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Ecotheology-based character education for primary students: A comparative analysis of Indonesia and Egypt

Aminulloh[1*], Khairul Umam[2], Achmad Fauzan Adimah[3], Fahrur Rozi[4], Mohammad Mu'tashim Billah[5]

[1, 2]Universitas Islam Negeri Kiai Haji Achmad Siddiq Jember, East Java, Indonesia
[3]State Islamic Elementary School 1 Jember, East Java, Indonesia
[4]Ibrahimy University Situbondo, East Java, Indonesia
[5]Al-Azhar University Cairo, Egypt,

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ABSTRACT

The current threats of environmental degradation and climate change increasingly require the integration of moral, spiritual, and ecological perspectives into primary school curricula, particularly in Muslim-majority contexts. This study aims to analyze how ecotheology-based character and values education can be constructed for primary school students through a comparative perspective between Indonesia and Egypt. The study employed an asymmetrical qualitative comparative case study design, combining Participatory Action Research (PAR) in Indonesia, document analysis in Egypt, observation, interviews, reflective journals, documentation, and cross-case thematic analysis to formulate an educational model. The findings revealed three key points. First, ecotheological principles were implemented through different pedagogical approaches: Indonesia integrated the values of khalifah, amanah, and ihsan through experiential learning, whereas Egypt embedded them implicitly through the curriculum and teacher mediation. Second, both models positioned teachers as key actors; Indonesia emphasized participatory-contextual practices, while Egypt was more oriented toward the formal curriculum in shaping ecological character. Third, the framework can be transferred to other Muslim countries by integrating Islamic theology, experiential learning, teacher mediation, reflection, and community involvement to internalize ecological character. This study concludes that Indonesia's participatory experience and Egypt's curriculum-based approach need to be integrated with Islamic theology, critical reflection, teacher roles, and community engagement to internalize students' ecological character authentically and sustainably. The study recommends strengthening the ecotheology curriculum through teacher training, experiential learning, value reflection, and community partnerships so that students' ecological character can be internalized and contextually adapted in other Muslim countries in a sustainable manner.

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[*]**Corresponding Author**: Aminulloh, Department of Islamic Education, Universitas Islam Negeri Kiai Haji Achmad Siddiq Jember, East Java Indonesia, email: aminatura4@gmail.com

INTRODUCTION

The rapid pace of environmental degradation, particularly climate change, and the increasing frequency of ecological catastrophes have significantly affected the welfare of children (Bennett & Friel, 2014; Erwanto et al., 2021). This concern is especially relevant in Muslim-majority countries, where religion continues to play a central role in shaping ethical perspectives, social behavior, and educational practices. For primary school learners, the early years of formal education represent a crucial period for developing enduring character traits such as responsibility, empathy, and care for the environment (Lessard et al., 2024; Asy et al., 2025). However, environmental education at this level often remains dominated by technocratic and cognitive approaches, focusing on knowledge acquisition and observable behavior while neglecting the moral, spiritual, and religious dimensions of learning. Within Islamic educational contexts, such separation may weaken the potential to frame environmental care as an act of worship and a form of accountability before God (Abitolkha et al., 2020; Somad, 2021).

Based on a review of previous studies, research on ecotheology remains limited. Existing studies can be classified into three main strands, yet they have not demonstrated strong conceptual integration. First, religious character formation focuses on taqwa, discipline, obedience, and morality. The internalization of worship values and submission to God is normatively practical but remains separated from civic and ecological domains (Hayati, 2021; Alderton & Pratt, 2022). Second, environmental education, which is grounded in scientific knowledge, local wisdom, or eco-school initiatives, emphasizes environmentally friendly behaviors but is rarely linked to religious values. Moreover, few studies have connected Islamic values with environmental awareness (Ag-Ahmad et al., 2023). Third, there is a lack of integration between moral, spiritual, and ecological domains, as well as limited pedagogical operationalization of the concepts of khalifah, amanah, and ihsan in primary school contexts. In addition, comparative studies remain scarce and tend to be largely descriptive (Adilla et al., 2022; Rahman & Arefin, 2024). Therefore, this study addresses this gap by comparing Indonesia and Egypt, producing an ecotheology-based character education model for primary schools that bridges theology, pedagogy, and community engagement.

