



Eco-*Pesantren* Management Based on *Hifzul Bi'ah* for Sustainable Islamic Education

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ABSTRACT

Amid growing concerns over environmental degradation, educational institutions are increasingly expected to play a strategic role in fostering ecological awareness through value-based practices. The research aims to analyze how environmental values are integrated into *pesantren* management and how this contributes to cultivating ecological awareness among students. A qualitative case study approach was employed, involving in-depth interviews, participatory observation, and document analysis. Data were analyzed using Miles and Huberman's interactive model, consisting of data reduction, display, and conclusion drawing. The findings indicate that eco-*pesantren* management is manifested through the alignment of institutional policies, spiritual guidance, and structured environmental programs. Each division holds ecological responsibilities, supported by monitoring mechanisms and routine evaluations. Leadership plays a central role in reinforcing environmental values through participatory policies and modeling behavior. Active student engagement in daily sanitation routines fosters environmental literacy, spiritual discipline, and sustainable behavior. Challenges include limited green space and lack of environmental education training among teachers. This study demonstrates that *Hifzul Bi'ah* can be systematically operationalized within Islamic education to promote sustainable culture. It contributes to the discourse on Islamic educational management and offers a model for integrating faith-based values in environmental sustainability initiatives.

Keywords: Eco-*Pesantren* Management, *Hifzul Bi'ah*, Islamic Education, Ecological Culture.

ABSTRAK

Penelitian ini bertujuan untuk menganalisis implementasi manajemen ekopesantren berbasis nilai *Hifzul Bi'ah* di Pesantren Ummul Mukminin Aisyiyah Sulawesi Selatan serta menilai dampaknya terhadap budaya dan perilaku ekologis warga pesantren. Menggunakan pendekatan kualitatif dengan desain studi kasus, data dikumpulkan melalui wawancara mendalam, observasi partisipatif, dan dokumentasi, kemudian dianalisis menggunakan model interaktif Miles dan Huberman. Hasil penelitian menunjukkan bahwa manajemen ekopesantren dijalankan melalui integrasi kebijakan kelembagaan, pembinaan spiritual, dan program lingkungan yang terencana. Setiap unit pesantren memiliki tanggung jawab ekologis spesifik, dengan sistem pengawasan berlapis dan evaluasi rutin mingguan. Kepemimpinan visioner dan partisipatif terbukti sebagai faktor kunci keberhasilan, disertai dukungan budaya *fastabiqul khairat* dan kebijakan internal yang mendorong efisiensi energi, konservasi air, serta pengelolaan limbah. Keterlibatan aktif santri dalam kegiatan kebersihan dan pemeliharaan lingkungan pondok meningkatkan perilaku ekologis dan kesadaran spiritual mereka terhadap alam. Tantangan utama mencakup keterbatasan ruang terbuka hijau dan kurangnya pelatihan guru dalam pendidikan lingkungan. Temuan ini menegaskan bahwa prinsip *Hifzul Bi'ah* dapat dioperasionalkan secara efektif dalam sistem manajemen pendidikan Islam untuk mewujudkan budaya ekologis berkelanjutan. Penelitian ini berkontribusi pada penguatan teori manajemen pendidikan Islam berwawasan lingkungan dan dapat menjadi model bagi lembaga pendidikan Islam lainnya dalam membangun ekosistem pendidikan berkelanjutan berbasis nilai spiritual.

Kata Kunci: Manajemen Ekopesantren, *Hifzul Bi'ah*, Pendidikan Islam Berkelanjutan, Budaya Ekologis.

INTRODUCTION

In recent decades, environmental issues have emerged as a global concern, particularly regarding climate change, natural resource degradation, and ecological crises that threaten the sustainability of human life. Education, as a driver of social transformation, bears the responsibility of internalizing sustainability values across all institutional dimensions, including governance, curriculum development, and character formation of learners.¹ In the context of Islamic education, environmental preservation is not only viewed as a moral obligation but also as a religious mandate derived from Islamic teachings on the human role as stewards of the Earth (*khalīfah fī al-ard*). The principle of *Hifẓul Bi'ab*, or safeguarding the environment, is an integral part of *maqāṣid al-sharī'ah*, which emphasizes the protection of life as a core objective of Islamic law.²

