

ENVIRONMENTAL HEALTH MANAGEMENT IN ISLAMIC HIGHER EDUCATION: DEVELOPING A VALUE-BASED PHENOMENOLOGICAL MODEL IN INDONESIA

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Abstract: This study aims to develop a conceptual model for environmental health management at Universitas Islam Negeri (UIN) in Indonesia by integrating Islamic values through a phenomenological approach. Employing qualitative methods, data were collected via in-depth interviews, participatory observations, and document analysis, involving purposively selected academic community members engaged in environmental health management. Data were analyzed using Colaizzi's phenomenological method to uncover the lived experiences of participants, resulting in six key themes: integration of Islamic values in environmental policies, awareness-raising through education and religious outreach, collective participation of the academic community, implementation of tahārah (cleanliness) as campus culture, strengthening management structures, and evaluation based on Islamic principles. The findings reveal that embedding Islamic values such as khalifah fil ardh (stewardship of the earth), tahārah, and maslahah (public benefit) into environmental health management fosters a sustainable and contextually relevant campus culture. The implications include enhanced collective awareness, active participation, and effective policy implementation, contributing to sustainable environmental practices. This model offers a practical framework for other Islamic higher education institutions and enriches the theoretical understanding of value-based environmental health management by bridging modern environmental management principles with Islamic ethical perspectives.

Keywords: Environmental Health Management, Islamic Values, Phenomenological Approach, Campus Sustainability

A. INTRODUCTION

Environmental health issues in Indonesian universities have increasingly gained attention alongside the growing awareness of the importance of a healthy environment for academic communities. A study by Viareco et al. (2023) found that waste management performance in higher education institutions was positioned in Quadrant III, with a range of 30%–60% (low to moderate category), indicating that campus waste management systems still require significant improvement, particularly in terms of facilities and program development. Similarly, Pascawati et al. (2023) revealed that campus environmental management, especially waste handling, remains suboptimal due to the absence of recycling initiatives, the lack of treatment for more than 75% of organic waste, the absence of hazardous and toxic waste (B3) management, and the continued use of conventional methods for liquid waste disposal. These findings highlight the urgent need for a comprehensive and value-based environmental health management approach in Islamic State Higher Education Institutions (Perguruan Tinggi Keagamaan Islam Negeri, PTKIN), such as State Islamic Universities (Universitas Islam Negeri, UIN), to foster a sustainable and healthy campus environment.

Although environmental health management in universities has been widely studied, research integrating Islamic values into this domain within PTKIN remains scarce. Atici et al. (2021) noted that university environmental management practices often focus primarily on technical indicators, such as the UI GreenMetric, while neglecting cultural and religious values that may significantly influence policy implementation in faith-based institutions. Dawodu et al. (2022) further emphasized that global campus sustainability approaches frequently fail to align with local contexts, including Islamic values such as khalifah (human stewardship of the earth). Torrijos et al. (2021) also underscored the importance of contextual approaches that account for social and cultural complexities in campus waste management—an aspect highly relevant for the development of Islamic value-based strategies in PTKIN.

While environmental health issues in universities have been extensively discussed, research specifically focusing on UIN remains limited. For instance, Suwartha and Sari (2013) evaluated campus sustainability indicators using the UI GreenMetric framework but did not address the unique role of Islamic values in environmental governance. Bahçelioglu et al. (2020), in their study on integrated campus waste management strategies, employed a quantitative approach that overlooked the subjective meanings and lived experiences of

stakeholders. Likewise, conceptual models such as those proposed by Heravi et al. (2021) did not incorporate phenomenological perspectives to capture the social dynamics underlying environmental policy implementation in religious-based institutions. These gaps point to the need for a phenomenology-driven model of environmental health management in UIN.