In response to identified gaps, this study aims to: (1) describe the pedagogical operationalization of ecotheology in Indonesia and Egypt; (2) compare community-based vs. curriculum-based models; and (3) develop a transferable three-component framework for Islamic elementary schools in Muslim countries. The research questions are: (1) How are ecotheology principles (khalifah, amanah, ihsan) translated into pedagogical practices for elementary students in Indonesia and Egypt? (2) What are the key similarities and differences between the two models? (3) What transferable framework can be derived for other Muslim countries? This study contributes by repositioning ecotheology from normative discourse to empirically grounded pedagogy, employing an asymmetrical comparative design integrating Participatory Action Research (PAR) and document analysis, and offering a three-component model (values, learning, community) for integrating religion and environment at the elementary level. These contributions affirm the study's urgency and unique position within the literature on character education, Islamic pedagogy, and sustainability-oriented education.

This study departs from the argument that Islamic ecotheology provides a comprehensive conceptual and pedagogical foundation for integrating the religious, ecological, and civic dimensions of character education at the elementary school level (Ahmad, 2025; Patricia Diane Mouboua et al., 2024; Adinugraha et al., 2020). Translating theological principles such as khalifah (stewardship), amanah (trust/responsibility), and ihsan (moral excellence) into age-appropriate pedagogical practices including storytelling, guided reflection, and community-based ecological activities enables the development of not only cognitive understanding but also emotional engagement and a sense of shared responsibility among elementary school students. By analyzing these approaches through a comparative

study of Indonesia and Egypt, this research proposes a contextual yet transferable ecotheology-based model of character and values education, thereby contributing to ongoing discussions in character education, Islamic pedagogy, and sustainability-oriented education.

RESEARCH METHODS

The study employed a qualitative comparative case study design to examine how ecotheology-based character and values education is conceptualized and enacted in two Muslim-majority contexts, namely Indonesia and Egypt. These cases were selected based on their shared Islamic theological foundations and contrasting educational systems, enabling an analytically meaningful comparison. The study follows a range-of-cases design aimed at explaining how ecotheological principles operate across different institutional and pedagogical settings (Harrison et al., 2017; Ishtiaq, 2019). In doing so, the research seeks to move beyond descriptive comparison toward a more theoretically grounded understanding of how religious, moral, and ecological dimensions intersect in primary education.

Importantly, this research adopts an asymmetrical comparative design, in which the Indonesian case is based on fieldwork using Participatory Action Research (PAR), while the Egyptian case relies on qualitative document analysis. This asymmetry is intentional and methodologically justified, as it enables the integration of two complementary perspectives: lived, practice-based experiences of ecotheology in Indonesia and formal, curriculum-based representations in Egypt. Rather than pursuing methodological uniformity, the study prioritizes analytical depth and theoretical insight into how ecotheological values are both enacted in local contexts and institutionalized within formal educational structures.

The Indonesian case was conducted in Sumberkejayan Village, East Java, involving one public primary school and two Qur'anic learning centers (Taman Pendidikan Al-Qur'an). The research was carried out over approximately three months, following the Participatory Action Research (PAR) cycle of planning, action, and reflection. During the planning stage, researchers collaboratively identified local educational needs and designed ecotheology-based character education activities with teachers, TPQ instructors, and community leaders. This was followed by the action stage, in which the program was implemented through environmental and character-building activities, including ecological awareness sessions and the planting and maintenance of approximately 1,000 tree saplings. In the reflection stage, the outcomes of these activities were evaluated through group discussions, reflective journals, and participant feedback to assess the internalization of values and the overall effectiveness of the intervention. Participants were selected purposively based on their involvement in the program and included approximately 37 primary school students, 4 teachers, 3 TPQ instructors, and 5 community members, ensuring the inclusion of information-rich cases relevant to ecotheology-based educational practices (Zhai et al., 2024).