The concept of *eco-pesantren* has emerged as a concrete manifestation of integrating Islamic spirituality with ecological responsibility. *Eco-pesantren* not only adopt environmental education principles but also develop management systems and curricula that reflect Islamic values in environmental stewardship.³ Institutions such as Pondok *Pesantren* Nurul Hakim have begun to implement environmental education through organic farming, waste management, and water conservation, practices rooted in the values of *amānah* (trust) and responsibility as stewards.⁴

Nevertheless, the implementation of the *eco-pesantren* model continues to face systemic challenges, particularly in institutional management. Many *pesantren* conduct environmental programs in a fragmented manner that is not yet integrated into their broader institutional frameworks. The primary issue lies in the lack of synergy between institutional policy, curriculum development, and organizational culture that supports sustainability. Without a structured management model grounded in Islamic values, environmental programs risk becoming merely symbolic and unsustainable.

Various studies have suggested integrated and participatory managerial approaches as general solutions to address these challenges. A value-based sustainability management model emphasizes the role of leadership, strategic planning, and stakeholder engagement in fostering ecological culture within educational institutions.⁵ In *pesantren* contexts, such approaches must be contextualized through the Islamic values embedded in the daily lives of their communities.

¹ Sarah Anabarja and A S Mubah, "The Islamic Environmentalism in Eco-*Pesantren* Initiatives: Integrating the Sustainable Development Values in Islamic Boarding School," *Journal of International Studies on Energy Affairs* 2, no. 1 (2021): 75–90, <https://doi.org/10.51413/jisea.vol2.iss1.2021.75-90>.

² Syukri Syukri et al., "Integration of Islamic Values With Environmental Ethics in *Pesantren* Education: A Case Study at Darularafah Raya *Pesantren*," *Jurnal Pendidikan Islam* 13, no. 1 (2024): 1–12, <https://doi.org/10.14421/jpi.2024.131.1-12>.

³ Hermawansyah Hermawansyah, "Eco-*Pesantren*-Based Islamic Education Management," *Fitrah Jurnal Studi Pendidikan* 16, no. 1 (2025): 102–14, <https://doi.org/10.47625/fitrah.v16i1.982>.

⁴ Murdianto Murdianto, "The Implementation of Environmental Education at Pondok *Pesantren* Nurul Hakim Kediri, West Lombok," *Edumaspul - Jurnal Pendidikan* 6, no. 1 (2024): 1410–22, <https://doi.org/10.33487/edumaspul.v6i1.8534>.

⁵ Eti Hadiati, Setiyo, and Agus Dwiyanto, "Environmental Sustainability in Islamic Campus Life: Multi-Major Students' Perspective," *E3s Web of Conferences* 482 (2024): 4012, <https://doi.org/10.1051/e3sconf/202448204012>.

Several specific solutions have been introduced through models such as the green school or *adwiyata* school programs, which integrate environmentally friendly policies into curricula and institutional governance.⁶ However, in the *pesantren* context, these models require significant adaptation to fit unique institutional structures that combine formal education, spiritual development, and communal living. Therefore, ecological management solutions in *pesantren* must be constructed upon internal values such as *Hifẓul Ḅ'ab*, *ukhuwah* (brotherhood), and self-reliance.⁷

Recent studies indicates that *pesantren* successfully implementing eco-*pesantren* models generally employ participatory and sustainable management systems.⁸ Programs such as waste separation, environmental greening, and teacher training in environmental education serve as indicators of successful integration of Islamic values and sustainability principles.⁹ Furthermore, success is also determined by visionary leadership,¹⁰ and consistent internal regulations that support environmentally friendly practices.¹¹

Existing studies on eco-*pesantren* predominantly emphasize practical environmental activities and program implementation, while relatively limited attention has been given to how environmental values are embedded within *pesantren* governance from a systemic and theologically grounded Islamic perspective. In particular, the integration of theological principles such as *Hifẓul Ḅ'ab* into institutional policy, leadership practices, and organizational culture remains underexplored, despite its significance for sustaining environmental initiatives over the long term. Addressing this dimension is crucial for strengthening the coherence, durability, and effectiveness of environmental management in Islamic boarding schools.

