

Islamic Energy Garden (IEG): A Shariah-based approach to achieve a 'Green and Barakah Campus'

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Abstract

The Islamic Energy Garden (IEG) merges Islamic values with sustainable practices based on Maqasid Shariah principles to create eco-friendly, spiritually enriching campus environments. This study addresses the gap in research regarding the application of energy solutions within Islamic gardens aligned with Maqasid Shariah. It aims to identify and categorise Islamic garden and green energy elements as essentials (Daruriyat), complements (Hajiyat), and embellishments (Tahsiniyat). Through thematic tafseer and scoping review analyses, the study explores the characteristics of Islamic gardens and sustainable design, contributing to policy-making and guiding inclusive campus designs in Malaysia.

Keywords: Islamic Energy Garden; Shariah-based approach; Sustainable campus

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1.0 Introduction

The Islamic Energy Garden (IEG) concept represents a holistic approach that seamlessly integrates Islamic principles with sustainable energy practices, drawing inspiration from the objectives of Maqasid Shariah. The IEG aims to create a harmonious environment that balances spirituality, sustainability, and community engagement. Integrating renewable energy sources into Islamic Gardens can help reduce carbon footprints and serve as examples of eco-friendly, resource-efficient spaces within the campus environment. In alignment with the long-term goals of ASEAN countries, the Malaysian government has recently set a target to achieve 31% renewable energy generation by 2025, supporting efforts to lower carbon emissions (Islam et al., 2023). While Islamic gardens have gained global interest, particularly in relation to their aesthetic and cultural significance, Malaysia still needs to have a dedicated framework for designing campus environments that merge Islamic values with sustainable practices. This gap is particularly critical as Malaysia strives to develop its campuses into ecological and spiritual harmony models. This vision aligns with the nation's aspirations under Malaysia Madani, which focus on sustainability, prosperity, and innovation.

This study addresses this gap by proposing a framework for the Islamic Energy Garden (IEG) to guide the design of sustainable campus environments that incorporate Islamic values. By focusing on the elements and characteristics of Islamic gardens and integrating green energy components, this research aims to create a balanced model of sustainability that aligns with the Maqasid Shariah principles. Specifically, the study explores the levels of necessity for IEG features categorised as 'Daruriyat' (essentials), 'Hajiyat'

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(complements), and 'Tahsiniyat' (embellishments) to ensure the framework is both spiritually enriching and environmentally responsible. The findings of this study will contribute to the development of a conceptual IEG framework that can serve as a benchmark for Malaysian campuses, helping educators, campus planners, and policymakers integrate sustainability with Islamic principles.

2.0 Literature Review

2.1 Shariah-Based Islamic Energy Garden Concept

Maqasid Shariah refers to the overarching goals and objectives of Islamic law to ensure the welfare of individuals and communities in this life and the hereafter. These objectives serve the ultimate purpose and foundation of Islamic law (Sarkawi et al., 2017; Sohaimi et al., 2024). Maslahah is a 'public interest' or 'welfare', and it refers to the concept in Islamic jurisprudence that emphasises actions or rulings aimed at achieving benefits and preventing harm for individuals and society in accordance with the principles of Maqasid Shariah (the objectives of Islamic law). According to Al-Ghazali, "Everything that leads to the preservation of these five foundations is considered *maslahah*, and everything that leads to the disruption of these foundations is *mafsadah*, and its removal is *maslahah*," (Al-Ghazali, 1998 cited in Jalil, 2006). This concept seeks to facilitate ease (*maslahah*) for individuals while preserving the benefits that humanity cherishes (Haque et al., 2024). The three fundamental elements of Maslahah include necessities (*daruriyyat*), complements (*hajiyyat*), and luxuries (*tahsiniyyat*) (Sohaimi et al., 2024; Haque et al., 2024). Necessities (*daruriyyat*) can be categorised into 5 objectives of Islamic law, which include: (i) Safeguarding of Faith (*Al-Din*), (ii) Safeguarding of Life (*Al-Nafs*), (iii) Safeguarding of posterity (*Al-Nasl*); (iv) Safeguarding of Intellect (*Al-Aql*), and (v) Safeguarding of Wealth (*Al-Mal*) .