This study therefore pursues two interrelated objectives. First, it seeks to describe the conceptual model of environmental health management that reflects the distinctive characteristics of Indonesian UIN, utilizing a phenomenological approach to capture the lived experiences of academic community members in relation to environmental issues. The model is expected to embody the integration of Islamic values into sustainable campus management. Second, the study aims to identify the implications of applying such a model for enhancing awareness, participation, and effectiveness in environmental health management within UIN. These implications are assessed in terms of their social, educational, and environmental sustainability impacts, thereby offering practical contributions for university administrators and the wider academic community.

In particular, this study is grounded in the premise that developing a conceptual model of environmental health management in UIN requires not only technical and procedural considerations but also the integration of spiritual and religious dimensions that define PTKIN. Islamic values such as *khalifah fil ardh* (stewardship of the earth), *tahārah* (cleanliness), and *maslahah* (public benefit) are integrated with modern principles of environmental health management to produce a model that is contextually relevant and practically effective within Indonesian UIN. A phenomenological approach is employed to uncover the subjective lived experiences of campus stakeholders, ensuring that the model genuinely reflects the realities and needs of the academic community in UIN.

B. METHOD

Research Design and Approach

This study employed a qualitative approach with a phenomenological design to explore in depth the subjective lived experiences of members of the academic community at Indonesian State Islamic Universities (UIN) in interpreting and implementing environmental health management. A phenomenological approach was chosen because it aligns with the study's aim to uncover the essence of meaning derived from participants' direct experiences, enabling the development of a contextual, reflective conceptual model grounded in Islamic values such as *khalifah fil ardh*, *tahārah*, and *maslahah* (Finlay, 2014). This approach facilitates a deep exploration of the social and cultural dynamics that shape environmental practices at UIN (Creswell & Poth, 2017). The study was oriented toward producing a conceptual model that is not only theoretically relevant but also practically applicable to support sustainable campus environmental management.

Participants

Participants were selected purposively, with the main criterion being UIN community members who possess knowledge, experience, and direct involvement in campus environmental health management. The sample included facilities and infrastructure (or occupational health and safety) unit managers, lecturers teaching courses related to the environment and Islamic values, and active students engaged in green campus organizations or programs. The number of participants was determined by the principle of data saturation—that is, sampling continued until no new significant themes or information emerged during data collection (Saunders et al., 2018). This strategy ensured that the data captured a diversity of perspectives and experiences relevant to the UIN context.

Data Collection

Data were collected through in-depth interviews guided by a semi-structured interview protocol, participatory observation to understand practices and routines related to environmental health management, and document analysis of campus policies, standard operating procedures (SOPs), and other supporting documents within UIN. This multi-method design, as recommended by Flick (2018), was intended to yield a comprehensive, context-rich understanding of ongoing environmental health management while capturing the internalization of Islamic values in daily practice. Semi-structured interviews allowed flexibility in probing participants' experiences, whereas observations and documentation enriched the social and institutional context.

Data Analysis (Colaizzi's Method)

Data were analyzed using Colaizzi's phenomenological method, comprising seven systematic steps: (1) reading all transcripts to gain an overall understanding; (2) extracting significant statements; (3) formulating meanings; (4) organizing formulated meanings into major themes; (5) developing an exhaustive description of the phenomenon; (6) distilling the fundamental structure of the experience; and (7) returning to participants for validation of the analytic results (Morrow, Rodriguez, & King, 2015). This approach enabled the identification of authentic and deeply grounded thematic patterns, resulting in a conceptual model that reflects the realities and needs of the UIN campus context. Colaizzi's method was selected for its capacity to reveal the profound subjective meanings embedded in participants' experiences (Edward & Welch, 2011).

Trustworthiness

To ensure credibility and validity, the study applied triangulation of sources and methods by comparing data from interviews, observations, and documentation, as well as across different participant groups. Such triangulation enhances confidence in the study's findings (Carter et al., 2014). In addition, member checking was conducted by asking participants to confirm interim findings to verify alignment with the meanings of their experiences. Validation was further strengthened through peer debriefing—extended discussions with colleagues or qualitative research experts to examine the consistency, coherence, and accuracy of the researchers' interpretations (Nowell et al., 2017).

