

Environmental Sustainability in the Hajj Pilgrimage

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Abstract

Maintaining environmental sustainability is one of the global challenges faced by the world today. Each year, climate change is significantly observed through phenomena such as rising temperatures affecting rainfall distribution, cyclones, flooding, and glacial melt. These threats, which endanger ecosystems and human lives, stem from greenhouse gas emissions released into the atmosphere as a result of human activities. This article explores the maqasid (higher objectives) of preserving environmental sustainability through an analysis of religious texts, particularly those related to the rituals of Hajj. Furthermore, this article aims to identify and propose the roles that each agency and individual involved in the implementation of Hajj must play in addressing climate change and maintaining environmental sustainability. This qualitative study adopts an exploratory and content analysis approach. Data were collected using document analysis methods and subsequently analyzed through content analysis techniques. This methodology allows for the analysis and identification of the alignment between the maqasid of preserving environmental sustainability and the implementation of Hajj rituals. The study finds that Islam, through religious texts, demands the preservation and conservation of the environment to maintain sustainability. This is evident both explicitly and implicitly through the requirements for the performance of rituals guided by revelation. Indirectly, it also suggests that our response, whether as individuals or communities, plays a crucial role in safeguarding environmental sustainability for future generations.

Keywords: Hajj, Maqasid, Environmental Sustainability

Introduction

Environmental sustainability is an increasingly urgent global issue in the 21st century, driven by ecological crises, biodiversity loss, and climate change. Global warming and environmental pollution negatively affect the well-being of the planet and all life within it. Factors such as population growth, uncontrolled urbanization, and unsustainable resource consumption further exacerbate these conditions. Growing awareness of these issues has sparked discussions across various disciplines, including religious frameworks. Islam, as a religion that

emphasizes balance and the preservation of the environment, holds great potential in promoting sustainability through its teachings.

Discussions on environmental sustainability revolve around two main elements: humanity and the natural environment. From a human perspective, it encompasses human activities and behaviors, particularly in the economic context, which play a crucial role in sustainability as they reflect human efforts to meet their needs. The interplay between humans, nature, and economic activities is essential to understanding this concept. According to Morelli (2011), environmental sustainability is the endeavor to meet the resource needs of the present and future generations without compromising the ecosystems that support them. This demands the balance and resilience of ecosystems so they can continue to provide services without harming biodiversity or degrading environmental quality. Sutton (2004), further defines sustainability as the ability to maintain valuable elements within the physical environment, which includes natural elements such as land, water, and air, as well as man-made elements like buildings and infrastructure. While these definitions focus on human benefits, it should be remembered that environmental preservation is not solely for humans, but for all of God's creatures. Nature has its inherent rights to exist as God's creation, and not merely as a resource for human use.

In other words, environmental sustainability refers to the ongoing efforts to preserve and manage natural resources and ecosystems to remain sustainable for the present and future generations. This concept prioritizes a balance between human development and environmental conservation, without compromising the ecosystem's ability to provide resources and services in the future. Sustainability involves principles of prudent resource use, pollution reduction, resource recovery, and biodiversity conservation. In Islam, environmental sustainability is the responsibility of humans as stewards (khalifah) on Earth, in line with the overarching principles of maqasid al-shariah, which emphasize the protection of life, intellect, and property for the well-being of society (al-Rikh, 2019).

Problem Statement

Hajj, one of the five pillars of Islam, not only emphasizes spiritual aspects but also connects humans with the environment. Each year, millions of Muslims gather in Mecca, presenting a large-scale mass management challenge. Although Hajj is a ritual that implicitly incorporates elements of environmental sustainability, questions arise regarding the extent to which these sustainability principles are applied in its execution. The gathering of millions of Muslims in Mecca results in significant ecological impacts. For instance, the increase in solid waste, excessive water consumption, and high energy usage put considerable pressure on the environment. The primary question that emerges is whether Islamic rituals, particularly Hajj, align with the maqasid of preserving environmental sustainability. Are the environmental sustainability elements inherent in Islamic law effectively implemented in the management of the Hajj ritual? Is ecological awareness considered and practiced to minimize carbon footprints and protect the environment during the Hajj season?

