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Pesantren Ecotheology-Based Environmental Management: A Case Study of Pondok Pesantren in Lombok, Indonesia

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Abstrak

Penelitian ini mengkaji bagaimana nilai-nilai eko-teologi Islam diterjemahkan ke dalam praktik manajemen lingkungan di pesantren Indonesia. Kasus Pondok Pesantren Nurul Haramain dipilih karena memiliki inisiatif lingkungan jangka panjang, meliputi penghijauan, pembibitan tanaman, pengelolaan sampah, dan pendidikan ekologis. Penelitian ini mengisi celah kajian dengan tidak hanya menelaah keberadaan nilai-nilai lingkungan Islam, tetapi juga menganalisis proses kelembagaan yang membuat nilai-nilai tersebut menjadi praktik manajerial. Dengan menggunakan desain studi kasus kualitatif, data dikumpulkan melalui wawancara semi-terstruktur, observasi partisipatif, dan analisis dokumen, kemudian dianalisis secara tematik. Temuan penelitian menunjukkan empat dimensi yang saling terkait dalam manajemen lingkungan berbasis pesantren, yaitu legitimasi teologis melalui konsep *khalifah*, *amanah*, dan *mizan*; kepemimpinan teladan oleh otoritas keagamaan; pendidikan lingkungan melalui kurikulum, pembiasaan, dan ruang belajar; serta praktik ekologis konkret seperti penghijauan, distribusi bibit, dan pengelolaan sampah. Penelitian ini berkontribusi pada kajian pendidikan Islam, studi pesantren, dan tata kelola lingkungan berbasis agama dengan mengonseptualisasikan manajemen lingkungan pesantren sebagai proses kelembagaan yang menghubungkan teologi, otoritas, pedagogi, dan praksis ekologis.

Kata Kunci: Islam, Lingkungan, Manajemen, Pesantren



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Abstract

This study examines how Islamic eco-theological values are translated into environmental management practices in an Indonesian pesantren. The case of Pondok Pesantren Nurul Haramain was selected because its long-standing environmental initiatives, including reforestation, seedling nurseries, waste management, and ecological education provide a concrete setting for examining how religious values become institutional environmental practices. The study addresses a gap in the literature by analyzing not merely the normative presence of Islamic environmental values, but the institutional process through which these values are interpreted, legitimized, and transformed into managerial practices. Using a qualitative case study design, data were collected through semi-structured interviews, participant observation, and document analysis, and were examined through thematic analysis. The findings reveal four interconnected dimensions of pesantren-based environmental management: theological legitimation through the concepts of *khalifah*, *amanah*, and *mizan*; role-model leadership by religious authorities; environmental education through curriculum, habituation, and learning spaces; and material ecological practices such as greening, seedling distribution, and waste management. The study contributes to Islamic education, pesantren studies, and faith-based environmental governance by conceptualizing pesantren environmental management as an institutional process that connects theology, authority, pedagogy, and ecological praxis.

Keywords: *Environmental, Islamic, Management, Pesantren*

INTRODUCTION

Environmental degradation has intensified global concern and has encouraged scholars to emphasize not only technological and regulatory responses, but also cultural, ethical, and educational transformations (de Bell et al., 2020; Jenkins et al., 2018; Sabir et al., 2025). In this context, faith-based educational institutions are significant because they possess moral authority, shape everyday behavior, and connect ecological responsibility with religious meaning. Within Islam, concepts such as *khalifah* (stewardship), *amanah* (trust), *mizan* (balance), and *islah* (restoration) provide important theological foundations for environmental responsibility (Rahmat et al., 2025; Saniotis, 2012).

