



Eco-Theology in the Classroom: Integrating the Sustainable Development Goals (SDGs) into Islamic Religious Education Curricula

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Abstract

Addressing the escalating global ecological crisis requires a fundamental shift in how religious education is approached moving past purely ritualistic teachings toward fostering active environmental stewardship. Yet, bridging the gap between Islamic Religious Education and the Sustainable Development Goals (SDGs) remains a pressing challenge that is rarely examined in practice. To address this gap, this qualitative case study explores how educators in Indonesian higher education interpret and weave Islamic eco-theology into their classrooms. Drawing data from in-depth interviews, classroom observations, and curriculum document analysis, our investigation indicates that while teachers widely recognize the theological imperative of *khalifah fil ardh* (stewardship), translating this concept into daily pedagogy often results in fragmented practices. Specifically, three distinct integration tiers emerged from the field: superficial insertions, thematic correlations, and transformative paradigms. Furthermore, rigid grading frameworks and a lack of contextual pedagogical tools present notable hurdles to meaningful implementation. Ultimately, this study suggests that aligning IRE with global sustainability demands more than a structural overhaul of syllabi; it calls for an epistemological awakening among educators. These insights provide a practical roadmap for academic leaders aiming to position Islamic education as a vital driver for ecological sustainability.

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Introduction

Environmental degradation is no longer adequately understood as a technical problem that can be solved by scientific innovation and public policy alone. Climate change, biodiversity loss, pollution, and patterns of excessive consumption also reflect moral assumptions about the place of human beings within the natural world. The Sustainable Development Goals therefore require not only institutional coordination and technological capacity, but also educational processes capable of reshaping values, habits, and public responsibility. Education for Sustainable Development places particular emphasis on learners' ability to connect knowledge with ethical judgment and collective action (Akinsemolu & Onyeaka, 2025; UNESCO, 2017)

Religious education is strategically situated within this moral and educational landscape. Religious traditions shape worldviews, communal norms, and everyday practices; consequently, they may either reinforce ecological indifference or provide powerful resources for environmental responsibility. Scholarship on Islam and climate change increasingly shows that Muslim actors can contribute to sustainability by translating theological meanings into social practices, institutional commitments, and public advocacy (Koehrsen, 2021; Koehrsen & Ives, 2025). Yet the existence of religious teachings about nature does not automatically produce ecological conduct. The decisive question is pedagogical: how are theological ideas interpreted, connected to contemporary problems, enacted in learning activities, and evaluated as educational outcomes?

Islamic eco-theology offers a rich normative vocabulary for this task. The concept of *khalifah fil ardh* frames human beings as responsible stewards rather than unrestricted owners of the earth. *Amanah* emphasizes moral trust and accountability; *mizan* points to balance and proportion; *israf* condemns excess; and *fasad* names the damage created by destructive human conduct. Read together, these concepts position environmental care within the ethical horizon of worship, justice, and the public good. Contemporary studies have demonstrated the relevance of tauhidic values, environmental jurisprudence, and Islamic ethical reasoning for environmental education in Muslim settings (Rahman, Zabidi, & Halim, 2020; Rohmatulloh, Hasanah, Sahlani, & Zuhri, 2023; Wildan, Basuki, Hakim, Abdusomad, & Ruswandi, 2026).

In Indonesia, eco-pesantren initiatives and related forms of Islamic environmental education have provided promising examples of curriculum development, energy-saving practices, waste management, and community-based ecological learning (Lutfauziah, Al Muhdhar, Suhadi, & Rohman, 2023; Maslani, Qadir, Muhyidin, & Hidayat, 2023; Purnomo, Anantanyu, Saptaningtyas, & Mangunjaya, 2024). However, evidence from formal Islamic education also reveals uneven integration. Environmental themes may appear in lesson plans or religious discourse without significantly changing classroom relationships, assessment practices, or institutional routines. Research on Islamic education teachers similarly suggests that teacher-centred and student-centred approaches coexist, and that sustained pedagogical development is needed if environmental

values are to become educationally meaningful (Hamdan, 2026; Ummah, Ajizah, & Masuwd, 2025).

This tension is especially important in Islamic higher education. Universities are expected to prepare graduates who can interpret religious knowledge in relation to social complexity, yet curriculum structures often separate normative religious studies from the sciences and from contemporary environmental problems. The result is an academic paradox: ecological responsibility is affirmed at the level of theology but remains peripheral at the level of pedagogy. Existing literature provides important normative models, curriculum products, and institutional case studies, but gives less attention to the everyday negotiations through which Islamic Religious Education (IRE) lecturers decide what to teach, how to teach it, and how to assess it.

