



Environmental Literacy in Islamic Elementary Education: Synthesizing Eco-Theology, Eco-Sufism, and Ecological Piety

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Abstract: Environmental literacy is an essential component of sustainability education. However, existing frameworks predominantly emphasize cognitive competencies and pro-environmental behavior while providing limited attention to the theological, spiritual, and moral dimensions, particularly within Islamic education. This study aims to develop a conceptual framework for Islamic Environmental Literacy in Islamic elementary education by synthesizing the concepts of Eco-Theology, Eco-Sufism, and Ecological Piety. A systematic literature review was conducted following the PRISMA protocol, resulting in the analysis of twenty-two peer-reviewed journal articles primarily retrieved from the Scopus database, with Google Scholar used as a supplementary source for cross-checking. Thematic synthesis identified six conceptual themes, which were subsequently integrated into three higher-order dimensions: The findings demonstrate that Islamic Environmental Literacy should be understood as a developmental pathway in which eco-theology provides the epistemological foundation through the concepts of khalifah, mizan, and ayat kauniyah; eco-Sufism facilitates the internalization of ecological values through zuhd, qana'ah, and muhasabah; and Ecological Piety translates these theological and spiritual values into environmentally responsible behavior. This framework extends conventional environmental literacy perspectives by integrating cognition, spirituality, and character formation into a unified model. The proposed framework provides a theoretical foundation for curriculum development, character-oriented environmental education, and future empirical research in Islamic elementary education.

Keywords: Islamic Environmental Literacy; Eco-Theology; Eco-Sufism; Ecological Piety; Environmental Education; Islamic Elementary Education.

Introduction

Global environmental crises have intensified in recent decades, manifesting as climate change, biodiversity loss, pollution, and ecosystem degradation, which collectively threaten ecological stability and human well-being (Kabir et al., 2026). Beyond disrupting ecological systems, environmental degradation has emerged as a significant risk factor for adverse human health outcomes, highlighting the inseparable relationship between environmental sustainability and public well-being (Sanidas et al., 2025). These challenges are largely driven by unsustainable anthropogenic activities, including industrialization, urban expansion, and excessive resource exploitation, which accelerate ecological imbalances at multiple scales (Boutaj et al., 2021; Warren et al., 2021). Although global frameworks such as the

Sustainable Development Goals (SDGs) prioritize environmental sustainability, persistent ecological decline suggests that current responses remain insufficient to address the complexity of the crisis (Aydin & Degirmenci, 2026; Banerjee et al., 2021).

In response to these challenges, environmental literacy has emerged as a key educational construct that integrates knowledge, skills, values, and behaviors to support pro-environmental decision making and action (Hnatyuk et al., 2024; Shri & Tiwari, 2021). This enables individuals to understand environmental systems and respond to complex ecological issues through informed judgment and responsible behavior (Del Rey et al., 2022).

Recent scholarship highlights that environmental literacy can be strengthened through experiential learning, interdisciplinary integration, and technology-enhanced pedagogies in formal education settings (Naila et al., 2026; Xiong et al., 2025). However, these approaches primarily emphasize pedagogical and instructional dimensions, with limited attention to how environmental literacy is shaped by the theological, moral, and spiritual foundations of Islamic elementary education. In this context, environmental responsibility extends beyond the acquisition of environmental knowledge and skills, as it is grounded in a religious worldview that emphasizes ethical responsibility toward the natural environment. This limitation is particularly significant because environmental knowledge does not necessarily translate into sustained, pro-environmental behavior. Despite the growing implementation of environmental education, a persistent gap remains between knowledge acquisition and behavioral change, particularly regarding pedagogical effectiveness and teacher capacity (Petkou et al., 2021).

This knowledge-behavior gap suggests that environmental education requires a broader perspective that extends beyond cognitive learning. Existing research indicates that environmental education remains largely oriented toward knowledge and awareness, while affective, moral, and spiritual dimensions receive comparatively less attention despite their importance in long-term behavioral transformation (Tian et al., 2024). Empirical findings further show that increased environmental knowledge does not automatically lead to sustained ecological behavior, indicating a persistent disconnect between cognition and action (Hu et al., 2025). Simultaneously, moral and spiritual dimensions, including ethical responsibility, value internalization, and emotional connectedness to nature, remain insufficiently integrated into environmental education, despite their potential to foster deeper ecological commitment (Rodriguez, 2023). These limitations point to the need for a more integrative approach to environmental literacy that connects cognitive learning with pedagogical practice, teacher capacity, and learners' moral-spiritual formation.

In this context, Islamic educational traditions offer a distinctive epistemological and ethical foundation for environmental responsibility through the concepts of *khalifah* (stewardship), *mizan* (balance), and stewardship of creation. These principles position humans as moral trustees of the Earth, accountable for maintaining ecological harmony and preventing environmental corruption (*fasad*), while emphasizing moderation and equilibrium in resource use (Arafa, 2026; Azizi, 2026; Nur et al., 2025). Beyond individual ethics, these principles extend to institutional and governance dimensions through Islamic environmental jurisprudence and sustainability-oriented practices (Malik et al., 2025). In educational contexts, these values have been partially integrated into learning processes to foster ecological awareness and moral responsibility; however, their implementation remains limited in achieving transformative and sustained behavioral outcomes (Abiddin et al., 2024; Setianingrum & Dwiyanto, 2024).

Previous research on environmental education can be synthesized into four interrelated strands: Islamic environmental education, environmental literacy, character education and sustainability education. Islamic environmental education

emphasizes theological and ethical principles such as *khalifah*, *mizan*, stewardship, and responsibility toward creation, providing an important normative foundation for environmental responsibility in Islamic educational contexts (Bensaid, 2023; Malik et al., 2025). Environmental literacy research focuses primarily on the development of environmental knowledge, attitudes, skills, and behaviors but continues to identify challenges in translating environmental understanding into sustained ecological action (Jia & Wang, 2024). Character education contributes a value-based perspective by emphasizing the internalization of moral dispositions and prosocial behavior, whereas sustainability education extends the discussion through interdisciplinary, experiential, and systems-oriented approaches (Japar et al., 2024; Muchlis et al., 2024).

Although these strands provide complementary perspectives, they do not constitute an integrated framework for explaining environmental literacy in Islamic elementary education. Islamic environmental education primarily establishes the theological and ethical basis for environmental responsibility; environmental literacy emphasizes ecological competencies and behavior; character education addresses value internalization; and sustainability education focuses on pedagogical and systemic approaches. However, how these dimensions are connected as a developmental process—from understanding environmental responsibility through an Islamic worldview to internalizing that responsibility spiritually and morally and ultimately expressing it through everyday ecological practice—remains insufficiently articulated. This conceptual gap provides the rationale for synthesizing Eco-Theology, Eco-Sufism, and Ecological Piety as interconnected dimensions rather than treating theological principles, spiritual formation, and ecological behavior as separate domains.

Environmental literacy research highlights the integration of knowledge, attitudes, and behaviors in fostering pro-environmental action, yet consistently reports a gap between literacy and sustained behavioral change (Jia & Wang, 2024). Character education studies emphasize value-based and participatory approaches to shaping moral and prosocial behavior, although institutional and curricular constraints remain a challenge (Japar et al., 2024). Sustainability education research further stresses interdisciplinary and experiential approaches that integrate environmental, social, and ethical dimensions, yet it still faces limitations in achieving systemic transformation (Bensaid, 2023; Muchlis et al., 2024). Collectively, these studies indicate that environmental education remains fragmented, particularly in integrating cognitive, behavioral, moral, and spiritual dimensions into a unified conceptual structure.