Indonesia, as the world's largest Muslim-majority country, occupies a unique position in connecting Islamic ethical traditions with contemporary environmental governance (Alibašić, 2024). Pesantren, which educate millions of students, are thus increasingly recognized as key actors in integrating spiritual values with sustainable practices (Anshori & Pohl, 2022; Huda, 2024). Nevertheless, the relationship

between Islamic values, pesantren authority, and environmental practice requires closer analytical examination. Existing studies on religion and ecology have demonstrated that religious institutions can shape ecological values and collective environmental action (Ives et al., 2024). However, religion does not automatically produce pro-environmental behavior; its effects are mediated by authority structures, institutional routines, interpretive traditions, and local socio-political contexts (Saroglou et al., 2025). In Islamic environmental thought, concepts such as *khalifah*, *amanah*, *mizan*, and the prohibition of *fasad* provide a normative basis for ecological responsibility (Gada, 2024). Yet, the key analytical question is not merely whether Islam supports environmental protection, but how these theological concepts are interpreted, institutionalized, and translated into everyday environmental management practices within pesantren life.

This study therefore approaches Islamic eco-theology not as a fixed doctrinal justification, but as an interpretive repertoire through which pesantren actors construct moral legitimacy, institutional discipline, and collective ecological responsibility. Qur'anic concepts such as *khalifah* (human stewardship), *amanah* (moral trust), *mizan* (balance), and *fasad* (corruption or destruction) are read alongside pesantren-based authority, ritual practice, and educational habituation. In pesantren, religious leadership plays an important role in connecting doctrinal teachings with daily ecological practices (Barentsen, 2020; DeHanas & Shterin, 2018; Sessions & Williams, 2024).

Pondok Pesantren Nurul Haramain in West Lombok is selected as an analytically significant case because it allows this study to examine how Islamic eco-theological values are translated into institutional environmental management. The pesantren has developed long-term environmental initiatives, including reforestation, seedling nurseries, water conservation, waste management, and the integration of ecological ethics into religious education. Its significance lies not merely in the visibility of these programs, but in the way environmental practices are connected to theological interpretation, charismatic leadership, student habituation, and community participation. The case therefore provides an opportunity to examine ecological transformation as a process through which religious values are embedded in everyday institutional practices. The public recognition received by its leadership,

including the Ramon Magsaysay Award, indicates the visibility of this initiative (Affan, 2012;Anwar, 2011;Khafid, 2011). However, the analytical value of the case lies in its capacity to reveal how theology, leadership, and ecological praxis are institutionally connected.

The novelty of this study lies in its analysis of the relationship between Islamic eco-theology and environmental management in pesantren. While Islamic environmental ethics has been widely discussed at the normative level, and pesantren-based environmental programs have been examined in relation to education or community empowerment, less attention has been given to how theological meanings become managerial practices. This study addresses that gap by analyzing how concepts such as *khalifah*, *amanah*, *mizan*, and *islah* are interpreted, legitimized, and operationalized through leadership, institutional culture, educational routines, and concrete ecological programs.

Based on this focus, the study asks two research questions. First, how are Islamic eco-theological values interpreted and institutionalized in the environmental management practices of the pesantren? Second, how do leadership, educational routines, institutional culture, and community participation interact in sustaining these environmental practices? This study contributes to Islamic education and pesantren studies by showing how ecological transformation in pesantren can be understood as an institutional process rather than merely a moral campaign or environmental activity. It also contributes to the literature on faith-based environmental governance by demonstrating how religious authority, theological interpretation, educational habituation, and community engagement work together to produce a culturally rooted model of environmental management. Practically, the findings may inform Islamic educational institutions, civil society organizations, and policymakers seeking to develop sustainability initiatives grounded in local religious and cultural frameworks.

METHOD

This study employed a qualitative single-case study design to examine how Islamic eco-theological values are translated into environmental management practices within a pesantren setting. A case study design was selected because the study focuses on a contemporary phenomenon embedded in a specific institutional, religious, and

socio-cultural context (Yin, 2018). Rather than treating environmental management as a set of technical activities, this study examines how theological interpretation, religious leadership, educational routines, and community participation interact within everyday pesantren life. Pondok Pesantren Nurul Haramain was selected as an analytically significant case because it provides a concrete setting for examining how Islamic ecological values are institutionalized into environmental routines, leadership practices, student habituation, and community-based action.

