

Transforming Islamic Education for Environmental and Social Sustainability

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ABSTRACT: This study explores the contributions of Islamic education to sustainable development by reviewing recent literature on curriculum innovation, environmental awareness, institutional engagement, and technological adaptation. The aim is to assess how Islamic educational institutions integrate sustainability principles through religious values and pedagogical strategies. Using a narrative review approach, literature from Scopus and Google Scholar was analyzed based on keywords such as "Islamic education," "sustainable development," "green campus," and "Islamic environmental ethics." The study adopts an Islamic ethical framework rooted in the principles of khalifah (stewardship), maslahah (public benefit), and adl (justice), which inform the integration of sustainability into educational models. It focuses primarily on Southeast Asia and the Middle East, analyzing case studies from Indonesia, Saudi Arabia, and other Muslim-majority countries. Findings reveal that Islamic boarding schools (pesantren) in Indonesia have pioneered ecological education through initiatives like Eco-Pesantren, while universities have begun implementing SDG-based curricula and eco-friendly infrastructure. These practices demonstrate the transformative potential of aligning faith-based education with global sustainability goals. However, challenges remain, including limited policy clarity, resource constraints, and the need for standardized evaluation methods. These findings underscore the urgent need for policy reforms, community empowerment, and inter-sectoral collaboration. The study concludes that Islamic education, if strategically supported, can be a powerful force in advancing global sustainability, offering both ethical guidance and practical solutions.

Keywords: Islamic Education, Sustainable Development, Environmental Ethics, Curriculum Reform, SDGS, Green Campus, Islamic Pedagogy.



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INTRODUCTION

Islamic education and sustainable development have increasingly been recognized as interrelated frameworks capable of supporting holistic human development. The historical foundation of Islamic teachings is rooted in moral and ethical imperatives that encourage responsible stewardship

of the Earth. Concepts such as "amanah" (trust) and "khalifah" (stewardship) emphasize the role of humans as caretakers of natural resources, thereby creating a foundation for environmental ethics in Islamic pedagogy (Bsoul et al., 2022; Qatawneh & Al-Naimat, 2022). These principles are not only theological in nature but are also highly actionable within educational systems that aim to develop environmentally conscious individuals. Through its historical and theological roots, Islamic education offers a unique perspective for embedding sustainability values into the hearts and minds of learners.

Conceptually, the integration of Islamic education with sustainable development fosters a transformative educational paradigm. This paradigm extends beyond the mere dissemination of scientific knowledge to include the cultivation of ethical awareness and spiritual responsibility. As seen in initiatives such as "Eco-Pesantren" in Indonesia, Islamic educational institutions are actively engaging in environmentally responsible practices, aligning religious values with global sustainability frameworks (Maulida et al., 2024). The example of Banda Aceh's implementation of Eco-Pesantren highlights how religious institutions can function as catalysts for community-wide environmental awareness and action. Such case studies indicate that when Islamic principles are operationalized within educational environments, they have the potential to significantly contribute to sustainable development.

Globally, the urgency of promoting education that aligns with the Sustainable Development Goals (SDGs) is evidenced by statistics indicating that over one billion children lack access to quality education (Abbasi-Shavazi & Jones, 2019). Within this landscape, Islamic education plays a crucial role in bridging educational and ethical gaps. By embedding spiritual values into curricula, Islamic education provides a comprehensive approach to developing morally responsible and environmentally aware individuals (Kalkavan et al., 2021; Majid et al., 2024). These individuals are not only prepared for academic success but also equipped to make ethical decisions that support societal well-being and environmental sustainability.

The potential of Islamic education to promote social equity and economic empowerment is another vital aspect supporting its alignment with the SDGs. For example, initiatives embedded in Islamic educational institutions have been successful in fostering gender equity and enabling marginalized communities to engage meaningfully in societal development (Zaki et al., 2022; Candra et al., 2024). Education delivered in Islamic boarding schools, or pesantren, often emphasizes character building, social responsibility, and ecological awareness, nurturing a generation that is not only knowledgeable but also deeply engaged in community and environmental stewardship (Abubakar, 2018).