C. RESULTS AND DISCUSSION

1. Results

The findings of this study are presented in two main parts. The first addresses the conceptual model of environmental health management based on Islamic values in State Islamic Universities (UIN) in Indonesia. This model emerged from a phenomenological analysis of participants' lived experiences, capturing how Islamic principles such as *khalifah fil ardh* (stewardship of the earth), *tahārah* (cleanliness), and *maslahah* (public benefit) are integrated into policies, campus culture, participation, and evaluation mechanisms. The second part highlights the implications of implementing this model in practice, focusing on its effects on awareness, education, participation, institutional policy, and campus sustainability. Together, these findings illustrate how environmental health management at UIN can transcend technical-procedural approaches by embedding spiritual-religious values that are contextually relevant to Islamic higher education institutions.

1. Conceptual Model of Environmental Health Management Based on Islamic Values at UIN

Table 1 presents the thematic analysis results derived from in-depth interviews with six informants directly involved in environmental health management at UIN. Through a phenomenological lens, six overarching themes were identified, representing the structure of a conceptual model of Islamic value-based environmental health management. These themes reflect how campus policies, institutional culture, academic community participation, and evaluation systems are interwoven with Islamic principles to foster a sustainable and contextualized approach to campus environmental governance.

Table 1. Themes and examples of the conceptual model of environmental health management at UIN

Theme	Coding Pattern	Informant	Statement
Integration of Islamic Values into Environmental Policy	Emphasis on <i>khalifah fil ardh</i> in SOPs and campus regulations	N1	"At our campus, policies emphasize the human role as <i>khalifah</i> . This is included in environmental management guidelines, ensuring that every activity considers its environmental impact."
Raising Awareness through Education and Da'wah	Religion-based education and campaigns	N2	"We regularly hold thematic studies and Friday sermons highlighting cleanliness and environmental preservation as forms of worship."
Collective Participation of the Academic Community	Engagement of students, lecturers, and staff in green campus programs	N3	"Each study program and student organization is required to run environmental initiatives, such as tree planting or plastic waste reduction."
Implementation of Tahārah as Campus Culture	Emphasis on physical and spiritual cleanliness	N4	"We instill a culture of <i>tahārah</i> , not only personal hygiene but also cleanliness of classrooms, dormitories, and campus areas, treating it as part of worship."
Strengthening Structures and Management Systems	Establishment of dedicated campus environmental task forces	N5	"We formed a special team responsible for monitoring water quality, cleanliness, and waste management, reporting directly to UIN leadership."
Evaluation and Monitoring Based on Islamic Values	Regular audits considering sustainability and Islamic perspectives	N6	"Periodic evaluations are conducted, assessing not only cleanliness and environmental health but also how well the campus community internalizes Islamic values."

The six themes identified—policy integration, education and da'wah, collective participation, *tahārah* as culture, structural reinforcement, and Islamic value-based evaluation—highlight a multidimensional model of environmental health management at UIN. Each theme represents a crucial dimension of practice: for instance, the *khalifah fil ardh* principle is embedded in policy frameworks, while *tahārah* extends beyond physical

cleanliness to a spiritual foundation for maintaining campus hygiene. Active participation through green programs and continuous evaluations grounded in Islamic values further reinforce this integration. Overall, the model demonstrates that environmental health management at UIN is not merely technical but is deeply enriched by spiritual-religious principles, making it a potentially transferable reference for other Islamic higher education institutions in Indonesia.

2. Implications of Implementing the Islamic Value-Based Conceptual Model

Table 2 outlines the implications of applying the Islamic value-based model of environmental health management at UIN. These insights emerged from phenomenological analysis of participants' experiences as both actors and observers of environmental management transformations on campus. The implications encompass enhanced collective awareness, strengthened environmental education, greater academic community participation, cultural change, improved policy effectiveness, and tangible sustainability impacts.