The research was conducted at Pondok Pesantren Nurul Haramain in Narmada District, West Lombok Regency, West Nusa Tenggara. The study involved 25 (see table 1) unique informants selected through purposive sampling and, where necessary, snowball sampling. The study used purposive sampling as the primary sampling strategy, supported by snowball sampling to identify additional relevant informants (Creswell & Poth, 2016). The informants consisted of three pesantren leaders or tuan guru, six teachers (ustaz-ustazah), thirteen students or internal participants, and three community members. This composition was designed to capture multiple perspectives on the pesantren's environmental management, including theological interpretation, institutional leadership, educational integration, student habituation, and community participation.

Because the research was conducted in a pesantren context characterized by strong respect for religious authority, the study recognized the possibility of social desirability bias and overly favorable accounts of institutional leadership. To reduce this risk, participant selection was not limited to recommendations from pesantren leaders. The researchers sought variation across participant groups, including leaders, teachers, students or internal participants, and community members. Interviews with students and community members were conducted without the presence of pesantren leaders or teachers whenever possible, and interview accounts were compared with observations and institutional documents to identify consistencies, differences, and possible idealized narratives

Table 1. Respondent Selection Criteria

Participant category	Number of participants	Selection criteria	Main information expected
Pesantren leaders / <i>tuan guru</i>	3	Leaders involved in religious interpretation, institutional direction, and environmental programs	Theological basis, institutional vision, leadership strategy
Teachers/ <i>ustaz-ustazah</i>	6	Teachers involved in learning activities, student mentoring, and environmental routines	Educational integration, ecological habituation, daily discipline
Students/internal participants	13	Participants involved in daily pesantren life and environmental activities	Learning experience, ecological awareness, participation in routines
Community members	3	Local residents who interacted with or were affected by pesantren environmental programs	Community response, external participation, program outreach
Total	25		

Data were collected through three main techniques: semi-structured interviews, participatory observation, and document analysis (Creswell & Poth, 2016). The interviews explored how Islamic values were understood, how environmental activities were organized, how students were involved, and how the surrounding community responded to the pesantren's ecological initiatives. With participants' consent, interviews were audio-recorded and transcribed verbatim. When recording was not possible, detailed field notes were written immediately after the interview.

Data were analyzed using thematic analysis. Initial codes were generated inductively from interview transcripts, observation notes, and documents. These codes were then grouped into broader categories, including theological legitimation, exemplary leadership, educational habituation, environmental routines, and community engagement. In the next stage, the categories were interpreted

deductively through Islamic eco-theological concepts such as *khalifah*, *amanah*, *mizan*, and *islah*. Thus, the analysis combined empirical coding from the field with theoretical interpretation from Islamic eco-theology.

Although some informants appeared more frequently in the interview excerpts because of their central roles in the environmental programs, the analysis did not rely on frequency of quotation alone. Themes were developed by comparing patterns across participant categories, including leaders, teachers, students or internal participants, community members, observations, and documents (Yin, 2018). This cross-category comparison was used to prevent the interpretation from being dominated by elite or leadership narratives (Braun & Clarke, 2006).

RESULTS AND DISCUSSION

The findings are organized into four interrelated dimensions of pesantren-based environmental management: theological legitimation, role-model leadership, educational habituation, and concrete ecological action. These dimensions should not be read as separate activities, but rather as components of an integrated management system through which Islamic eco-theological meanings are interpreted, institutionalized, practiced, and extended to the wider community. Theology provides moral legitimacy; leadership translates values into institutional direction; education and daily routines internalize ecological discipline; and practical programs such as greening, nurseries, and waste management transform values into observable environmental action.