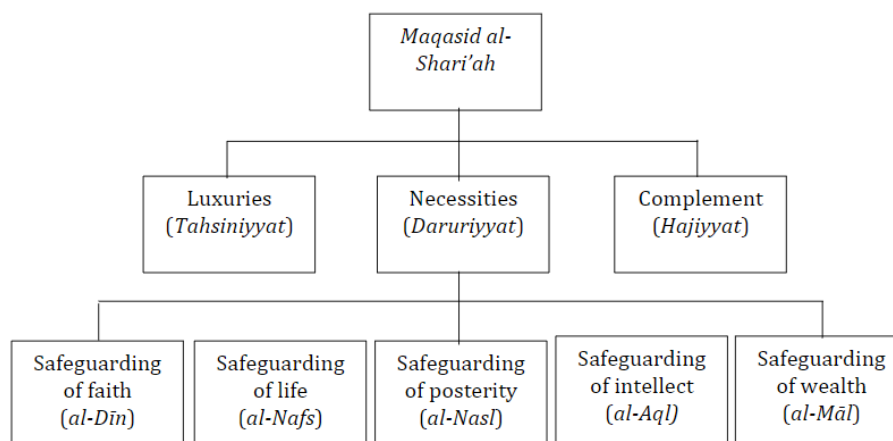


Fig. 1 Maqasid Shariah framework in accordance with Al-Ghazali
(Source: Auda (2008) and Md Ramli et al., (2015) cited in Sohaimi et al., 2024)

Designing an Islamic Energy Garden (IEG) to achieve a sustainable campus barakah is an essential step in aligning Islamic principles with sustainable development practices. These designs not only cater to the ecological needs of a campus but also enhance its spiritual and social well-being, creating an environment that nurtures both the physical and spiritual needs of its community. It is essential to understand the significance of these designs by aligning with the three levels of necessity (*maslahah*) in Islamic jurisprudence: *Daruriyat* (necessities), *Hajiyyat* (complementary needs), and *Tahsiniyat* (embellishments) (See Fig. 1). It represents the relationship between the Maqasid al-Shariah (objectives of Islamic law) and the Maslahah (public interest or welfare) concept, showing how various aspects of life are protected under Islamic law (Samidi et al. 2017).

Several scholars have discussed the relationship between *maslahah* and Maqasid Shariah. Some scholars classify the five objectives of Maqasid Shariah under the category of Necessities (*Daruriyyah*) (Sarkawi et al., 2017; Suhaimi et al., 2024). In the context of the Islamic Energy Garden, the researchers found that all five principles of Maqasid Shariah (life, religion, knowledge, wealth, and lineage) can be aligned with all categories of *maslahah*, as they contribute to holistic well-being and sustainable development. As discussed by Samidi et al. (2017), the *maslahah* is categorised into three levels of protection: (i) *Daruriyyat* (Essential aspects): These are necessities that are vital to the survival and well-being of human beings. The goal is to 'bring into existence and maintain' these elements to ensure life; (ii) *Hajiyyat* (Needs): These are not essential for survival but alleviate difficulties and enhance the quality of life. In this level, protecting these elements helps to 'remove difficulties, contributing to a comfortable and balanced existence, and (iii) *Tahsiniyyat* (Desirable Aspects) refers to improvements or enhancements that provide comfort, refinement, and aesthetics. The protection of *Tahsiniyyat* aims to 'enhance and put comfort' into life, making it more enjoyable. These are not essential but contribute to a higher quality of living, such as protecting cultural practices and beautifying spaces. This study emphasises that Islamic law not only focuses on survival and protection but also considers enhancing the quality of life by maintaining balance among religion, life, intellect, offspring, and wealth (See Fig. 2).