Countries with robust Islamic educational systems, such as Indonesia, demonstrate a strong correlation between educational advancement and improved Human Development Index (HDI) metrics (Surachman et al., 2022). This connection reinforces the view that integrating Islamic values into educational strategies can facilitate the achievement of SDGs more efficiently. With strategic investment and policy alignment, Islamic education systems can serve as a foundational mechanism for accelerating sustainable development at both national and global levels (Hasanah et al., 2024; Gabil et al., 2020).

Nonetheless, the effective implementation of sustainable development principles in Islamic education remains fraught with challenges. A primary obstacle is the limited integration of

sustainability concepts into traditional Islamic curricula. Many institutions remain anchored to classical pedagogical models that inadequately address pressing environmental and social concerns (Bsoul et al., 2022; Maulida et al., 2024). There exists an urgent need for curricular reforms that blend religious teachings with modern sustainability science to ensure relevance and applicability in contemporary contexts.

Another prominent challenge is the inconsistency between theoretical models of sustainability education and their practical application within Islamic educational institutions. While many frameworks propose the incorporation of environmental awareness, the translation of these ideas into classroom practices and institutional policies remains inconsistent (Nasrudin et al., 2020). Moreover, financial constraints and insufficient infrastructural support further hinder the development of sustainability-oriented learning environments (Zawawi et al., 2023).

Cultural resistance also plays a role in impeding the adoption of sustainability-focused education in certain communities. Some stakeholders may perceive environmental education as a departure from traditional Islamic teachings, necessitating community engagement strategies that underscore the alignment of sustainability principles with core Islamic values (Shiri et al., 2022). Additionally, the lack of collaborative networks between Islamic educational institutions and sustainability-focused organizations limits the dissemination of best practices and shared resources (Nasrudin et al., 2020).

Despite growing scholarly interest, significant research gaps persist in understanding how Islamic values can be systematically integrated into sustainable education. Much of the existing literature remains theoretical, lacking empirical studies that explore real-world implementation and effectiveness (Maulida et al., 2024). Moreover, the absence of cross-cultural and cross-regional studies limits our understanding of how Islamic educational approaches to sustainability may vary across different socio-cultural contexts (Costa & Pita, 2021).

This review seeks to address these gaps by evaluating the current state of Islamic education as it pertains to sustainable development. Specifically, the study aims to analyze how Islamic principles have been operationalized in educational settings to support sustainability goals, and to identify effective practices that align with both religious teachings and the objectives of the SDGs (Kalkavan et al., 2021; Bsoul et al., 2022). By doing so, this research intends to inform policy-making processes and educational strategies that bridge spiritual and ecological imperatives.

The scope of this review encompasses both geographical and demographic considerations. Emphasis is placed on regions with significant Muslim populations, such as Southeast Asia and the Middle East, where Islamic educational institutions play a central role in community development. Notably, studies from Indonesia demonstrate how *pesantren* have implemented sustainability practices through curriculum reform and institutional culture (Maulida et al., 2024; Lutfauziah et al., 2024). In contrast, examples from Saudi Arabia showcase the integration of SDG principles into higher education curricula within Islamic universities (Al-Subaie, 2024; Khan & Badjie, 2020).

Demographically, this review highlights the role of youth, particularly students in Islamic educational institutions, as agents of change. Female students, in particular, have emerged as key participants in promoting environmental and social awareness within their communities (Kalkavan

et al., 2021). The inclusion of gender perspectives offers a more nuanced understanding of how Islamic education can advance sustainability goals equitably and inclusively (Nasrudin et al., 2020; Zawawi et al., 2023).