Methodology

To achieve the outlined objectives, this study adopts a qualitative approach, applying content analysis methods that involve document analysis protocols. The secondary data highlighted

and analyzed in this study are obtained from contemporary works, journal articles, newspaper clippings, as well as reports from authorized agencies and institutions.

Literature Review

The Foundation of Sustainability in Islam

In Islam, the concept of *khilafah* (stewardship) emphasizes the human responsibility as guardians of the Earth. The Quran, particularly in Surah al-Baqarah (2:30) and al-An'am (6:165), underscores the role of humans as *khalifah* (stewards) entrusted with the responsibility of preserving the balance of nature. In Surah al-Baqarah (2:30), Allah reminds that humans are appointed to manage the Earth, despite the angels questioning the potential of humans to cause corruption. This highlights the need for humans to avoid destruction and to maintain environmental balance.

Additionally, Islam outlines the principle of *wasatiyyah* (moderation), whereby the use of natural resources must be balanced and not excessive. Surah al-A'raf (7:31) states that humans should not be wasteful in utilizing natural resources, as Allah does not love those who are extravagant. This approach underpins environmental preservation within the framework of sustainable development, where balance is prioritized.

Islam also strengthens the concept of *tawhid* (the Oneness of God), teaching that all of Allah's creations are interconnected. Tawhid unifies all aspects of human life with the natural world, which must be respected and protected. It affirms the unity of all of Allah's creations, which must be preserved as part of humanity's responsibility towards nature. Humans are commanded to maintain this harmonious relationship as part of their faith (al-Siba'ie, 2023).

Maqasid al-Shari'ah and Environmental Sustainability

Maqasid al-shari'ah refers to the primary objectives of Islamic law, aimed at protecting and preserving the interests of humanity, society, and the environment in the long term. These objectives are not limited to safeguarding human life but also extend to the well-being of the environment, as it forms the foundation of life for all of Allah's creations. In the context of environmental sustainability, maqasid al-shari'ah provides a holistic framework through the protection of life (*hifz al-nafs*), wealth (*hifz al-mal*), and progeny (*hifz al-nasl*), all of which are deeply intertwined with the sustainability of the environment (Fairuz, 2023).

Hifz al-Nafs (Preservation of Life) and Environmental Sustainability

In maqasid al-shari'ah, the preservation of life is a fundamental objective. A sustainable environment contributes to human life through essential resources such as clean air, water, and food. Environmental degradation, through pollution, deforestation, and misuse of natural resources, poses a direct threat to human life and other living beings. For instance, water and air pollution can lead to diseases that deteriorate human well-being, compromise quality of life, and even result in death. Thus, maintaining environmental sustainability is a form of protecting human life, in alignment with the objectives of maqasid al-shari'ah (al-Rikh, 2019).

Hifz al-Mal (Preservation of Wealth) and Natural Resource Management

Hifz al-mal, or the preservation of wealth, includes the management of natural resources such as land, water, and agricultural produce. Excessive and uncontrolled exploitation of natural resources threatens ecosystem stability and results in the loss of assets for both present and

future generations. The principle of sustainability emphasizes the prudent use of resources, ensuring that they are managed in ways that minimize harm and guarantee long-term continuity. In this regard, maqasid al-shari'ah mandates ethical and responsible stewardship of natural resources, promoting their long-term benefit without compromising the ecological balance (al-Siba'ie, 2023).

Hifz al-Nasl (Preservation of Progeny) and Ecological Continuity

The preservation of progeny extends beyond biological lineage to include ensuring a healthy ecological legacy for future generations. The current generation bears the responsibility of ensuring that the natural resources and ecosystems they inherit are maintained for the benefit of their descendants. Environmental degradation will impair the ability of future generations to meet their basic needs. Therefore, ecological sustainability is a key prerequisite for preserving human progeny, both physically and morally, as envisioned by maqasid al-shari'ah (al-Rikh, 2019).