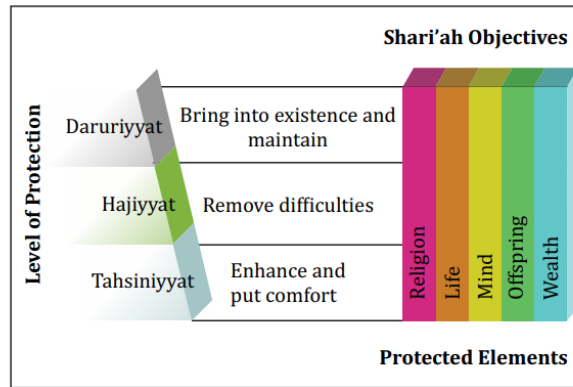


Fig. 2: The relationship between Maqasid Shariah and the concept of Maslahah.
(Source:)Dasuki & Abdullah (2007) and Jalil (2011) cited in Samidi et al., 2017

2.2 Concept of Islamic Garden Energy based on Quranic Verse

The fundamental principle of Shariah guidelines in planning and designing gardens is generally broad, but its application serves as a valuable framework for creating Islamic gardens. The following are key Shariah objectives that should be considered, as shown in Table 1 (Jannah et al., 2015). The planning and design concepts of an Islamic garden are fundamentally flexible, allowing for adaptability to the specific location and the needs of its users (Jannah et al., 2015).

Table 1: Shariah Limitations on Character and Activities

Criteria	Subcriteria	Searching results	
		Alquran	hadith
Prohibited Elements	Using forms that resemble humans or animals, such as statues.	1	62
	Utilising materials like gold and silver.	-	9
Prohibited Characteristics	Mixing good and evil.	4	3
	Displaying extravagance and excessive luxury.	4	10
Prohibited Activities	Associating partners with Allah (Shirk).	55	91
	Denying the natural laws established by Allah (Sunnatullah).	2	-
	Acts of destruction or vandalism.	1	3
	Approaching acts leading to immorality (Zina).	3	40
	Engaging in activities with no beneficial purpose (wastefulness).	2	5

(Source: Jannah et al., 2015)

Jannah et al. (2015) criticised the current development of the Islamic garden concept as being based on historical periodisation, and the discussion of Islamic gardens emphasises design aspects. An example of this is the extensive discussion on the design of Islamic gardens, which is dominated by geometric shapes, the chahar bagh pattern, and the use of characteristic elements such as water and shade (Lehrman, 1980; Jani et al., 2018; Fallahi et al., 2020). Jani et al. (2018) identified the characteristics of Islamic gardens through an analysis of Andalusian gardens, categorising them into three primary orders: the watering system, the planting arrangement, and the structural or man-made elements. This approach has led to a limitation in categorising a garden as an Islamic garden based solely on certain design forms, even though further discussions state that each element and form carries its meaning (Jannah et al., 2015). For instance, the findings of Fakriah (2020) reveal that the Aceh Garden of the 17th century, as documented in the Bustanussalatin manuscript, reflects the concept of an Islamic Garden inspired by descriptions of paradise in the Quran and Hadith. This concept of Islamic gardens also primarily focuses on the study of gardens that flourished during the golden age of Islam, often overlooking other factors, such as local cultural assimilation and climatic influences (Jannah et al., 2015). Several criteria for the concept of an Islamic garden based on the Quran and Hadith are listed by Jannah et al. (2015), including order, space, form, texture, pattern, light, movement, garden elements, and users (visitors), as shown in Table 2.

Jani et al. (2018) and Jani et al. (2015) emphasised the physical characteristics of the Islamic garden concept based on historical garden features, while Jannah et al. (2015) focused on the concept of Islamic gardens grounded in the Quran and Sunnah. Both studies serve as valuable references for developing an Islamic energy garden framework, providing guiding principles that detail key garden elements and their arrangement within the Islamic garden concept. However, a notable gap in this study (Jani et al., 2018 and Jannah et al., 2015) is the absence of categorisation of these elements according to levels of necessity (Daruriyat, Hajiyyat, Tahsiniyat) and their alignment with Maqasid Shariah principles. The current study aims to offer a more holistic and structured approach to Islamic garden design to address this gap.