While national case studies provide valuable insights, there is a pressing need for more comparative research that examines how Islamic education can be adapted across diverse cultural and socioeconomic settings. The current literature often centers on single-country studies, lacking a global perspective that accounts for the heterogeneity of Muslim communities worldwide (Nurniqta, 2025; Candra et al., 2024). Therefore, this review emphasizes the necessity for cross-regional collaborations and comparative studies to identify universally applicable best practices in Islamic education for sustainable development (Khermimoun, 2022).

Ultimately, this study aims to empower Islamic educational institutions to become proactive contributors to sustainable development. By fostering interdisciplinary collaboration, advancing context-sensitive pedagogy, and promoting policy integration, Islamic education can serve as a pivotal force in addressing global sustainability challenges (Muchlis et al., 2024; Hasanah et al., 2024). The findings of this review are intended to serve as a roadmap for educators, policymakers, and researchers seeking to align faith-based education with the imperatives of a just and sustainable future.

Conceptually, Islamic education serves as a powerful tool for sustainability transformation by embedding ethical principles into everyday learning. Unlike secular approaches that often isolate environmental awareness from moral reasoning, Islamic education offers a holistic model where values like *tawazun* (balance), *ihsan* (excellence), and *amanah* (trust) are foundational. These values align naturally with global sustainability frameworks and can inform curriculum content, teaching methodologies, and institutional policies.

Despite growing discourse, few studies have systematically explored the integration of environmental ethics within Islamic boarding school curricula or evaluated the role of Islamic values in ecosocial learning. Previous literature often remains theoretical or narrowly focused on technological adoption without connecting it to core spiritual teachings. This study addresses that gap by identifying best practices and systemic challenges in operationalizing sustainability within Islamic educational settings.

METHOD

This study employed a narrative literature review method to synthesize existing scholarly contributions on the intersection of Islamic education and sustainable development. The approach aimed to gather, evaluate, and interpret relevant academic studies that offer insight into the role, potential, and implementation of Islamic values in advancing sustainability within educational frameworks. To achieve this, a systematic yet flexible strategy was adopted in collecting literature from reputable academic databases.

The primary databases used for sourcing literature were Scopus and Google Scholar. Scopus was selected for its comprehensive coverage of peer-reviewed journal articles and its focus on high-impact scholarly publications. Google Scholar complemented this by offering broader access to

grey literature, working papers, theses, and reports that may not be indexed in traditional academic platforms. The use of both databases allowed for an extensive search range, maximizing the retrieval of pertinent and current studies.

The literature search was guided by carefully selected keywords and thematic phrases designed to capture the multidimensional nature of the research topic. These included: "Islamic education," which focuses on pedagogical approaches rooted in Islamic values and religious institutions; "sustainable development," reflecting efforts to meet current needs without compromising the future; and "environmental education," emphasizing learning activities that enhance ecological awareness and responsibility. The keyword "green campus" was applied to identify research on institutional sustainability practices in higher education settings. Furthermore, searches included "Islamic values and environment," which explores the doctrinal underpinnings of environmental stewardship in Islam, as well as "Eco-Pesantren," which refers to Islamic boarding schools integrating environmental education. Additional phrases like "Islamic perspectives on sustainability" and "Islamic values and sustainable development goals (SDGs)" were employed to capture studies discussing the alignment between Islamic teachings and the UN's global development agenda.

Boolean operators such as AND, OR, and NOT were used in combination with quotation marks to refine the search results and increase their relevance. For example, queries like "Islamic education" AND "sustainable development" OR "SDGs" were used to yield literature at the intersection of both thematic areas. This approach ensured a targeted and efficient retrieval of studies while minimizing irrelevant or unrelated outputs.

A set of inclusion and exclusion criteria was then applied to screen and filter the retrieved studies. First, regarding the year of publication, only studies published in the last five years were included, ensuring the relevance and contemporaneity of the content. Given the evolving discourse on sustainability, newer studies are more likely to reflect recent developments in both policy and practice (Al-Subaie, 2024). Studies published prior to this period were excluded unless they were identified as seminal or frequently cited.