The present study addresses that gap by examining the pedagogical enactment of Islamic eco-theology in an Indonesian Islamic higher education context. It focuses on the interface between theological interpretation, curriculum design, classroom practice, and institutional constraints. Four questions guide the study: (1) How do IRE lecturers interpret Islamic eco-theological concepts in relation to the SDGs? (2) What patterns of curricular and pedagogical integration are visible in their teaching? (3) What epistemological and structural conditions enable or constrain transformative integration? and (4) What curriculum framework can support a more coherent movement from religious knowledge to ecological praxis?

The study makes three contributions. Empirically, it provides a classroom-centred account of how lecturers negotiate sustainability rather than assuming that the presence of religious texts constitutes successful integration. Conceptually, it distinguishes three levels of integration textual insertion, thematic correlation, and transformative praxis and treats them as degrees of curricular depth. Practically, it proposes an Eco-Theological Curriculum Transformation framework designed to help lecturers and academic leaders align theological foundations, learning outcomes, pedagogy, assessment, and institutional practice.

Methods

Research Design and Context

This study employed an interpretive qualitative case-study design to examine how Islamic Religious Education (IRE) lecturers integrated eco-theological principles and the Sustainable Development Goals (SDGs) into curriculum and classroom practice (Creswell & Clark, 2011). The unit of analysis was the process through which lecturers interpreted and enacted these ideas within the institutional requirements of an Indonesian Islamic higher education institution, including course outcomes, Semester Lesson Plans, assessment, and academic quality assurance.

Participants and Data Collection

Participants were selected purposively based on their involvement in IRE teaching and curriculum development. Both senior and junior lecturers were included to capture differences in professional experience and curricular

responsibility.

Data were collected through three complementary methods. Semi-structured interviews explored lecturers' understandings of Islamic eco-theology, the SDGs, pedagogical strategies, assessment practices, and implementation barriers. Non-participant classroom observations examined how these ideas were translated into teaching activities, religious-text interpretation, environmental examples, student participation, and evaluation. Document analysis focused on Semester Lesson Plans and related curriculum materials to identify references to environmental themes, SDG-related learning outcomes, teaching activities, and assessment criteria. Triangulating these sources enabled the study to compare lecturers' stated perspectives, formal curriculum documents, and actual classroom practices.

Data Analysis

The data were analysed using inductive thematic analysis following Braun and Clarke (2022). Interview records, observation notes, and curriculum documents were read repeatedly and coded according to theological references, forms of SDG integration, pedagogical strategies, assessment practices, institutional constraints, and ecological activities.

The codes were compared across data sources and organized into broader themes. Attention was also given to contrasting cases, such as environmental content included in curriculum documents but absent from classroom practice. The analysis produced a three-tier spectrum of integration textual insertion, thematic correlation, and transformative praxis and identified two major barriers: assessment rigidity and epistemological dualism.

These tiers represent levels of pedagogical integration rather than fixed categories of lecturers, as a single course could demonstrate different levels across topics and learning activities.

Trustworthiness and Ethics

The trustworthiness of the study was strengthened through triangulation of interview data, classroom observations, and curriculum documents, as well as member checking and the maintenance of an audit trail throughout the coding and theme-development processes (DiCicco-Bloom, 2006). The study involved 10 lecturers of Islamic Religious Education and was conducted in May 2026 at two higher education institutions. The document analysis covered two Semester Lesson Plans (RPS) and two supporting curriculum documents.

Finding and Discussion

Finding

Theological Recognition Did Not Automatically Produce Pedagogical Integration

Across the data, lecturers treated environmental responsibility as compatible with Islamic teaching. Concepts such as *khalifah fil ardh*, *amanah*, and *mizan* provided a recognizable moral vocabulary for discussing human responsibility toward creation. Qur'anic passages concerning corruption on earth, including *Q. al-Rum 30:41*, were used to frame environmental damage as an

ethical and spiritual problem rather than a purely technical one.

The central finding, however, was a gap between recognition and enactment. The presence of eco-theological language did not necessarily alter course outcomes, classroom interaction, or assessment. In several observed instances, environmental references functioned as brief illustrations within conventional lectures. They affirmed that Islam values nature, but did not require students to analyze a current ecological issue, evaluate competing interests, or design a response. The result was moral endorsement without pedagogical reconstruction.

This gap was also visible when interview accounts were compared with curriculum documents. Lecturers could explain the significance of stewardship in broad terms, while the corresponding *RPS* remained dominated by conventional content categories and recall-oriented indicators. Eco-theology was therefore more established as a discourse of relevance than as a systematic architecture for teaching and learning.

A closer comparison of the three data sources revealed that this gap had several layers. At the normative level, environmental care was readily accepted as part of Islamic moral responsibility. At the interpretive level, however, the concepts were not always elaborated into a sufficiently specific account of ecological causation, vulnerability, justice, or institutional responsibility. At the curricular level, the concepts were even less consistently translated into intended learning outcomes, sequenced activities, or assessable performances. Thus, agreement with eco-theological principles represented an important starting point, but it did not by itself indicate the depth of integration.