Despite the growing body of literature, most studies on Islamic environmental education remain focused on program implementation, pedagogical strategies, and behavioral outcomes within formal schooling contexts. Consequently, environmental literacy is often treated as an educational outcome rather than a structured conceptual construct grounded in Islamic epistemology (Petkou et al., 2021). Furthermore, the theological, spiritual, and moral dimensions of environmental understanding are frequently examined separately rather than synthesized into a coherent framework (Muhamad et al., 2024). This fragmentation limits the development of a comprehensive model for understanding environmental literacy in Islamic education.

The theoretical contribution of this study extends beyond the combination of the three Islamic concepts. It reconceptualizes environmental literacy as a developmental and interconnected process that explains the relationship between knowledge, internalization, and action. Eco-theology provides the cognitive and epistemological foundation for understanding environmental responsibility within an Islamic worldview; Eco-Sufism explains how this understanding is internalized into

spiritual and moral dispositions; and Ecological Piety represents the behavioral enactment of these internalized commitments. Thus, the proposed framework addresses the conceptual disconnect between environmental knowledge, value internalization, and sustained ecological behavior, offering an Islamic epistemological explanation of how environmental literacy develops in Islamic elementary education.

Method

1. Research Design

This study employed a Systematic Literature Review (SLR) to develop a conceptual framework of Islamic Environmental Literacy in primary education. The review followed the PRISMA 2020 guidelines to ensure transparency in study identification, screening, eligibility assessment, and inclusion. Rather than merely summarizing previous studies, the review aimed to synthesize theological, spiritual, educational, and behavioural perspectives relevant to the relationship among Eco-Theology, Eco-Sufism, and Ecological Piety.

2. Search Strategy and Eligibility Criteria

Scopus was used as the primary database because of its broad coverage of peer-reviewed research in education, environmental studies, social sciences, and related interdisciplinary fields. Google Scholar was used only to cross-check potentially relevant publications; no records retrieved exclusively from Google Scholar were included in the final dataset. The manuscript therefore retained Scopus-indexed articles as the evidence base for the review.

The following search string was applied:

("environmental literacy" OR "environmental education" OR "ecological literacy" OR "environmental ethics" OR "environmental awareness" OR "sustainability") AND (Islam* OR "Islamic education" OR madrasah OR pesantren OR Qur'an OR Quran OR ecotheology OR "eco-theology" OR "Islamic environmental ethics" OR "Islamic values") AND (education OR school OR curriculum OR teaching OR learning OR "character education" OR student OR child))

The search was piloted in March 2026 and finalized on June 15, 2026, yielding 682 records. Eligible studies were peer-reviewed Scopus-indexed journal articles published between 2021 and June 2026, written in English, available in full text, and substantively related to environmental literacy, environmental education, ecological values, Islamic environmental thought, character formation, or sustainability in educational contexts. Empirical, review, conceptual, theoretical, and bibliometric studies were considered. Studies were excluded when they were non-Scopus publications, published before 2021, unavailable in English or full text, duplicated, or unrelated to environmental or educational issues.

3. Study Selection

Study selection followed four PRISMA stages: identification, screening, eligibility assessment, and inclusion. A total of 682 records were initially identified. After duplicate removal and preliminary screening, 640 records remained for title and abstract screening, of which 562 were excluded. Seventy-eight reports were sought for retrieval, six of which could not be obtained. Consequently, 72 full-text articles were assessed for eligibility. Fifty articles were excluded because they did not meet the predefined relevance, educational-context, Islamic-context, or methodological criteria. Ultimately, 22 studies were included in the final review.

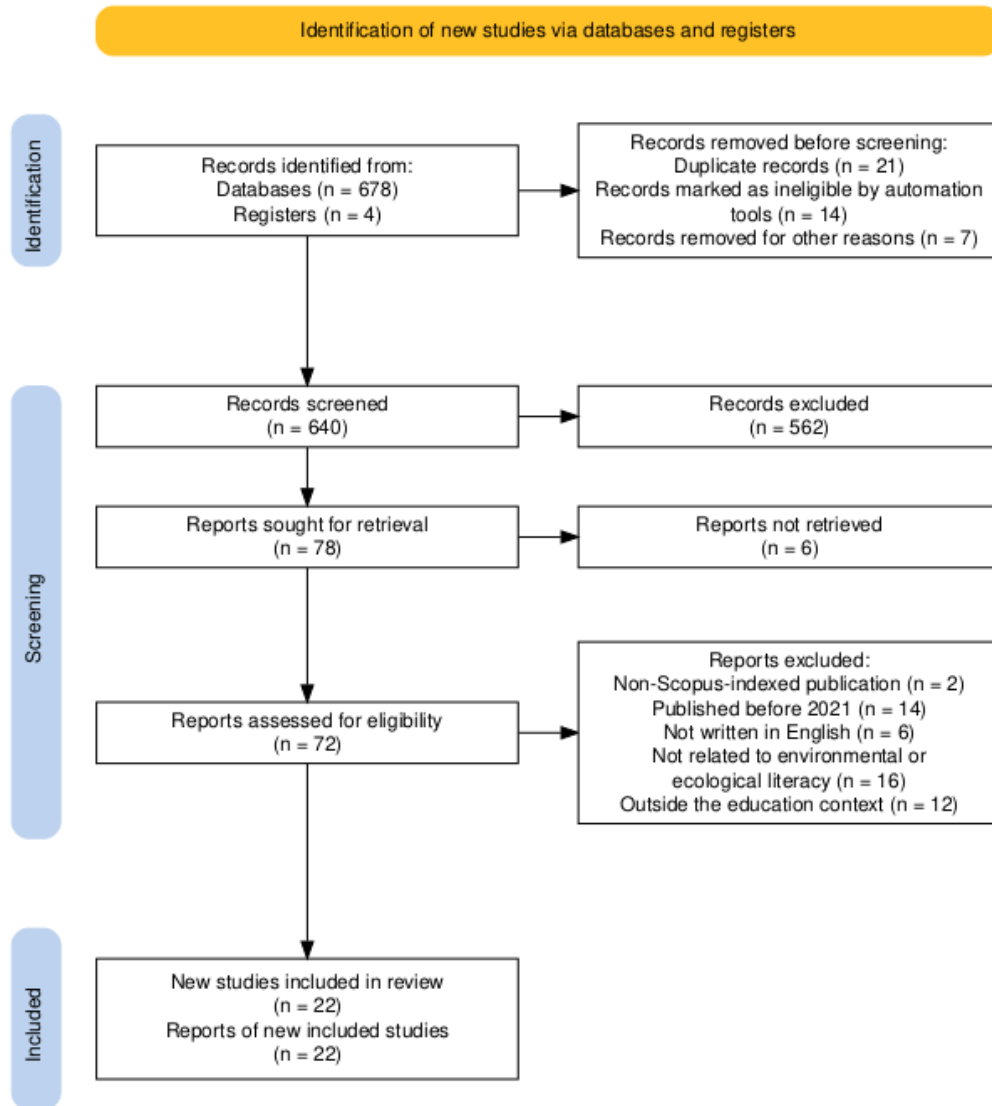


Figure 1: Flow of Article Selection with Prisma

4. Data Extraction and Thematic Synthesis

A standardized data extraction form was used to record the main characteristics and analytical contribution of each included study.