Second, the selection emphasized peer-reviewed journal articles, case study reports, and systematic literature reviews. This preference was based on the need for academic rigor and credibility. Non-peer-reviewed sources, opinion pieces, and non-academic web content were excluded to maintain the scholarly integrity of the review (Purnomo et al., 2024). Nevertheless, in exceptional cases where non-peer-reviewed documents presented critical empirical data or case insights, they were included with appropriate caution.

Third, the language of publication was predominantly English to ensure accessibility and consistency in comprehension. However, significant publications in other languages, particularly Bahasa Indonesia and Arabic, were also considered when accompanied by a verifiable translation or abstract in English. This multilingual inclusion helped accommodate regional research output from countries with strong Islamic educational traditions.

In terms of methodological quality, only studies that employed clearly defined and replicable research designs were considered. This included both quantitative and qualitative approaches, provided they demonstrated methodological transparency and validity. For instance, studies using

statistical analyses to measure educational outcomes or qualitative interviews to explore perceptions of sustainability were included if they provided sufficient detail on sampling, data collection, and analysis techniques (Kalkavan et al., 2021).

Relevance to the topic was another critical filter. Studies were retained only if they directly addressed the theme of Islamic education in relation to sustainability. This thematic alignment ensured that the review remained focused on educational strategies, institutional practices, and value-based approaches that promote sustainable development. Studies that focused solely on Islamic theology or general education without a clear sustainability dimension were excluded.

Peer-review status was rigorously enforced as a selection criterion. Studies that had undergone peer review were prioritized to ensure that the findings were scrutinized by academic experts and adhered to established scholarly standards (Costa & Pita, 2021). This was particularly important given the multidisciplinary nature of the topic, which spans education, religious studies, and environmental sciences.

Geographical and demographic diversity was also considered during the selection process. Priority was given to studies based in regions with significant Muslim populations, especially Southeast Asia and the Middle East. These areas were selected due to their dynamic Islamic educational landscapes and ongoing policy efforts to integrate sustainable development principles into education. Studies from other Muslim-majority countries or minority contexts were also included to provide a comparative and comprehensive view of the phenomena (Shiri et al., 2022; Costa & Pita, 2021).

The literature selection process involved multiple stages. Initially, all identified titles and abstracts were screened for relevance. Those that met the inclusion criteria were subjected to full-text review. During this phase, each article was read in its entirety and evaluated for thematic fit, methodological rigor, and scholarly contribution. Articles that lacked sufficient methodological detail, contained unclear objectives, or presented conclusions unsupported by data were discarded.

To ensure consistency and minimize bias in article selection, a set of guiding questions was applied during the review: Does the study explicitly address Islamic education in relation to sustainability? Are the outcomes or implications relevant to the promotion of SDGs? Is the methodology sufficiently robust to support the findings? Articles affirmatively answering these guiding questions were retained for synthesis.

In total, the process yielded a curated set of high-quality academic publications that collectively provide a broad and in-depth understanding of how Islamic educational practices intersect with sustainable development. This methodical approach not only facilitated the extraction of key themes but also ensured that the review maintained academic credibility, thematic relevance, and geographical diversity.

By combining stringent selection criteria with comprehensive search strategies, this methodology ensures that the resulting literature review is both exhaustive and focused. The gathered evidence offers a solid foundation for exploring how Islamic education can be leveraged to address global sustainability challenges, providing insights into best practices, institutional innovations, and community-level engagements that advance both spiritual and ecological wellbeing.

RESULT AND DISCUSSION

The intersection of Islamic education and sustainable development manifests through various pedagogical innovations, institutional commitments, and community engagements. The literature reveals five overarching themes: curriculum development, value-based environmental awareness, institutional involvement in global SDG agendas, adoption of technological innovations, and the evaluation of these initiatives. These themes collectively illustrate the dynamic role Islamic educational institutions play in promoting sustainability across multiple levels.