The language of stewardship was particularly effective as a shared moral entry point because it was familiar and difficult to contest within an Islamic educational setting. Yet its familiarity could also conceal conceptual thinness. When *khalifah fil ardh* was used only as a general exhortation to 'care for nature,' the concept remained detached from questions such as who produces environmental harm, who bears its consequences, how competing interests should be judged, and what forms of collective action are religiously and educationally appropriate. In such cases, the theological message generated approval but did not necessarily generate inquiry.

The strongest evidence of integration appeared when the same ecological concern could be traced across several curricular layers. A concept introduced in theological discussion was more educationally consequential when it reappeared in the *RPS* as a learning outcome, informed a classroom or field-based task, and was recognized in assessment criteria. Where this continuity was absent, environmental responsibility tended to remain episodic. This cross-source pattern became a central analytical marker for distinguishing rhetorical inclusion from pedagogical enactment.

A Three-Tier Spectrum of Eco-Theological Integration

The data revealed three levels of integration: textual insertion, thematic

correlation, and transformative praxis. These levels differed not only in the amount of environmental content included, but also in the relationship among theology, contemporary problems, learning activity, and assessment.

At the first level, textual insertion, lecturers added a Qur'anic verse, hadith, or general statement about stewardship to an otherwise unchanged lesson. This approach was visible when *Q. al-Rum 30:41* was cited as evidence that environmental destruction is prohibited, after which teaching returned to a conventional explanation of theological or legal content. The environmental reference provided moral legitimacy but remained detached from specific evidence, systems analysis, or student action. Its principal risk was tokenism: the curriculum appeared responsive without changing what students were expected to do.

At the second level, thematic correlation, lecturers made a deliberate conceptual connection between Islamic teaching and an environmental issue. One observed example linked *fiqh al-taharah* with water conservation and SDG 6. This approach was pedagogically stronger because it invited students to reconsider a familiar religious topic in relation to scarcity, responsible use, and public access. Nevertheless, the connection often remained discursive. Students discussed the issue but were not consistently required to investigate local water use, compare practices, or propose evidence-based improvements.

At the third level, transformative praxis, ecological responsibility shaped the learning design itself. Lecturers used experiential and project-based tasks, including campus waste audits, that required students to observe a problem, gather evidence, interpret it through religious and sustainability frameworks, and communicate a practical response. In this tier, eco-theology was not an introductory quotation but a framework for inquiry, action, and reflection. Student learning became visible through products and practices rather than through recall alone.

The transformative tier was less common. Its relative rarity did not appear to result from theological disagreement. Instead, it reflected the greater curricular coordination, time, assessment flexibility, and institutional support required to sustain experiential learning.

The three tiers should not be read as fixed labels attached permanently to individual lecturers. The same lecturer could operate at different levels within a single course, depending on the topic, available time, familiarity with an environmental issue, and the degree of institutional support. A lesson might begin with textual insertion, move toward thematic correlation through discussion, and stop before transformative praxis because no field activity or authentic assessment had been planned. The spectrum therefore describes modes of pedagogical enactment rather than stable categories of teacher competence.

At the textual-insertion level, the sequencing of instruction remained largely unchanged. Scripture supplied moral authorization, but students were

positioned mainly as recipients of an already settled message. Little space was created for them to examine evidence, identify conflicting interests, or consider the social distribution of environmental benefits and burdens. This mode was efficient and compatible with content-heavy teaching, which helps explain its persistence. Its limitation was not the use of scripture itself, but the absence of a pedagogical bridge between textual meaning and situated ecological judgment.

Thematic correlation represented a meaningful intermediate form because it changed the interpretive frame of a familiar subject. Connecting *fiqh al-taharah* with water conservation, for example, enabled a ritual topic to be reconsidered in relation to scarcity, proportional use, public access, and responsibility for shared resources. This level made IRE more visibly relevant to contemporary life. Nevertheless, when the activity ended with explanation or discussion, students could remain intellectually engaged but practically distant from the problem. The transition to transformative praxis required a further step: producing evidence, engaging a real context, making a defensible decision, and reflecting on consequences.

Transformative praxis was distinguished by a complete learning cycle. Students encountered a concrete problem, gathered or examined information, interpreted the issue through Islamic ethical concepts and sustainability goals, formulated a response, and reflected on the adequacy and limits of that response. The campus waste-audit example demonstrated this cycle because it linked observation, evidence, ethical interpretation, and recommendations. The educational significance of the task lay not only in its practical product, but also in the way it made responsibility discussable, observable, and open to revision.