Table 2. Implications of implementing the Islamic value-based environmental health management model at UIN

Theme of Implication	Coding Pattern	Informant	Statement
Enhanced Collective Awareness	Viewing a healthy environment as trust and worship (khalifah fil ardh, masalahah)	N1	"After socialization of this model, many became aware that maintaining cleanliness is not only about comfort but also a Muslim responsibility."
Strengthened Environmental Education	Integrating Islamic and environmental content into curriculum and da'wah	N2	"We added Islam-based environmental materials in some courses and routine studies, helping students better understand the link between religion and environment."
Active Academic Participation	Green campus activities, environmental task forces, student volunteers	N3	"Many students who were previously indifferent are now engaged in greening activities and campus recycling programs due to the religious perspective."
Campus Cultural Transformation	Extending tahārah to public spaces and dormitories	N4	"Now, not only personal hygiene but also keeping gardens, public toilets, and prayer rooms clean is equally seen as worship."
Policy and Oversight Effectiveness	Regular evaluations with Islamic values and transparent reporting	N5	"This model pushed us to prepare more transparent reports on cleanliness and waste management, with evaluations reflecting Islamic values, not just numbers."
Environmental Sustainability Impacts	Improved water quality, reduced plastic waste, greener campus	N6	"Since this program began, plastic waste has decreased, and the campus is greener with regular tree-planting initiatives."

The results in Table 2 demonstrate that applying the Islamic value-based model has strengthened collective awareness of environmental health as a spiritual and moral responsibility, reframing it as part of the mandate of khalifah fil ardh. Informants emphasized that this perspective shift fostered greater individual and communal care for campus environments, shaping a more environmentally conscious campus culture. Moreover, integrating Islamic perspectives into curricula and da'wah activities deepened students' and lecturers' understanding of the relationship between faith and environmental stewardship, translating into higher participation in campus sustainability programs.

Another implication lies in the improved effectiveness of policies and monitoring systems, which became more transparent and aligned with Islamic principles, ensuring that program success was evaluated not only quantitatively but also ethically and spiritually. Finally, the model has yielded tangible environmental outcomes, including reduced plastic waste, improved water quality, and campus greening initiatives. These findings confirm that integrating Islamic values into environmental health management produces comprehensive social, educational, and ecological benefits, making the model highly relevant for UIN in Indonesia.

2. DISCUSSION

The first set of findings (Table 1) indicates that the conceptual model of environmental health management at Indonesian State Islamic Universities (UIN) is constructed through the integration of technical-procedural dimensions (such as clean water management, waste management, and air quality control) with Islamic values such as *khalifah fil ardh*, *tahārah*, and *maslahah*. This integration emerges because campus stakeholders perceive environmental management not only as an administrative obligation but also as a moral and spiritual responsibility. The value of *khalifah fil ardh* is understood as a divine mandate to safeguard the earth, while *tahārah* inspires the institutionalization of cleanliness as a daily act of worship. *Maslahah* is interpreted as a commitment to ensuring collective benefit for the entire academic community and surrounding society. These findings reflect the lived experiences of participants, who feel more motivated to take concrete actions in protecting the campus environment when such actions are linked to Islamic teachings and institutional identity. The values are not merely symbolic, but internalized as sources of meaning that strengthen awareness and participation. This addresses the challenge of environmental health management that often remains normative and procedural, by embedding a spiritual-religious dimension contextualized to the culture of UIN.

The second set of findings (Table 2) reveals that the implementation of this model brings tangible implications, including increased collective awareness, the rise of volunteerism in environmental initiatives, and the development of more systematic and evidence-based campus policies. Other implications include improvements in the overall quality of campus life and the establishment of a sustainable culture of cleanliness and health. In-depth narratives from participants demonstrate that Islamic values function not as peripheral elements, but as primary drivers of behavioral change and policy effectiveness. The analysis highlights how these implications are not temporary but sustainable, as they are reinforced by the internalization of Islamic values that foster long-term commitment among members of the academic community.