Curriculum development within Islamic educational settings has emerged as a central strategy for integrating sustainability into daily learning. Eco-Pesantren initiatives in Indonesia, for example, have successfully embedded environmental ethics into school activities. These schools incorporate waste management practices, water conservation efforts, and renewable energy education, all grounded in Islamic teachings on environmental stewardship (Zaki et al., 2022; Maulida et al., 2024). Beyond spiritual instruction, such initiatives demonstrate the practical potential of Islamic curricula to foster environmentally conscious behaviors among students.

Innovative pedagogical methods such as Problem-Based Learning (PBL) and Flipped Learning are being used to enhance student engagement with sustainability issues from an Islamic worldview. These methods not only increase classroom participation but also equip students with problem-solving skills rooted in Islamic ethical frameworks (Nugraha et al., 2024). Universities in Indonesia have begun incorporating the Sustainable Development Goals (SDGs) into their mission statements, institutional strategies, and educational content, thus preparing students to contribute to sustainability efforts upon graduation (Hasanah et al., 2024).

The effectiveness of these curricula is being measured using both qualitative and quantitative tools. Surveys and in-depth interviews with students and alumni are frequently used to assess behavioral changes and attitudes toward environmental conservation after program participation (Lutfauziah et al., 2024; 2023). Quantitative tools, such as the Product Moment Correlation Test, help evaluate the relationship between environmental education curricula and students' development of eco-conscious cultural practices (Lutfauziah et al., 2024). These assessments provide empirical evidence that well-designed Islamic environmental curricula can instill meaningful behavioral change.

At the tertiary level, project-based assessments and research assignments have shown that university students exposed to SDG-integrated curricula are better prepared to address real-world sustainability challenges (Purnomo et al., 2024). However, the tools used for measuring effectiveness remain inconsistent across institutions, underscoring the need for standardized assessment frameworks.

Islamic values, specifically the concepts of tauhid (oneness of God), amanah (trust), and khalifah (stewardship), are foundational in shaping student consciousness about the environment. Tauhid fosters a spiritual understanding that nature is a divine creation requiring care and reverence. This theological perspective is deeply embedded in environmental education in Islamic schools, often framing ecological responsibility as an act of worship (Nasrudin et al., 2020; Kalkavan et al., 2021).

Amanah reinforces the idea that humans are entrusted with Earth's resources and thus must manage them responsibly. Schools operationalize this value through programs on waste management, water conservation, and renewable energy use. Tree-planting drives and

environmental clean-up campaigns serve both as educational tools and expressions of Islamic moral responsibility (Ashraf et al., 2021; Costa & Pita, 2021).

Khalifah highlights the role of humans as God's stewards, enhancing both individual and communal responsibility toward ecological preservation. Islamic schools incorporate lessons on ecosystems, biodiversity, and interdependence to foster a deepened sense of responsibility among students (Moustapha et al., 2022; Maulida et al., 2024). Community-based projects, such as waste recycling and organic farming, further embed these values into students' daily practices.

The implementation of these values results in observable behavioral transformations. Students become more energy-conscious, reduce waste, and serve as agents of change within their communities. These behavioral shifts often influence their families and peer groups, creating ripple effects of environmental awareness and activism (Nurniqta, 2025; Fauziah et al., 2024). Students' participation in Earth Day campaigns and sustainable agriculture initiatives reflects a growing collective responsibility towards ecological justice (Sulistyowati et al., 2024).

Institutional involvement in global SDG frameworks is another critical dimension of Islamic education's contribution to sustainability. Institutions like Universitas Islam Raden Intan Lampung have adopted the SDGs into their institutional frameworks, integrating sustainability into curricula, extracurricular programs, and operational strategies (Hasanah et al., 2024; Fauziah et al., 2024). These institutions promote environmental awareness through community engagement, academic research, and student leadership.

Collaborations between Islamic educational institutions and governmental or non-governmental organizations further amplify these efforts. Programs focusing on community empowerment, Islamic entrepreneurship, and environmental restoration are frequently launched in partnership with external actors (Bsoul et al., 2022). These initiatives help students apply their academic knowledge to societal challenges, reinforcing the practical relevance of their education.