Data in the Indonesian case were collected through multiple techniques, including participant observation of learning activities and environmental practices, as well as semi-structured interviews with teachers, TPQ instructors, and community leaders, each lasting approximately 30-60 minutes. Additional data sources included field notes, audio-recorded discussions, reflective journals written during the activities, and program documentation. These multiple sources enabled a comprehensive understanding of the design and implementation of ecotheology-based character education, as well as the processes through which values were internalized in practice.

The Egyptian case was developed through qualitative document analysis of national primary education curricula, religious and civic education textbooks, and peer-reviewed empirical studies. Documents were selected based on their relevance to primary-level education, inclusion of moral, religious, or environmental themes, and official status or publication within the last ten years (2015–2025). This approach enabled the examination of how ecotheological values are formally embedded and potentially enacted within a centralized

educational system. By focusing on both explicit and implicit representations of environmental responsibility, moral duty, and human nature relations, the analysis captures the normative and pedagogical dimensions of ecotheology in the Egyptian context (Bowen, 2009).

Data analysis followed a multi-stage thematic approach. First, within-case analysis was conducted using open coding to identify key themes related to value foundations, pedagogical practices, and character outcomes in each context. Second, these initial codes were organized into broader analytical categories, including theological principles, learning processes, and community engagement. Third, cross-case analysis was performed to identify patterns of similarity and difference between the Indonesian and Egyptian cases. The coding process was iterative and involved constant comparison across data sources to enhance analytical rigor, ultimately leading to the development of a three-component model of ecotheology-based character and values education comprising value foundations, learning experiences, and community partnerships. To ensure credibility and trustworthiness, the study employed data triangulation, prolonged engagement, and thick description (Nowell et al., 2017; Creswell & Poth, 2018). Researcher reflexivity was maintained through reflective notes documenting positionality and interpretive decisions, while ethical considerations were addressed through informed consent, confidentiality, and data anonymization in accordance with institutional research standards.

RESULTS AND DISCUSSION

Results

Indonesian case: Ecotheology-based character formation as experiential pedagogy

The findings from the Indonesian case indicate that ecotheology-based character education is enacted primarily through experiential and community-embedded pedagogical practices. Rather than being delivered as abstract moral instruction, theological principles such as *khalifah* (stewardship), *amanah* (trust), and *ihsan* (moral excellence) are operationalized through structured learning experiences that connect action with reflection. In this context, environmental education is framed not only as a cognitive domain but as a moral and spiritual practice integrated into students' everyday activities.

Empirical evidence suggests that pedagogical processes play a central role in mediating this integration. For instance, environmental activities such as tree planting are embedded within guided discussions and religious framing, allowing students to connect ecological action with theological meaning. As one teacher explained, "We do not only ask students to plant trees, but we remind them that taking care of the Earth is part of their responsibility as *khalifah*." Similarly, a TPQ instructor emphasized that "students begin to understand that protecting nature is not just a task, but a form of worship (ibadah)." These accounts demonstrate that the effectiveness of the program lies not in the activities themselves, but in the pedagogical framing that links action to moral reasoning and spiritual values.

Further analysis reveals that guided participation and responsibility-based learning contribute significantly to value internalization. Students were not merely involved in planting activities but were assigned ongoing responsibilities such as watering and monitoring plant growth. This process cultivated a sense of accountability and collective responsibility, reinforcing the principle of amanah in practice. Such findings align with experiential learning theories, where knowledge and values are constructed through participation and reflection rather than passive instruction.

Another critical dimension of the Indonesian case is the coherence between school, religious, and community contexts. The involvement of teachers, TPQ instructors, community leaders, and student facilitators created a consistent value environment across formal and non-formal learning spaces. Ecotheological messages delivered in classrooms were reinforced in religious instruction and community activities, enabling continuity between discourse and

practice. As a result, students' expressions of environmental responsibility were observable not only in structured activities but also in everyday interactions and language use, indicating deeper levels of internalization.

