



Ecotheology-Based Green Islamic Boarding School Management Transformation: Integrating Ecological Leadership and Islamic Ecotheological Education to Advance Sustainable Educational Governance

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Abstract

This study examines how ecotheology-based green pesantren management is transformed through the integration of ecological leadership, Islamic ecotheological education, and institutional management practices. A qualitative single-case study was conducted at Nurul Jadid Islamic Boarding School, Paiton, Probolinggo, East Java, from March to June 2026. Nineteen informants were selected purposively from the Board of Caretakers, pesantren administrators, the Environmental and Cleanliness Division (BKLH), dormitory administrators, and senior students. Data were generated through in-depth interviews, participant observation, and document analysis, and were analyzed using the interactive model of Miles, Huberman, and Saldaña through data condensation, data display, and conclusion drawing and verification. The findings indicate four interconnected mechanisms. Islamic ecotheology provides the normative orientation through the principles of khalifah, amānah, mizān, and the prohibition of fasād fī al-arḍ; the ecological leadership of the kiai translates these values into institutional direction and role modeling; ecotheological education internalizes them through meaning-making, habituation, and ecological praxis; and the green management system embeds them in planning, organizing, coordination, implementation, supervision, and participation. Their integration supports a shift from activity-based environmental programs toward sustainable educational governance. The study proposes Ecotheological Green Pesantren Management as a context-bound conceptual model linking spiritual values, leadership, pedagogy, organizational routines, and sustainability governance.

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INTRODUCTION

Environmental sustainability in education is increasingly understood as an institutional question rather than a set of isolated environmental activities. Research on whole-institution and whole-school approaches shows that sustainability becomes more durable when leadership, curriculum, organizational routines, participation, and campus operations reinforce one another rather than function as separate programs (Holst, 2023; Holst et al., 2024; Verhelst et al., 2023; Wals & Benavot, 2017). This perspective is especially relevant to educational organizations in which students learn not only through formal lessons but also through routines, social relationships, and everyday institutional practices. For such institutions, environmental education may remain superficial when ecological messages are taught in classrooms but are not reflected in decision making, resource management, or communal behavior. The central managerial issue is therefore how sustainability can move from a programmatic agenda into the institutional logic that guides education and organizational life.

In Islamic settings, this managerial question intersects with a religious framework that assigns ethical meaning to relationships among God, human beings, and the natural world. Islamic

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environmental ethics has been discussed through principles of stewardship, trust, balance, accountability, and the prohibition of environmental harm, while contemporary Muslim environmentalism has sought to translate these principles into organizational and social practices (Abdelzaher et al., 2019; Al-Damkhi, 2008; Gade, 2023; Koehrsen, 2021). Indonesian scholarship on Green Islam likewise shows that religious authority can support environmental engagement, although the translation from religious discourse into consistent behavior is neither automatic nor uniform (Fikri & Colombijn, 2021; Mangunjaya & Praharawati, 2019). This tension matters for pesantren because religious values are embedded in leadership, student formation, communal routines, and institutional authority. An ecotheological approach to green pesantren management therefore requires an explanation of how religious meaning becomes educational practice and, eventually, an organizational system.

The empirical setting of Nurul Jadid Islamic Boarding School illustrates this problem in concrete terms. Interviews with caregivers, pesantren administrators, BKLH administrators, dormitory administrators, and senior students described environmental stewardship as part of religious responsibility, while observations identified routines of cleanliness, waste management, dormitory organization, supervision, and collective participation. Institutional documents also showed that environmental activities had entered formal programs and organizational responsibilities. At the same time, the data indicated uneven implementation, a continuing need for coordination across units, and dependence on habituation and supervision to sustain ecological practices. The case therefore does not present a completed green transformation; rather, it provides an opportunity to examine how environmental values, leadership direction, education, and managerial routines are being connected within a living pesantren system.

Leadership is central to this process because sustainability-oriented change requires more than administrative authorization. Studies of educational leadership for sustainability emphasize shared vision, organizational learning, role modeling, coordination, and structures that allow ecological commitments to persist in everyday practice (Forssten Seiser et al., 2023; Gan, 2021; Ghamrawi, 2023; Mogren et al., 2024; Müller et al., 2020, 2022). In a pesantren, this organizational role is shaped by the moral and spiritual authority of the kiai, whose guidance can provide religious legitimacy for institutional priorities. The relevant question is not simply whether leaders support environmental programs, but how they translate ecotheological values into expectations, policies, examples, and collective responsibilities. Examining this translation is necessary for understanding why similar environmental activities may remain temporary in one setting but become part of institutional culture in another.