Tabel

Table S1. Data Extraction and Thematic Synthesis

Extracted information	Purpose
Article title and author(s)	Study identification
Publication year and journal	Publication characteristics
Scopus quartile and citation count	Descriptive profile of the evidence base
Research methodology	Methodological classification
Research focus	Identification of substantive relevance
Key findings/conceptual contribution	Evidence for thematic coding
Initial codes	Identification of recurring concepts
Descriptive theme	Organization of related codes
Higher-order dimension	Integration into the proposed framework

The extracted findings were analysed using thematic synthesis following Thomas and Harden (2008). Analysis proceeded through three stages: line-by-line coding, organization of conceptually related codes into descriptive themes, and development of higher-order analytical themes. Six descriptive themes were

identified: Eco-Theology, Qur'anic Ecological Ethics, Environmental Literacy, Character and Ecological Piety, Educational Practices, and Sustainability Outcomes. These were subsequently synthesized into three higher-order dimensions: Eco-Theology, Eco-Sufism, and Ecological Piety.

Of the 22 included studies, 21 contributed directly to the conceptual coding and thematic synthesis. [Sanidas et al. \(2025\)](#) was retained as contextual evidence regarding the broader consequences of environmental degradation but did not contribute conceptual codes to the proposed Islamic Environmental Literacy framework.

5. Quality Assessment

Methodological quality was assessed using design-sensitive criteria adapted from the Joanna Briggs Institute (JBI) Critical Appraisal Tools. Appropriate appraisal criteria were applied according to whether studies were qualitative, quantitative, systematic reviews, conceptual/theoretical, or bibliometric. The assessment considered methodological clarity, coherence, appropriateness of evidence, and relevance to the review objectives. Quality appraisal was used to support interpretation of the evidence rather than to assign a single numerical ranking across heterogeneous research designs.

Result and Discussion

1. Result

Following the PRISMA screening process, 22 studies met the eligibility criteria and were included in the final review. To provide an overview of the evidence base, the characteristics of the included studies were extracted and summarized according to article title, author(s), publication year, journal, Scopus journal quartile, and citation count. These characteristics provide a descriptive foundation for subsequent analyses of publication trends, journal quality, methodological distribution, and thematic synthesis.

Table 1. Characteristics of the Included Studies

No.	Title	Author	Year	Journal	Quartile	Citations
1	Linking Environmental Education and Arabic Language Teaching: Curriculum Analysis of Madrasa and Pesantren in Indonesia	Taufiqurrochman	2025	Studia Ecologiae et Bioethicae	Q2	23
2	Towards an Islamic Ecotheology: Indonesian Muslim Organizations in Climate Mitigation and Adaptation Efforts	Mustofa et al.	2025	Problemy Ekorozwoj	Q3	32
3	Qur'anic Ecotheology and the Ethics of Forest Protection in Indonesia	Nur et al.	2025	Jurnal Studi Ilmu-Ilmu Al-Qur'an dan Hadis	Q1	53
4	Gender Analysis in the Islamic Law-Based Ecofeminism Movement for Ecosystem Protection	Malik et al.	2025	El-Mashlahah	Q1	19
5	Highlighting the Importance of Biodiversity Conservation through the Holy Qur'an	Blankinship et al.	2025	Conservation Biology	Q1	31

6	Environmental Ethics in the Qur'an: A Thematic Analysis of Conservation and Stewardship	Bakar et al.	2025	Global Journal Al-Thaqafah	Q2	5
7	The Founding Role of the Qur'an in the Early Perception of Geography	Mahmutoglu	2024	Hitit Theology Journal	Q4	1
8	An Approach to the Anthropological Theory of the Qur'an and Hadith and Their Roles in Reducing Environmental Degradation	Masoumbeigi et al.	2021	International Journal of Medical Toxicology and Forensic Medicine	Q4	8
9	Student Perceptions Towards the Implementation of Higher Education's Character Education Program: Challenges and the Role of the Academic Environment	Udasmoro et al.	2025	Research Journal in Advanced Humanities	Q1	1
10	Comparing Environmental Literacy in STEM and Non-STEM Preschools: Evaluating the Impact on Young Children's Understanding and Attitudes	Ramulumo and Shabalala	2025	International Journal of Early Childhood	Q2	18
11	Participatory-Based Character Education: Indonesian School Children's Experiences	Muassomah et al.	2025	Jurnal Ilmiah Peuradeun	Q1	7
12	The Role of Spiritual Leadership in Internalizing Environmental Values in Islamic Eco-Madrasah	Hadisi et al.	2025	Nazhruna: Jurnal Pendidikan Islam	Q1	11
13	Reassessing the Role of Resource Management on Sustainable Environment: Impacts of Taxation, Depletion, Renewable Energy, and Globalization	Aydin and Degirmenci	2026	Sustainable Development	Q1	9
14	Environmental Degradation: An Under-recognized Secondary Risk Factor of Hypertension	Sanidas et al.	2025	Kardiologia Polska	Q3	4
15	Environmental Literacy and Coastal Education as Pathways to Marine Ecosystem Conservation: A Systematic Literature Review	Rahmat et al.	2026	Egyptian Journal of Aquatic Biology and Fisheries	Q4	1
16	Trend Research and Future Directions of Environmental Literacy Education in Elementary School: A	Naila et al.	2026	Multidisciplinary Reviews	Q3	1

Systematic Literature Review						
17	Pedagogical Strategies for Teaching Environmental Literacy in Secondary School Education: A Systematic Review	Xiong et al.	2025	Sustainability	Q1	6
18	City-level Sustainable Development Impacts on Environmental Literacy: Feelings Toward Nature, Environmental Knowledge, and Pro-environmental Behavior	Jia and Wang	2024	Environmental Education Research	Q1	12
19	Education's Role in Fostering Environmental Awareness and Advancing Sustainable Development Within a Holistic Framework	Hnatyuk et al.	2024	Multidisciplinary Reviews	Q3	40
20	Environmental Education in Low-Income and Middle-Income Countries: A Systematic Review and Meta-Analysis	Hu et al.	2025	Journal of Environmental Psychology	Q1	6
21	Analysis of Knowledge Graph: Hotspots and Future Trends in Environmental Education Research	Tian et al.	2024	Sustainability	Q1	6
22	Contributions of Philosophy for Children to Ecosocial Education	Rodriguez	2023	Childhood and Philosophy	Q2	1

As shown in Table 1, the reviewed studies were published between 2021 and June 2026 in a diverse range of peer-reviewed journals. The publications varied in terms of journal quality, citation impact, and methodological approaches, reflecting the multidisciplinary nature of Islamic Environmental Literacy research. The 2026 data included only studies indexed until June 2026. Descriptive analyses of publication trends, journal quartiles, citation impact, journal distribution

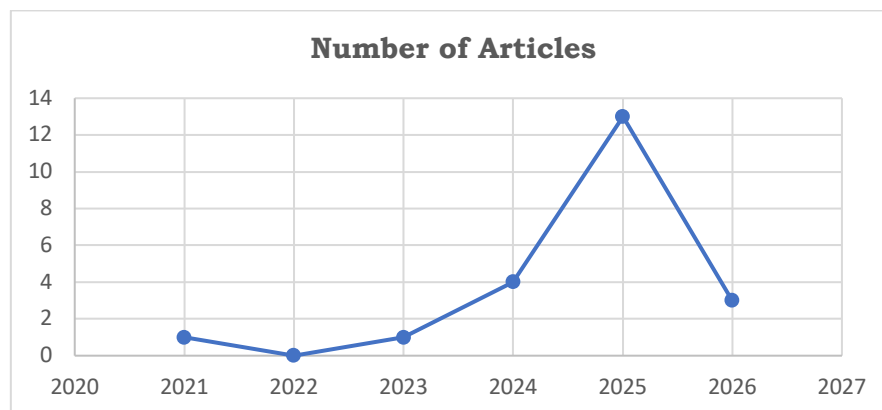


Figure 2 : Distribution of Publications by Year

Figure 2 illustrates the annual distribution of the 22 studies included in this review sample. Research on environmental literacy in Islamic elementary education remained limited between 2021 and 2023, with only one publication identified in 2021, none in 2022, and one in 2023. Research output increased to four studies in 2024 and reached its highest level in 2025 with 13 publications. By June 2026, three additional studies were indexed. Overall, the publication trend demonstrated a marked increase from 2024 onward, indicating growing scholarly interest in environmental literacy within the context of Islamic elementary education.