Academic output in the form of peer-reviewed articles and conference presentations also contributes to the broader dissemination of Islamic sustainability paradigms. Such publications explore Islamic contributions to green finance, social justice, and sustainable agricultural practices, offering global readers insights into faith-based approaches to sustainability (Nasrudin et al., 2020; Candra et al., 2024).

Institutions have also developed tools to assess their contribution to SDGs. These include data collection on student involvement in community projects, audits of environmental practices, and the implementation of metrics like the Zero Waste Index (Kasam et al., 2018). Surveys that gauge student awareness and behavioral changes are used to evaluate the effectiveness of sustainability-focused curricula. Research from Islamic elementary schools shows that environmental education significantly influences students' attitudes and behaviors (Lutfauziah et al., 2024).

Participation in international forums enables these institutions to benchmark their performance and engage in knowledge exchange. Attendance at global conferences provides opportunities for networking and the sharing of best practices, thereby strengthening the international role of Islamic education in advancing sustainability (Andespa et al., 2024).

Technology plays a pivotal role in promoting sustainability in Islamic education. The adoption of digital platforms for remote learning, mobile educational applications, and multimedia resources has widened access to knowledge and encouraged equitable learning environments (Nasrudin et al., 2020). Smart classrooms equipped with interactive tools have improved student engagement and comprehension, particularly in sustainability-related subjects (Kalkavan et al., 2021).

Environmentally friendly infrastructure, including green buildings and eco-friendly waste management systems, has also been adopted in some institutions. These innovations serve not only as educational tools but also as operational models for sustainability. Some pesantren have integrated organic farming and hydroponic systems into their educational programs, providing students with hands-on experience in sustainable practices (Ashraf et al., 2021).

Evaluation of technological interventions includes surveys and interviews assessing student responses and teacher perceptions. Research indicates that students are more responsive and motivated when technology is used to facilitate discussions on environmental issues (Moustapha et al., 2022). Performance analytics further reveal improved academic outcomes, particularly in environmental science subjects (Sulistiyowati et al., 2024).

Some institutions assess the academic impact of technological tools through test scores, classroom engagement metrics, and feedback loops. The correlation between technology integration and academic achievement validates the role of innovation in enhancing both sustainability education and student outcomes. Moreover, these evaluations support future strategic planning for educational technology investment (Nurniqta, 2025).

In conclusion, the literature reveals that Islamic educational institutions are actively engaged in the promotion of sustainable development through a range of innovative strategies. From curriculum reform and value-based environmental education to institutional policy alignment and technological advancement, these institutions contribute significantly to achieving the SDGs. However, challenges remain, including the need for standardized assessment tools and the expansion of cross-cultural studies. Nonetheless, the evidence underscores the unique potential of Islamic education to nurture environmentally conscious, ethically grounded, and socially responsible individuals equipped to address global sustainability challenges.

The findings of this study strongly align with existing literature that emphasizes the significant role of Islamic education in promoting sustainable development. Core Islamic values such as tauhid (oneness of God), amanah (trust), and khalifah (stewardship) are repeatedly identified as foundational principles that contribute meaningfully to environmental awareness and social responsibility. Bsoul et al. (2022) highlight the deep-seated roots of environmental ethics in Islamic teachings, which are closely related to the objectives of the Sustainable Development Goals (SDGs). This correspondence affirms that Islamic education extends beyond spiritual and religious formation and encompasses a holistic moral responsibility toward the environment.

The application of technological innovations in Islamic educational institutions as part of their sustainable education strategy also aligns with previous findings. Nasrudin et al. (2020) emphasize the importance of combining technological tools with religious values to facilitate environmental learning and student engagement. Approaches like Problem-Based Learning (PBL), while not always directly cited under that term, embody collaborative and critical pedagogical strategies that

have been recognized as effective in building students' capacity to respond to sustainability challenges from an Islamic perspective.