Education is the second mechanism through which institutional sustainability can become part of everyday life. Research on education for sustainable development indicates that learning is strengthened when students participate in meaningful practices, encounter coherent institutional messages, and experience sustainability through both formal and informal learning environments (Cebrián et al., 2020; Nousheen & Kalsoom, 2022; Torsdottir et al., 2024). Whole-school studies further show that shared vision, trust, participation, and organizational capacity affect whether sustainability is translated from policy into practice (Gericke & Torbjörnsson, 2022a, 2022b; Sasaki et al., 2024). In pesantren education, these processes occur through a particularly intensive combination of teaching, communal residence, habituation, supervision, and exemplary conduct. Prior studies of pesantren have documented the integration of Islamic values with environmental education and sustainability practices, including Qur'anic ecotheology and environmental ethics (Albar et al., 2024; Karman et al., 2023; Rohman & Khotimah, 2024; Syukri et al., 2024). These studies provide an important basis, but they leave open the managerial question of how educational internalization becomes institutionalized across the organization.

The broader literature reveals two related limitations. First, studies of religion and environmentalism often focus on ethical principles, religious motivation, or pro-environmental behavior, whereas research on sustainability transitions shows that values must interact with organizational power, institutional logics, and routines before they can produce durable institutional change (Abdelzaher & Abdelzaher, 2017; Koehrsen, 2018; Koehrsen & Huber, 2021; Koehrsen et al., 2022; Rice, 2006). Second, research on whole-institution sustainability has developed strong explanations of leadership and organizational integration, but it seldom examines how a religious value system structures those mechanisms in an Islamic residential educational institution. Recent work also shows that the meaning and implementation of sustainability vary across cultural and institutional settings, which cautions against transferring school-management models without contextual interpretation (Arslan & Curle, 2024; Bülbül, 2026; Zafran, 2025; Zainal Abidin et al., 2023, 2024). The gap is therefore not the absence of environmental programs in pesantren research, but the limited explanation of the process through which ecotheological values become leadership direction, pedagogical internalization, managerial routines, and sustainable governance as an integrated transformation. Addressing that process can connect Islamic environmental ethics with contemporary scholarship on institutional sustainability without reducing either domain to a decorative component of the other.

Against this background, this study aims to analyze and reconstruct the transformation of ecotheology-based green pesantren management at Nurul Jadid Islamic Boarding School through the integration of ecological leadership and Islamic ecotheological education in advancing sustainable educational governance. The study treats Islamic ecotheology as a normative value system, the ecological leadership of the kiai as a mechanism of institutional direction and mobilization, ecotheological education as a mechanism of value internalization, and the green management system as a mechanism of institutionalization. Empirically, the analysis focuses on how these elements appear in interviews, observed practices, and institutional documents rather than assuming that their integration has already been completed. Theoretically, the study develops the concept of Ecotheological Green Pesantren Management to explain a transformation pathway from values to leadership, education, management routines, and governance. Practically, the model offers an analytically grounded way to consider how pesantren can align environmental responsibility with their educational mission, authority structure, communal culture, and organizational processes while recognizing that the findings remain specific to the case examined.

RESEARCH METHODS

Research Design and Setting

This study used a qualitative case study design to examine the transformation of ecotheology-based green pesantren management as it occurred within its real institutional setting. A case study was appropriate because the research focused on meanings, interactions, leadership practices, educational routines, and organizational processes whose interpretation depends on the context in which they occur (Creswell & Poth, 2018; Yin, 2018). The case was delimited to Nurul Jadid Islamic Boarding School in Paiton, Probolinggo, East Java, Indonesia, and specifically to the integration of Islamic ecotheology, ecological leadership, ecotheological education, green management practices, and sustainable educational governance. Fieldwork was conducted for four months, from March to June 2026. The site was selected purposively because its institutional structure and environmental management practices provided direct access to the phenomenon addressed by the study. The design sought analytical depth within this single case rather than statistical generalization.

Table 1. Research Design

Methodological component	Description
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RESEARCH APPROACH	Qualitative approach focused on meanings, practices, interactions, and institutional processes associated with green pesantren management transformation.
RESEARCH DESIGN	Single-case study of the integration of ecotheology, ecological leadership, ecotheological education, green management, and sustainable educational governance.
RESEARCH SITE	Nurul Jadid Islamic Boarding School, Paiton, Probolinggo, East Java, Indonesia.
RESEARCH PERIOD	Four months, March to June 2026.

Participants and Sampling

Participants were selected through purposive sampling on the basis of their direct involvement in, knowledge of, or experience with environmental management and student formation at the pesantren. The study involved 19 informants: three members of the Board of Caretakers, three pesantren administrators, three administrators of the Environmental and Cleanliness Division (BKLH), three dormitory administrators, and seven senior students. The Board of Caretakers provided information on religious values, institutional vision, leadership direction, and environmental policy; pesantren administrators addressed planning, organization, coordination, and governance; BKLH administrators described environmental programs and operational management; dormitory administrators explained supervision, habituation, and the implementation of policies in daily residential life; and senior students provided first-hand accounts of ecological education and participation. This distribution created multiple vantage points across the institutional hierarchy and the students' lived environment. No additional participant characteristics or exclusion criteria are reported because such data are not available in the source manuscript.

