

Strengthening Ecological Awareness Among Santri Through Fiqh Al-bi'ah to Realize an Environmentally Friendly Boarding School: A Study of the Waste Management Institution at Pesantren Lirboyo

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Abstract

Climate change has created serious ecological challenges, prompting Indonesian religious institutions particularly Nahdlatul Ulama (NU) through LPBI and Islamic boarding schools (pesantren) to promote ecological awareness using the framework of Fiqh al-Bi'ah. This study investigates the internalization of Fiqh al-Bi'ah values in cultivating environmental consciousness among santri, and examines the practical application of these principles in developing a beneficial waste management system at PP Lirboyo. Using a descriptive qualitative case study approach, data were collected through observation, interviews, and literature review related to environmental governance and Islamic education in pesantren. The findings demonstrate that ecological awareness is strengthened through religious instruction, guidance from kiai, and routine practices such as cleanliness duties, ro'an activities, as well as awareness campaigns via posters and ecological jurisprudence discussions. External training programs further enhance the students' environmental management skills. The implementation of Fiqh al-Bi'ah is reflected in a structured waste management system where waste is sorted, processed, and recycled, producing economic value while reducing environmental impact. This aligns with the Islamic principle of anti-israf and contributes to shaping a sustainable ecological culture within the pesantren community. The study highlights the strategic role of religious education in advancing environmental activism and offers a model for eco-friendly Islamic educational institutions.

Keywords: *Strengthening Santri Ecological Awareness, Fiqh al-Bi'ah, Environmentally Friendly, Waste Management.*

Introduction

Climate change has generated various harmful impacts, such as the continuous rise of sea levels, the gradual decline of snow and ice layers, the extinction of numerous species, and several other simultaneous ecological crises (“The relationship,” 2024). Global climate change threatens the sustainability of life through rising temperatures, melting ice, sea level rise, deforestation, and land degradation affecting approximately 40% of the world’s land area (Rosane, 2022). These threats require cross-sector responses, including religious approaches, to safeguard the continuity of human life and ecosystems.

Indonesia’s religious institutions, particularly Nahdlatul Ulama (NU), established the Disaster Management and Climate Change Institute (LPBI NU) in 2010, which actively supports disaster risk management related to climate change and the protection of the environment. As NU’s educational centers, boarding school play a crucial role for the community and the nation, especially in addressing environmental issues, thereby providing opportunities to understand and directly engage with various social and environmental concerns (*LPBI NU*, t.t.). One concrete effort of boarding school in tackling environmental problems is strengthening Muslims’ ecological awareness through the teaching of Fiqh al-Bi’ah.

Fiqh al-Bi’ah is a branch of Islamic jurisprudence that studies Islamic regulations concerning the environment, including how humans should protect nature, utilize natural resources wisely, and prevent environmental degradation. Fiqh al-Bi’ah was initiated through a meeting organized by Indonesia Forest and Media Campaign and the Center for Community Empowerment and Education Studies (P4M) Jakarta, under the theme “Developing Environmental Fiqh,” held in Lido, Sukabumi, West Java, on May 9–12, 2004, and attended by more than 30 ulam (Km, t.t.).

Several studies have applied Fiqh al-Bi’ah as a theoretical reference for waste management. At Pondok Darussalam Gontor Putri, structured waste management based on Environmental Fiqh and *maqāṣid al-syarī’ah* has been implemented, making it both a moral and social obligation while also preserving the environment (Nasution dkk., 2021). Another study revealed that the implementation of Fiqh al-Bi’ah in boarding school across Surabaya has strengthened santri awareness regarding their responsibility to protect the environment. This teaching encourages environmentally friendly practices such as waste management and resource conservation as part of religious worship (Jamaluddin, 2018).

The hypothesis drawn from existing research indicates that the implementation of Fiqh al-Bi’ah in boarding school increases the ecological awareness of santri and shapes environmentally friendly behavior, making

cleanliness and waste management part of Islamic moral and spiritual responsibilities. However, these studies still exhibit limitations, as they are restricted to specific boarding school and have not yet evaluated long-term impacts or broader implementation within the wider community.

The purpose of this study is to explore the strengthening of santri ecological awareness through Fiqh al-Bi'ah in the waste management system at PP Lirboyo, as well as its application in maintaining cleanliness and the boarding school environment. This fiqh-based approach is analyzed to examine its influence on santri behavior while addressing the research gaps identified in previous studies, ultimately contributing to the enrichment of Islamic education concepts that remain relevant to contemporary environmental challenges.