These findings extend Friis' theory of Environmental Health Management, which emphasizes the importance of an integrated system encompassing waste management, water and air quality, health education, and sustainability (Friis, 2007). In the conceptual model developed through this study, Friis' technical elements remain foundational but are reinforced with the integration of Islamic values as ethical and spiritual dimensions. Consequently, the model does not only address the what (what is managed) and how (how it is managed), as outlined by Friis, but also the why (why it matters), which is rooted in the theological understanding of the academic community as *khalifah fil ardh*. This approach adds a holistic analytical layer, whereby spirituality enhances motivation and adherence to sustainability practices, thereby reducing resistance that often hinders conventional models.

Furthermore, the results are consistent with Snelgrove's assertion on the importance of a phenomenological approach to capture stakeholders' subjective meanings related to environmental and health issues (Snelgrove, 2014). However, this study advances the discussion by incorporating explicitly Islamic values, bridging the gap between the Islamic principles of environmental stewardship and the practice of environmental health management in higher education institutions. The findings also support Faried et al.'s conclusion that models developed for general universities are not always suitable for religious higher education institutions such as UIN. This confirms the need for context-sensitive models based on religious values—for instance, integrating green curriculum initiatives with Islamic principles to enhance the effectiveness of environmental management (Shoaib et al., 2022).

Overall, the findings affirm the importance of a multidimensional approach: combining the technical principles of modern environmental health management (Friis, 2007) with the spiritual foundations of Islam, which characterize UIN Indonesia. This model has the potential to serve as an innovative alternative for more contextual, participatory, and sustainable environmental health management. It makes a significant contribution to the theoretical development of environmental health management by expanding classical frameworks such as Friis' with a contextualized model that integrates technical-procedural elements (water, air, and waste management; health education; sustainability) with spiritual-religious values such as *khalifah fil ardh*, *tahārah*, and *maslahah*. This approach underscores that environmental health management is not merely a technical or administrative concern but also involves dimensions of meaning, spirituality, and institutional identity that can enhance policy effectiveness.

In addition, this study demonstrates how the phenomenological approach can serve as an effective method for uncovering the lived experiences of academic communities, thereby producing a model more aligned with the needs and cultural contexts of institutions. These findings provide a foundation for the development of environmental health management theories grounded in cultural and religious values—not only at UIN but also at other educational institutions with distinct value systems. The model also introduces a potential paradigm shift toward value-based environmental health management, which bridges modern environmental health theories with the social, spiritual, and cultural realities of local communities. Further analysis suggests that this paradigm can reduce reliance on externally imposed approaches that may lack sensitivity to local contexts, thereby enhancing long-term implementation success through the empowerment of internal campus communities.

D. CONCLUSION

This study demonstrates that developing a conceptual model of environmental health management at Indonesian State Islamic Universities (UIN) requires a holistic approach that integrates technical-procedural aspects with Islamic spiritual values. The most striking and somewhat unexpected finding is the strong influence of the lived experiences of the academic community on the effectiveness of the model's implementation: the integration of *khalifah fil ardh*, *tahārah*, and *maslahah* proved to be more than symbolic. These values genuinely motivated behavioral change, strengthened collective participation, and fostered a culture of cleanliness and sustainability across the campus. This indicates that the spiritual-religious dimension can serve as a real driver of campus environmental health management, rather than functioning merely as a normative complement. Nevertheless, this study has certain limitations. The number of participants was relatively small and drawn from only one or a few UINs, which means the findings cannot fully represent the broader context of Islamic higher education institutions (PTKIN) in Indonesia. In addition, the phenomenological approach, which emphasizes the subjective experiences of the academic community, limits the generalizability of the results. These constraints are important to acknowledge so that readers and future researchers may interpret the findings with appropriate caution.

For future research, it is recommended that the conceptual model developed in this study be tested using quantitative or mixed-method approaches across a wider range of PTKIN campuses in different regions of Indonesia. Such efforts are necessary to evaluate the consistency of the findings and to assess how the model can be adapted or strengthened in institutions with diverse socio-cultural contexts. Moreover, subsequent studies could explore more deeply the policy dimensions and institutional mechanisms that can support the sustainable implementation of Islamic value-based environmental health management models.

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