Taken together, these findings suggest that ecotheology-based education in the Indonesian context operates as a practice-oriented pedagogical model, in which values are constructed through the integration of experiential learning, guided reflection, and community engagement. The emphasis is not on isolated environmental actions but on the formation of moral dispositions grounded in theological meaning.

Table 1
Ecotheology-Based Character Education Patterns in Indonesian Primary Education

Ecotheological Principle	Pedagogical Practice	Learning Mode	Character Outcomes	Supporting Actors
Khalifah (Stewardship)	Tree planting & maintenance	Experiential, place-based	Environmental responsibility, care	Teachers, TPQ instructors
Amanah (Trust)	Assigning plant-care duties	Guided responsibility	Accountability, discipline	Students, facilitators
Ihsan (Moral excellence)	Reflection & religious framing	Reflective–religious	Moral awareness, worship-oriented action	Community leaders

Source: processed by the researcher, 2026.

The table 1 demonstrates how ecotheological principles are operationalized through experiential and community-based pedagogical practices, linking theological values with concrete learning processes. These practices include structured environmental activities, guided reflection, and shared responsibilities involving teachers, TPQ instructors, students, and community members. The resulting character outcomes such as responsibility, cooperation, and moral awareness reflect observable patterns derived from field data, indicating how ecological values are internalized through practice rather than abstract instruction.

Egyptian case: Ecotheological values as curriculum-mediated moral constructs

The findings from the Egyptian case indicate that character and values education is primarily structured through a curriculum-driven and text-based approach, in which religious, moral, and civic values are systematically embedded within formal instruction. Analysis of curriculum documents, textbooks, and empirical studies shows a strong emphasis on discipline, obedience, respect for authority, and civic responsibility as foundational elements of primary education. These values are consistently presented through religious teachings and citizenship education, shaping students' moral orientation and social behavior within a structured institutional framework.

Within this framework, environmental themes are present but tend to occupy a supporting and cross-cutting role rather than functioning as a central pedagogical focus. Textbook materials frequently promote cleanliness, respect for public spaces, and responsible use of natural resources, typically framed as attributes of a good Muslim and responsible citizen. Although these representations do not explicitly employ ecotheological terminology, they implicitly reflect key principles such as *amanah* (trust) and *khalifah* (stewardship), suggesting that environmental responsibility is conceptually linked to religious and moral obligations. In this sense, ecotheological values are embedded at the level of normative discourse rather than articulated as a distinct instructional framework.

Further analysis highlights the critical role of teacher mediation in translating these normative values into meaningful learning experiences. Evidence from classroom-level studies indicates that teachers often prioritize religious rituals and moral discipline, with

environmental topics treated as supplementary themes. However, when teachers actively connect Qur'anic verses, prophetic traditions, or moral narratives to concrete environmental issues such as pollution, waste management, and public cleanliness students begin to interpret environmental care as part of their religious and civic identity. These findings suggest that ecotheological elements, although not systematically structured, can emerge through pedagogical interpretation and teacher agency.

Despite this potential, the Egyptian model reveals a limitation in terms of pedagogical depth and experiential engagement. The absence of structured, practice-based learning activities reduces opportunities for students to internalize values through direct experience. As a result, environmental responsibility is often understood at a conceptual level rather than enacted as a lived moral practice. This indicates that the existing system provides a strong normative foundation but lacks mechanisms for linking moral instruction with embodied ecological action.

The analytical patterns identified in the Egyptian case are summarized in Table 2. Rather than representing a fully developed ecotheology-based model, the table synthesizes how religious, moral, and civic values are pedagogically organized and highlights their implicit connections to ecotheological principles. It demonstrates that environmental values are integrated through curriculum content and teacher interpretation, pointing to potential pathways for developing a more explicit and practice-oriented ecotheology-based character education framework.