Methods

This study employs a qualitative methodology with a descriptive approach using a case study design. This design was chosen to explore how Fiqh al-Bi'ah strengthens the ecological awareness of santri in realizing an environmentally friendly boarding school at Lirboyo Islamic Boarding School. The focus lies on the internalization of Fiqh al-Bi'ah in waste management and its impact on santri behavior. Data were collected through observations conducted over two weeks (twice a week) at the waste management site, as well as interviews with one administrator, two santri from the waste management division, and three santri involved in cleanliness activities. Additionally, this study reviews relevant articles to strengthen the analysis regarding the practice of Fiqh al-Bi'ah, Islamic education, and environmental management in boarding school.

Results

1. Understanding and Internalization of Fiqh al-Bi'ah Values

At Lirboyo Boarding School, santri learn Fiqh al-Bi'ah through the study of classical Islamic texts (kitab kuning) in classroom sessions, guidance from kiai and asatidz concerning the boarding school environment, and religious advice delivered by the kiai. This understanding is directly implemented in daily routines through a mandatory cleaning duty system, as well as persuasive reminders in the form of posters and banners installed along the boarding school corridors (Santri Lirboyo, November 12, 2025).

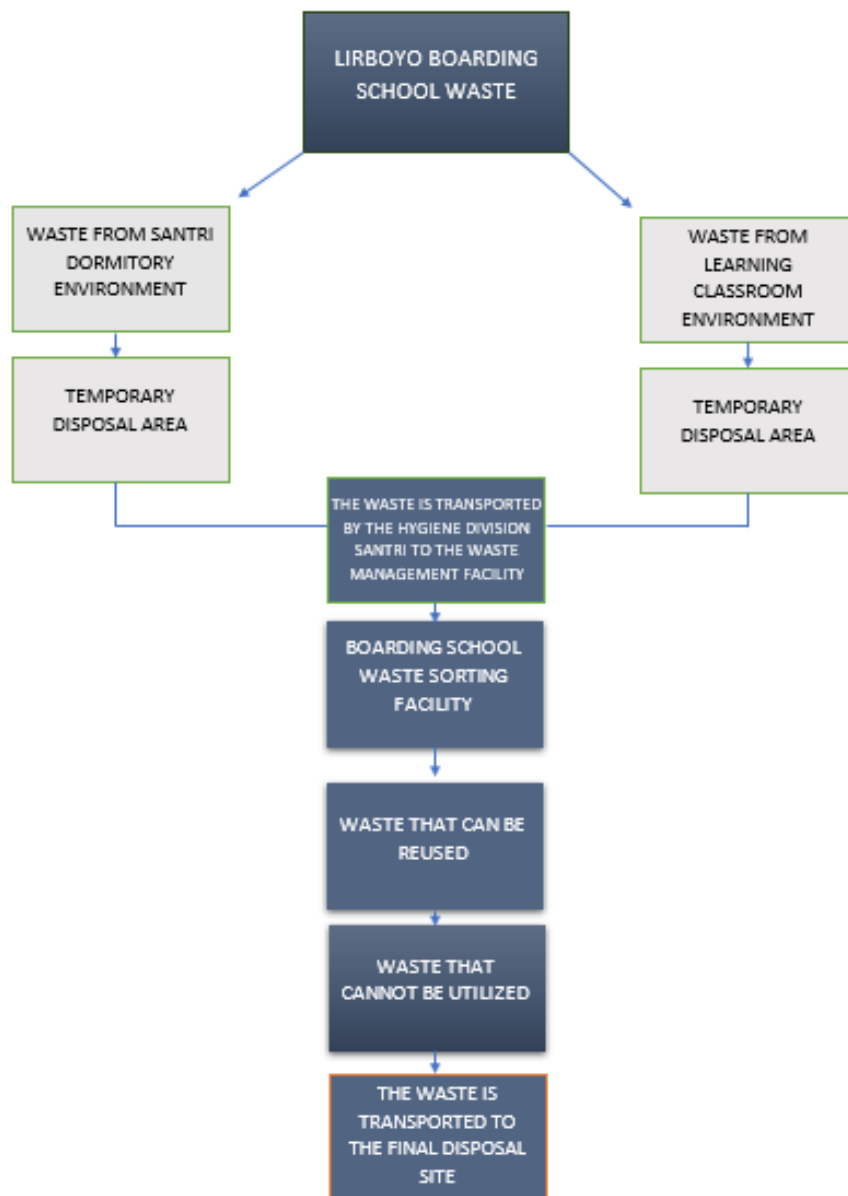
The boarding school also provides a platform for in-depth discussion forums that examine Islamic literature. One of the discussions includes legal rulings related to environmental ecology. An example of a forum outcome is the formulation of a ruling that prohibits damaging plants without a specific purpose, as it is considered an act of israf (Tim Soko Papat,t.t.). This platform serves as a means for the boarding school to internalize Fiqh al-Bi'ah understanding among santri. Ecological values at Lirboyo are practiced through