Table 1. Spectrum of eco-theological curriculum integration

Level	Curricular signature	Typical pedagogy	Assessment tendency	Primary risk or potential
Textual insertion	A verse or Islamic concept is added to existing content without changing outcomes or learning design.	Expository lecture and brief illustration.	Recall of concepts or scriptural references.	Risk of tokenism and symbolic compliance.
Thematic correlation	Religious concepts are connected to a contemporary environmental issue, such as purification and water conservation.	Guided discussion, case illustration, comparative analysis.	Essay or discussion-based explanation.	Improves relevance but may remain classroom-bound.

Level	Curricular signature	Typical pedagogy	Assessment tendency	Primary risk or potential
Transformative praxis	Theological meaning, sustainability competencies, activity, and assessment are designed as a coherent whole.	Inquiry, project-based learning, field observation, campus eco-audit.	Authentic products, evidence-based proposals, and reflection.	Potential to develop agency, collaboration, and accountable ecological practice.

Assessment Regimes Limited Transformative Learning

The most visible structural barrier was the dominance of assessment practices designed for content coverage and standardized scoring. Lecturers described course expectations that privileged definitions, historical information, and ritual procedures. Such assessment was familiar, efficient, and easily aligned with conventional grading rubrics, but it offered little space for evaluating systems thinking, ethical judgment, collaboration, or problem-solving.

This tension can be described as the hidden curriculum of assessment. Although a syllabus may affirm stewardship, an examination dominated by multiple-choice recall communicates that successful learning means reproducing information (Ajizah, Ummah, & Jauhari, 2026). Lecturers consequently faced a practical dilemma: project-based environmental tasks demanded time, feedback, and flexible criteria, while existing assessment routines rewarded coverage and comparability.

The question was not whether lecturers should assign a numerical grade to personal 'ecological piety.' Doing so would be conceptually and ethically problematic. Rather, the challenge was to assess observable educational performances associated with responsible practice: the quality of evidence collected, the coherence of religious and environmental reasoning, the feasibility of proposed action, the distribution of responsibility within a group, and the depth of reflection on outcomes. Where such criteria were absent, transformative learning remained dependent on individual lecturer initiative.

The dominance of recall-oriented assessment produced at least four related effects. First, it compressed instructional time because lecturers felt pressure to cover examinable content. Second, it encouraged pedagogical risk aversion, as open-ended projects were perceived as harder to control and score consistently. Third, it individualized learning by privileging what each student could reproduce on a test, even though environmental problems require collaboration and collective responsibility. Fourth, it rendered important learning processes question formulation, evidence gathering, negotiation, revision, and reflection largely invisible within the final grade.

The data also suggested that the obstacle was not simply the absence of project work, but the absence of assessment infrastructures that could make such

work academically legitimate. Transformative tasks require criteria, staged feedback, documentation of process, and procedures for judging individual as well as group contributions. Without these supports, lecturers may reasonably worry that project-based assessment is subjective, burdensome, or disconnected from formal quality assurance. The assessment problem was therefore simultaneously pedagogical and organizational.

This distinction is important because authentic assessment should not be romanticized as automatically transformative. A campus project can become another superficial requirement when students complete an activity without analyzing evidence or receiving meaningful feedback. What mattered in the observed pattern was alignment: the task had to require the kind of reasoning claimed in the learning outcome, and the rubric had to recognize the quality of that reasoning. In this way, assessment could move from recording participation to evaluating ecological literacy, ethical deliberation, feasibility, collaboration, and reflective learning.

Epistemological Dualism Fragmented Responsibility

A second barrier was the persistent separation between 'religious' and 'secular' knowledge. Environmental sustainability was often perceived as belonging primarily to science, engineering, or environmental management, while IRE was expected to address belief, worship, morality, and religious identity. This division narrowed the pedagogical imagination of the course. Lecturers could affirm environmental ethics while still treating scientific evidence, resource management, and institutional operations as external to their disciplinary responsibility.

The dualism was not simply an abstract philosophical problem. It shaped decisions about reading materials, learning tasks, guest expertise, and assessment. When environmental data were treated as outside IRE, students encountered theology without ecological specificity. Conversely, sustainability initiatives could proceed on campus without explicit engagement with Islamic ethical reasoning. The absence of collaboration reproduced parallel activities rather than integrated learning.

Recent evidence from Islamic higher education similarly indicates that sustainability initiatives can remain fragmented when leadership, curriculum, and institutional practice are not connected (Sarhindi, 2025). The present case adds a classroom-level explanation: fragmentation is reproduced through ordinary curricular boundaries and through uncertainty about who is authorized to teach environmental knowledge.

Two forms of dualism were visible. The first was curricular: religious concepts and environmental knowledge appeared in separate parts of the academic structure, with few planned points of intersection. The second was professional: lecturers could feel responsible for the ethical dimension of an issue but less authorized to engage with scientific data, technical practices, or institutional management. These two forms reinforced one another. Because the

curriculum provided limited interdisciplinary space, lecturers had fewer opportunities to develop the confidence and partnerships needed for integrated teaching.