Table 2: Concept of the Islamic Garden based on the Quran and Hadith

Concept of Islamic Garden	Concept according to Quran and Hadith
Order	There are no specific criteria regarding order discussed in detail. However, it is important to consider the concept of <i>tawazun</i> (balance), which aligns with Allah's laws in the universe (35:43).
Space	It is indicated that the garden of paradise has vast dimensions (3:133) and can be enjoyed by various users simultaneously (13:23), but this should not be seen as a fixed or definite measure.
Form	There are no strict rules regarding the forms in a garden, but it is clear that the forms used must not resemble the creations of Allah SWT (humans and animals) in a way that could lead to worship or associating partners with Allah SWT (7:191).
Texture	There are no specific rules regarding the use of textures permitted in Islam. This means that any texture is allowed as long as it is beneficial and does not violate what is prescribed in Islamic law.
Pattern	While there are no strict rules regarding the use of patterns, there are guidelines about images (i.e., the purpose of their use should be considered to avoid leading to the worship of Allah SWT). This is one of the Shariah limitations to be observed (HR Muslim No. 131).
Light	While there is no specific concept of light in Islamic garden design, descriptions of paradise in the Quran suggest gardens that are cool and free from harsh or blinding light (4:57), and the use of shade to protect from light or heat (77:41).
Movement	While there is no specific concept of movement in garden design, depictions of paradise suggest that one of the most desired aspects for users is easy access to fulfill their needs in the garden (50:31).
Garden Elements	In descriptions of paradise, various garden elements are mentioned, including soft elements (water (47:15), vegetation, and fruits (43:73), as well as animals (HR Tirmidzi No. 1565)), and hard elements (garden buildings (HR Tirmidzi No. 3621), gates (HR Bukhari No. 3017), and other hard elements such as pillow (88:15), carpets (55:54), couches (52:20), cups (43:71), goblets (76:15), plates (43:71), and vessels (76:15)).
Users (visitors)	Gardens can be either public or private and are open to all users as long as they do not violate Sharia boundaries: their appearance and activities should align with Islamic law (23:1-11).

(Source: Jannah et al., 2015)

Moreover, these studies did not address contemporary approaches to energy gardens and sustainable Islamic garden concepts based on the Quran, which will also be explored in the current study. A recent study by Kolkailah (2023) highlights three primary objectives derived from Qur'anic narratives: Anthropocentric, Theocentric, and Ecocentric objectives, which are intended to guide the creation of gardens and green spaces by Islamic institutions, such as mosques and charitable organisations. The gap identified in Kolkailah's (2023) study is that it needs to explicitly address the integration of energy-related concepts or sustainability based on Islamic principles. The focus is primarily on social, spiritual, and ecological values related to green spaces and gardens. Still, it needs to explicitly connect these ideas with the concept of energy gardens that are sustainable and energy-efficient, which is the core of the Islamic Energy Garden (IEG) Framework proposed in the current study. Maqasid Shariah provides a comprehensive framework that serves as a guiding principle for addressing various aspects of sustainable development, including energy efficiency (Kandar et al., 2023) and environmental sustainability (Yaakub et al., 2020; Nasir et al., 2022) and low-carbon cities (Tumiran, 2024).

3.0 Methodology

A desk study was carried out, which involved performing a Thematic Tafseer Analysis of the primary data and a scoping review of the secondary data. This research is based on primary data aimed at understanding the concept of the Islamic energy garden, grounded in Quranic verses and the principles of Maqasid Shariah. It examines the elements of Islamic gardens, energy gardens, and sustainable practices, categorising them according to the levels of necessity: essential (Daruriyat), complementary (Hajiyat), and embellishing (Tahsinayat), while also aligning these elements with the objectives of Maqasid Shariah. This approach allows for a comprehensive exploration of the Quranic verse, existing research, publications related to Islamic garden design, green energy technologies, and their alignment with Maqasid Shariah principles.