Theological Legitimation

The theological foundation identified in this study should not be understood as a direct or self-evident application of scriptural texts to environmental management (Smilde, 2018). Rather, it represents a situated pesantren interpretation in which Qur'anic concepts, fiqh reasoning, and pesantren moral authority are connected to ecological practices (Mangunjaya & McKay, 2012). In this sense, Islamic eco-theology functions not only as a normative doctrine, but also as an interpretive framework that legitimizes, motivates, and organizes environmental action within the institution.

The findings indicate that the environmental change management strategy at the Pondok pesantren Nurul Haramain is grounded on a strong normative-theological foundation. The environment is understood as an integral part of Islamic teachings, rather than merely a technical concern. TGH. Hasanaen emphasized that the main inspiration for the environmental movement was born from the Qur'an, especially QS. Al-Baqarah: 265, which is understood as a guarantee of reward for every good to nature:

"I was inspired by Surah al-Baqarah, verse 265. That Allah SWT points to the sky to send rain. In the narration it is mentioned that one leaf has a count on the side of Allah SWT."

This interpretation shows how a Qur'anic verse that primarily emphasizes sincerity, charity, and divine reward is extended by pesantren actors into an ecological ethic of planting, nurturing, and caring for living beings. The verse is not used here as a technical environmental regulation, but as a moral-symbolic resource through which environmental action is framed as worship and long-term virtue.

Similarly, TGH. Khalilurrahman links environmental stewardship to the concept of *taharah* and the sustainability of water sources, so that caring for nature is interpreted as part of maintaining the feasibility of worship:

"If we refer to religion, all fiqh books begin with *taharah*, one of the ways we try is by protecting the environment. Look now, all the trees are gone, the source of spring water is also reduced."

The concepts of *khalifah*, *amanah*, and *mizan* are not treated merely as normative theological references in the pesantren's environmental practices. Rather, they are operationalized as guiding principles for institutional environmental management (Mukhsin & Alfani, 2025). The concept of *khalifah* is interpreted as human responsibility to maintain ecological order, positioning pesantren leaders, teachers, and students as caretakers of the institutional environment through concrete practices such as tree planting, land rehabilitation, and seedling nursery management. *Amanah* reinforces the understanding that nature is not simply a resource to be used, but a divine trust for which humans are morally accountable; this principle is translated into institutional routines such as waste discipline, maintenance of green spaces, and water conservation. Meanwhile, *mizan* is understood as the principle of balance, through which environmental degradation is

framed as a disruption of moral and ecological harmony that must be restored through reforestation, prevention of land degradation, and daily cleanliness practices. Thus, these three concepts function simultaneously as theological values and institutional mechanisms: theology provides moral legitimacy, pesantren management translates these values into rules and routines, and daily practices transform them into observable ecological action.

The reference to *taharah* also illustrates how ritual jurisprudence is reinterpreted in ecological terms. In classical fiqh, *taharah* concerns ritual purity and the validity of worship (Maghen, 1997). In this pesantren context, however, it is connected to the sustainability of water sources and the ecological conditions that make ritual life possible. This interpretive move shifts environmental care from a peripheral concern to a condition for sustaining religious practice.

This approach shows that the strategy of environmental change in pesantren is not an additional project, but part of the implementation of religious values. This provides a high degree of moral legitimacy and facilitates the acceptance of environmental initiatives among students, *ustaz-ustazah*, and the surrounding community. These findings are consistent with the literature on Islamic environmental ethics, which views *khalifah*, *amanah*, *mizan*, and *maslahah* as moral foundations for ecological responsibility (Kurbiyanto et al., 2024; Salman & Asmanto, 2024). Thus, the environmental strategy at the Pondok Pesantren Nurul Haramain has adopted an Islamic *eco-theology approach* that is not only effective in preserving nature, but also strengthening the spirituality of the pesantren community.