This boundary also influenced the kinds of questions that entered the classroom. When ecological problems were treated as external to IRE, discussion tended to remain at the level of general moral prohibition. Questions of measurement, scale, causation, policy, and trade-offs were left to other disciplines. Conversely, campus environmental initiatives could become technically competent yet ethically under-articulated. The separation therefore weakened both sides: theology risked abstraction, while sustainability practice risked becoming a managerial exercise without sustained reflection on justice, restraint, accountability, and the common good.

The findings indicate that interdisciplinary integration requires more than adding a guest lecture or a supplementary reading. It requires deliberate boundary work: identifying which questions belong to shared inquiry, clarifying the contribution of each discipline, and creating tasks in which different forms of knowledge are genuinely necessary. In practical terms, an IRE lecturer may frame the ethical problem and guide religious interpretation, while colleagues or institutional units contribute environmental data, technical knowledge, or access to operational practices. Such collaboration preserves disciplinary integrity while overcoming curricular isolation.

Transformative Practice Depended on Institutional Conditions

The examples of transformative praxis showed that lecturers could move beyond tokenistic inclusion when several enabling conditions converged. These included flexibility in the *RPS*, permission to use project-based assessment, access to observable campus problems, and an institutional climate that treated the campus as a site of learning rather than merely a physical setting.

The campus waste audit illustrates this convergence. The task connected theological responsibility with a concrete institutional problem; required students to gather and interpret evidence; and produced a basis for practical recommendations. Its educational value came from alignment. The religious concept framed why the issue mattered, the audit established what was occurring, and the reflective or project product demonstrated what students had learned.

Transformative practice therefore depended less on adding more topics than on redesigning relationships among knowledge, activity, assessment, and institutional operations. Where those relationships remained disconnected, eco-theology was likely to remain rhetorical.

Cross-Theme Synthesis: From Declarative Commitment to Enacted Ecological Agency

Taken together, the findings show that the movement from recognition to praxis was shaped by the interaction of four mechanisms: conceptual specificity, curricular alignment, assessment legitimacy, and institutional

permeability. Conceptual specificity enabled a broad theological value to be connected with a clearly defined ecological problem. Curricular alignment ensured that the issue appeared not only in teaching content but also in outcomes, activities, and assessment. Assessment legitimacy made non-recall forms of learning visible and defensible. Institutional permeability allowed the classroom to engage with campus operations, relevant expertise, and real environmental data.

When one or more of these mechanisms was weak, integration tended to stabilize at a lower tier. Textual insertion could persist where conceptual specificity and alignment were limited. Thematic correlation became possible when lecturers developed a stronger interpretive bridge but lacked the time, assessment tools, or institutional access required for action. Transformative praxis emerged where all four mechanisms converged sufficiently to support a full cycle of inquiry, action, and reflection. This explains why the tiers were not simply matters of lecturer motivation; they were outcomes of the wider curriculum ecology.

The cross-theme pattern also clarifies the meaning of ecological agency in IRE. Agency did not mean that students were expected to solve complex environmental crises through a single course. Rather, it referred to their developing capacity to identify an ecological concern, interpret it through religious and empirical lenses, consider affected stakeholders, make a reasoned proposal, act within an appropriate sphere, and evaluate the consequences of that action. This more modest but educationally defensible understanding avoids both moralism and unrealistic claims of impact.

Discussion

From Scriptural Presence to Pedagogical Enactment

The findings show that the key problem is not the absence of Islamic environmental values. Lecturers already possessed a theological vocabulary capable of supporting ecological responsibility. The problem was the weak conversion of that vocabulary into educational design. This distinction helps explain why curricula may appear environmentally responsive while producing limited change in learning practice.

The three-tier spectrum extends previous research by distinguishing scriptural presence from pedagogical enactment. Studies of tauhidic integration and Islamic environmental education have shown the importance of connecting religious values with science, school culture, and environmental activity (Rahman et al., 2020; Rohmatulloh et al., 2023). The present study suggests that integration should be judged by curricular coherence rather than by the number of religious references. A single well-designed inquiry may achieve deeper integration than multiple verses added to a lecture.

Textual insertion should not be dismissed entirely. Scriptural and theological grounding gives environmental learning religious intelligibility and can challenge the assumption that sustainability is a foreign or secular agenda. Yet textual grounding becomes educationally significant only when it informs

interpretation, decision-making, and action. In this sense, the movement from insertion to praxis is not a rejection of religious text; it is a fuller enactment of its ethical implications.