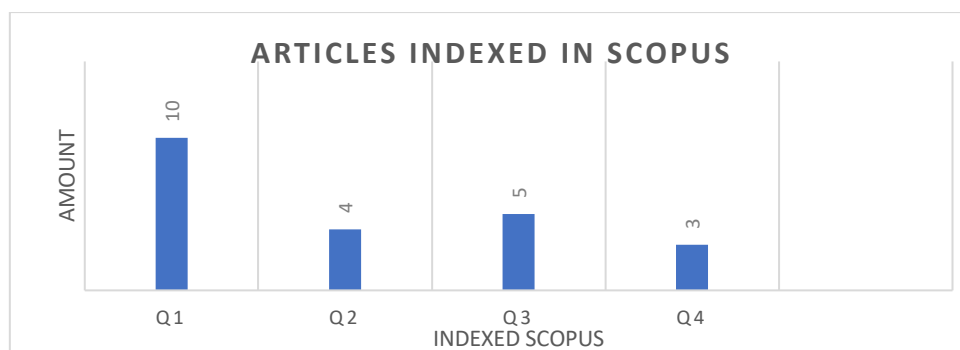


Figure 3 : Distribution of Journal Quartiles

Figure 3 presents the distribution of the 22 selected articles across the Scopus journal quartiles. Q1 journals accounted for the largest share, with 10 articles, followed by Q3 (five articles), Q2 (four articles), and Q4 (three articles). This distribution indicates that nearly half of the reviewed studies were published in high-impact journals, reflecting the increasing academic recognition and quality of research on environmental literacy in Islamic elementary education in recent years.

Table 2. Distribution of Studies by Citation Impact

Citation Range	Number of Studies
≥ 30	4
20–29	1
10–19	4
5–9	7
0–4	6
	22

Table 2 summarizes the citation counts for the 22 studies included in this review. Seven studies received between five and nine citations, while six received four or fewer citations. Four studies received between 10 and 19 citations, four received 30 or more, and only one received between 20 and 29 citations. It should be noted that citation counts are strongly influenced by publication year, as many of the included studies were published in 2025 and early 2026. Overall, although a small number of studies achieved relatively high citation counts, most publications fell within the lower citation ranges.

Table 3. Distribution of Journals

Journal	Number of Studies
Sustainability	2
Multidisciplinary Reviews	2
Others (18 journals)	18
Total	22

Table 3 presents the distribution of journals in which the 22 selected studies were published. Sustainability and Multidisciplinary Reviews were the most represented journals, each contributing two articles. The remaining 18 studies were distributed across 18 journals, with each journal publishing a single study. This distribution indicates that research on environmental literacy in Islamic elementary education has been disseminated across a wide range of academic journals rather than being concentrated within a few publication outlets.

Table 4. Distribution of Research Methods

Research Method	Number
Qualitative	8
Quantitative	5
Systematic Literature Review	4
Conceptual / Theoretical	4
Bibliometric Analysis	1
Total	22

Table 4 summarizes the research methods used in the 22 selected studies. Qualitative studies constituted the largest proportion ($n = 8$), followed by quantitative ones ($n = 5$). Systematic literature reviews and conceptual/theoretical studies each accounted for four publications, whereas bibliometric analysis was identified in one publication. These findings show a predominance of qualitative research methods, accompanied by the growing use of evidence synthesis and conceptual approaches.

Table 5. Conceptual Mapping of Environmental Literacy in Islamic Elementary Education

Conceptual Theme	Representative Studies	Key Contribution	Role in Proposed Framework
Eco-Theology	Mustofa et al. (2025) ; Nur et al. (2025) ; Malik et al. (2025)	It establishes the theological relationship between God, humans, and nature as the foundation of environmental responsibility.	Theological Foundation
Qur'anic Ecological Ethics	Bakar et al. (2025) ; Blankinship et al. (2025) ; Mahmutoğlu (2024) ; Masoumbeigi et al. (2021)	It defines Islamic ecological values, including <i>mizan</i> , <i>khalifah</i> , <i>amanah</i> , and environmental stewardship.	Normative Foundation
Environmental Literacy	Jia and Wang (2024) ; Xiong et al. (2025) ; Naila et al. (2026) ; Rahmat et al. (2026) ; Tian et al. (2024)	It identifies the core dimensions of environmental literacy, including knowledge, attitudes, competencies, and pro-environmental behavior.	Core Competencies
Character and Ecological Piety	Muassomah et al. (2025) ; Udasmoro et al. (2025) ; Hadisi et al. (2025) ; Rodriguez (2023)	It explains the internalization of environmental values through character formation and ecological piety.	Internalization Process
Educational Practices	Taufiqurrochman (2025) ; Ramulumo and Shabalala (2025) ; Hu et al. (2025)	It describes pedagogical approaches, curriculum integration, and educational strategies for environmental literacy.	Pedagogical Implementation
Sustainability Outcomes	Aydin and Degirmenci (2026) ; Hnatyuk et al. (2024) ; Jia and Wang (2024)	This study demonstrates the expected outcomes of promoting pro-environmental behavior and sustainable development.	Expected Outcomes

Twenty-two studies met the inclusion criteria of this review. However, only twenty-one studies contributed conceptual codes to the thematic synthesis presented in this table. The remaining study (Sanidas et al., 2025) provided contextual evidence on the health impacts of environmental degradation but did not contribute to the conceptual framework of Islamic Environmental Literacy.

RQ1: What are the key dimensions and underlying principles that construct Islamic Environmental Literacy in Islamic primary education?

Building upon the six conceptual themes identified in Table 5, the higher-order thematic synthesis revealed that Islamic Environmental Literacy in Islamic elementary education is organized around three interrelated dimensions: Eco-Theology, Eco-Sufism, and Ecological Piety. Rather than representing independent constructs, these dimensions form an integrated conceptual framework that explains how environmental literacy develops through theological understanding, spiritual internalization, and environmentally responsible behavior. Specifically, Eco-Theology serves as the theological, epistemological, and normative foundation that frames the relationship between Allah, humans, and nature; Eco-Sufism cultivates the affective and spiritual dispositions that nurture ecological consciousness; and Ecological Piety represents the behavioural manifestation of these values through daily environmental practices. Together, these dimensions illustrate how environmental literacy in Islamic education extends beyond knowledge acquisition to encompass spiritual and ethical engagement with the natural world. The following sections elaborate on each dimension based on the synthesized evidence from the reviewed studies.