routine weekly, monthly, and annual cleaning programs that train santri to care for the environment. Santri are also reminded not to damage facilities or plants in the boarding school area. (Environmental Division Administrator, November 12, 2025).

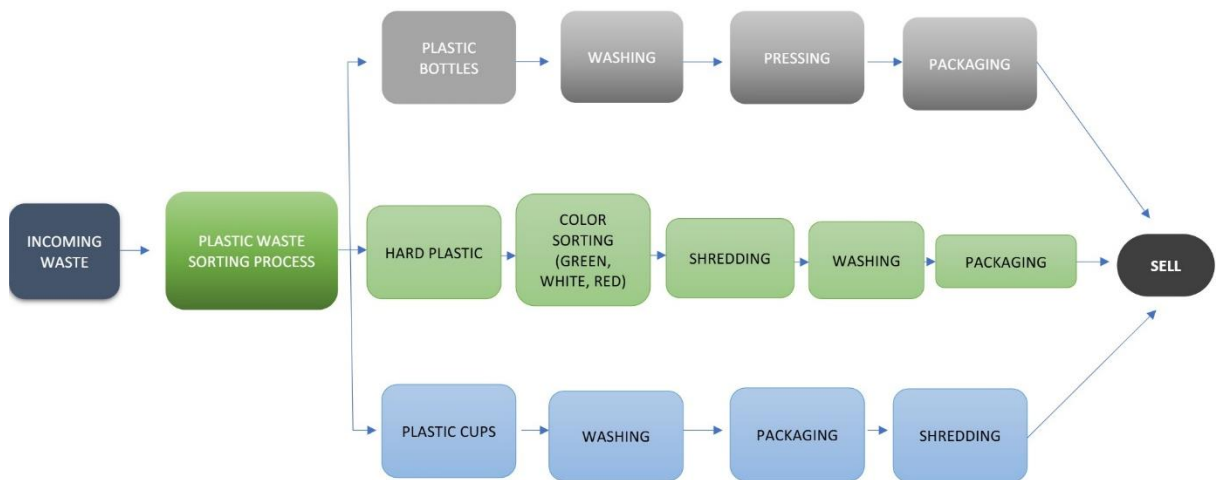
Internalization also occurs through training and practical empowerment. Collaboration with external institutions includes the Ministry of Industry providing training on plastic waste management for santri (Agency, t.t.) and the Association for Pesantren and Community Development (P3M) Jakarta offering environmentally friendly boarding school training programs (P3M, 2025). Through these mechanisms, the values of Fiqh al-Bi'ah are internalized in practical ways, fostering ecological discipline and collective environmental awareness within the Lirboyo boarding school community.