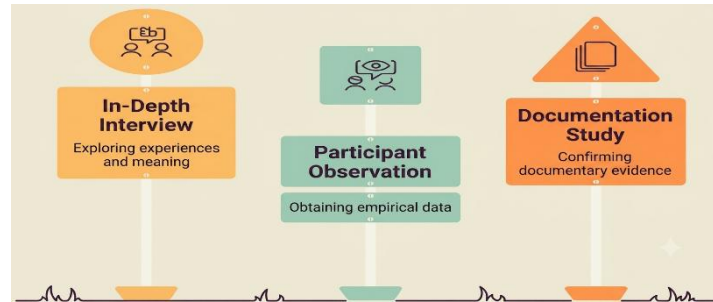
Table 2. Research Participants and Informants

NO.	Informant	Number of informants	Informant code
1	Board of Caretakers	3 persons	P-01
2	Pesantren Administrators	3 persons	P-02
3	Environmental and Cleanliness Division (BKLH) Administrators	3 persons	P-03
4	Dormitory Administrators	3 persons	P-04
5	Senior Students (<i>Santri</i>)	7 persons	P-05

Data Sources and Collection Procedures

Data were collected through in-depth interviews, participant observation, and document analysis. Semi-structured interviews addressed the construction of Islamic ecotheology, ecological vision and leadership, green pesantren policies, ecotheological education, ecological culture, environmental management, student participation, and sustainable educational governance, while unstructured follow-up questions were used to explore experiences and meanings that emerged during field interactions. Participant observation focused on BKLH activities, environmental and waste-management practices, dormitory conditions, students' ecological habituation, forms of role modeling, supervision, and interactions among members of the pesantren community. Documentary sources included pesantren policies and guidelines, organizational structures, BKLH work programs, dormitory regulations, educational activity documents, activity reports, photographs, and records of environmental programs. These sources were used complementarily so that interview accounts could be compared with observed practices and institutional records. Because the study used qualitative interview and observation guides rather than a psychometric scale, internal-consistency reliability coefficients were not applicable; the source manuscript does not report a separate pilot test or external expert-validation procedure, and none is added here.

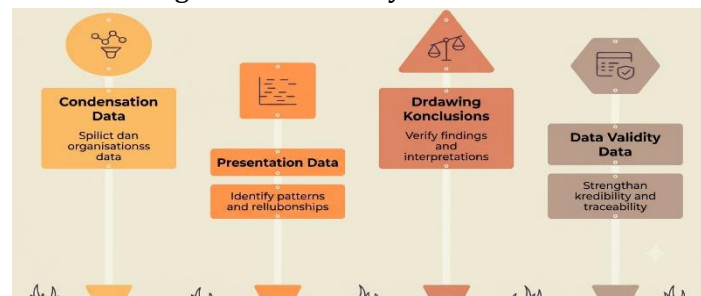
Figure 1. Data Collection Techniques



Data Analysis and Trustworthiness

Data analysis followed the interactive model of Miles, Huberman, and Saldaña and proceeded cyclically alongside data collection (Miles et al., 2014). First, data were condensed through selection, focusing, coding, abstraction, and organization of interview, observation, and documentary material relevant to the research focus. Codes were grouped into analytical categories concerning Islamic ecotheology, ecological leadership, ecotheological education, ecological culture, green management, participation, and sustainable educational governance. Second, data were displayed through thematic matrices, category relationships, and analytical narratives so that convergences, differences, continuities, and gaps between institutional policy and everyday practice could be examined. Third, conclusions were developed and repeatedly checked by comparing accounts across informant groups and by relating interview data to observations and documents. Trustworthiness was strengthened through source triangulation, technique triangulation, and member checking with relevant informants. The analysis therefore distinguished empirical evidence from interpretive claims and used convergence across data sources as the principal basis for the final thematic interpretation.

Figure 2. Data Analysis Procedure



RESULTS AND DISCUSSION

This section presents the findings generated from interviews, participant observation, and document analysis. The evidence is organized around five related themes: Islamic ecotheology as a value foundation, the ecological leadership of the kiai, Islamic ecotheological education, the green management system, and the emergence of sustainable green pesantren educational governance. Interpretive statements are grounded in the convergence or contrast among the three data sources.

RESULTS

Islamic Ecotheology as the Foundation of Management Transformation

The findings indicate that Islamic ecotheology provided the principal value framework through which environmental responsibility was interpreted at Nurul Jadid. Members of the Board of Caretakers did not describe cleanliness and conservation only as administrative concerns; they related them to the responsibility of human beings toward Allah's creation. The principles of khalifah, amānah, mīzān, and the prohibition of fasād fī al-arḍ were repeatedly used to give religious meaning to ecological conduct. One caregiver stated, "Environmental stewardship must be grounded in the awareness that human beings have been entrusted with the responsibility to care for the earth.