This interpretation is consistent with critical approaches to Islamic Religious Education that emphasize dialogue, ethical reasoning, and engagement with lived social realities rather than the one-way transmission of settled propositions (Saada & Magadlah, 2021). Eco-theological integration becomes pedagogically meaningful when students are invited to ask how a religious principle should guide judgment in situations marked by incomplete information, competing interests, and unequal vulnerability. The role of scripture is thereby strengthened: it becomes a source of orientation within inquiry rather than a decorative confirmation placed before it.

The three-tier spectrum also reframes curriculum integration as a question of depth rather than presence. Much curriculum evaluation relies on whether a topic, keyword, or SDG appears in a document. The present findings show why such evidence is insufficient. A curriculum may contain environmental terminology while leaving its dominant pedagogy and assessment untouched. Depth is better indicated by the extent to which ecological responsibility reorganizes what students are expected to understand, investigate, produce, and justify.

At the same time, the relationship between Islamic eco-theology and the SDGs should not be reduced to the use of religion as a motivational instrument for an externally defined global agenda. The connection is more reciprocal. The SDGs provide a language for identifying concrete dimensions of sustainability, while Islamic ethical concepts supply normative questions about responsibility, justice, restraint, trust, and the moral meaning of action. A mature curriculum allows these frameworks to illuminate and critically question one another rather than assuming automatic equivalence.

Assessment as a Mechanism of Curricular Truth

The findings also demonstrate that assessment reveals the operational truth of a curriculum. Learning outcomes may use the language of responsibility and critical thinking, but students orient their effort toward what will be graded. Where assessment privileges recall, eco-theological learning remains vulnerable to reduction. This observation aligns with curriculum implementation research showing that reforms are shaped by accountability structures and by the practical demands placed on educators (Pak et al., 2020).

A more appropriate approach is authentic assessment. For example, a water-stewardship assignment linked to *fiqh al-taharah* could require students to document water-use practices, identify ethical and technical concerns, compare alternative interventions, and justify a feasible recommendation. A waste-management project could assess data quality, ethical reasoning, stakeholder analysis, communication, and reflection. These criteria are academically defensible and do not claim to judge the sincerity of a student's faith.

Assessment reform also redistributes responsibility. When rubrics, moderation procedures, and course templates recognize project-based evidence, transformative practice is no longer dependent on exceptional individual lecturers. It becomes institutionally legitimate and replicable. Assessment therefore operates as an epistemic gatekeeper: it determines which forms of knowledge and performance count as credible learning. When only propositional knowledge is graded, practical inquiry, ethical uncertainty, collaboration, and revision are treated as secondary even if they are named in the curriculum. This helps explain the durability of superficial integration. Lecturers may value ecological agency, but the assessment system signals that coverage and recall carry greater institutional weight.

Authentic assessment offers a response, but it must meet standards of clarity, fairness, and feasibility. Rubrics should distinguish among dimensions such as problem definition, use of evidence, Islamic ethical reasoning, stakeholder awareness, feasibility of recommendations, communication, and reflection. Staged submissions can make learning processes visible and reduce the risk that a polished final product conceals weak inquiry. Individual reflection or oral defence can also complement group products, allowing lecturers to judge both collective performance and personal understanding.

Institutional moderation is equally important. Shared exemplars, calibration discussions, and review of sample student work can increase consistency across lecturers without forcing every project into an identical format. In this sense, assessment reform is not a relaxation of academic rigor. It is a redefinition of rigor that requires students to connect claims with evidence, justify ethical choices, acknowledge limitations, and revise proposals in response to feedback.

Eco-Theology as a Bridge Across Disciplinary Boundaries

The persistence of epistemological dualism suggests that Islamic higher education requires more than the rhetorical integration of religion and science. Eco-theology can function as a bridge because it provides ethical questions that require interdisciplinary answers. Questions about water justice, waste, energy, food systems, and climate vulnerability cannot be resolved through jurisprudence or environmental science alone. They require normative reasoning, empirical evidence, institutional analysis, and public communication.

This bridging function has implications for lecturer identity. IRE lecturers do not need to become environmental scientists, but they do need sufficient ecological literacy to frame credible problems and to collaborate with relevant colleagues. Likewise, science and management lecturers can benefit from engagement with religious ethics when sustainability initiatives are implemented in Muslim institutional settings. Collaboration can prevent both theological abstraction and technocratic reduction. The study therefore supports an interdisciplinary model in which IRE contributes ethical framing, interpretive resources, and reflection on responsibility, while other disciplines contribute

empirical methods and technical knowledge. The educational objective is not disciplinary dissolution, but coordinated inquiry.

Such coordination can be understood as problem-centred interdisciplinarity. Instead of beginning with a general call to integrate religion and science, lecturers begin with a bounded ecological problem that cannot be understood adequately from one perspective. A water-use case, for example, may require knowledge of purification practices, patterns of consumption, infrastructure, public access, and institutional regulation. The problem itself creates the reason for collaboration and helps prevent interdisciplinarity from becoming an abstract slogan.