1. Eco-Theology

The thematic synthesis identified eco-theology as the first and most fundamental dimension of Islamic Environmental Literacy in Islamic elementary education. Across the reviewed studies, environmental literacy is consistently conceptualized not merely as ecological knowledge or pro-environmental behavior but as a theological understanding of the relationship between Allah, human beings, and the natural world. Unlike secular environmental literacy, which primarily emphasizes scientific knowledge and environmental competencies, the Islamic perspective situates environmental responsibility within the framework of faith, where nature is understood as a divine trust (*amanah*) bestowed upon humanity. Consequently, ecological awareness develops not only through scientific inquiry but also through the recognition that protecting the environment is an act of worship and moral accountability before Allah.

The synthesis further reveals that this eco-theological perspective is constructed through three interrelated principles: *khalifah fil-ardh*, *mizan*, and *āyat kāuniyah*. Rather than functioning as independent theological concepts, these principles collectively explain how learners understand their environmental responsibility from an Islamic worldview. *Khalifah fil-ardh* establishes the ethical responsibility of humans as stewards of the Earth, *mizan* provides the moral framework for maintaining ecological balance, and *ayat kauniyah* encourages learners to perceive nature as a manifestation of divine signs that invite scientific exploration and spiritual reflection. Together, these principles transform environmental literacy from a purely ecological competency into an integrated cognitive framework that connects scientific understanding, ethical responsibility and religious consciousness.

The first principle, *Khalifah fil-ardh*, positions human beings as trustees rather than owners of the Earth. Across the reviewed studies, stewardship was consistently described as a divine mandate in which humans are entrusted with the responsibility of preserving, managing, and utilizing natural resources in ways that sustain the integrity of creation (Malik et al., 2025; Mustofa et al., 2025; Nur et al., 2025). This

understanding is closely associated with the concepts of *amanah* (trust) and the broader ethical obligation to prevent environmental corruption (*fasad*), emphasising that environmental responsibility extends beyond preventing ecological degradation to actively restoring and improving environmental conditions. Accordingly, environmental degradation (*fasad*) is interpreted not only as an ecological crisis but also as a moral consequence of failing to fulfil humanity's divinely entrusted role.

Within Islamic Environmental Literacy, this stewardship principle enables learners to recognize that natural resources are not objects of unrestricted exploitation but gifts entrusted by Allah that require responsible management. Therefore, environmental knowledge becomes inseparable from moral responsibility, encouraging students to evaluate environmental issues from both ecological and ethical perspectives. In Islamic elementary education, this principle is commonly translated into contextual learning experiences, including stories of the Prophet Muhammad's compassion toward animals, the prohibition of unnecessary tree cutting, water conservation during ablution, and school-based environmental activities such as waste management, gardening, and classroom stewardship. These experiences help transform theological understanding into environmentally responsible behavior that is appropriate for children's developmental stages.

The second principle identified through the synthesis is *Mizan*, which provides the ethical foundation for understanding ecological balance. The reviewed studies consistently portray the natural world as a harmonious system created according to divine order, in which every component performs complementary functions within an interconnected ecosystem (Bakar et al., 2025; Blankinship et al., 2025). Environmental degradation is understood as the disruption of this balance, resulting largely from excessive consumption, exploitation, and neglect of ethical responsibilities. Closely associated with the Islamic value of *wasatiyyah* (moderation), *mizan* encourages responsible patterns of production and consumption that avoid wastefulness (*israf*) and environmental exploitation. This ethical orientation closely aligns with contemporary sustainability principles, grounding environmental responsibility within Islamic moral teachings.

For environmental literacy, *Mizan* expands learners' understanding beyond ecological processes to include the ethical consequences of human actions. Scientific concepts such as ecosystems, biodiversity, food chains, and water cycles are interpreted as manifestations of the balance established by Allah, enabling students to connect scientific knowledge with moral reflections. In classroom practice, this principle supports the integration of sustainability education through activities such as waste reduction, recycling, water conservation and responsible resource use. Consequently, environmental protection is understood not simply as a technical solution to ecological problems but as an obligation to preserve the balance of creation established by God.

The third principle, *ayat kauniyah*, provides the epistemological dimension of Eco-Theology by presenting nature as a source of knowledge and a manifestation of divine signs. The reviewed literature consistently explains that the Qur'an encourages believers to observe, reflect upon, and investigate natural phenomena as pathways to recognize Allah's wisdom and power (Mughtar, 2021). Therefore, scientific inquiry complements rather than contradicts religious understanding, allowing ecological observation to become a form of *tafakkur* that strengthens both intellectual curiosity and spiritual awareness. Natural phenomena, including biodiversity, ecological cycles, and environmental processes, are interpreted simultaneously as scientific realities and signs of divine creation.

Within Islamic Environmental Literacy, *ayat kauniyah* encourages learners to develop reflective environmental understanding by integrating empirical observation with theological meaning. Environmental learning thus extends beyond acquiring

scientific knowledge to cultivating wonder, gratitude, and responsibility for the natural world. For primary school learners, this perspective supports inquiry-based learning in which observing plants, animals, weather, and ecosystems becomes both a scientific investigation and an opportunity to appreciate the wisdom embedded in creation. This integration strengthens the relationship between environmental knowledge, critical thinking, and religious values.

Overall, the thematic synthesis demonstrates that eco-theology functions as the cognitive foundation of Islamic Environmental Literacy through the integration of stewardship (*khalifah fil-ardh*), ecological balance (*mizan*), and nature as divine signs (*ayat kauniyah*). These principles should not be understood as separate theological concepts but as complementary components of a coherent environmental worldview that shapes learners' perceptions, interpretations, and responses to environmental issues. By integrating scientific understanding with Islamic ethics and theology, eco-theology distinguishes Islamic Environmental Literacy from secular environmental literacy and provides a comprehensive framework for cultivating environmentally responsible learners in Islamic elementary education.

2. Eco-Sufism

The thematic synthesis identified Eco-Sufism as the second dimension of Islamic Environmental Literacy, complementing the cognitive and theological foundations established through eco-theology. While Eco-Theology enables learners to understand the relationship between Allah, humans, and nature, Eco-Sufism focuses on internalizing these values into personal character, spiritual awareness, and everyday behavior. Across the reviewed studies, environmental responsibility is portrayed not merely as an intellectual understanding of ecological issues but as the cultivation of virtues that regulate human desires, consumption patterns, and moral attitudes toward the natural world. This perspective extends environmental literacy beyond knowledge acquisition by emphasizing the affective and spiritual dispositions that sustain environmentally responsible behavior over time (Hadisi et al., 2025; Muassomah et al., 2025; Rodriguez, 2023; Udasmoro et al., 2025).

Although Eco-Sufism is not listed as one of the six descriptive themes in Table 5, it was developed as a higher-order analytical theme through the synthesis of codes related to spiritual self-regulation, value internalization, and character formation. Specifically, codes associated with the moderation of desires, gratitude, contentment, self-reflection, and moral accountability primarily drawn from the descriptive themes "Character and Ecological Piety" and parts of "Educational Practices" were conceptually clustered under the analytical construct of eco-sufism. This construct captures the affective and spiritual processes through which theological understanding is internalized into enduring ecological dispositions and behaviors.