Table 2
Implicit Ecotheological Dimensions in Egyptian Primary Education

Ecotheological Principle (Implicit)	Pedagogical Practice	Learning Mode	Character-Related Outcomes	Supporting Actors
Divine trust and moral duty (implicit amanah)	Teaching cleanliness and public order through religious and civic lessons	Text-based, normative instruction	Awareness of cleanliness as moral obligation	Classroom teachers, curriculum designers
Moral discipline and obedience (related to ihsan)	Moral narration and value inculcation in religious education	Didactic, teacher-centered	Discipline, respect for authority and elders	Religious education teachers
Stewardship responsibility (implicit khalifah)	References to environmental care in civic and social studies	Cross-curricular integration	Civic responsibility toward public spaces	Social studies teachers
Ethical use of resources	Lessons on moderation, avoidance of waste	Supplementary environmental topics	Responsible behavior toward shared resources	Teachers, school administrators
Scriptural interpretation	Linking Qur'anic verses or prophetic traditions to local environmental issues	Contextual explanation by teachers	Emerging view of environmental care as part of religious identity	Teachers as mediators

Source: processed by the researcher, 2026.

The table 2 illustrates how ecotheological values are embedded implicitly within curriculum-based and teacher-mediated approaches to character and values education. Environmental themes appear primarily as cross-cutting or supplementary elements, integrated into religious, moral, and civic instruction. The findings indicate that ecologically meaningful interpretations tend to emerge when teachers actively connect religious texts, moral narratives, or civic responsibilities to concrete environmental issues, such as cleanliness, waste management, and public behavior. Although these patterns do not yet

constitute a fully integrated ecotheology-based pedagogical model, they reveal important interpretive pathways through which ecotheological values can be enacted in practice.

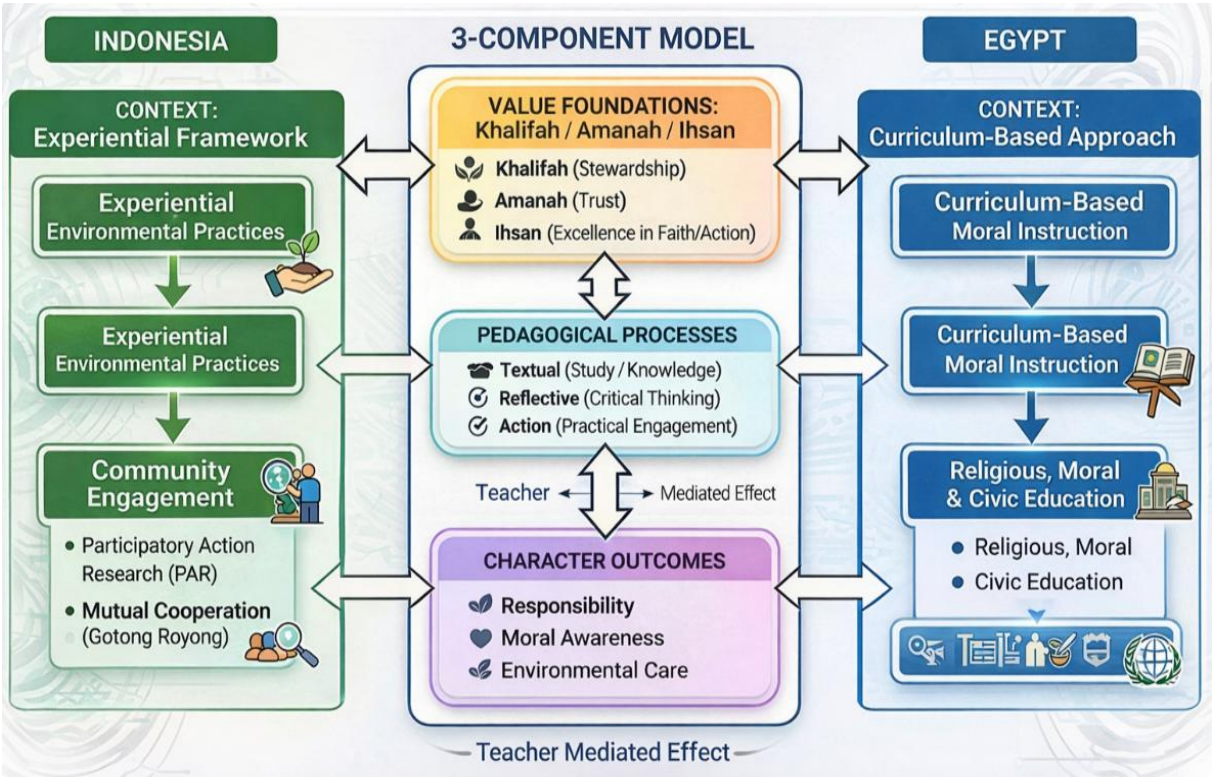
Building on the findings from both contexts, a cross-case comparison reveals a fundamental distinction between the two contexts in terms of pedagogical orientation. A cross-case comparison reveals a fundamental distinction between the two contexts in terms of pedagogical orientation. The Indonesian case demonstrates an experiential, community-based model, where ecotheological principles are operationalized through participatory activities, guided reflection, and collective practices such as gotong royong. Students internalize environmental responsibility as a lived moral and spiritual practice through direct engagement with ecological actions, including tree planting, maintenance duties, and religiously framed discussions.