Against this background, this study seeks to: (1) describe the implementation of eco-*pesantren* management grounded in *Hifẓul Ḅ'ab* values at Ummul Mukminin Aisyiyah Islamic Boarding School, South Sulawesi; (2) analyze the supporting and constraining factors influencing the implementation of environmentally oriented management; and (3) examine the impacts of eco-*pesantren* management on the ecological behavior and institutional culture of the *pesantren* community. By situating environmental management within the framework of Islamic education governance and theological ethics, this study offers an analytical perspective that extends beyond activity-based approaches and provides both conceptual

⁶ Roghiebah J Faradisi and Fajar S A Anggara, "The Environment, Social, and Governance Award for *Pesantren*: How Is It Possible?," *Epibaf* 11, no. 1 (2024): 116–33, <https://doi.org/10.33102/9j6vq166>.

⁷ Mokhammad Khosim and Ni'mah L Mas'adah, "Ecological Boarding School: Environment-Based Character Education," *Risalatuna Journal of Pesantren Studies* 5, no. 1 (2025): 27–40, <https://doi.org/10.54471/rjps.v5i1.3537>.

⁸ M F Khoirurrijal, Ririn I Mahfudloh, and Evi F Rusydiyah, "Societal Development Through Eco-*Pesantren* Programs: Actualizing the Functions of *Pesantren* in Empowering Society," *Cendekia Jurnal Kependidikan Dan Kemasyarakatan* 21, no. 2 (2023): 209–23, <https://doi.org/10.21154/cendekia.v21i2.7008>.

⁹ Ahmad Nurkhin et al., "Green-*Pesantren* and Environmental Knowledge and Awareness: Case Study at Pondok *Pesantren* as Salafy Al Asror Semarang," *Iop Conference Series Earth and Environmental Science* 1248, no. 1 (2023): 12003, <https://doi.org/10.1088/1755-1315/1248/1/012003>.

¹⁰ Ghaita Jannata, Nur I Simangunsong, and Rini Fitri, "Evaluation of the Availability of Outdoor Space to Support Education and Activities at the Darul Fallah Agricultural Islamic Boarding School, Bogor," *The Journal of Synergy Landscape* 1, no. 2 (2024): 423–34, <https://doi.org/10.25105/tjssl.v1i2.19564>.

¹¹ Nur Kasanah, Muhammad Sajjad, and Dawam M Rohmatullah, "Responsive Islamic Boarding School Management to Environmental Sustainability Through Green *Pesantren* Program," *Muslim Heritage* 8, no. 2 (2023): 267–78, <https://doi.org/10.21154/muslimheritage.v8i2.5017>.

insights and practical references for developing sustainable, value-driven ecological cultures in Islamic educational institutions.

METHOD

This study employed a qualitative approach with a case study design to explore eco-*pesantren* management practices based on *Hifzūl Bi'ah* values at Ummul Mukminin Aisyiyah Islamic Boarding School, located at Jl. KH. Abd. Jabbar Ashiry No. KM.17, Pai, Biringkanaya District, Makassar City, South Sulawesi. This design was selected for its capacity to capture the social, cultural, and managerial dynamics within the context of Islamic education and to provide in-depth understanding of how environmental values are integrated into institutional management systems (Siregar & Rangkuti, 2024).

The research site was chosen purposively, focusing on a *pesantren* that has implemented sustainability principles through waste management programs and hygiene education. The selection was based on the relevance and representativeness of the case in relation to the study's objectives. The inquiry centered on the interaction between managerial policies, the roles of leadership and institutional members, and the development of an ecological culture grounded in Islamic values.

Data were collected through in-depth interviews, participatory observation, and document analysis. Interviews involved *pesantren* leaders, teachers, environmental staff, and active students, aiming to gather their experiences in planning and executing environmental programs. Observation was used to record daily behaviors related to sanitation, waste management, and water conservation, while documentation was obtained from institutional archives and visual materials to ensure data triangulation. Informants were selected using purposive sampling based on their involvement and knowledge concerning the implementation of *Hifzūl Bi'ah* values. The number of informants was adjusted until data saturation was achieved.

Data analysis followed the Miles and Huberman model, involving three stages: data reduction, data display, and conclusion drawing. Data reduction was carried out by selecting relevant information, data display was structured narratively, and conclusions were drawn through iterative reflection on findings to ensure the validity of the results.

This methodological approach allows for a comprehensive understanding of how *Hifzūl Bi'ah* and *maqāṣid al-shari'ah* are operationalized within institutional practice, and how they contribute to the development of sustainable Islamic education management.