Therefore, cleanliness and environmental concern should not be limited to regulations but must become an integral part of the education and moral character of the students" (P-01, 3/4/26). This account shows that ecological responsibility was framed as part of moral formation rather than as compliance with a technical program.

Interviews with pesantren and BKLH administrators showed how this religious framing entered organizational practice. Administrators described environmental management as a shared responsibility that required guidance, participation, and coordination, while BKLH personnel emphasized the need to cultivate awareness alongside the practical management of cleanliness and waste (P-02; P-03, 7/4/26). Observations recorded collective cleaning, maintenance of residential areas, waste management, and routine monitoring of environmental conditions. Institutional guidelines, BKLH work programs, dormitory regulations, and activity documentation further showed that environmental responsibility had been incorporated into formal and informal organizational mechanisms. The convergence of these sources suggests that ecotheological meaning was not confined to discourse but was being translated into routines and institutional expectations.

The data also showed that this translation remained uneven and depended on cross-structural involvement. Pesantren administrators described the need for engagement by caregivers, central administrators, BKLH, dormitory managers, and students, while a dormitory administrator explained that values were internalized through repeated guidance, role modeling, habituation, and supervision (P-04, 10/4/26). Observations confirmed the interaction between institutional rules and daily ecological practices in the dormitories, but they also indicated variation in consistency across individuals and units. Documentary evidence showed task allocation and program structures that supported implementation, although organizational arrangements alone did not guarantee uniform practice. These findings position Islamic ecotheology as a value framework whose managerial effect depends on its translation through leadership, education, and organizational routines.

Within this case, the transformation therefore began with a change in the meaning assigned to environmental care. Ecological practices were increasingly interpreted as expressions of religious responsibility and student character formation rather than as stand-alone cleanliness activities. This change gave environmental management normative legitimacy and connected spiritual teaching with institutional decision making, organizational culture, and everyday behavior. The evidence does not indicate that all ecological practices had become fully institutionalized; instead, it shows a movement from technical environmental management toward a more integrated ecotheological orientation. Islamic ecotheology can consequently be understood as the value foundation of the transformation process examined in this study.

Figure 3. Islamic Ecotheology as the Foundation of Management Transformation



The Ecological Leadership of the Kiai as a Driving Force

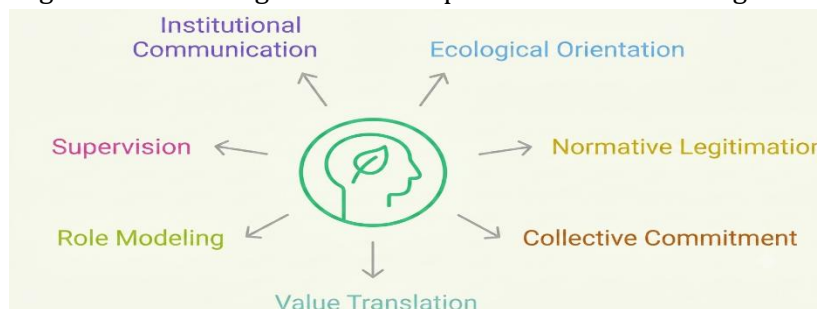
The ecological leadership of the kiai emerged as the mechanism that translated ecotheological values into institutional direction. Caregivers positioned environmental responsibility within the pesantren's educational vision rather than delegating it solely to BKLH, and administrators referred to the caregivers' guidance when developing programs related to cleanliness, discipline, and

environmental stewardship. One caregiver explained, “Environmental management must begin with awareness and exemplary conduct. When leaders and administrators set an example, students will more readily understand that caring for the environment is part of their religious responsibility” (P-01, 3/4/26). BKLH administrators similarly stated that sustained ecological programs required leadership support and institutional legitimacy (P-03, 7/4/26). The data therefore locate leadership between religious values and organizational action, with the kiai providing both normative meaning and institutional authorization.

Observation and interview data indicate that this leadership operated through more than formal directives. Caregivers and administrators provided examples, guidance, supervision, and institutional communication that encouraged participation by staff and students. At the dormitory level, managers translated leadership direction into daily practices of cleanliness, behavioral supervision, and collective responsibility. One dormitory administrator stated, “The guidance provided by the caregivers serves as our reference for cultivating students' habits of maintaining cleanliness and caring for the environment. Our responsibility as administrators is to translate that guidance into practices that are carried out every day” (P-04, 10/4/26). Documents on BKLH programs and organizational responsibilities supported this account by showing how leadership direction was connected to formal roles and program implementation.

These findings characterize the kiai's ecological leadership as a linking mechanism rather than a separate management function. Religious authority gave ecological priorities legitimacy; role modeling made the priorities visible; and organizational direction allowed them to be carried into programs and dormitory routines. The effectiveness of this mechanism appeared to depend on consistency between leadership messages and the practices enacted by administrators, because ecological values could otherwise remain symbolic. Within the case, leadership therefore functioned as the driving force that converted ecotheological meaning into collective commitment and institutional action. This role distinguishes ecological leadership in the pesantren from a purely administrative model because its authority is simultaneously managerial, educational, moral, and spiritual.