2. Implementation of Fiqh al-Bi'ah Practices in Waste Management

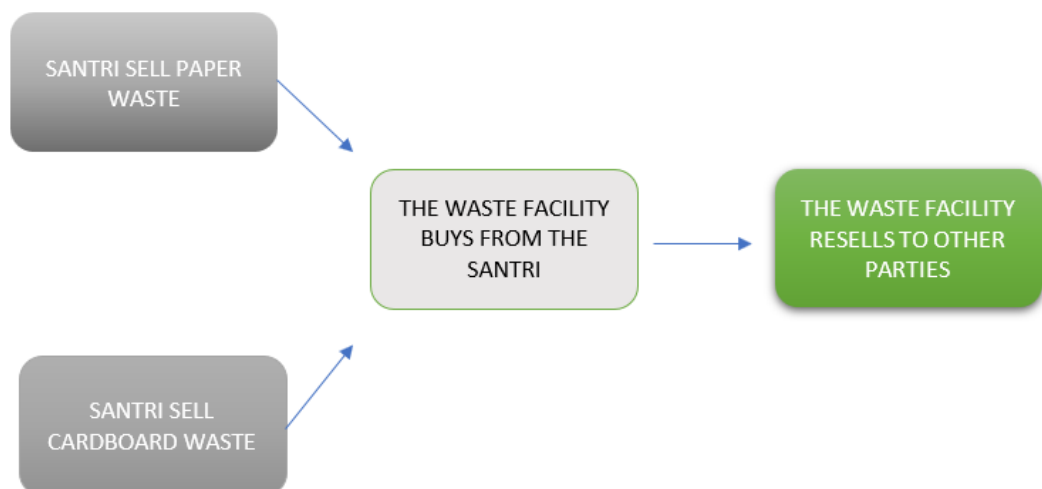
At Lirboyo Boarding School, the principle of “an-nadhafatu minal iman” (cleanliness is part of faith) is practiced in the daily lives of the santri (Al-Khoiri, 2025). In terms of concrete waste management practices, Lirboyo santri are directly involved through several divisions known as KBR (Kebersihan Cleanliness). These include KBR MHM, which is responsible for waste around the learning/class areas, and KBR Pondok, which manages waste in the dormitory area. This system ensures that both the learning environment and the dormitories remain clean, neat, and well-organized. The following table presents the waste management system at Lirboyo Boarding School based on observations and interviews.



At Lirboyo Boarding School, waste is collected and sorted into reusable and non-reusable materials. Non-reusable waste is transported to the Kediri City Landfill, while reusable waste is separated by type (metal, plastic, paper, cardboard) and then processed by santri in the waste management facility. The process includes grinding and pressing before being sold to recycling factories. The proceeds go into the boarding school's operational fund while simultaneously reducing the overall volume of waste.



Not only does the waste management unit at Lirboyo Boarding School process plastic waste, but it also provides a purchasing system for paper and cardboard waste.



Waste sorting at Lirboyo is a concrete example of how the boarding school addresses the ecological crisis and a tangible form of practicing Allah SWT's command: وَلَا تُسْرِفُوا إِنَّهُ لَا يُحِبُّ الْمُسْرِفِينَ ﴿٣١﴾ (Al-A'raf, verse 31). This verse emphasizes that humans should not be wasteful and must use resources wisely. Therefore, reusing or recycling waste is an effort to avoid wastefulness and to fulfill our responsibility as stewards (khalifah) on earth. At the boarding school, recycling activities serve as a means to carry out Allah's command to avoid extravagance while preserving the environment.

3. The Role of Classical Texts and Religious Values

Fiqh, as a disciplinary science, regulates all human activities. Substantive Sharia regulations related to the environment can be found in classical fiqh literature with various themes such as the chapter of ṭahārah (purification), Ihyā' al-Mawāt (land rehabilitation movement), and others. Islamic concepts concerning the environment contained in the kitab kuning have, in part, been realized and developed into ecological concepts promoted by environmental activists. These ecological principles have also been incorporated into several global agreements and conventions (Tim Forum Kajian Ilmiah, t.t.). Religious dogma and spirituality are capable of strengthening human awareness to conduct self-reflection and to carry out their duties in managing and protecting the natural environment (Nanda et al., 2025).

Discussion

A. Integration of Fiqh al-Bi'ah and Ecotheology

The integration of Fiqh al-Bi'ah and ecotheology is clearly reflected in the waste management practices at Lirboyo. This effort is not merely a technical activity but a concrete manifestation of how religious values are combined with ecological ethics in daily life. As stated by Dr. Yahya Kirom Muhammad Ali in the Moroccan qanun, the term bi'ah refers to a collection of natural elements and human habitats, as well as various human-made results, including economic and social aspects, through which humans are able to sustain their lives (Yahya Kirom, 2018).

Islamic ecotheology views environmental stewardship as part of worship. Findings from previous studies indicate that Islamic ecotheology is an approach that integrates divine values (tawhid), human responsibility as khalifah, and the trust to protect the universe as the creation of Allah SWT (Tim Forum Kajian Ilmiah Mata Pena, t.t.). Therefore, the waste management system in Lirboyo can be classified as a practical form of Islamic ecotheology. Every procedure from maintaining cleanliness to waste sorting and processing is

implemented as a manifestation of obedience to Allah, as well as the application of sustainability ethics in Islam.