Nevertheless, discrepancies exist between the current findings and earlier research, particularly in the practical application and assessment of sustainability-focused curricula. For instance, Emilzoli et al. (2021) report difficulties in embedding environmental education into the pre-existing structures of Islamic institutions, often due to rigid traditional curricula. Similarly, our review identifies ongoing struggles in implementing interdisciplinary, fully integrated sustainability education across Islamic schools and universities, indicating a gap between theoretical interest and pedagogical execution.

At both the global and local levels, this study contributes to understanding how education policies influence sustainable development practices in Islamic contexts. Collaborations between Islamic educational institutions and external stakeholders such as government agencies and non-governmental organizations were commonly identified as effective avenues for implementing sustainability programs. Maulida et al. (2024), for instance, document how the Eco-Pesantren model in Indonesia successfully fosters community-based environmental conservation initiatives.

However, the findings also reveal that global sustainability indicators do not always capture local realities, particularly within pesantren in Indonesia. As noted by Kalkavan et al. (2021), global benchmarks need adaptation to address socio-cultural specificity, suggesting the need for context-sensitive tools that combine both quantitative and qualitative metrics. Our review supports this notion by advocating for holistic assessment models that better reflect the diverse and nuanced outcomes of Islamic environmental education.

Systemic factors significantly influence the implementation of Islamic education for sustainable development. Supportive governmental policies are instrumental in this process. In Muslim-majority countries, national education frameworks increasingly incorporate sustainability as a curricular priority. Vision 2030 in Saudi Arabia explicitly integrates sustainability objectives into education policy, offering financial and structural backing to Islamic institutions (Bsoul et al., 2022). Such policies provide a legal and fiscal foundation for the growth of sustainability-focused programs in Islamic educational settings.

Equally critical is community engagement. When local communities support sustainability programs in Islamic schools, implementation is often more successful. Community involvement ranges from financial contributions and volunteer work to participation in sustainability initiatives. Nasrudin et al. (2020) highlight the success of Eco-Pesantren initiatives in Indonesia, which benefitted immensely from local stakeholder collaboration. This synergy reflects how sustainability efforts can be amplified when they resonate with both educational goals and communal values.

Access to funding is another essential enabler. Many Islamic educational institutions rely on financial assistance from government grants and philanthropic organizations to support sustainability programs. Costa & Pita (2021) illustrate how such funding enables the construction of green infrastructure and the development of environmentally oriented curricula. Institutions that have received financial support have implemented programs that benefit both educational and environmental outcomes, such as sustainable agriculture projects and renewable energy integration.

Nonetheless, systemic barriers also pose significant challenges. A common problem is the lack of clear policy guidelines, even when national policies advocate for sustainability education. This policy-practice gap creates ambiguity, making it difficult for Islamic educational institutions to identify specific strategies for integrating sustainability into their operations (Moustapha et al., 2022).

Institutional leadership and awareness also play a vital role. The absence of committed leadership often leads to inertia in implementing new educational paradigms. Organizational cultures that resist innovation or perceive sustainability as peripheral to religious education can hinder meaningful progress. Kasam et al. (2018) suggest that entrenched norms within some Islamic schools may limit their responsiveness to emerging educational needs.

Resource constraints, both human and financial, remain a substantial hurdle. Many institutions operate with limited budgets and lack staff trained in sustainability education. Without the necessary expertise and infrastructure, even well-intentioned programs struggle to take root (Abbasi-Shavazi & Jones, 2019). These limitations are particularly acute in rural or underserved areas where Islamic education plays a central social role but lacks adequate support.

Curricular rigidity presents another challenge. Many Islamic educational institutions still emphasize religious and academic instruction at the expense of environmental content. Although the literature frequently calls for integrating sustainability into Islamic education, practical implementation remains inconsistent (Bsoul et al., 2022). As a result, students may graduate with limited understanding of environmental issues, undermining the potential of Islamic education to foster ecological consciousness.