Problem-centred collaboration also protects the distinctive contribution of IRE. The course need not reproduce the technical curriculum of environmental science. Its contribution lies in examining the moral language through which problems are named, the responsibilities assigned to different actors, the values used to judge trade-offs, and the relationship between personal conduct and institutional structures. This is particularly important because ecological crises are not simply failures of knowledge; they also involve conflicts of interest, habits of consumption, unequal power, and competing visions of the good life.

For lecturers, this model implies a layered form of professional development. They need a minimum level of ecological literacy to avoid inaccurate or overly general claims, pedagogical knowledge to design inquiry and reflection, and collaborative networks through which technical questions can be addressed responsibly. Institutional support can reduce the expectation that one lecturer should master every dimension of a complex problem. The relevant competence is not isolated expertise, but the capacity to frame, connect, and facilitate interdisciplinary learning.

The Eco-Theological Curriculum Transformation Framework

Drawing on the findings, this study proposes an Eco-Theological Curriculum Transformation (ECT) framework. The framework is not a fixed syllabus. It is a design logic for moving from symbolic inclusion toward coherent educational practice. Its five dimensions are theological coherence, curriculum mapping, participatory pedagogy, authentic assessment, and institutional ecology. Theological coherence asks whether environmental responsibility is grounded in a connected ethical framework rather than in isolated quotations. Curriculum mapping identifies where specific SDGs, ecological problems, learning outcomes, and course topics intersect. Participatory pedagogy translates those intersections into inquiry, dialogue, field-based learning, and projects. Authentic assessment makes learning visible through evidence, reasoning, action, and reflection. Institutional ecology aligns campus operations, leadership support, and cross-faculty collaboration with the educational message.

The dimensions are mutually dependent. Project-based learning without theological coherence may feel externally imposed; theological discussion without authentic assessment may remain rhetorical; and strong course design

without institutional support may be difficult to sustain. Transformation occurs when the five dimensions reinforce one another. The first dimension, theological coherence, prevents eco-theology from becoming a collection of disconnected quotations. Coherence requires lecturers to articulate how concepts such as khalifah, amanah, mizan, israf, fasad, and maslahah relate to one another and to the specific problem under study. It also requires attention to possible tensions. Stewardship, for instance, can be interpreted in managerial or dominative terms unless it is balanced by trust, restraint, accountability, and recognition of the intrinsic significance of creation. The framework therefore encourages conceptual depth before curricular expansion.

The second dimension, curriculum mapping, converts that conceptual depth into constructive alignment. Rather than attaching every SDG to every course, program teams can identify a small number of high-value intersections that fit disciplinary purposes and local realities. Mapping should specify the ecological issue, the relevant Islamic concepts, the sustainability competencies to be developed, the intended learning outcome, and the evidence through which learning will be judged. This selective approach is more credible than symbolic over-inclusion and reduces the burden on already crowded syllabi.

The third and fourth dimensions participatory pedagogy and authentic assessment form the experiential core of the framework. Inquiry, case analysis, observation, audit, dialogue, and community engagement create opportunities for students to encounter uncertainty and responsibility. Assessment then gives those experiences academic structure by requiring evidence, interpretation, justification, communication, and reflection. The two dimensions must remain connected: activity without analytical assessment can become activism without learning, while assessment without meaningful activity can return the curriculum to abstraction.

The fifth dimension, institutional ecology, addresses the conditions under which course-level innovation can persist. Campus policies, facilities management, access to data, quality-assurance procedures, and leadership priorities all shape what lecturers and students are able to do. When a course project produces recommendations that no institutional unit receives, students may learn that participation is performative. By contrast, even a modest feedback mechanism such as presenting findings to a relevant campus unit and receiving a documented response can demonstrate that academic inquiry has a legitimate place within institutional improvement.

The ECT framework can therefore be understood as a developmental pathway rather than a binary measure of success or failure. Programs may begin by strengthening theological coherence and mapping one curriculum intersection, then pilot a participatory task and an authentic rubric, and finally establish institutional partnerships that allow the model to be repeated. This staged approach recognizes resource constraints while maintaining a clear direction of travel from symbolic acknowledgement toward sustained ecological

learning.

Contextualizing the SDGs within Islamic Higher Education

The findings also highlight the importance of contextual translation. The SDGs offer a globally recognized vocabulary, but their educational meaning is realized through local problems, institutional arrangements, and religious interpretations. In an Islamic higher education setting, sustainability becomes more than the adoption of international terminology when it is connected with familiar ethical concepts and with observable conditions in students' surroundings. This local anchoring can strengthen ownership and reduce the perception that environmental education is an externally imposed agenda.