These findings suggest that Islamic eco-theology in this pesantren works through a process of interpretive institutionalization. Religious concepts become effective not simply because they exist in Islamic teachings, but because they are repeatedly interpreted by pesantren authorities, embedded in educational routines, and linked to concrete environmental programs. At the same time, this process depends on selective interpretation: certain concepts such as *khalifah*, *amanah*, *mizan*, and *taharah* are emphasized because they resonate with the pesantren's ecological agenda. This means that eco-theology should be analyzed as a lived and institutionalized interpretation rather than as a fixed doctrinal formula.

Role Model Leadership

The findings indicate that the environment-based change strategy is strongly supported by role *model leadership*. TGH. Hasanaen positions himself not only as an institutional leader, but also the first implementer in environmental initiatives including tree planting, waste collection, and land rehabilitation. In the interview, he emphasized that the leader's job is to take on the toughest job and that "no one wants to do it":

"A good and successful leader is one who takes the job that no one else takes. It's the successful leader who takes on the hardest, most risky work, that no one handles, that guarantees that the pattern or the education system changes."

This statement shows that leadership operates through embodied example rather than formal instruction alone. However, in the pesantren context, role-model leadership cannot be separated from religious authority and institutional hierarchy. The tuan guru's direct involvement in environmental work gives moral force to ecological practices, but it also shapes the way teachers and students interpret participation. Their involvement may reflect personal ecological awareness, religious obedience, institutional discipline, or a combination of these factors.

This form of leadership becomes a key strategy for institutional change: students and ustaz are not just commanded, but invited to work together. This interpretation is reinforced by TGH Hasanaen's statement that in pesantren there is no distinction between prestigious and menial work, only halal-haram:

"There are only two kinds of work for us: halal and haram. As long as it is halal, it must be done by anyone without distinction. So here, in this pesantren, there is no distinction between prestigious and menial work."

Therefore, participation in environmental activities should not be interpreted simply as voluntary ecological agency. In a pesantren setting, participation is shaped by moral discipline, respect for authority, collective norms, and the expectation that students follow the example of religious leaders. This does not mean that participation is merely coercive, but it indicates that ecological agency is formed within a structured moral environment. The environmental culture of the pesantren emerges through the interaction between personal awareness and institutional obedience.

A teacher's account suggests that environmental participation was integrated into student discipline and daily mentoring, while student accounts indicate that environmental work was often experienced first as an institutional routine before becoming a personal habit. Community members, meanwhile, tended to interpret the pesantren's leadership less as direct authority and more as moral persuasion through visible example. This leadership strategy helps cultivate a culture in which environmental stewardship is regarded as a collective responsibility and a source of communal pride rather than a burden.



Figure 1: TGH. Hasanaen Carries Out Environmental Protection Actions
Source: republika.co.id

Figure 1 illustrates how role-model leadership is enacted through direct participation in environmental activities. This finding supports studies showing that exemplary religious leadership can shape ecological awareness by turning values into observable practices (Hermawansyah, 2025; Ibrahim et al., 2025; Shah & Asghar, 2024; Sumi et al., 2024). This strategy is not only effective from a managerial perspective, but also cultivates students as agents of change whose environmental engagement is grounded in Islamic values.

The leadership dimension therefore reveals both the strength and vulnerability of pesantren-based environmental management. Its strength lies in the capacity of religious authority to mobilize collective ecological action through example, discipline, and moral legitimacy. Its vulnerability lies in the possibility that environmental culture remains dependent on charismatic leadership unless it is further embedded in institutional rules, distributed responsibilities, student

organizations, curriculum, and community-based mechanisms. This finding shifts the analysis from heroic leadership to the institutionalization of ecological authority.

Environmental Educational Integration in *Pesantren*

Another key strategy identified in this study is the integration of the environmental values into the educational system and institutional culture. The environmental education is not treated as a stand-alone program, but is integrated throughout the educational process. TGH. Hasanaen explains:

"We integrate environmental concerns into the education system. So, it's not just about planting trees, providing clean water, or keeping the environment clean. Rather, it's about how to incorporate environmental sustainability into every aspect of the educational process."