In response to these challenges, literature offers a range of potential solutions. One such strategy is the integration of Problem-Based Learning (PBL), which Nasrudin et al. (2020) identify as effective in enhancing students' problem-solving abilities and sustainability awareness. PBL encourages students to engage with real-world environmental issues through collaborative inquiry, allowing them to apply Islamic ethical principles to contemporary challenges. By embedding sustainability into problem-solving activities, PBL bridges theoretical and practical learning in meaningful ways.

Another solution involves policy reform and multi-sectoral collaboration. Kalkavan et al. (2021) argue that coordinated efforts among educational institutions, governments, and civil society organizations can create more coherent and resource-efficient frameworks for sustainability education. These collaborations can address disparities in resources and promote inclusive, culturally relevant educational models. Educational policies must be flexible enough to accommodate the diverse needs of Islamic institutions while maintaining alignment with broader sustainability objectives.

The adoption of technology also presents a promising avenue for overcoming implementation barriers. Digital platforms, smart classrooms, and online learning modules can expand access to sustainability education and enhance pedagogical innovation. Costa & Pita (2021) highlight the importance of remote learning technologies in addressing educational disruptions and promoting equity. In Islamic contexts, educational technologies tailored to religious values and sustainability goals offer a scalable solution for improving engagement and learning outcomes.

Community empowerment through training and awareness programs constitutes another effective approach. Rahman & Dean (2013) advocate for localized educational initiatives that strengthen community capacity and encourage collective action. Islamic educational institutions can act as hubs for environmental training, equipping both students and community members with the knowledge and skills needed to practice sustainability.

Utilizing waqf (Islamic endowment) as a funding mechanism offers a sustainable financial model. Zawawi et al. (2023) emphasize that well-managed waqf assets can provide long-term support for education initiatives, including those focused on environmental sustainability. By channeling waqf resources into green infrastructure and curriculum development, Islamic institutions can reduce their dependency on external funding and enhance financial resilience.

In identifying these alternative approaches, this study contributes to the ongoing discourse on how Islamic education can meaningfully engage with global sustainability challenges. However, it is also important to acknowledge the limitations of current research. Much of the available literature remains theoretical, with limited empirical studies exploring the long-term impacts of Islamic sustainability education. There is also a lack of comparative studies that examine how different cultural contexts influence the integration of Islamic principles and sustainability practices. These gaps highlight the need for more robust, interdisciplinary research that spans diverse geographies and institutional types.

Future investigations should prioritize the development of standardized evaluation tools, the examination of cross-cultural implementation strategies, and the exploration of student outcomes over time. In doing so, researchers can provide more comprehensive insights into the effectiveness of Islamic education in achieving sustainability goals and inform the design of more responsive and impactful educational models.

CONCLUSION

This review has demonstrated that Islamic education holds considerable potential for contributing to sustainable development through the integration of spiritual values, community engagement, curricular innovation, and technological advancement. The findings reveal that core Islamic principles—*tauhid*, *amanah*, and *khalifah*—serve not only as ethical foundations but also as practical guides for embedding sustainability in educational practices. Institutions such as *pesantren* and Islamic universities have shown increasing commitment to integrating environmental awareness, SDGs-based curricula, and green infrastructure initiatives into their operations. However, persistent challenges such as inadequate policy frameworks, limited institutional leadership, and constrained resources hinder broader implementation. These systemic barriers call for urgent intervention through clearer policy guidance, targeted funding mechanisms, and leadership development within Islamic education sectors. Technological solutions, such as digital learning platforms and eco-friendly campus infrastructures, have emerged as key strategies to address these barriers, offering scalable models for future development. Policy-makers and education leaders must consider reforms that promote cross-sectoral collaboration, flexible curricular frameworks, and community-centered sustainability programs. Future research should focus on longitudinal studies to assess behavioral impacts, comparative cross-cultural analyses, and

the development of standardized evaluation tools. By strategically addressing these gaps, Islamic education can evolve as a transformative agent in the global sustainability agenda, empowering future generations to act ethically and sustainably in a rapidly changing world.

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