Figure 4. The Ecological Leadership of the Kiai as a Driving Force



Islamic Ecotheological Education as an Internalization Mechanism

Islamic ecotheological education functioned as the principal mechanism through which ecological values were internalized by students. Caregivers described environmental education as part of religious responsibility, using *tawhīd*, *khalīfah*, *amānah*, *mīzān*, and the prohibition of *fasād fī al-arḍ* to connect theological meaning with environmental conduct. One caregiver stated, “Students need to understand that maintaining cleanliness and caring for the environment is not merely because there are regulations in the pesantren, but because human beings have been entrusted with the responsibility to care for Allah's creation” (P-01, 3/4/26). Pesantren and BKLH administrators reported that ecological messages were reinforced through guidance, mentoring, institutional communication, environmental activities, and daily habituation. The educational process therefore combined explicit religious meaning with repeated experience in the students' residential environment.

Participant observations showed this internalization in practices such as collective cleaning, dormitory space management, waste management, environmental maintenance, and behavioral supervision. Documentary analysis of BKLH programs, dormitory regulations, student-development records, and environmental activities indicated that these practices were incorporated into broader student formation. Across these data, three layers of internalization were identifiable. Theological meaning-making provided a religious rationale for environmental responsibility; pedagogical habituation transformed that rationale into repeated routines; and ecological praxis allowed students to experience environmental care through direct participation. The three layers explain why ecotheological education in this case extended beyond the delivery of environmental content.

Accounts from the seven senior students further indicated a movement from external compliance toward personal responsibility. Students described learning about environmental care through communal life, repeated guidance, the example of caregivers and administrators, dormitory culture, and participation in environmental activities. One senior student explained, "When caring for the environment is understood as part of our religious responsibility, we feel that we are not merely following regulations but have our own responsibility to take care of it" (P-05, 15/4/26). Observations supported this account by showing that ecological behavior was produced through the interaction of rules, role modeling, habituation, and participation rather than by instruction alone. The finding suggests an internalization process, although continued supervision and uneven consistency indicate that intrinsic commitment should not be assumed to be complete for all students.

The educational mechanism can therefore be represented as a progression from ecotheological values to religious meaning-making, habituation, ecological awareness, ecological behavior, and an emerging ecological culture. This progression is analytical rather than strictly linear because the stages reinforce one another in everyday pesantren life. Formal and informal learning, communal residence, institutional rules, and role modeling repeatedly bring students into contact with the same ecological expectations. As those expectations become routine, environmental care gains both religious and social legitimacy. Ecotheological education thus connects the normative foundation of the transformation with the behavioral and cultural conditions required for sustainable governance.

Table 3. Transformational Model of Islamic Ecotheological Education

Transformation stage	Key Mechanism	Output
ISLAMIC ECOTHEOLOGICAL VALUES	Tawhīd, khalifah, amānah, mīzān, and the prohibition of fasād fī al-arḍ	Ecotheological awareness
↓		
ISLAMIC ECOTHEOLOGICAL EDUCATION	Guidance, mentoring, role modeling, communication, and learning	Ecological knowledge and awareness
↓		
ECOLOGICAL PRAXIS	Environmental cleanliness, environmental management, participation, and direct experience	Ecological behavior
↓		
ECOLOGICAL CULTURE AND INSTITUTIONALIZATION	Repetition, role modeling, participation, and communal life	Green organizational culture
↓		
SUSTAINABLE GOVERNANCE	Integration of education, organizational culture, institutional structures, and management practices	Sustainable green pesantren governance

Green Management System as a Mechanism of Management Transformation

The fourth theme concerns the institutionalization of ecological practices through a green management system. Pesantren and BKLH administrators described a gradual shift from environmental activities centered on particular units toward planning, task allocation, coordination, implementation, supervision, and evaluation across the organization. One pesantren administrator stated, "Environmental management cannot be delegated solely to the cleanliness division or BKLH;

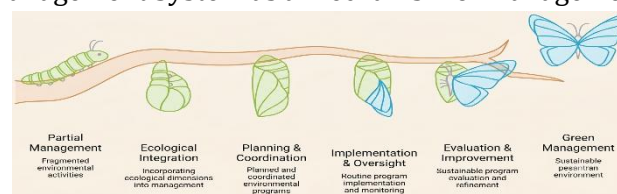
it must become a shared responsibility and be incorporated into the working system of each organizational unit" (P-02, 5/5/26). BKLH administrators likewise described coordination with dormitory managers and other units as necessary for consistent implementation (P-03, 10/5/26). The managerial change identified here is therefore a change in how ecological responsibility is distributed and organized, not simply an increase in the number of environmental activities.