The ustaz/ustazah conceptualize the environment as a broad "learning space" that includes the physical nature, social relations, and the atmosphere of student interaction. An ustaz stated:

"The environment is a place of learning. From that environment we know the characters of people. Especially in a pesantren setting."

While an ustazah emphasized that difference management and collaborative work are also part of the environment:

"The environment is not merely a physical space; people themselves are also part of the environment."

In practical terms, this integration is seen through the use of gazebos as "open classrooms", the organization of green spaces, the provision of waste bins throughout the campus, and the arrangement of outdoor learning activities. This strategy enables ecological values to be internalized through daily routines, not just through lectures. The effectiveness of this integration is reflected in observable forms of learning transformation rather than through formal test scores. In this study, environmental learning appeared in at least four indicators: students' ability to connect ecological practices with religious values, participation in daily environmental routines, habituation to cleanliness and waste responsibility, and involvement in collective activities such as planting and maintaining green spaces. These indicators suggest that environmental education operates as a hidden curriculum embedded in space, routine, discipline, and religious meaning.

Table 2. Learning Transformation

Dimension of learning transformation	Indicator	Data source	Interpretation
Ecological awareness	Students associate cleanliness, tree planting, water conservation, and worship	Student interviews	Environmental stewardship is framed in religious terms
Attitude formation	Students perceive environmental work as responsibility, rather than punishment	Student and teacher interviews	Ecological duty becomes a form of moral discipline
Behavioral habituation	Waste sorting, cleaning routines, plant care	Observation	Environmental practice becomes part of daily routine
Collective responsibility	Students work together in greening or cleaning activities	Observation and interviews	Ecological action is collectively organized
Emerging agency	Students remind peers or participate without direct instruction	Student narratives	Habituation may develop into personal agency

The integration of environmental values at Pondok Pesantren Nurul Haramain reflects a whole-school approach in which ecological learning is embedded in curriculum, institutional culture, physical space, and daily routines (Sasaki et al., 2024; Torsdottir et al., 2024). The use of green spaces as outdoor classrooms, green space management, and the provision of waste-management facilities constitute forms of *experiential learning* that enable students to internalize ecological values through daily practice.



Figure 2: Teachers (Ustaz-Ustazah) and Students Plant Trees in the Pondok Pesantren Environment
Source: Observation results

In addition, the understanding of the environment among the ustaz/ustazah as a "learning space" that encompasses the natural environment, social relationships, and student interactions reflects a holistic ecological paradigm. The ustaz-ustazah's understanding of the environment as both physical and social space shows that ecological learning is embedded in everyday interaction. Environmental education therefore works through routine, habitus, and collective experience rather than classroom instruction alone (Bickerstaffe, 2024; Hasan, 2024; Ruiiu et al., 2024).

However, this study does not claim to measure behavioral change quantitatively. The evidence instead points to observable and reported forms of ecological habituation. The integration of environmental values into learning spaces, daily routines, and collective activities suggests that pesantren environmental education works through repeated practice and moral discipline rather than through formal pedagogical instruction alone.

This finding positions the pesantren as a learning ecology in which environmental education is distributed across curriculum, space, routine, authority, and peer interaction. The environment becomes pedagogical not merely because it is used as an outdoor classroom, but because it structures repeated encounters with responsibility, cleanliness, cooperation, and religious meaning. The educational contribution of the pesantren therefore lies in transforming ecological values into embodied habits.

Real Action Strategies: Greening, Nurseries, and Waste Management

The pesantren's environmental management is enacted through three main practices: greening and land rehabilitation, seedling nurseries and community distribution, and waste management. These practices function not only as ecological initiatives, but also as mechanisms through which religious values, leadership authority, student involvement, and community participation are organized into an institutional system. Since 2000, TGH. Hasanaen has led ongoing land rehabilitation and reforestation efforts:

"Since 2000, we have been cultivating this land. Our principle was simple: just keep planting. At first, we didn't know how to grow trees and if they would survive here, but eventually we discovered how to do it."

