefits are shared equitably.

Designed to serve communities, green buildings provide accessible facilities and infrastructure that support daily needs (Nu'Man, 2016; Nemati et al., 2017; Muchlis et al., 2018). Their planning prioritises ease of circulation, movement, and connectivity within the surrounding area (Sedayu, 2019; Ramadhan et al., 2019), enabling access by walking and strengthening ties to nearby amenities such as markets, schools, and *masajid* (Adi & Puspitasari, 2016; Bakri, 2016).

Preventing wastage

Green buildings minimise wastage of energy, water, and building materials. Such wastes negatively impact the natural environment (Nu'man, 2016). They maintain harmony with nature by prioritising local materials, reused components, and durable construction that prolongs a building's lifespan and reduces long-term maintenance costs (Yazdani & Mahmoudi Nejad, 2016). Using materials that withstand time is the most effective strategy for reducing waste in terms of cost, energy, and resources, followed by reused and recycled materials. High-quality materials that resist weathering and pests also decrease the likelihood of construction waste being dumped at disposal sites (Ramadhan et al., 2019).

Wastage of building materials in the construction sector is unavoidable. Each year more than three billion metric tons of raw materials are used for the construction and products sectors worldwide. For the construction sector, it is estimated to be more than double (Calkins, 2009). It is a large number. Therefore, green buildings are an attempt to reduce the negative impact on nature. Additionally, sourcing local materials helps limit air and sea pollution and conserves energy by reducing the transportation required to deliver materials to construction sites (Toosi, 2014).

Spiritual Veneration

Spiritual veneration in green buildings is rooted in the monotheistic principle of *tawhid* which shapes all aspects of their design, use, and management. Grounded in *aqidah* and the consciousness of servitude to Allah SWT, this approach embodies both God-centric and human-centric dimensions, reflecting the unity of the Creator, humanity, and creation (Salam & Ibrahim, 2018; Muchlis, Larasati & Triyadi, 2020; Nu'Man, 2016).

The God-centric dimension emphasises a deep spiritual relationship with Allah SWT, who sustains the universe in perfect harmony (*fitrah*), while the human-centric dimension highlights human responsibilities as servants and stewards (*khalifah*) tasked with nurturing harmonious relationships with others and with nature (Salam & Ibrahim, 2018). Consequently, green buildings are

conceived and managed in ways that honour and preserve the *fitrah*, ensuring that environmental elements function within their divinely established systems and maintain ecological balance. This orientation encourages moderation in fulfilling human needs and positions green buildings as expressions of spiritual reverence and ecological responsibility.

Environment

Equilibrium in Islam reflects a theological-centric view that places religion at the centre of human–environment relations, making green building inseparable from humanity’s role as khalifah (Salam & Ibrahim, 2018). As vicegerents of Allah SWT, humans are responsible for maintaining reciprocal relationships with nature at individual, community, and global levels (Muchlis et al., 2024; Salam & Ibrahim, 2018), ensuring ecological balance, protecting ecosystems, and sustaining healthy green areas (Ramadhan, Wibowo, Soekard & Hertoety, 2019).

Providing green areas plays a crucial role in enhancing community well-being by supporting a healthy and high-quality environment, complementing the benefits of green buildings (Noorzai et al., 2026; Baskaran et al., 2025). Green area refers to an area that is covered by or with greenery such as a field, planted spaces with green trees such as parks, green roof, or water pond. With the presence of green areas, the impact of development on biodiversity balance can be reduced (Ramadhan et al., 2019). Environmental imbalance occurs when humans dominate nature for personal gain, reflecting an anthropocentric worldview that contrasts with Islam’s theological-centric approach (Muchlis, Larasati & Triyadi, 2018). Accordingly, green buildings prioritise ecological sustainability throughout their life cycle by creating environments with fresh air, fertile land, and natural productivity, supported by green zones that preserve native trees, protect animal welfare, provide shelters and resources, and plant local fruit trees as community reserves. These efforts moderate temperatures, improve air quality, and elevate the status of animals and nature as creations of Allah SWT, fostering harmonious and balanced ecological interactions.

Climate Friendly

Climate-friendly (or environmentally friendly) design in green buildings emphasises harmonious integration with nature to minimise environmental impacts and adapt effectively to climatic conditions (Ali & Abdelmaksoud, 2017; Eleza & Sediadi, 2019). Such buildings utilise passive design strategies and natural renewable energy sources, including solar and wind, aligned with their environmental context (Nemati et al., 2017). Features such as inner courtyards that enhance air circulation and the use of natural local materials create efficient ecological micro-systems, as seen in Iran where wood and clay are commonly used (Oleiwi et al., 2014).