Observations and documents provided evidence of this institutionalization process. Environmental maintenance, waste management, task distribution, student participation, BKLH work programs, dormitory regulations, and formal organizational structures connected ecological practices to routine managerial functions. Analytically, these arrangements corresponded to planning, organizing, actuating or implementation, and controlling, while coordination operated across the functions. The data nevertheless showed that the degree of institutionalization remained uneven and that implementation consistency still required strengthening. The green management system should therefore be interpreted as an emerging organizational mechanism rather than a fully consolidated management architecture.

Dormitory management demonstrated how institutional policies were translated into operational practice. Administrators allocated cleanliness responsibilities, supervised student behavior, modeled expected conduct, and repeated routines until they became part of residential life. One dormitory administrator explained, "Environmental programs will function effectively when responsibilities are clearly distributed and supervision is conducted regularly. Students need to be habituated so that cleanliness becomes an integral part of dormitory life" (P-04, 13/5/26). Senior students also described their participation as a collective responsibility rather than only a requirement imposed by regulation. The interaction among formal roles, supervision, habituation, and participation shows how management routines helped stabilize ecological expectations at the micro level.

Taken together, the evidence indicates that the green management system converted ecotheological commitments into organizational structures and repeatable practices. Values informed institutional direction, direction was translated into programs and responsibilities, and those arrangements structured everyday ecological behavior. This process reduced dependence on isolated initiatives, although the case still showed a need for stronger consistency and inter-unit coordination. The management system therefore operated as an institutionalization mechanism within the broader transformation rather than as its point of origin. Its contribution was to give ecological values organizational continuity beyond particular activities or individual actors.

Figure 5. Green Management System as a Mechanism of Management Transformation



The Emergence of Sustainable Green Pesantren Educational Governance

Sustainable green pesantren educational governance emerged where the four preceding mechanisms became connected. Caregivers emphasized that environmental programs should continue beyond changes in personnel and therefore needed to be embedded in the values and systems of the pesantren (P-01, 4/5/26). Administrators similarly described sustainability as requiring coordination among the organizational structure, BKLH, dormitory administrators, and students rather than dependence on a single unit (P-04, 15/5/26). This evidence points to a governance orientation in which ecological responsibility is distributed across decision making, student formation, organizational roles, and environmental practice. The central transformation is

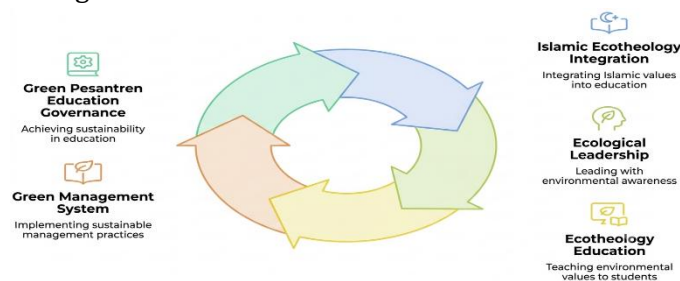
consequently from project-based environmental management toward institutionally supported continuity.

Observation and documentary evidence showed how this governance orientation was taking shape. BKLH activities, dormitory management, environmental monitoring, students' ecological habituation, organizational structures, regulations, and activity records were connected through recurring institutional processes. These links indicate that sustainability was entering routine operations and student-development mechanisms, although not all practices were equally consolidated. The distinctive feature of the case is that administrative arrangements were supported by religious legitimacy and the moral authority of the kiai. Sustainable governance therefore combined organizational coordination with an ecotheological rationale for why environmental responsibility should be maintained.

The data further indicate three domains in which institutionalization was visible: governance structure, educational practice, and ecological culture. In the governance domain, BKLH and other units distributed environmental responsibilities and coordinated program implementation. In the educational domain, dormitory administrators and senior students described guidance, role modeling, habituation, participation, and supervision as recurring mechanisms of student formation. In the cultural domain, observations and activity documentation showed that environmental care was increasingly treated as a normal and morally valued component of communal life. These domains were mutually reinforcing, but the evidence does not justify claiming that the transformation was complete or uniform across the institution.

The case can therefore be represented as an integrated transformation pathway: Islamic ecotheology as the value foundation, the ecological leadership of the kiai as the driving force, ecotheological education as the internalization mechanism, the green management system as the institutionalization mechanism, and sustainable green pesantren educational governance as the emerging outcome. The model explains how spiritual, pedagogical, managerial, cultural, and ecological dimensions became connected in the same institutional process. It also clarifies why environmental programs alone are insufficient for defining a green pesantren, because programs become sustainable only when they are supported by meaning, authority, learning, organizational routines, and participation. The result is an empirical basis for the concept of Ecotheological Green Pesantren Management developed in the discussion.