3.1 Thematic Tafseer Analysis

Yaghooti and Talebpour (2024) used a descriptive-analytical approach to study the aesthetic aspects of Iranian-Islamic gardens. Their methodology involved identifying relevant Quranic verses about paradise and analysing the symbolic and architectural features of Islamic gardens inspired by these verses. The study utilised library research to collect data and applied Quranic interpretations, particularly Tafsir al-Mizan, to support their analysis of the gardens' aesthetic elements. Additionally, Muchlis (2021) employed the thematic interpretation (*maudhu'i*) of the Quran, which involves gathering verses related to the environment as a whole. This method allows for the contextual exploration of Quranic teachings on environmental matters. For this study, the translation of Quranic verses and identification of verbs related to Islamic gardens were conducted using the Smart Quran application, which was developed by the Malaysian Ministry of Home Affairs (KDN) and its collaborators and approved under the Printing of the Quran Text Act 1986 (Act 326). The search terms, in Malay, included: *taman, tumbuh-tumbuhan, angin, buah-buahan, air, hujan, tulisan, jalan, teduhan, cahaya, matahari, ilmu*. A thematic tafseer analysis was performed, focusing on words relevant to the elements of Islamic energy gardens based on the digital Quranic resource.

3.2 A scoping review

The scoping review technique is beneficial for mapping out the breadth of literature on these topics, identifying key themes, concepts, and frameworks, and highlighting gaps in current knowledge. The papers are chosen based on their contribution to understanding how

Islamic garden design incorporates both ecological and spiritual values and the role of green energy technologies such as solar energy, rainwater harvesting, and energy-efficient systems in enhancing sustainability. The scoping review process involved searching Google Scholar with keywords such as 'Islamic garden', 'energy garden', 'sustainable garden', 'Maqasid Shariah', 'Islamic courtyard garden', 'rainwater harvesting', and 'solar energy'. Articles were screened to select those relevant to Islamic garden energy practices. The selected studies were analysed to identify themes related to energy-efficient practices, such as solar energy and rainwater harvesting, and their connection to Islamic garden principles and Maqasid Shariah. This review process allowed for the organisation of key trends and gaps in the literature on integrating sustainability into Islamic garden design.

3.2 Validation of the IEG Framework

In addition to the secondary data derived from thematic Quranic verses and a scoping review, this study will validate the proposed Shariah-based IEG elements through user perception surveys during fieldwork, which will be carried out in April 2025. The survey will assess users' perceptions and preferences regarding the IEG, providing valuable insights into its practical applicability and alignment with community expectations. Furthermore, expert reviews from professionals in relevant fields will be conducted to ensure the robustness and credibility of the framework, enhancing its validity and ensuring it meets both academic and practical standards. This multi-tiered validation process will strengthen the framework's potential for real-world implementation.

4.0 Results and Discussion

4.1 Islamic Garden Elements Aligned with Maslahah and Maqasid Shariah

Table 2. Islamic Garden Elements Aligned with Maslahah and Objective of Maqasid Shariah