RESULTS AND DISCUSSION

Implementation of Eco-*Pesantren* Management Based on *Hifzūl Bi'ah* Values

Field findings show that eco-*pesantren* management at Ummul Mukminin Aisyiyah Islamic Boarding School in South Sulawesi is implemented in a structured manner by integrating the principles of *Hifzūl Bi'ah* into institutional policies, learning practices, and daily *pesantren* culture. This value is not merely symbolic or a religious slogan, but serves as a conceptual framework for all managerial decisions and environmental education programs.

The *pesantren* leader stated that environmental preservation is a form of Islamic practice, as highlighted in an interview: "Creating a clean, healthy, and green environment in

the *pesantren* is part of practicing Islam. This is one of the implementations of our Progressive Islam vision in the Muhammadiyah movement. So, it is not just a formal program, but part of our daily worship.” This understanding forms the foundation of the institution’s ecological vision and mission and supports character-building programs for students.

In managerial practice, policies are designed participatively. Each work unit—including the education division, dormitories, kitchens, and sanitation—has specific responsibilities in supporting environmental sustainability. A staff member noted, “Every division has its role. In the kitchen, we manage organic waste. In the dorms, students are required to sort their trash. This runs systematically, not just through verbal instructions.”

Table 1. Division of Ecological Responsibilities in Eco-*Pesantren* Management

Division	Ecological Responsibilities	Coordinator	Routine Activities
Dormitory	Waste segregation, room and dormitory cleanliness, fostering students’ environmental discipline	Senior students /Dormitory supervisors	Daily cleaning shifts, weekly inspections by IPM, dormitory cleanliness competitions
Kitchen	Organic waste management, hygiene maintenance, energy and water efficiency	Head cook / Kitchen manager	Waste separation, composting, water-saving practices, weekly sanitation inspections
School	Integration of environmental values into curriculum and learning processes	Subject teachers	Development of environmental-themed lesson plans, classroom discussions, student sustainability projects
Sanitation & Maintenance Team	Garden maintenance, waste collection and management, recycling program	Chief sanitation officer	Weekly garden maintenance, monitoring waste collection points, supervision of recycling facilities
IPM (Muhammad iyah Student Association)	Monitoring environmental discipline and ecological literacy campaigns	IPM leadership	Environmental education, Clean Friday programs, water and electricity conservation campaigns, eco-literacy workshops

Internal monitoring operates through a layered system. Each dormitory has a cleanliness coordinator, while the institutional-level environmental team schedules communal work, manages waste collection, and oversees greening activities. Observations show that this supervision includes regular weekly evaluation meetings involving all unit coordinators. The principles of *Hifzul Bi’ah* are embedded in SOPs and work mechanisms, directly shaping collective discipline and awareness. Notably, students in the Muhammadiyah Students Association (IPM) are assigned to monitor cleanliness behaviors among their peers.

Resource efficiency is also practiced as part of Islamic-based management. Students are taught to save energy and water through a spiritual lens. One student shared, “We are taught that turning off lights when not in use is not just about saving electricity, but a form of trust in the blessings of Allah.” This reflects how Islamic values such as *amanah* and *ibsan* are motivational tools in shaping ecological behavior.

The findings of this study confirm that the implementation of eco-*pesantren* management at *Pesantren* Ummul Mukminin Aisyiyah in South Sulawesi has successfully integrated the principles of *Hifzul Bi’ah* into the institutional system, curriculum, and daily practices of the *pesantren* community. This integration reflects an Islamic values-based education management framework that does not position environmental care as an auxiliary

program, but as an integral component of religious responsibility.¹² In this sense, environmental management becomes inseparable from spiritual formation and institutional governance. This finding reinforces earlier studies highlighting the strong potential of *pesantren* to integrate environmental education with religious values through holistic and participatory approaches.¹³

From a managerial perspective, leadership emerges as a decisive factor in ensuring the effectiveness of eco-*pesantren* implementation. Visionary *pesantren* leaders are able to translate sustainability values into institutional policies, operational standards, and daily practices.¹⁴ At *Pesantren* Ummul Mukminin, leadership does not merely function as a regulatory authority, but as a moral and behavioral reference, as leaders actively participate in greening and sanitation activities. This leadership pattern aligns with the transformational leadership model, which emphasizes exemplary conduct and collective empowerment as mechanisms for cultural change.¹⁵

Supporting and Inhibiting Factors of Eco-*Pesantren* Management Implementation

The successful implementation of eco-*pesantren* management is supported by several key factors. A major factor is visionary and transformative leadership. The *pesantren* leaders consistently serve as role models in practicing the value of *Hifzul Bi'ah*. A manager explained, “The leaders always lead by example, such as planting trees themselves and picking up litter during campus rounds. That has a strong impact on us and the students.”