Based on the discussion above, it can be concluded that environmental sustainability aligns with the broader maqasid al-shari'ah (general objectives), where it integrates with three key aspects: hifz al-nafs (preservation of life), hifz al-mal (preservation of wealth), and hifz al-nasl (preservation of progeny). It emphasizes the responsibility to maintain a healthy ecological legacy, with environmental sustainability serving as a prerequisite to ensure that future generations can enjoy the same resources and live in a prosperous environment. Hence, environmental sustainability is not only a moral and ethical responsibility but also consistent with the broader objectives of maqasid al-shari'ah, affirming that the protection of the environment is integral to the well-being of humanity and Allah's creations within the framework of Islamic law.

Environmental Sustainability in Hajj Practices

Hajj, one of the five pillars of Islam, emphasizes not only spiritual devotion but also the connection between humans and the environment. Each year, millions of Muslims gather in Mecca, showcasing large-scale mass management. Rituals such as *tawaf*, *sa'i*, *wuquf* at Arafah, and *mabit* at Mina and Muzdalifah performed in open spaces, integrate natural elements like hills, valleys, and deserts. These rituals offer an opportunity for reflection on humanity's role as Allah's khalifah (stewards) in caring for the Earth.

Hajj is a key manifestation of how Islam connects humans with nature. Previous studies highlight that environmental sustainability is embedded within Hajj practices, though not always explicitly stated. One significant element is the emphasis on cleanliness. Maintaining cleanliness is an essential requirement of Hajj, aligned with the broader principles of Islamic teachings (Usman & Nasir, 2023). In the context of millions of pilgrims gathering in Mecca, this focus on cleanliness has direct implications for environmental preservation. Moreover, the prudent use of water is another critical aspect of Hajj. With millions of pilgrims converging simultaneously, water scarcity is often a concern for authorities. However, if pilgrims adhere to Islamic teachings, which stress the careful management of water through its wise use, waste can be minimized, thereby alleviating potential water shortages in the sacred spaces. This aligns with the guidance of the Prophet Muhammad (PBUH), who advised moderation in water use for ablution, even when performing wudu at a large river (Ahmad, 2001).

Additionally, the minimalist approach to clothing and equipment during Hajj—particularly through the wearing of ihram—highlights practices that avoid resource wastage. The ihram symbolizes simplicity and devotion, where pilgrims are encouraged to minimize material needs and respect the sanctity of the environment (Abū-Sulaymān, 2009).

There are also strict prohibitions during Hajj against actions that could harm the environment, such as killing animals or cutting down trees within the sacred boundaries (Holy Land). Pilgrims are taught to avoid any activities that may harm the environment, including the killing of animals or uprooting plants without valid reasons. This demonstrates that environmental sustainability is integral to the pilgrimage, offering a model of well-organized large-scale gatherings where every element of worship functions in harmony with preserving the sanctity of the environment (al-Badr, n.d.).

In conclusion, Hajj exemplifies how Islamic teachings emphasize environmental sustainability through practices that encourage cleanliness, water conservation, minimalism, and the protection of natural ecosystems. These principles reinforce the broader Islamic ethos of maintaining balance and stewardship over the Earth, showcasing a holistic integration of spiritual and ecological responsibilities during one of the most significant religious events in Islam.

Challenges in Achieving Sustainable Hajj

The execution of the Hajj pilgrimage faces significant challenges in ensuring alignment with environmental sustainability principles. One of the biggest challenges is the massive number of pilgrims. Every year, more than two million Muslims from around the world gather in Mecca for Hajj. This large-scale gathering places immense pressure on natural resources such as water and energy, while also triggering air and land pollution due to excessive human activities. Studies indicate that air pollution levels in Mecca surge significantly during the Hajj season, potentially affecting public health and the environment (Rodiyah, 2024).