Level of Necessity	Islamic Garden Elements	Concept according to Quran	Objective of Maqasid Shariah
Daruriyat (Essential)	Community Spaces	- Spaces for social interaction, such as seating areas or discussion areas, promote a sense of community and brotherhood. These areas can be designed with Islamic principles in mind, fostering mutual support and social well-being. (49:10) - Gardens can be either public or private and are open to all users as long as they do not violate Sharia boundaries: their appearance and activities should align with Islamic law (23:1-11).	Protection of Life
	Shade and Shelter	- Providing shade and shelter through trees and covered areas ensures the physical well-being of the community, protecting them from harsh environmental elements. (4:57 and 13:35) - Descriptions of paradise in the Quran suggest gardens that are cool and free from harsh or blinding light (4:57), and the use of shade to protect from light or heat (77:41).	Protection of Lineage
	Vegetations	Planting a variety of vegetation (6:95 and 55:6) and fruit-bearing plants (43:73), in the garden enhances the aesthetic and functional value. These elements support sustenance, health, and well-being, complementing the core ecological functions of the garden.	Protection of Life
	Pathway	- Garden pathway designed with eco-friendly materials, reducing environmental impact, and enhancing the overall safety of individuals using the garden. (4:175) - Well-designed pathways facilitate movement, reduce risks of accidents, and encourage the use of the space for both spiritual and communal activities. (42:52)	Protection of Life
Hajiyat (complementary)	Water features	- The use of water features such as fountains or streams symbolises the Islamic value of purity and sustenance. The righteous (will be) amid gardens and fountains (of clear-flowing water) (15:45) - In descriptions of paradise, various garden elements are mentioned, including soft elements (water (47:15)	Protection of Faith
	Fragrant & colourful plants	- The inclusion of fragrant plants or colourful flowers enhances the aesthetic beauty and spiritual atmosphere of the garden (10:24) - This fragrant plant offering a calming effect that aligns with Islamic teachings of tranquility and serenity (mental health and psychological well-being).	Protection of Life
	Fruitful plants	- In the Quran mentioned on the fruitful plants in the paradise: a garden of date palms and grapevines, with rivers flowing beneath it, and within the garden, there are all kinds of fruits. The fruitful plants symbolise abundance, divine blessings, and the beauty of creation (2:25) - The plants like date palms and grapevines (2:266) and grapes, and olives, and pomegranates (6:99) as mentioned in the Quran, they inspire gratitude and reflection on Allah's blessings.	Protection of Faith
Tahsiniyat (Embellishment)	Geometric Patterns and	- The use of Islamic design principles, including geometric patterns, can beautify the garden and enhance its spiritual and aesthetic experience. Geometric patterns in Islamic art and architecture often symbolise this divine order, showcasing symmetry, unity, and harmony. - In the Quran mentioned: 'By the Sky with (its) numerous Paths' (51:42). The verse highlights the intricate, purposeful design of the universe, reflecting the balance and interconnectedness of its elements.	Protection of Faith
	Islamic Calligraphy	- The verse "He Who taught (the use of) the pen" (96:4) emphasizes the importance of writing and knowledge in Islam. In an Islamic garden, calligraphy reflecting Quranic verses or Hadith serves as a reminder of Allah's guidance (21:105 and 2:2), educating visitors on principles of sustainability, spirituality, and ethical living - Islamic calligraphy that commonly integrate on the wall as decorative elements symbolise Islamic culture and spirituality, elevating the ambiance of the garden.	Protection of Faith

(Source: Author et al. 2024)

To answer the research objective, which is to identify Islamic Energy garden elements aligned with Maqasid Shariah, this section explores the key elements of an Islamic garden that are aligned with the principles of Maqasid Shariah, highlighting their role in promoting ecological sustainability, spiritual harmony, and community well-being. These elements are categorised into essential (Daruriyat),

complementary (Hajiyat), and embellishing (Tahsiniyat) components, each playing a role in meeting environmental needs while connecting to Islamic values. Based on the literature review, the findings on Islamic garden elements aligned with Maqasid Shariah are summarised in Table 2.

Based on the study, the community spaces, shade, and shelter fall under the essential (daruriyat) category for fulfilling the basic needs of garden users in accordance with the objective of maqasid shariah of protecting life (nafs). Idris et al. (2018) and Firdaus et al. (2022) highlighted the importance of providing a shaded seating area in the courtyard gardens to support social interaction among its users. Jani et al., 2018 highlighted that water and vegetation are critical physical characteristics of the Islamic garden, as supported by Jannah et al. (2015), that water and vegetation are mentioned in the Quran several times. Designing the landscape needs to be considered. Considering the Malaysian climate is hot and humid, shaded trees in the garden can help cool down the outdoor and indoor air temperature in the building. In addition, elements such as community spaces and biodiversity are considered complements (Hajiyat) as these elements, while not essential, enhance the quality and functionality of the garden. On the other hand, the geometric patterns and Islamic Calligraphy elements, as well as fragrance plants, fall under the third category, which is an embellishment (tahsiniyat), as these elements enhance the spiritual and aesthetic experience of the garden, creating a deeper connection to faith and beauty.