Topographic interactions and geographical interactions have the implications of optimizing energy, providing comfort and contributing to good health in the building (Rahman, 2015). This interaction also influences the lighting and air circulation in the green building. Green buildings prioritise environmental harmony by ensuring construction meets both physical and spiritual needs without overexploiting resources, considering micro-environmental factors like ventilation, lighting, temperature, and air quality. Effective site selection, climate-responsive design, and the prevention of heat island effects further enhance comfort and sustainability, while the use of local, natural, and recycled materials reduces pollution, waste, and costs, ensuring compatibility with local climatic and geographical conditions.

Privacy Protection

Privacy protection is grounded in Allah SWT's command for humans to cultivate harmonious social relations by fulfilling natural desires within clean, safe, and morally guided environments. This means preventing free intermingling between men and women and safeguarding *aurat* in accordance with Shariah (Eleza & Sediadi, 2019). Green buildings aligned with Shariah therefore incorporate features that maintain privacy, dignity, *aurat*, and resident comfort (Raoufeh, 2014), such as separating male and female spaces and preventing visual intrusion from surrounding areas (Nu'man, 2016).

As structures intended to support humans in fulfilling their duties as obedient servants of Allah SWT (Salleh, 2003), green buildings in Islam provide designated prayer spaces, correct *qiblah* orientation, and gender-segregated facilities to ensure that acts of worship, modesty, and other religious obligations are not compromised (Asiaah Abdul Rahim, 2009). Beyond physical arrangements, privacy protection also extends to fostering proper etiquette in social interactions, as Islam emphasises modest behaviour, lowering the gaze, and avoiding improper mixing between non-mahram individuals, thereby reinforcing moral integrity, spiritual well-being, and alignment with Shariah within the built environment.

POLICY IMPLICATIONS

The findings of this study reveal important policy implications for advancing sustainability within the built environment. Recognising the alignment between green-building values and Islamic sustainability principles opens opportunities for policymakers, particularly in Muslim-majority contexts, to integrate ethical and spiritual considerations into national guidelines, certification tools, and community-based initiatives. Embedding values such as stewardship, balance, and responsible resource use into policy frameworks can strengthen cultural resonance, enhance public legitimacy, and encourage broader adoption of sustainable practices in both religious and non-religious settings.

Given the strong influence of faith-based values on environmental behaviour, policymakers are encouraged to collaborate with religious institutions, scholars, and community leaders. Supporting *masajid* and other faith facilities in implementing green design features, modelling low-carbon behaviours, and serving as hubs for environmental education can elevate public awareness and accelerate societal transitions toward sustainability.

Beyond Islam, diverse faith traditions contribute complementary ecological ethics, such as creation care, interdependence, non-harm, and Indigenous stewardship, that can enrich policy design. Recognising this diversity allows sustainability initiatives to be framed in ways that resonate with the moral foundations of different communities, enabling culturally sensitive and inclusive policymaking. Leveraging these shared ethical commitments broadens public participation, fosters ownership of sustainability agendas, and reinforces the view that environmental responsibility is not only a technical imperative but also a culturally grounded and socially meaningful endeavour.

CONCLUSION

The findings of this study identified seven key themes that reflect values aligned with a faith-based approach to sustainability. These themes include worship, balance, community orientation, prevention of harm, avoidance of waste, protection of privacy, and climate consciousness. Together, they suggest a holistic framework for integrating Islamic values into the design and development of green buildings. Sustainability in green buildings based on faith-based principles creates a balanced harmony between values, forms and functions.

These values are upheld to complement each other with the shape and function of the buildings despite different climates. Green buildings contribute not only to environmental health but also to the enhancement of socio-religious functions within local communities. The values embedded in such structures, rooted in both physical and spiritual dimensions, form a balanced and integrated framework that addresses the holistic needs of human beings. These buildings should harmonize with nature, avoiding environmental degradation, while simultaneously fostering an atmosphere of love and spiritual connection to Allah SWT, fellow human beings, and the natural world. This dual emphasis on ecological responsibility and spiritual enrichment reflects the essence of a faith-based approach to sustainable architecture.

This research provides significant implications for future sustainable development by offering a comprehensive framework that can inform policy formulation, regulatory control, and monitoring mechanisms for Muslims in the development of green buildings. It introduces an integrated conceptual foundation that aligns environmental sustainability with Islamic principles, ensuring that future developments reflect both ecological responsibility and spiritual values. The proposed framework can serve as a strategic reference for

planners, policymakers, architects, and local authorities in guiding the implementation of green design. Furthermore, it offers a coherent basis for developing green and Islamic townships in Malaysia, presenting a more holistic and systematic alternative to the existing eclectic approaches to green townships and Islamic city concepts.

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