Figure 6. The Emergence of Sustainable Green Pesantren Educational Governance



DISCUSSION

The first contribution of the findings is to show that Islamic ecotheology became organizationally meaningful only when religious values were connected to concrete institutional practices. Earlier work on Islamic environmental ethics has identified stewardship, trust, balance, accountability, and limits on environmental harm as normative bases for ecological responsibility (Abdelzaher et al., 2019; Al-Damkhi, 2008; Gade, 2023). Research on Muslim environmentalism, however, cautions that religious language does not automatically generate consistent pro-environmental action (Fikri & Colombijn, 2021; Koehrsen, 2021; Rice, 2006). The Nurul Jadid case helps explain this gap by showing an intermediate process of value translation: ecotheological

principles were interpreted through institutional authority, reinforced in education, and connected to organizational routines. This finding extends ethical accounts of Eco-Islam by locating the transformation not only in individual motivation but also in the management architecture through which meanings become expectations and practices. Ecotheology is therefore best understood here as a normative orientation whose institutional effect depends on subsequent leadership, pedagogical, and managerial mechanisms.

The ecological leadership of the kiai is the second mechanism that differentiates this case from a generic model of school sustainability. International research shows that sustainability-oriented school leadership depends on shared vision, legitimization, communication, organizational learning, and structures that connect leadership intent with classroom and institutional practice (Forssten Seiser et al., 2023; Gan, 2021; Ghamrawi, 2023; Mogren & Gericke, 2019; Müller et al., 2020). Nurul Jadid displayed these functions, but the source of legitimacy was also religious and moral because the kiai's authority framed environmental care as part of the pesantren's educational responsibility. This combination helps explain why role modeling appeared repeatedly in interviews: the leader's conduct communicated both an organizational expectation and a religiously credible example. The result supports studies showing that leadership actions can either stabilize or weaken sustainability implementation depending on whether visions are translated into routines and feedback systems (Mogren et al., 2024; Müller et al., 2022). Ecological leadership in this setting therefore extends sustainability leadership by integrating spiritual legitimacy with institutional direction, while its effectiveness still depends on consistent enactment by administrators across organizational levels.

The third mechanism concerns education as a process of internalization rather than the transmission of environmental information. The three layers identified in the data, theological meaning-making, pedagogical habituation, and ecological praxis, show how students encountered environmental responsibility through both interpretation and repeated participation. This finding is consistent with education for sustainable development research that emphasizes active pedagogy, participation, and the alignment of learning with the surrounding institutional environment (Cebrián et al., 2020; Nousheen & Kalsoom, 2022; Torsdottir et al., 2024). It also adds a religious dimension to that literature because the meaning assigned to ecological behavior was explicitly connected to Islamic responsibility before it was reinforced through dormitory routines and communal experience. Pesantren studies have similarly reported that Qur'anic ecotheology and Islamic environmental ethics can be integrated into learning and institutional practice (Albar et al., 2024; Karman et al., 2023; Syukri et al., 2024). The present case extends those studies by explaining internalization as the link through which theological meaning can move toward habitual behavior and an emerging ecological culture, rather than treating environmental education as an independent program.

The green management system represents the point at which values and educational practices began to acquire organizational continuity. Whole-school and whole-institution research consistently argues that sustainability becomes more durable when vision, leadership, teaching, participation, operations, and organizational structures are coordinated (Holst, 2023; Holst et al., 2024; Mogren et al., 2019; Sasaki et al., 2024; Verhelst et al., 2023). The Nurul Jadid data reflect this logic through planning, task distribution, inter-unit coordination, implementation, supervision, BKLH programs, dormitory regulations, and student participation. At the same time, the reported need for stronger coordination and more consistent implementation is analytically important because it shows that formal structures do not themselves guarantee institutionalization. Similar studies of ESD implementation identify trust, organizational capacity, and continuous negotiation of a shared vision as conditions for translating reform into practice (Gericke & Torbjörnsson, 2022a, 2022b). The case therefore supports a whole-institution perspective while modifying it by placing

the green management system after value legitimization and educational internalization in the transformation sequence.

The emergence of sustainable educational governance in this study should consequently be interpreted as an ongoing institutionalization process rather than a completed organizational state. Sustainability governance became visible when ecological responsibility was distributed across leadership, BKLH, dormitory management, student formation, and everyday practices, reducing dependence on single projects or individual actors. This pattern is compatible with evidence that whole-institution approaches are strengthened by coherent organizational arrangements and meaningful participation across institutional domains (Holst et al., 2024; Torsdottir et al., 2024). It also parallels research from different national systems showing that ESD implementation is constrained when organizational readiness, curriculum structures, and leadership capacity are not aligned (Arslan & Curle, 2024; Zainal Abidin et al., 2023, 2024). In Nurul Jadid, the distinctive contextual factor is that governance coordination is embedded in a residential religious institution where educational, social, and organizational life overlap. Sustainable green pesantren governance therefore combines administrative continuity with the formation of a communal ecological culture, while the observed inconsistencies show that this governance remains subject to organizational maintenance and renewal.