4.2 Green Energy Elements and Sustainable Design aligned with Maslahah and Maqasid Shariah

Table 3. Green energy elements and sustainable design aligned with Maslahah and the objective of Maqasid Shariah

Level of Necessity	Green Energy Elements & Sustainable design	Concept according to Quran	Objective of Maqasid Shariah
Daruriyat (Essential)	Solar Energy	- The verse in Al-Quran highlights the significance of the sun as a source of light and energy, created with purpose by Allah (10:5) and (14:33). - Solar panels convert sunlight into clean energy, powering essential functions such as irrigation pumps for water fountains and lighting fixtures in the garden.	Protection of Property
	Rainwater Harvesting Systems	- In Quran verse (2:22) highlights the blessing of rain as a divine provision to sustain life and nurture the earth. Connecting this to a rainwater harvesting system in the Islamic Energy Garden. - The garden incorporates a rainwater collection mechanism to capture and store rainwater for efficient use. Rainwater is also utilised for cleaning garden pathways and maintaining water fountains, upholding the cleanliness emphasized in Islam.	Protection of Property
	Daylighting	- The verse in the Quran highlights the precision of Allah's creation, including the alternation of night and day, which allows the sun to play a vital role in sustaining life (39:5). - Morning sunlight provides essential Vitamin D, enhancing garden users' physical and mental well-being. Strategically placed seating areas balance exposure to sunlight with shaded zones, offering comfort and protection from excessive heat throughout the day.	Protection of Life
	Ventilation	- In Quran verse (45:5) highlights the signs of Allah in the winds, emphasising their role in benefiting creation. - The garden layout is designed to promote cross-ventilation, allowing the wind to flow freely and regulate the microclimate. This enhances the comfort of garden users by reducing heat and humidity.	Protection of Life
Hajiyat (complementary)	IOT-based solar-powered system	- This Quranic verse (29:43) emphasises the importance of knowledge and understanding in deriving meaning and applying it to practical innovations. - The use of a solar-powered meter and IoT-based system, controlled via mobile apps, demonstrates how modern knowledge and innovation can contribute to the efficiency and sustainability of the garden.	Protection of Property
	IOT-based irrigation system	- Rainwater is stored and used for irrigation through a smart IoT-based system. Sensors and automated controllers ensure efficient water distribution based on plant needs, minimizing waste. - Quranic verse (2:269) highlights the importance of knowledge and wisdom, stating that Allah s.w.t grants wisdom to whom He wills, and those who possess it benefit greatly. The use of IoT-based systems in the Islamic Energy Garden promotes innovation and creates an educational environment by demonstrating sustainable practices and providing interactive learning opportunities.	Protection of Property Protection Knowledge
Tahsiniyat (Embellishment)	Green roof and Living wall	- The Quranic verse (80:30), 'And enclosed Gardens, dense with lofty trees' describes a lush, verdant environment filled with trees. - The use of green walls and roofs not only creates aesthetically pleasing spaces but also serves practical functions that enhance thermal comfort and energy efficiency.	Protection of Life
	Orientation	- The verse (2:115) highlights that Allah's presence is universal and not confined to a particular direction, yet Muslims are directed towards the Qibla as a symbol of unity in worship. - The main garden pathway may be positioned to align with Qibla (the direction of Mecca), reflecting spiritual symbolism, a spiritual journey and orientation.	Protection of Faith

(Source: Author et al. 2024)

Furthermore, to address the research objective of identifying green energy elements aligned with Maqasid Shariah, this section presents green energy technologies suitable for implementation within the Islamic Energy Garden and their alignment with the Maqasid Shariah principles of sustainability, resource management, and environmental stewardship (See Table 3). The study found that solar energy and rainwater harvesting elements fall under the essential (Daruriyat) category. These energy components are crucial for fulfilling the basic functional and ecological requirements of the campus and garden while ensuring sustainability. In addition, the other green energy

elements, such as decorative solar lamps and biophilic design features, fall under the complementary (hajiyat) category as these elements beautify and enhance the spiritual connection of the campus, contributing to the overall aesthetic and environmental harmony.