The synthesis further revealed that Eco-Sufism is constructed through three complementary spiritual principles: *zuhd*, *qana'ah*, and *muhasabah*. Together, these principles cultivate self-restraint, gratitude, and reflective accountability, enabling learners to develop an inner ecological consciousness rooted in Islamic spirituality. Rather than functioning as isolated moral virtues, they collectively explain how environmental ethics are internalized as enduring character traits that shape daily interactions with nature (Hadisi et al., 2025; Muassomah et al., 2025). The first principle, *zuhd*, encourages moderation by reducing attachment to excessive materialistic consumption. The reviewed studies describe *zuhd* not as the rejection of worldly life but as a conscious orientation that prioritizes necessity over excess and ethical responsibility over material accumulation (Hadisi et al., 2025; Muassomah et al., 2025). Within the context of Islamic Environmental Literacy, this value promotes sustainable patterns of resource use by discouraging wastefulness (*israf*) and excessive consumption, which contribute to environmental degradation. By

cultivating self-restraint, learners begin to recognize that environmental sustainability depends not only on technological solutions but also on responsible personal lifestyles.

Closely related to *zuhd* is the principle of *qana'ah*, which nurtures gratitude, contentment, and appreciation for the resources provided by God. The reviewed literature suggests that *qana'ah* shifts environmental responsibility from external regulation to intrinsic motivation by encouraging individuals to value sufficiency over continuous consumption (Malik et al., 2025; Muassomah et al., 2025). This spiritual orientation resonates with contemporary sustainability discourse, which advocates responsible consumption and simple living while providing a distinctly Islamic ethical foundation. Within Islamic Environmental Literacy, *qana'ah* enables learners to perceive resource conservation as an expression of gratitude and devotion rather than merely a response to environmental problems.

The third principle identified through the synthesis is *muhasabah*, which strengthens environmental literacy through reflective, self-accountability. The reviewed studies emphasize that environmental responsibility requires continuous reflection on the consequences of one's actions on nature (Hadisi et al., 2025; Udasmoro et al., 2025). Rather than limiting environmental education to knowledge and observable behavior, *muhasabah* encourages learners to evaluate whether their daily decisions are consistent with Islamic ethical values and their responsibilities as Allah's stewards. Such reflection transforms environmental awareness into a process of continuous moral improvement, allowing learners to recognize their contribution to environmental sustainability while strengthening their ecological empathy and personal responsibility.

In Islamic elementary education, these three spiritual principles are translated into learning experiences that foster an environmentally responsible character from an early age. Through classroom routines, reflective discussions, environmental projects, and the integration of Islamic values across subjects, learners are encouraged to practice moderation, gratitude, and self-reflection in their everyday interactions with the environment. Consequently, environmental literacy becomes more than the acquisition of ecological knowledge; it evolves into the cultivation of spiritual dispositions that influence decision-making, lifestyle, and environmental behavior throughout life (Hu et al., 2025; Ramulumo & Shabalala, 2025; Taufiqurrochman, 2025).

Overall, the thematic synthesis demonstrates that Eco-Sufism provides the affective and spiritual foundation of Islamic Environmental Literacy by integrating the virtues of *zuhd*, *qana'ah*, and *muhasabah* into a coherent framework of ecological character formation. Together, these principles transform environmental responsibility from an external obligation to an internal moral commitment rooted in faith, self-discipline, gratitude, and continuous reflection. In doing so, Eco-Sufism complements Eco-Theology by ensuring that theological understanding is translated into enduring environmental values and sustainable behavior among learners in Islamic elementary education (Hadisi et al., 2025; Muassomah et al., 2025; Rodriguez, 2023; Udasmoro et al., 2025).

3. Ecological Piety

The thematic synthesis suggests that Ecological Piety can be conceptualized as the behavioural dimension of Islamic Environmental Literacy. This concept was proposed by the authors to capture a recurring pattern across the reviewed literature in which environmental knowledge, ethical values, and spiritual orientations are translated into everyday environmental practices. Rather than presenting Ecological Piety as an established construct explicitly defined across the reviewed studies, the present synthesis uses the term as an interpretive category developed from the

behavioural patterns identified in the literature. In this sense, Eco-Theology primarily provides theological and ethical understandings of human responsibility toward creation, whereas Eco-Sufism highlights spiritual dispositions that may support environmental consciousness. The synthesis further suggests that these cognitive and spiritual foundations can manifest through environmentally responsible behavior, including care, moderation, cleanliness, and collective environmental action (Hadisi et al., 2025; Muassomah et al., 2025; Taufiqurrochman, 2025). Thus, Ecological Piety is understood in this study as a practical expression of environmental responsibility informed by Islamic ethical and spiritual values.

Across the reviewed studies, four recurring forms of environmental practice were identified: responsible resource use, care for living beings, environmental cleanliness, and ecological service. These categories represent behavioural patterns evident in the reviewed literature, while their integration under the broader concept of Ecological Piety constitutes the authors' synthesis. Together, they illustrate how Islamic environmental values can be translated into observable practices in Islamic elementary education (Muassomah et al., 2025; Taufiqurrochman, 2025).

The first behavioural pattern concerns responsible resource use, particularly practices related to moderation and waste avoidance. Islamic teachings concerning *israf* (excessiveness) and *tabdhir* (wastefulness) provide an ethical basis for interpreting practices such as conserving water, reducing unnecessary electricity consumption, and minimizing food waste. The reviewed literature indicates that such everyday practices can function as concrete forms of environmental responsibility for learners (Aydin & Degirmenci, 2026; Jia & Wang, 2024; Muassomah et al., 2025). In the present synthesis, these practices are interpreted as an expression of Ecological Piety because they connect environmental behavior with Islamic principles of moderation and accountability. This interpretation extends the empirical findings by situating routine resource conservation practices within a broader Islamic ethical framework.

The second behavioural pattern is caring for living beings, reflected in practices involving plants, animals, and the broader natural environment. Several studies have emphasized compassion, respect for living beings, biodiversity awareness, and appreciation of ecological interconnectedness (Blankinship et al., 2025; Malik et al., 2025; Nur et al., 2025). In Islamic educational settings, activities such as caring for plants, protecting animals, and observing biodiversity provide opportunities for learners to develop direct relationships with their natural environment. The synthesis interprets these practices through the Islamic ethical principle of *rahmah* (compassion), suggesting that environmental care may extend beyond an instrumental concern for environmental resources toward an ethical relationship with other forms of creation. However, this connection should be understood as an interpretive synthesis rather than a claim that all reviewed studies explicitly conceptualize these activities as Ecological Piety.

The third behavioural pattern involves environmental cleanliness, including appropriate waste disposal, waste segregation, classroom maintenance and school sanitation practices. The reviewed literature associates these activities with the development of environmental responsibility and sustainable habits among young learners (Khofi, 2024; Ramulumo & Shabalala, 2025). The connection between environmental cleanliness and the Islamic concept of *thaharah* provides an additional dimension for understanding these practices. However, rather than assuming that the reviewed studies uniformly establish *thaharah* as the theoretical basis for environmental cleanliness, this study proposes that the concept offers a meaningful Islamic ethical lens through which such practices can be interpreted. Repeated participation in cleanliness-related activities may consequently contribute to the

formation of environmental habits, particularly when these practices are embedded in the daily culture of the school.