Institutional support also plays a crucial role. The *pesantren* has internal regulations encouraging environmentally friendly behavior, such as a reward system for the cleanest and most active dormitories in greening efforts. Physical infrastructure like waste sorting bins and organic gardens reinforce policy implementation. A student said, “We compete for cleaning duties because there are assessments and awards for dorms. But beyond that, we feel this is part of our devotion.”

Synergy among the *pesantren* community, particularly between teachers, students, and operational staff, fosters a collective culture that strengthens environmental management. Observations show that activities such as “Clean Friday,” cleanliness competitions, and tree planting are conducted enthusiastically and collaboratively. A staff member remarked, “We don’t see it as a burden. We do it together, like a joyful tradition.”

Nevertheless, there are significant challenges. The lack of human resources with in-depth understanding of environmental education leads to imbalances in program implementation. A teacher stated, “We are still learning. Not all teachers know how to link subject matter to environmental issues.”

¹² Bambang Irawan, “Islamic Boarding Schools (*Pesantren*), Sufism and Environmental Conservation Practices in Indonesia,” *HTS Teologiese Studies / Theological Studies* 78, no. 4 (2022), <https://doi.org/10.4102/hts.v78i4.7073>.

¹³ Jamilah Mohd Salim et al., “The Impacts of Traditional Ecological Knowledge towards Indigenous Peoples: A Systematic Literature Review,” *Sustainability*, 2023, <https://doi.org/10.3390/su15010824>.

¹⁴ Agus A Safei and Emma Himayaturrahmah, “Development of Environmentally Friendly Culture in the Islamic Boarding School Through Social Intervention Strategy,” *Al-Hayat Journal of Islamic Education* 7, no. 1 (2023): 226, <https://doi.org/10.35723/ajie.v7i1.323>.

¹⁵ Diah A Setianingrum, Setiyo, and Agus Dwiyanto, “Environmental Education Through Islamic Lens: Values and Practices,” *E3s Web of Conferences* 482 (2024): 4014, <https://doi.org/10.1051/e3sconf/202448204014>.

Campus land limitations also affect program sustainability. Green and open space areas are limited, restricting the number of trees and gardens despite efforts to maintain several large trees. In terms of facilities, recycling equipment remains insufficient.

Another challenge is initial resistance from new students. Many are not used to environmental discipline and need time to adapt. A dorm supervisor explained, “New students usually resist sorting trash. But after two months, they start to get used to it.”

The supporting and inhibiting factors identified in this study indicate that the sustainability of *eco-pesantren* management is shaped by the interaction between leadership commitment, institutional structure, and resource availability. Participatory policies that distribute ecological responsibilities across organizational units demonstrate the importance of collaborative and structured governance. This finding corroborates the study by Rohmatulloh et al., which emphasizes that successful environmental management in *pesantren* depends on clear role distribution among administrators, teachers, students, and the surrounding community.¹⁶ The existence of layered monitoring systems and routine evaluations at Ummul Mukminin functions as a control mechanism that ensures policy consistency and program continuity.

However, consistent with previous studies, significant structural challenges remain.¹⁷ Resource limitations, particularly inadequate facilities and recycling infrastructure, constrain the expansion of environmentally sustainable programs.¹⁸ These constraints reflect broader systemic issues faced by many *pesantren*, especially in terms of environmentally sustainable infrastructure.¹⁹ In addition, the lack of teacher training in environmental education weakens curriculum integration, as some educators are not yet equipped to contextualize ecological issues within their subjects. Hamzah et al. argue that continuous professional development is essential for strengthening institutional capacity, suggesting that *eco-pesantren* strategies must be accompanied by long-term human resource development programs.²⁰

Impacts of Eco-Pesantren Management on Ecological Culture and Student Behavior

The implementation of *eco-pesantren* management based on Hifzul Bī'ah has significantly impacted the formation of students' environmental character. Observations reveal that the *pesantren* environment is clean, well-organized, and filled with greenery maintained collectively by students. One teacher said, “We no longer need to remind students to sweep. They take the initiative to clean even before their scheduled duties.”