A critical implication of the findings is that religion should neither be treated as an automatic driver of environmental behavior nor dismissed as merely symbolic. Studies of Muslim environmentalism show both the mobilizing potential of Islamic ethics and the tensions that arise when religious interpretations, organizational priorities, and everyday behavior do not align (Abdelzaher & Abdelzaher, 2017; Koehrsen et al., 2022; Mangunjaya & Praharawati, 2019). Evidence on religiosity and pro-environmental behavior also indicates that religious orientations operate through social norms, values, and context rather than through a uniform mechanism (Bülbül, 2026; Zafran, 2025). The Nurul Jadid case suggests a similar conditional relationship at the institutional level: ecotheology gained practical force because it was carried by recognized leadership, repeated through education, and embedded in organizational routines. Where one of these mechanisms weakens, the transformation may remain fragmented, as indicated by the continuing need for coordination and consistent implementation in the field data. This interpretation provides a more cautious account of Green Islam than models that infer ecological transformation directly from the presence of religious values.

Taken together, the findings support the proposed concept of Ecotheological Green Pesantren Management. The model can be expressed as a transformation chain in which Islamic ecotheology provides the value foundation, the ecological leadership of the kiai mobilizes and legitimizes change, ecotheological education internalizes the values, the green management system stabilizes them in organizational routines, and sustainable educational governance emerges as the institutional outcome. This sequence extends sustainability-transition perspectives that emphasize the interaction of values, organizational positions, institutional logics, and change practices within religious organizations (Koehrsen, 2018; Koehrsen & Huber, 2021). It also complements institutional sustainability research, which has shown that commitment is insufficient when implementation remains fragmented across organizational functions (Lozano et al., 2015; Wals & Benavot, 2017). The conceptual novelty lies in identifying how a pesantren's religious authority and residential pedagogy can be integrated with whole-institution management rather than added to it as separate cultural variables. The model should nonetheless be understood as an analytical explanation derived from one case, not as a universal sequence that every pesantren will follow.

For practice, the findings suggest that green pesantren development is more likely to be sustained when environmental responsibility is simultaneously articulated as a religious value,

demonstrated by leaders, embedded in student formation, assigned to organizational roles, and monitored through routine management. Indonesian experience shows that Islamic institutions and religious authorities can contribute to environmental conservation when ethical messages are linked to collective structures and action (Mangunjaya & McKay, 2012; Mangunjaya & Praharawati, 2019). International school research similarly shows that institutional sustainability requires leadership continuity, participation, organizational learning, and structures that survive changes in personnel (Holst, 2023; Mogren et al., 2024; Müller et al., 2020). For Nurul Jadid, this means that the existing interaction among caregivers, administrators, BKLH, dormitory managers, and students is itself a governance resource, but one that requires continued coordination and consistency. The practical implication is not to replicate particular activities, but to strengthen the connections among values, authority, education, roles, and evaluation. In that sense, the study positions the green pesantren as a form of educational governance transformation rather than as a label for environmental programming.

CONCLUSION

This study shows that the transformation of green pesantren management at Nurul Jadid was produced through the interaction of four mechanisms rather than through environmental programs alone. Islamic ecotheology provided the normative orientation, the ecological leadership of the kiai translated that orientation into institutional direction and example, ecotheological education internalized ecological values through meaning-making, habituation, and praxis, and the green management system embedded those practices in organizational functions and shared responsibilities. Their integration supported an emerging form of sustainable green pesantren educational governance in which environmental responsibility was increasingly connected to the institution's educational mission, organizational structure, communal culture, and everyday routines. The main theoretical contribution is the concept of Ecotheological Green Pesantren Management, which explains how spiritual values can move through leadership and pedagogy into management systems and governance. The evidence also indicates that this process remains developmental, because coordination and implementation consistency still require strengthening.

The practical implication is that green pesantren initiatives should be organized as institution-wide processes that connect religious meaning, leadership conduct, student formation, operational responsibilities, participation, and monitoring rather than relying on temporary environmental activities. The interpretation is limited by the single-case qualitative design and by its dependence on the institutional context of Nurul Jadid, so the proposed model is intended for analytical transfer rather than statistical generalization. The available source data also do not provide longitudinal evidence of whether the observed routines persist after changes in leadership, personnel, or program priorities. Future research could therefore examine the model across multiple pesantren, follow institutional change over longer periods, and compare how different authority structures or educational cultures shape the relationship among ecotheology, leadership, internalization, management, and sustainability governance. Such work would help establish which elements of the model are context-specific and which can be transferred across Islamic educational institutions.

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AUTHOR CONTRIBUTION STATEMENT

AH, as the first and lead author, contributed to the conceptualization, theoretical framework, research methodology and design, data analysis, and preparation and revision of the manuscript. BM, as the second and corresponding author, contributed to conceptual and methodological refinement, academic supervision, critical analysis, and scholarly communication. Both authors contributed to the interpretation of the findings, critically reviewed the manuscript, approved the final version, and accept responsibility for the integrity and accuracy of the work.

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