B. Environmental Education in Boarding Schools: The Ro'an System and Waste Management as the Creation of an Ecological Habitus Based on Spiritual Awareness

Environmental education in boarding schools through ro'an (collective cleaning activities) and waste management helps establish an ecological habitus rooted in spiritual awareness. The ro'an tradition demonstrates that collective cleaning activities conducted by the students develop ecological awareness through religious constructivism (Qur'anic teachings) and repeated enforcement of school regulations (Zahid dkk., 2023). In addition, the eco-boarding school model integrates Islamic values with environmental stewardship practices such as waste management, recycling, and ecology-oriented learning as part of the students' daily education observed and practiced directly by them (Hermawansyah, 2025).

C. The Socio-Religious Role of Boarding Schools: Becoming a Model of Eco-Boarding School that Integrates Spirituality and Environmental Sustainability

Beyond the internalization of values, eco-boarding schools serve as centers for community empowerment and spiritually grounded environmental advocacy. Students who become accustomed to managing the environment turn into agents of change in their communities, spreading ecological awareness gained at the boarding school. Practices such as mandatory cleaning duties in dormitories and classrooms, disciplinary actions involving trash collection, and institutional programs addressing waste issues will have an impact on their respective environments once students return home, aligning with the principles of Islamic ecotheology (Putri dkk., 2023).

D. Theoretical Implications: Expanding the Understanding of Fiqh al-Bi'ah Beyond Legal Discourse into a Social Praxis that Cultivates Collective Ecological Awareness

Fiqh al-Bi'ah within the context of eco-boarding schools broadens the understanding of Islamic law from a purely normative domain into a social praxis that shapes collective ecological awareness. Daily activities of santri such as mandatory cleaning duties in dormitories and classrooms, disciplinary actions that require collecting waste, and waste management programs become a tangible manifestation of the internalization of ecological values derived from Islamic teachings and instilled through boarding school education. A study in Banten shows that this process follows the framework of social construction theory externalization, objectification, and internalization allowing theological

teachings to be translated into real environmental conservation actions. (Putri dkk., 2023).

In addition to normative aspects, Fiqh al-Bi'ah is also grounded in naturalist intelligence, encouraging humans to make ethical decisions related to nature. This strengthens the position of eco-boarding schools as centers for the formation of ecological identity, where the values of tawhid and Islamic ecotheology are applied in students' daily lives, later influencing local communities when they return home (Zuhdi, 2015). Therefore, Fiqh al-Bi'ah serves a dual function: as a moral-legal framework and as a social practice that nurtures collective ecological awareness.

E. Practical Implications: A Model That Can Be Adopted by Other Boarding Schools to Establish an Islamic Values-Based Environmental Management System

Practically, the eco-boarding school model that integrates Fiqh al-Bi'ah into an Islamic-values-based environmental management framework can be replicated by other boarding schools as a form of religious ecological governance. Research conducted at a boarding school in Surabaya shows that Fiqh al-Bi'ah derived from maqāṣid al-sharī'ah which emphasizes maslahah (public benefit) functions both as a legal norm and a social ethic that instills the values of stewardship (khalīfah), tawhid, and trust (amanah) in the daily lives of santri. Therefore, this practical eco-boarding school model serves as a transferable ecological management system grounded in Islamic principles (Ikwan dkk., 2021).

Conclusion and Recommendations

This study reveals that the understanding and internalization of Fiqh al-Bi'ah at Lirboyo Boarding School are developed through classical Islamic text studies (kitab kuning), the guidance of kiai and asatidz, as well as routine practices such as cleanliness duty (piket), ro'an (collective work), and educational efforts through posters and discussion forums on ecological jurisprudence. Training provided by various institutions also strengthens the santri's skills in environmental management, thereby embedding ecological values as part of worship and Islamic responsibility. The implementation of Fiqh al-Bi'ah is clearly demonstrated in a structured waste management system. Waste is sorted, processed through grinding and pressing, and then sold to recycling factories, generating economic benefits and reducing waste volume. This practice aligns with the Islamic principle of avoiding israf (wastefulness) and ensures that waste is not only managed but also transformed

into something beneficial for the boarding school, contributing to the development of a sustainable ecological culture.

Based on these findings, strengthening the eco-boarding school curriculum and expanding environmental management divisions such as by adding more waste-processing machinery for more efficient operations are recommended. These improvements aim to further optimize the implementation of Fiqh al-Bi'ah in Lirboyo and extend its positive impact to a greater number of santri.

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