The fourth behavioural pattern is ecological service, referring to active participation in activities intended to improve or protect the environment. The literature highlights collective environmental action, stewardship, tree planting, school gardening, environmental campaigns, and community-based conservation as important forms of participation (Khofi & Sunoko, 2025; Manolis et al., 2025). These activities move environmental responsibility beyond the avoidance of harmful behavior toward actively contributing to environmental improvement. In the present synthesis, ecological service is interpreted as a particularly visible manifestation of Ecological Piety because it combines environmental action with social participation and responsibility for creation. However, the association of such activities with *sadaqah jariyah* should be treated as a theological interpretation rather than a finding directly established across the reviewed studies. Supported by Islamic literature, this interpretation suggests that environmental service may also be understood as a form of continuing benefit extending beyond the individual learner to other people, living beings, and future generations (Hu et al., 2025; Ramulumo & Shabalala, 2025).

Overall, the synthesis indicates that Ecological Piety is best understood in this study as an interpretive construct that integrates recurring behavioural patterns identified across the reviewed literature. Responsible resource use, care for living beings, environmental cleanliness, and ecological services represent empirical behavioural categories, whereas their integration as expressions of Ecological Piety represents the authors' conceptual contribution. This distinction is important because the reviewed studies do not necessarily employ the term Ecological Piety or present these practices as a single behavioural construct. Therefore, the proposed framework extends the existing literature by connecting observable environmental practices with Islamic ethical and spiritual orientations. In this formulation, Islamic Environmental Literacy may be understood not only through what learners know about the environment but also through how theological and spiritual values are translated into everyday ecological conduct.

RQ2: How can eco-theology, eco-sufism, and ecological piety be integrated into a conceptual framework of Islamic Environmental Literacy in primary education?

Building on the three dimensions identified in RQ1, Islamic Environmental Literacy in primary education can be conceptualized as an integrated framework consisting of three interconnected layers: theological foundation, spiritual internalization, and ecological actualization. These dimensions do not operate independently; rather, they represent a continuous developmental process in which environmental understanding is transformed into moral awareness and is subsequently expressed through sustainable environmental practices. Thus, Islamic Environmental Literacy extends beyond conventional environmental literacy, which emphasizes ecological knowledge and behavioral change, by incorporating the Islamic worldview that positions environmental responsibility as a manifestation of faith, ethical consciousness, and accountability before Allah.

The first layer, eco-theology, functions as a foundational dimension that provides the epistemological and theological basis for environmental literacy. Through concepts such as *khalifah fil-ardh*, *mizan*, and *ayat kauniyah*, students develop an understanding that nature is not merely a physical resource but a divine trust (*amanah*) containing signs of Allah's will. This theological perspective shapes students' cognitive awareness by establishing a relationship between human responsibility, ecological balance, and divine order. In this framework, environmental

knowledge is constructed through the integration of scientific understanding and Islamic values, allowing students to perceive ecological systems as part of a broader, spiritual reality.

The second layer, eco-sufism, represents the internalization process through which theological understanding is transformed into personal values and morals. While eco-theology explains why humans are responsible for protecting the environment, eco-Sufism explains how this responsibility becomes embedded within the individual's character. Values such as *zuhd*, *qana'ah*, and *muhasabah* cultivate moderation, gratitude, self-control, and reflective awareness of environmental interactions. Therefore, eco-sufism functions as an affective and spiritual mechanism that strengthens the connection between environmental knowledge and personal commitment, enabling students to perceive ecological responsibility as an expression of inner faith rather than as a mere external obligation.

The third layer, ecological piety, represents the behavioral manifestation of Islamic Environmental Literacy. This dimension translates theological awareness and spiritual internalization into concrete ecological actions, including responsible resource use, care for living beings, environmental cleanliness, and ecological services. Through habituation-based practices in Islamic primary education, environmental responsibility is embedded within students' daily behaviors and character formation. Consequently, ecological piety demonstrates that environmental stewardship is not only a response to ecological challenges but also a practical expression of Islamic morality (*Akhlaq al-karimah*).

Based on these relationships, Islamic Environmental Literacy can be understood as a transformative framework following a developmental pathway: eco-theology provides the meaning framework, eco-Sufism develops moral-spiritual consciousness, and ecological piety produces environmentally responsible actions. The integration of these three dimensions creates a holistic model in which environmental literacy involves cognitive understanding, emotional-spiritual engagement, and behavioral commitment simultaneously.

In the context of Islamic primary education, this conceptual framework suggests that effective environmental education should not be limited to the transmission of ecological concepts or the implementation of environmental programs. Instead, it should cultivate a worldview in which caring for nature becomes part of students' religious identity and moral character. Through the integration of eco-theology, eco-sufism, and ecological piety, Islamic Environmental Literacy emerges as a holistic educational paradigm that connects knowledge, spirituality, and action, enabling learners to understand environmental stewardship as both an ecological responsibility and an act of devotion to Allah.

Based on the integration of these three dimensions, this study proposes a conceptual framework for Islamic Environmental Literacy in primary education (Figure 4). The framework illustrates a transformative pathway in which environmental literacy develops through three interconnected stages: theological understanding, spiritual internalization, and ecological actualization. Eco-theology provides the foundational meaning of environmental responsibility, eco-Sufism facilitates the internalization of ecological values into students' character, and ecological piety represents the manifestation of these values through sustainable environmental practices.

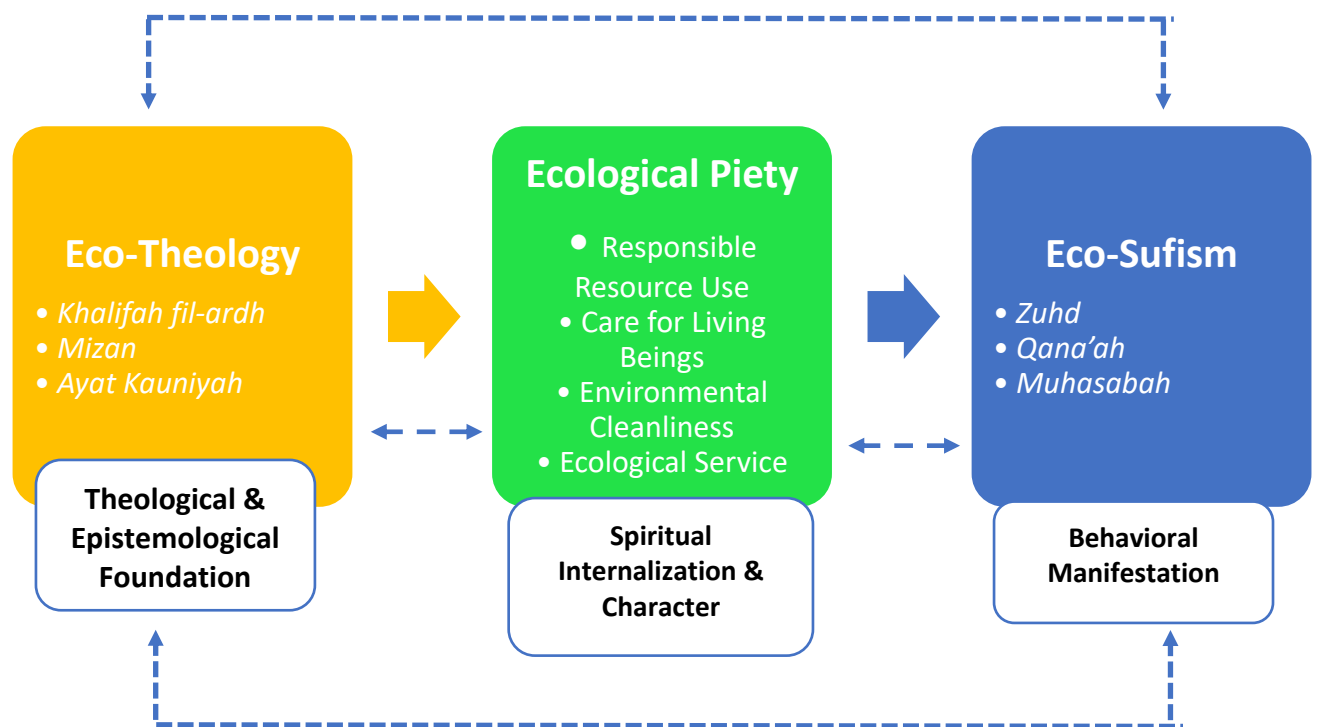


Figure 4. An Integrated Conceptual Framework of Islamic Environmental Literacy in Primary Education: From Theological Understanding to Ecological Practice