The barren land in Suren Hamlet was then transformed into a forested area "Lembah Madani" through the collective work of ustaz and students, although initially it was ridiculed by people who doubted that trees could live on degraded land. Another key strategy involves providing free seedlings and seeds to the community, alongside financial support for planting costs and fertilizers, to incentivize external participation:

"Providing tree seedlings free of charge was one of our strategies to encourage people to plant trees. At first, when we simply campaigned and invited people to plant trees, they were not interested. So, we distributed free seedlings, provided fertilizer, and covered the costs of planting and maintenance. That approach helped encourage those who were initially reluctant. Once people became interested, the situation changed; they began collecting the seedlings themselves. Later, when tree planting became more popular, we even distributed seedlings at wedding receptions. The important thing was that people planted trees."

With regard to waste management, the strategy used is to make everyone responsible for their own waste. TGH. Hasanaen often emphasized to the students' guardians:

"We accept your children as students, not the waste they bring with them. Waste management remains the responsibility of parents and students."

There are also regularly managed waste incinerators and waste sorting systems in the cottage environment, all of which show a change from a culture of "throwing away" to a culture of managing. The presence of waste sorting and waste processing facilities indicates an attempt to shift from disposal habits to waste responsibility. However, the use of incineration should be discussed cautiously, as it may raise environmental concerns if not managed with appropriate standards.

Therefore, the stronger educational contribution of the waste program lies not simply in the availability of facilities, but in the formation of responsibility, sorting habits, and institutional discipline around waste.

The findings of the study show that the environmental strategy of the Pondok Pesantren Nurul Haramain is built through sustainable real actions and not just a normative campaign. The greening initiative started in 2000 as emphasized by TGH. Hasanaen, "*We simply kept planting. At first, we didn't know how to make trees survive there, but eventually we figured it out*" reflects a *long-term ecological commitment* approach that is in line with the concept of *community-based ecological restoration* (Clewel & Aronson, 2013b, 2013a, 2013c).

The transformation of barren land into a forested area in *the Madani Valley* demonstrates how collective action can drive significant ecological change. This finding aligns with scholarly consensus that the success of environmental restoration is highly contingent upon active community participation and long-term sustainability (Burger, 2008; Fox and Cundill, 2018). The strategies carried out by the pesantren are also in line with the *action-oriented environmental education* framework, which emphasizes practice-based learning as the foundation for raising awareness (Lin et al., 2022; Thor & Karlsudd, 2020). The success of reforestation in the pesantren environment, although initially doubted by the community, shows how the example of leaders and consistency of actions are able to drive broader socio-ecological change.

From a management perspective, the transformation of barren land into a green area involved more than spontaneous enthusiasm (Chen et al., 2025; Kumbham, 2025). It required long-term planning, allocation of labor, maintenance routines, mobilization of students and teachers, and symbolic legitimation from religious leadership. Thus, greening functioned as both ecological restoration and institutional discipline: it organized people, time, space, and moral meaning around a shared environmental goal.



Figure 3: Distribution of Tree Seedlings in the Community
Source: Researcher's observation

In addition, the strategy of providing free seedlings and seeds to the community and the financial support for planting and fertilizer costs represents an *incentive-based environmental participation model* that has proven to be effective in encouraging public involvement in sustainability programs (Grillos, 2017). As illustrated in Figure 3, TGH. Hasanaen explained that the seeds were even distributed through wedding receptions because "the important thing is that people plant trees." This strategy indicates that community participation was not generated through moral persuasion alone but was supported by practical incentives, including free seedlings and assistance for planting. This finding suggests that pesantren-based environmental management combines religious motivation with material facilitation and culturally embedded forms of participation. . Participation therefore needs to be understood as a negotiated process rather than as a purely voluntary or purely doctrinal response. This approach is consistent with the literature on *culturally embedded environmental behavior* (Moser et al., 2022; Tam, 2025).