6.0 Conclusion & Recommendations

In conclusion, this study highlights the alignment of Islamic garden elements with the Maqasid Shariah, emphasising both ecological sustainability and spiritual-social connections. Based on the categorisation of the Islamic energy garden elements in accordance with *maslahah*, which includes essential, complementary, and embellishing components, the study reveals that essential elements such as community spaces, shade, shelter, and vegetation promote well-being and ecological balance. Complementary features like water elements, fragrant plants, and fruit-bearing plants enhance aesthetic, spiritual, and psychological benefits. Embellishing elements, such as geometric patterns and Islamic calligraphy, reflect Islamic culture and spirituality. The research also explores the integration of green energy elements, such as solar energy, rainwater harvesting, and daylighting, promoting sustainability while aligning with Maqasid Shariah's objectives of protecting life, faith, property, and lineage. This study suggests that modern innovations, including IoT-based solar systems and automated irrigation, support sustainable practices, create educational opportunities, and foster harmony between faith, environment, and community values.

The limitation of the current study lies in its reliance on primary data derived from thematic Quranic analysis and secondary data obtained through a scoping review conducted as part of a desk study. Future studies should incorporate user perception surveys to assess preferences regarding the Islamic Energy Garden (IEG) elements, ensuring alignment with community needs and expectations. Fieldwork should also be conducted to identify and validate the specific IEG elements in real-world settings. Additionally, expert reviews and consultations with professionals in relevant fields are essential to enhance the framework's accuracy, credibility, and applicability. These steps will not only refine the proposed elements but also provide robust evidence for the practical implementation of the IEG framework. Overall, this study contributes to the field by integrating sustainable design principles with Islamic values, offering innovative solutions in green energy, IoT systems, and environmental design, which can guide government policies on sustainable urban planning, inform industry practices by promoting energy-efficient technologies, and benefit society by enhancing the quality of living through environmentally conscious, spiritually aligned spaces.

Moreover, the Islamic Energy Garden (IEG) framework positively impacts society by promoting environmental sustainability and enhancing public awareness of green practices. For governments, it aligns with national sustainability goals, reduces energy consumption, and supports climate action policies. The industry benefits from opportunities to innovate in green technologies and collaborate on eco-friendly projects. Academically, the framework advances the field of knowledge by integrating Islamic principles with modern energy solutions, fostering interdisciplinary research, and providing a model for sustainable campus design. Overall, the IEG framework serves as a catalyst for sustainable development, encouraging collaboration among stakeholders to address global environmental challenges. This is in line with Malaysia's National Energy Transition Roadmap (NETR), which promotes sustainable energy practices and environmental stewardship (MOE, 2023). As part of Malaysia's green agenda, the IEG garden emphasises the integration of renewable energy, energy efficiency, and green technologies in campus environments. This supports NETR's objectives to accelerate the transition to a low-carbon economy, reduce reliance on fossil fuels, and foster green innovation.

Despite the positive impact on society, government, industries and field of knowledge, there are potential challenges in implementing the IEG framework on campuses, including financial constraints, limited resources for advanced technologies, cultural resistance to change, lack of stakeholder engagement, and insufficient expertise in sustainable practices. Nevertheless, policymakers can support the implementation of the IEG framework by integrating sustainability-focused policies into institutional development plans and providing financial incentives, such as grants or subsidies, to encourage adoption. Furthermore, engaging stakeholders, including academic institutions, industry experts, and community leaders, can address cultural and operational barriers. Training programs should be implemented to build capacity among facility managers and staff, ensuring effective execution. Additionally, public awareness campaigns highlighting the benefits of the IEG framework can further foster community support and enhance its practical application.

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Paper Contribution to Related Field of Study

This paper makes significant contributions to the field of Islamic garden design by exploring the integration of Maqasid Shariah principles with garden elements. It provides a design criteria checklist for an Islamic Energy garden that merges ecological sustainability with spiritual and community benefits. The future IEG framework will guide architectural and landscape design projects aiming to blend Islamic principles with modern environmental sustainability efforts.

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