¹⁶ Kasanah, Sajjad, and Rohmatullah, “Responsive Islamic Boarding School Management to Environmental Sustainability Through Green *Pesantren* Program.”

¹⁷ Sofia Maulida, Cut Nursaniah, and Laina H Sari, “Study of Implementation of the Eco-*Pesantren* Concept at Dayah Terpadu Inshafuddin, Banda Aceh,” *Iop Conference Series Earth and Environmental Science* 1290, no. 1 (2024): 12037, <https://doi.org/10.1088/1755-1315/1290/1/012037>.

¹⁸ Gamal A N Zakaria and Desfa Yusmaliana, “Management of Education Boarding Schools,” *Edusoshum Journal of Islamic Education and Social Humanities* 3, no. 1 (2023): 50–58, <https://doi.org/10.52366/edusoshum.v3i1.60>.

¹⁹ Kristiyanto Kristiyanto and Hadi S Alikodra, “Eco *Pesantren* Development: Challenges and Opportunities to Conservation Development,” *Biogenesis Jurnal Ilmiah Biologi* 9, no. 1 (2021), <https://doi.org/10.24252/bio.v9i1.21084>.

²⁰ Hamzah Hamzah et al., “Sustainable Development of Mangrove Ecosystem Policy in South Sulawesi From the Perspectives of Siyāsah and Fiqh Al-Bī'ah,” *Juris (Jurnal Ilmiah Syariah)* 22, no. 2 (2023): 367, <https://doi.org/10.31958/juris.v22i2.10559>.

This environmental awareness culture is rooted in the internalization of spiritual values in daily life. Students understand that caring for the environment is a form of worship and a responsibility as stewards of the Earth. One student noted, “Here, we are taught that faith is not only believing in Allah and His Messenger but is proven through a clean lifestyle.”

Character formation is reinforced through contextual learning and teacher role modeling. Some teachers explicitly integrate environmental issues into subjects such as fiqh, ethics, and tafsir. A female teacher shared, “I often link the topic of *tabarab* to environmental cleanliness. It makes it easier for students to understand.”

Environmental activities like waste sorting, communal work, and tree planting are part of daily routines that reinforce ecological responsibility. These activities cultivate healthy and clean living skills and embed sustainable environmental habits. In some cases, students take the initiative to improve sanitation facilities without being asked, indicating a high level of environmental literacy.

Environmental literacy among students has consistently improved, as seen in their ability to understand, interpret, and communicate relevant environmental information. Students can explain the importance of waste sorting and water conservation and independently organize internal dormitory hygiene campaigns. A senior student shared, “We proposed a water-saving program for the dorm bathrooms to the management, and it has been implemented. We also made reminder posters for the ablution areas.”

Observational data also show active student participation in group discussions on environmental issues such as climate change, single-use plastics, and household waste impact. These discussions are part of extracurricular and weekly mentoring sessions facilitated by teachers. During these sessions, students are encouraged to read popular science articles and write personal reflections on their responsibilities as Muslims toward nature.

At the institutional level, *pesantren* management has become more adaptive to environmental issues. Program evaluations are conducted regularly, involving various stakeholders, including teachers and students, to identify obstacles and formulate improvements. A member of the evaluation team shared, “We don’t just assess results; we also listen to students’ suggestions. This makes the program more realistic and participatory.”

Internal evaluations show increased environmental awareness and literacy among students. Over the past two years, cleanliness violations have decreased by 60%, and participation in organic waste management has grown. Compost produced is reused to maintain the *pesantren* gardens, creating a sustainable ecological cycle. One teacher stated, “Students now know the function of compost and how to process it. They even teach it to others who don’t understand.”

The implementation of eco-*pesantren* management at Ummul Mukminin Aisyiyah demonstrates that *Hifẓul Bi'ah* values can systematically shape students’ ecological culture and behavior. Islamic values serve not only as ethical frameworks but are operationalized in everyday habits that promote cleanliness, health, and environmental responsibility. Environmental literacy developed through spiritual, participatory, and applied approaches has empowered students to become agents of ecological cultural transformation within the *pesantren*.