Additionally, the extensive infrastructure required to accommodate millions of pilgrims presents further environmental sustainability challenges. The construction of hotels, roads, and other facilities demands substantial resources, and if not managed properly, can lead to land degradation, resource wastage, and an increased carbon footprint. Waste management is another major issue, as millions of pilgrims generate vast amounts of waste, including plastics and food waste. Without effective management, this waste can cause soil and water pollution, compromising the sanctity of the holy sites (*Hay'ah Malakiyyah li Madinah Makkah, 2021*).

Sustainability in the Context of Contemporary Hajj Practices

In line with Islamic principles of sustainability, modern efforts have been undertaken by the Saudi government to introduce sustainable elements into Hajj management and infrastructure. These initiatives include the use of green energy in operations within Mecca and its surrounding areas. Saudi Arabia has launched several renewable energy projects, such as solar and wind energy, to reduce reliance on fossil fuels in generating power for the Hajj sites (Rodiyah, 2024).

Solid waste management has also become a primary focus. With millions of Hajj pilgrims each year, effective waste management is crucial. Reports indicate that the Saudi government has implemented recycling and waste management initiatives during the Hajj season. These programs include streamlined waste collection systems, where organic and inorganic waste are separated for recycling. The aim of these initiatives is to reduce the ecological impact of Hajj activities and ensure that the holy sites remain clean and sustainable (Hay'ah Malakiyyah li Madinah Makkah, 2021).

With the integration of traditional Islamic teachings on environmental sustainability and modern efforts, the Hajj pilgrimage holds potential as a robust model for environmental stewardship among Muslims, serving as inspiration for sustainable approaches on a global scale.

Furthermore, eco-friendly transportation such as electric buses and efficient public transportation systems can help reduce congestion and air pollution. Another opportunity lies in the development of sustainable cities around the holy sites, where green technologies such as efficient water management systems and eco-friendly construction practices can be implemented to minimize environmental impact. Systematic green waste management programs, including the use of recycling technology, can also be expanded to address the growing issue of solid waste during the Hajj season (Rodiyah, 2024).

In conclusion, while the challenges of ensuring a sustainable Hajj are significant, the combination of traditional Islamic values and modern sustainable practices provides a pathway for reducing the environmental impact of this large-scale pilgrimage. These efforts, if expanded and continuously refined, can make the Hajj an exemplary model of environmental sustainability in religious practice.

Green Hajj – Innaha Tahirah

The Ministry of Environment, Water, and Agriculture has called upon Hajj pilgrims to adopt practices and behaviors that positively impact the environment during the Hajj pilgrimage in the year 1444H (2023AD). The objective is to ensure an environmentally friendly spiritual journey that contributes to both environmental and public health in Mecca, the sacred sites, and Medina.

The Ministry launched an awareness campaign during the Hajj season under the slogan 'Innaha Tahirah' (It's a Pure Land), aiming to raise environmental consciousness in the Haramain (the two Holy Mosques) and other sacred sites. The campaign seeks to educate pilgrims on the importance of environmental stewardship, promote environmentally related activities, and support sustainable development aligned with Saudi Arabia's Vision 2030 goals. According to the Ministry, the campaign incorporates various media outputs targeting Hajj pilgrims, disseminated through media platforms, distribution of guidance booklets, and provision of environmental advice in six languages, including Arabic, English, Urdu, French, Indonesian, and Malay. Additionally, environmentally themed gifts will be distributed by volunteers to pilgrims. The campaign includes awareness videos, notifications through smart applications, public service announcements, voice and text messages, lectures, and field activities (Saleh, 2023).

The selection of the slogan "It's a Pure Land" is intended to encourage appropriate environmentally friendly behaviors within the holy lands, while providing guidance that facilitates a smooth and peaceful Hajj experience. It aims to instill respect for the sanctity of both place and time, while preserving and protecting the environment to achieve the broader goals of Saudi Arabia's Vision 2030.