In contrast, the Egyptian case reflects a curriculum-oriented model. Ecotheological values remain largely implicit within formal religious and civic instruction, embedded in textbooks as themes of cleanliness, public order, obedience, and responsible resource use. Environmental responsibility in this model emerges primarily through teacher mediation, where educators connect Qur'anic verses or prophetic traditions to concrete ecological issues such as waste management and pollution. Without such mediation, however, ecotheological values may remain at the level of normative discourse rather than embodied practice.

A comparison of ecotheology: Community-based versus curriculum-based approaches

Islamic ecotheology-based character education is increasingly recognized as an important approach to fostering both environmental awareness and the moral–spiritual development of students. Concepts such as khalifah, amanah, and ihsan provide a strong theological foundation for integrating ecological responsibility into everyday educational practices. However, its successful implementation largely depends on how educational systems in different countries translate these values into concrete, contextually relevant learning experiences.

Figure 1
A Comparative Ecotheology-Based Character Education Model in Indonesia and Egypt



Source: processed by the researcher, 2026.

Figure 1 illustrates a comparison of two contexts of ecotheology-based character education in Indonesia and Egypt. Indonesia adopts an experiential learning framework that emphasizes direct environmental practices, community engagement, Participatory Action Research (PAR), and gotong royong (cooperation) as key mechanisms for value internalization. In contrast, Egypt employs a curriculum-based approach that focuses on moral, religious, and civic education through the formal education system. Despite these differences in pedagogical strategies, both contexts are grounded in a shared three-component model. This model comprises value foundations (khalifah, amanah, and ihsan), pedagogical processes (textual, reflective, and action-based), and character outcomes, including responsibility, moral awareness, and environmental stewardship, as the primary objectives of ecotheology-based character education.

Based on the findings, the difference in pedagogical strategies between Indonesia and Egypt participatory practice versus formal curriculum does not eliminate their shared theological foundation and ultimate educational goals. Indonesia optimizes value internalization through direct experience and the culture of gotong royong, while Egypt ensures the consistency of value transmission through formal structures. Both contexts are equally grounded in the trilogy of khalifah, amanah, and ihsan, which is translated contextually. This affirms that ecotheology can be actualized through different pathways without losing its essential meaning. The implication is that the effectiveness of ecological character education is not determined by a single method, but by the alignment of the approach with the local socio-cultural system, as long as core values are maintained and character outcomes responsibility, moral awareness, and environmental care—remain shared orientations.