The impacts of eco-*pesantren* management at Ummul Mukminin Aisyiyah demonstrate that students' ecological behavior is strongly shaped through the internalization of Islamic spiritual values such as *amanah* (trust), *ihسان* (excellence), and *khalifah* (stewardship). When environmental practices are framed as acts of worship, behavioral change occurs voluntarily rather than through administrative enforcement. This supports Rahman et al., who emphasize that value-based environmental education rooted in spiritual teachings is more effective and sustainable than normative, rule-based approaches. The integration of environmental ethics into religious understanding enables students to perceive ecological responsibility as an expression of faith.²¹

Furthermore, active student involvement in environmental activities—such as waste separation, communal cleaning, and tree planting—enhances ecological literacy through experiential learning. These practices function as active learning platforms that reinforce knowledge while shaping attitudes and skills, consistent with findings by Jamilah et al.²² and Setianingrum et al.²³ Beyond the *pesantren*, community participation strengthens the ecological impact of these initiatives.²⁴ Local engagement in greening and sanitation activities extends environmental literacy beyond institutional boundaries,²⁵ positioning the *pesantren* as an agent of community-based social transformation.²⁶ In this context, the integration of *Hifẓul Bi'ah* aligns with the principles of *maqāṣid al-ḥayāt* and provides a strong ethical foundation for sustainable Islamic education models.²⁷

CONCLUSION

This study concludes that the implementation of eco-*pesantren* management based on *Hifẓul Bi'ah* values at Ummul Mukminin Aisyiyah Islamic Boarding School in South Sulawesi has successfully integrated ecological principles into the institution's management system, curriculum, and daily practices.

The findings reveal that environmental preservation in the *pesantren* context is framed as a religious responsibility and embedded in Islamic educational management through participatory leadership, structured governance, and spiritual internalization. The leadership's exemplary role, collaborative institutional culture, and systematic monitoring mechanisms have created a sustainable ecological management framework.

²¹ Muhammad H Rahman et al., "Transformasi *Pesantren*: Model Eko-Religius Pondok *Pesantren* Annuqayah," *Ghancaran Jurnal Pendidikan Bahasa Dan Sastra Indonesia*, 2024, <https://doi.org/10.19105/ghancaran.vi.17298>.

²² Mohd Salim et al., "The Impacts of Traditional Ecological Knowledge towards Indigenous Peoples: A Systematic Literature Review."

²³ Setianingrum, Setiyo, and Dwiyanto, "Environmental Education Through Islamic Lens: Values and Practices."

²⁴ Ahmad Nurkhin et al., "Promoting Green-*Pesantren* and Circular Economy; Improving Santri's Knowledge on Food Waste Management and Maggot Cultivation," *Top Conference Series Earth and Environmental Science* 1414, no. 1 (2024): 12026, <https://doi.org/10.1088/1755-1315/1414/1/012026>.

²⁵ Tabroni Tabroni, A H Ritonga, and Kasful A Us, "Islamic Boarding School Management System in Increasing the Competitiveness of Islamic Boarding Schools in Jambi Province," *International Journal of Islamic Thought and Humanities* 2, no. 2 (2023): 249–63, <https://doi.org/10.54298/ijith.v2i2.130>.

²⁶ Rihlah N Aulia et al., "Eco-*Pesantren* Modeling for Environmentally Friendly Behavior: New Lessons From Indonesia," *International Journal of Evaluation and Research in Education (Ijere)* 13, no. 1 (2024): 223, <https://doi.org/10.11591/ijere.v13i1.25930>.

²⁷ Zahra K Lathifah et al., "From Tradition to Innovation: University-*Pesantren* Technological Collaboration for Advancing the SDGs," 2025, <https://doi.org/10.21203/rs.3.rs-6624833/v1>.

Furthermore, the integration of Islamic moral values, such as *amanah*, *ihsan*, and *khalifah*, has proven effective in shaping students' ecological behavior, encouraging voluntary environmental responsibility rooted in faith and worship. The development of environmental literacy among students has transformed ecological awareness from knowledge into consistent practice, supported by contextual learning and teacher modeling.

However, limited resources and inadequate teacher training remain key challenges to achieving comprehensive implementation. Despite these constraints, the eco-*pesantren* model at Ummul Mukminin provides a replicable example of sustainable Islamic education, demonstrating that *Hifẓul Bi'ah* can serve as a theological and managerial foundation for integrating faith-based values with environmental sustainability. This research contributes theoretically to the development of Islamic educational management and practically to the promotion of environmentally conscious institutional practices.

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