Contextualization should nevertheless remain critical. Religious language can be used to encourage individual behavioral change while leaving institutional practices and structural inequalities unexamined(Ajizah & Jauhari, 2023). The movement toward transformative praxis therefore requires attention to both personal responsibility and collective conditions. Students should be able to ask not only what a morally responsible individual should do, but also how rules, infrastructures, resource distribution, and organizational decisions shape the available choices.

This balance between global orientation and local moral reasoning is central to the wider reform of Islamic higher education. Academic relevance does not require abandoning disciplinary or religious identity. It requires demonstrating how that identity can engage rigorously with shared human problems. Eco-theology provides one important site for such engagement because it connects worship, ethics, knowledge, public responsibility, and the material conditions of life.

Table 2. Eco-Theological Curriculum Transformation (ECT) framework

Dimension	Design question	Illustrative action	Evidence of progress
Theological coherence	How does the course connect stewardship, trust, balance, restraint, and public welfare?	Develop a concise eco-theological rationale for the course and avoid isolated proof-texting.	Students can explain why an ecological issue matters within Islamic ethical reasoning.
Curriculum mapping	Which course outcomes connect with SDGs and local ecological problems?	Map topics to SDGs 4.7, 6, 12, 13, and 15 and identify one locally observable problem.	Environmental competencies appear in outcomes, activities, and assessment rather than only in content lists.

Dimension	Design question	Illustrative action	Evidence of progress
Participatory pedagogy	What must students investigate, discuss, or do?	Use inquiry, case analysis, field observation, campus audits, or community projects.	Students generate and interpret evidence, collaborate, and propose context-sensitive action.
Authentic assessment	What observable performance demonstrates learning?	Use portfolios, policy briefs, audit reports, presentations, and reflective writing with transparent rubrics.	Assessment rewards evidence, reasoning, feasibility, collaboration, and reflection.
Institutional ecology	How do campus operations and academic governance reinforce the curriculum?	Coordinate with facilities, quality assurance, student affairs, and relevant faculties; use campus data as learning material.	Course projects inform institutional practice, and successful designs are supported beyond one lecturer.

Implications for Curriculum, Pedagogy, and Institutional Leadership

First, curriculum review should begin with constructive alignment rather than with the addition of environmental keywords. Program teams can select a limited number of high-relevance intersections between IRE content and the SDGs for example, purification and water stewardship; consumption ethics and SDG 12; human responsibility and climate action; or public welfare and environmental justice. Each intersection should be expressed in a learning outcome, activity, and assessment task.

Second, lecturer development should focus on pedagogical design rather than on awareness alone. Workshops can model how to convert a theological concept into a problem-based sequence: framing an issue, gathering evidence, engaging stakeholders, weighing alternatives, proposing action, and reflecting on ethical responsibility. Collaborative design studios involving IRE, science, social science, and quality-assurance staff may be more effective than one-off seminars.

Third, institutions should create assessment space for sustainability competencies. This does not require abandoning academic standards. On the contrary, authentic assessment can strengthen rigor by requiring students to use evidence, make defensible judgments, communicate with stakeholders, and evaluate the limitations of their proposals. Common rubrics can support comparability while preserving room for contextual projects.

Fourth, the campus should be treated as a living laboratory. Waste, water, energy, food, green space, and procurement practices provide accessible objects of inquiry. When students analyze real institutional data and present

recommendations to responsible units, the boundary between curriculum and institutional sustainability becomes productive rather than restrictive.

Finally, academic leadership should avoid assigning sustainability to a single course or enthusiastic lecturer. The ECT framework is most effective when embedded in program review, faculty development, quality assurance, and institutional planning. Leadership support is especially important for allocating time, approving non-traditional assessment, facilitating access to campus data, and recognizing collaborative teaching.

Conclusion

Islamic Religious Education has significant potential to contribute to ecological sustainability, but that potential is not realized through theological affirmation alone. The present study identified a gap between lecturers' recognition of Islamic environmental responsibility and the depth of its pedagogical enactment. Eco-theology entered the curriculum through three levels: textual insertion, thematic correlation, and transformative praxis. The deepest form of integration occurred when theological meaning shaped inquiry, action, assessment, and reflection.

The study also showed why transformative practice remained uncommon. Recall-oriented assessment and the separation of religious from environmental knowledge narrowed what lecturers could feasibly teach and evaluate. These barriers are institutional as well as individual. Meaningful reform therefore requires aligned change in learning outcomes, pedagogical tools, assessment frameworks, interdisciplinary collaboration, and campus operations. The proposed Eco-Theological Curriculum Transformation framework offers a practical route forward. Its central claim is simple but demanding: ecological responsibility should not be treated as an optional addition to Islamic education. It should be enacted as a form of accountable religious practice through which students learn to interpret evidence, deliberate ethically, collaborate with others, and care for the shared conditions of life.

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