Discussion

This study on ecotheology-based character education was implemented among primary school students in Indonesia and Egypt and revealed three key findings. First, ecotheological principles were translated through two different pedagogical approaches. Indonesia integrated the principles of khalifah, amanah, and ihsan into experiential learning, whereas Egypt embedded them implicitly through the curriculum and teacher mediation. Second, both models shared a common emphasis on teachers as the main actors in shaping students' ecological character. However, Indonesia emphasized participatory and contextual practices, while Egypt was more oriented toward the formal curriculum. Third, the study proposed a transferable framework for other Muslim-majority countries. This framework integrates Islamic theological foundations, experiential learning, teacher mediation, reflection, and community involvement to strengthen the internalization of ecological character. Thus, the findings affirm that ecotheology-based ecological character education cannot rely solely on the curriculum; rather, it requires contextual practices, teacher mediation, critical reflection, and community engagement so that Islamic values are genuinely internalized in students' sustainable ecological behavior.

In today's social reality, environmental degradation and the climate crisis have become among the most urgent social issues directly experienced by global society, including Muslim communities in Indonesia and Egypt. This study responds to this urgent need by demonstrating that ecotheology-based character education is not merely a normative discourse, but a practical necessity amid public concern over environmental destruction and the declining ecological awareness of younger generations (Bui et al., 2024; Syafaruddin, 2025). The finding that Indonesia integrates the values of khalifah, amanah, and ihsan through participatory tree-planting actions, while Egypt embeds them implicitly through the formal curriculum and teacher mediation, reflects two different yet equally valid pathways of social adaptation. Both models are contextually relevant because they address collective concerns

regarding the gap between moral knowledge and everyday ecological behavior (Kopnina & Cherniak, 2016; Delgado-Guerrero et al., 2025).

Theoretically, these findings indicate that ecotheology functions not only as a normative framework but also as a pedagogical construct that can be operationalized in primary education (Firestone et al., 2021; Medina Vásquez et al., 2025). The principles of khalifah, amanah, and ihsan do not remain merely religious concepts; rather, they are translated into learning experiences, teacher mediation, reflection, and community involvement. The Indonesian case demonstrates the strength of experiential learning, which enables students to directly experience ecological values, whereas the Egyptian case highlights the importance of the formal curriculum as a space for value transmission. Thus, ecotheology-based education bridges knowledge, belief, and action, in line with experiential learning theory, which emphasizes the transformation of experience into meaningful understanding (Kolb, 1984). Critically, as Sakti et al. (2024) and Meland and Brion-Meisels (2024) argue, the internalization of ecological character requires integration among curriculum structures, social practices, value reflection, and teacher role modeling in everyday school life, without separating religion, environment, and character formation from a holistic and contextual educational experience.

This study provides the understanding that ecological character education cannot be developed merely through the delivery of instructional materials, but through experiences that engage students' moral, spiritual, and social awareness (Ingman & McConnell, 2021). The Indonesian case shows that direct involvement in ecological practices enables Islamic values to be more easily understood and internalized. The Egyptian case, meanwhile, reminds us that the formal curriculum remains important for maintaining the continuity and legitimacy of values within the education system. Both cases demonstrate that teachers are not merely transmitters of knowledge, but value mediators who connect religious teachings with real environmental issues (Somad, 2021; Hayati, 2021). Thus, this study suggests that Islamic education needs to move beyond a cognitive orientation toward the formation of reflective, contextual, and sustainable ecological habits. This process is consistent with the ideas of transformative learning and values education in the context of sustainability (Song et al., 2024; Han et al., 2025), particularly for primary school children.