On the other hand, waste management policies based on individual responsibility, such as the affirmation that "what we accept your children as students, not the waste they bring with them" shows the application of the principle of *extended personal responsibility*, which according to O'Donnell and Guidry (2022), effectively build pro-environmental behavior through the internalization of norms. The presence of controlled waste incineration furnaces and sorting systems indicates a cultural shift from mere *disposal behavior* to *waste management behavior*, a transformation that is strongly emphasized in community-based waste management studies (Minelgaitė & Liobikienė, 2019; Raghu & Rodrigues, 2020). Thus, the pesantren strategy is not only

ecological, but at the same time builds social awareness, participation, and a culture of sustainability.

These practices should not be overgeneralized as a model that can be directly replicated in all pesantren. Their sustainability depends on several enabling conditions: strong religious leadership, available land, student participation, teacher involvement, community trust, and the institutional capacity to maintain routines over time. In other pesantren contexts, where land, leadership style, resources, or community relations differ, similar programs may require adaptation. Therefore, the transferability of this case lies not in copying its activities, but in understanding the mechanism through which theology, authority, education, and management are connected.

Pesantren Eco-Theology as Environmental Management

Across the four themes, the findings show that pesantren eco-theology operates as a management system through four interconnected processes. First, theological interpretation provides moral legitimacy by framing environmental care as part of religious responsibility. Second, role-model leadership translates this legitimacy into institutional direction and collective discipline. Third, educational integration embeds ecological values into daily routines, spaces, and student habituation. Fourth, concrete programs such as greening, nurseries, and waste management transform religious values into material ecological practices.

This synthesis contributes to pesantren studies by showing that pesantren environmentalism cannot be understood only as religious preaching, environmental activism, or charismatic leadership. It is better understood as an institutional process in which theology, authority, pedagogy, and practice are mutually reinforcing. At the same time, the case also reveals tensions: ecological commitment may depend heavily on charismatic leadership, participation may be shaped by institutional hierarchy, and the transferability of the model depends on local resources and organizational capacity.

CONCLUSION

This study concludes that Islamic eco-theological values are interpreted and institutionalized in Pondok Pesantren Nurul Haramain through a situated process

that connects religious meaning with environmental management. Concepts such as *khalifah*, *amanah*, *mizan*, and *taharah/islah* are not treated merely as abstract theological doctrines, but are translated into institutional principles that guide environmental responsibility, cleanliness, water conservation, tree planting, land rehabilitation, seedling nurseries, and waste management. In this sense, the first research question is answered by showing that Islamic eco-theology becomes effective when it is interpreted by *pesantren* authorities, embedded in institutional routines, and transformed into observable ecological practices.

The second research question is answered by demonstrating that the sustainability of environmental practices in the *pesantren* depends on the interaction between leadership, educational routines, institutional culture, and community participation. Role-model leadership provides moral direction and practical example; educational routines internalize ecological values through habituation and learning spaces; institutional culture frames environmental work as religious discipline and collective responsibility; and community participation extends *pesantren*-based ecological practices beyond the school environment. These findings show that *pesantren* environmental management is not simply a moral campaign or isolated environmental activity, but an institutional process that links theology, authority, pedagogy, and ecological praxis.

This study has several limitations. First, it is based on a single qualitative case study, so its findings should not be generalized to all *pesantren* without considering differences in leadership style, institutional capacity, land availability, resources, and community relations. Second, the study relies on interviews, observation, and document analysis, and therefore does not quantitatively measure environmental impact or long-term behavioral change among students and community members. Third, because *pesantren* life is shaped by deep respect for religious authority, some participant accounts may reflect institutional loyalty or social desirability. Future studies could compare several *pesantren*, combine qualitative and quantitative approaches, and assess the ecological and behavioral outcomes of *pesantren*-based environmental management more systematically.

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