Through the "It's a Pure Land" awareness campaign, overseen by the Environmental Awareness Initiative, the Ministry has provided guidance to pilgrims on critical steps to take before their journey, to enhance eco-friendly practices during the Hajj season. Some key guidelines issued as part of the campaign include:

- a- Wearing Recyclable Ihram Garments: Pilgrims are encouraged to wear ihram garments made from recyclable materials, making disposal after the pilgrimage more environmentally friendly.
- b- Carrying Energy-Efficient Devices: Pilgrims are advised to bring energy-efficient and durable electrical devices to reduce energy consumption.
- c- Using Reusable Water Bottles: Pilgrims are urged to use refillable water bottles to avoid wastage and minimize plastic waste accumulation.
- d- Wearing High-Quality Footwear: Ensuring that footwear is of high quality and durable, reducing the likelihood of waste resulting from worn-out shoes (Saleh, 2023).

Moreover, the Ministry also urges pilgrims to dispose of waste carefully and safely in designated bins, use reusable water bottles instead of disposable plastic ones, wear face masks in crowded places and dispose of them responsibly, minimize plastic use by opting for environmentally friendly materials and practice water and energy conservation.

Through the "It's a Pure Land" campaign, the Ministry has provided several eco-friendly guidelines aimed at reducing food wastage and preserving the blessings of food and drink. The Ministry calls upon pilgrims in Mecca, the sacred sites, and Medina to avoid food and drink waste, in alignment with noble religious teachings. Pilgrims are reminded to consume only what is necessary and in appropriate quantities, ensuring that others are not deprived of food. Additionally, pilgrims are encouraged to share food with those around them and to store leftovers without excessive consumption. The campaign also emphasizes the importance of using reusable cups, containers, and utensils, helping to reduce waste generation (Radiyah, 2024).

The Ministry stresses that environmental preservation is a collective responsibility that should be shouldered by all members of society. Hajj pilgrims are regarded as guardians of the environment, contributing during the Hajj season to ensure that these sacred sites remain clean and pure, by adhering to environmentally friendly practices and reminding one another to implement these measures in every action and movement (Hay'ah Malakiyyah li Madinah Makkah, 2021).

Proposals for Enhancing Sustainability in Hajj

To ensure a more sustainable Hajj pilgrimage, several recommendations can be proposed. First, Hajj authorities should expand the use of green energy, such as solar power, and introduce new technologies to reduce reliance on conventional energy sources (Hassan et al., 2017). Second, waste management systems should be enhanced by implementing more

efficient waste separation systems, where organic and inorganic waste is segregated at its source. Additionally, environmental education programs can be provided to pilgrims, educating them on how to minimize their carbon footprint during the Hajj.

Furthermore, more efficient water usage should be implemented. Innovations such as micro-irrigation systems could be introduced to reduce water wastage, especially in the use of Zamzam water. Authorities should also encourage green practices among pilgrims, such as the use of recyclable materials and reducing single-use plastics. With proper education and awareness, Hajj pilgrims can play a vital role in protecting the environment while performing their religious obligations (Markom & Hassan, 2014).

Implications for the Ummah and the World

The principles of sustainability derived from Hajj can be applied to the daily lives of Muslims worldwide. Hajj teaches us about simplicity, responsibility, and the importance of maintaining environmental balance. These principles can be translated into everyday life by adopting a more sustainable lifestyle, such as reducing waste, utilizing renewable energy, and maintaining environmental cleanliness.

The implications for the Muslim community are profound, as Hajj is not merely a spiritual ritual but also a lesson in our responsibility toward the environment. By drawing inspiration from sustainable Hajj management, Muslims around the world can lead efforts in championing environmental sustainability, thereby reducing the negative impacts on the global environment. Islam's approach to nature as a trust (*amanah*) from Allah provides a guiding framework for humanity in addressing the current environmental crises faced globally.

Conclusion

The key conclusion of this article highlights that Hajj not only holds deep spiritual value but also has the potential to serve as a model for environmental sustainability. From waste management to the use of renewable energy, the Hajj pilgrimage presents numerous opportunities for green innovation that align with Islamic principles of balance and environmental preservation. The challenges in achieving a sustainable Hajj require collaborative efforts from authorities, pilgrims, and the global community. The principles of environmental sustainability in Hajj should inspire Muslims worldwide to adopt more eco-friendly lifestyles in their daily lives.

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