Unlike previous studies, which have mostly been descriptive (Adilla et al., 2022; Rahman & Arefin, 2024) or conceptual in discussing environmental ethics in Islam (Abdul-Raof, 2003; Ag-Ahmad et al., 2023), this study provides comparative empirical evidence from two Muslim countries with contrasting education systems. While earlier research has tended to focus on cognitive outcomes or the formation of religious moral discipline, this study specifically demonstrates how the principles of khalifah, amanah, and ihsan are pedagogically contextualized for children aged 7–12 years. These findings are consistent with the global literature on place-based and experiential learning, which emphasizes emotional attachment and ethical commitment (Cao et al., 2025). At the same time, they critically question centralized models that often fail to produce tangible behavioral impacts (Song et al., 2024; Han et al., 2025). The scholarly position of this study is distinctive because it lies at the intersection of Islamic pedagogy, environmental education, and character formation in primary schooling.

Based on the findings, this study proposes several recommendations. First, primary schools need to develop ecotheology-based programs that integrate religious learning, character education, and environmental practices in a comprehensive manner. Second, teachers need specific training to translate the principles of khalifah, amanah, and ihsan into learning activities appropriate to students' developmental stages. Third, the curriculum should include indicators of ecological character that can be assessed through real behavior, student reflection, and community participation. Fourth, schools need to build partnerships with parents, religious leaders, and local communities to strengthen ecological culture. Fifth, other

Muslim-majority countries may adapt this framework by considering their cultural contexts, education systems, and teacher capacity, so that ecotheology education does not remain merely an idea but becomes a sustainable and measurable pedagogical movement enacted through living learning practices in classrooms and communities.

CONCLUSION

This study concludes that ecotheology-based ecological character education cannot be reduced merely to the teaching of religious values or environmental content. The comparison between Indonesia and Egypt reveals two different pedagogical pathways: Indonesia emphasizes participatory experiences through direct ecological practices, whereas Egypt relies on the formal curriculum and teacher mediation. Critically, both models have their respective strengths and limitations. The Indonesian model is stronger in promoting value internalization, yet it requires systemic support to ensure sustainability. The Egyptian model is more stable in curricular terms, but it risks remaining at the level of normative understanding if it is not accompanied by real-life experiences. Therefore, the main synthesis of this study underscores the need to integrate Islamic theological foundations, learning experiences, critical reflection, teacher roles, and community involvement to shape students' ecological behavior authentically.

This study contributes to enriching ecotheological scholarship by positioning ecotheology as a pedagogical construct, not merely as a normative-religious concept. The principles of khalifah, amanah, and ihsan are understood as foundations for shaping ecological character that can be translated into learning activities for primary school children. Practically, this study offers an educational framework that schools can use to integrate religious education, environmental education, and character education in a comprehensive manner. Teachers are positioned as key mediators who connect religious texts, ecological experiences, and the formation of students' behavior. This framework also provides direction for curriculum development, teacher training, community-based activities, and the assessment of ecological character in ways that are more contextual, reflective, and sustainable within Muslim-majority contexts.

The main limitation of this study lies in its asymmetrical comparative design, in which the Indonesian data were generated through in-depth Participatory Action Research, whereas the Egyptian case relied solely on document analysis without direct classroom observations or teacher interviews. This leaves a gap in understanding the relationship between the formal curriculum and actual educational practices in the Egyptian context. In addition, the relatively short duration of the Indonesian fieldwork was insufficient to measure the long-term impact of ecological value internalization. Future research is strongly recommended to employ ethnographic methods or longitudinal studies in both countries to capture the temporal dynamics of behavioral change. A more balanced comparative study involving fieldwork in Egypt is also crucial to verify the validity of documentary evidence and enrich understanding of teacher mediation within a centralized educational context.

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AUTHOR CONTRIBUTION STATEMENT

Aminulloh: Conceptualization; Data Curation; Investigation; Methodology; Project Administration; Writing Original Draft; Writing Review & Editing. **Khairul Umam**: Formal analysis; Resources. **Achmad Fauzan Adimah**: Software; Supervision; Validation. **Fahrur Rozi**: Methodology; Investigation. **Mohammad Mu'tashim Billah**: Conceptualization; Data Curation; Methodology: Writing Original Draft; Writing Review & Editing.

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