As illustrated in Figure 4, Islamic Environmental Literacy is constructed as a holistic educational process that connects knowledge, spirituality, and action. The framework emphasizes that environmental responsibility in Islamic primary education is not merely developed through the transmission of ecological knowledge but through the integration of worldview, moral formation, and behavioral practice. This conceptualization positions environmental literacy as a transformative process in which students gradually move from understanding nature as a divine trust to embodying ecological responsibility as part of their religious identity and ethical character.

2. Discussion

This study contributes to the growing scholarship on environmental literacy by reconceptualizing Islamic Environmental Literacy as an integrative framework that extends beyond the conventional emphasis on environmental knowledge, attitudes, and pro-environmental behavior. Existing environmental literacy frameworks generally describe environmental literacy as the integration of cognitive understanding, environmental competencies, and responsible behavior (Jia & Wang, 2024; Naila et al., 2026). However, previous research has consistently reported that increased environmental knowledge does not necessarily result in sustained ecological behaviour, highlighting a persistent gap between environmental awareness and behavioural transformation (Hu et al., 2025; Xiong et al., 2025). This knowledge-behavior gap indicates that conventional models, while useful, tend to underemphasize the deeper motivational and identity-forming processes that sustain pro-environmental actions over time.

The present synthesis demonstrates that this gap can be more comprehensively understood within Islamic educational contexts by incorporating a theological worldview and spiritual internalization as essential antecedents of environmentally responsible behavior. Rather than conceptualizing environmental literacy as a

collection of competencies, this study proposes a developmental pathway in which eco-theology establishes the epistemological foundation, eco-sufism internalizes ecological values through spiritual formation, and Ecological Piety represents the behavioural actualization of these values. The inclusion of these dimensions produces three explicit conceptual shifts in the literature. First, Eco-Theology redefines the object of environmental knowledge itself: nature is no longer understood merely as a biophysical system to be managed but as a divine trust (*amanah*) and a collection of signs (*ayat kauniyah*). This theological reframing transforms environmental cognition from a neutral scientific understanding into a form of moral and religious knowledge. Second, Eco-Sufism supplies the affective and spiritual mechanisms, particularly *zuhd*, *qana'ah*, and *muhasabah*, that are often under-specified in conventional environmental literacy models. These principles convert external environmental norms into internalized dispositions of self-restraint, gratitude, and continuous self-accountability, thereby strengthening the motivational link between knowledge and action. Third, Ecological Piety relocates pro-environmental behavior from the realm of civic or pragmatic responsibility into the domain of *akhlaq al-karimah*, rendering environmental care an expression of faith rather than merely an educational outcome. Consequently, environmental responsibility is interpreted not merely as an educational outcome but as the culmination of theological understanding, moral commitment and everyday environmental practice.

The proposed framework also contributes to Islamic education by providing a coherent conceptual structure that integrates ecological learning with the Islamic educational philosophy. Previous studies have examined Islamic environmental education primarily through curriculum implementation, environmental programs, or institutional practices (Mustofa et al., 2025; Taufiqurrochman, 2025), while theological concepts such as *khalifah*, *mizan*, and environmental stewardship have often been discussed independently from environmental literacy (Bakar et al., 2025; Blankinship et al., 2025; Nur et al., 2025). By synthesizing these previously fragmented perspectives, this study demonstrates that theological understanding, spiritual formation, and ecological behavior constitute complementary dimensions of a unified educational process. This perspective aligns with contemporary character education research, which emphasizes that enduring values emerge through continuous internalization, habituation, and reflective practice, rather than through knowledge transmission alone (Muassomah et al., 2025; Rodriguez, 2023; Udasmore et al., 2025). Accordingly, Islamic Environmental Literacy should be embedded across Islamic elementary education through interdisciplinary curriculum integration, reflective pedagogies, and authentic environmental experiences that enable learners to develop ecological responsibility as part of *akhlaq al-karimah* (noble character).

Beyond its conceptual contribution, the framework provides a practical foundation for future educational innovations and empirical inquiries. The proposed dimensions may inform curriculum development by integrating Eco-Theology, Eco-Sufism, and Ecological Piety across Islamic Religious Education, science, and character education, thereby promoting interdisciplinary environmental learning. Furthermore, the framework offers a conceptual basis for developing multidimensional assessment instruments capable of measuring theological understanding, spiritual dispositions, and environmentally responsible behavior in Islamic educational contexts. It may also guide teacher professional development by supporting educators in integrating environmental literacy with Islamic values through reflective, project-based experiential pedagogies. Finally, the framework establishes a theoretical foundation for empirical validation using quantitative, qualitative, and mixed-methods approaches to examine the structural relationships

among the three dimensions and their contributions to environmental literacy in Islamic elementary education.

Nevertheless, this study has several limitations. This study is based on a thematic synthesis of the published literature and therefore reflects conceptual patterns emerging from existing studies rather than direct empirical evidence from classroom implementation. Moreover, the reviewed literature remains concentrated within particular geographical and socio-cultural contexts, especially Indonesia, potentially limiting the transferability of the proposed framework to other Islamic educational settings in different countries. As a conceptual synthesis, the framework should be interpreted as a theoretical model that requires further empirical examination across diverse educational, cultural, and institutional contexts.

Future research should focus on validating and refining the proposed framework through empirical investigations. Longitudinal studies may examine how Eco-Theology, Eco-Sufism, and Ecological Piety develop progressively throughout learners' educational experiences, while psychometric research may develop and validate an Islamic Environmental Literacy instrument based on the three dimensions identified in this study. Comparative research across countries, school systems, and educational traditions would further strengthen the framework's generalizability. In addition, intervention studies investigating curriculum innovation, project-based environmental learning, teacher professional development, and whole-school sustainability programs would provide valuable evidence regarding the effectiveness of integrating theological understanding, spiritual formation, and ecological practice in fostering environmentally responsible learners. Such investigations will not only strengthen the empirical foundation of Islamic Environmental Literacy but also contribute to the broader advancement of faith-based approaches to environmental education and sustainable development.

Conclusion

This study developed a conceptual framework for Islamic Environmental Literacy by synthesizing the literature on environmental literacy in Islamic elementary education. The framework reconceptualizes environmental literacy as a developmental process that integrates theological understanding, spiritual internalization and environmentally responsible behavior. By integrating Eco-Theology, Eco-Sufism, and Ecological Piety, this study extends conventional environmental literacy models, which primarily emphasize knowledge, attitudes, and behavior, by incorporating Islamic theological and spiritual dimensions.

The main conceptual contribution lies in demonstrating that environmental responsibility in Islamic educational contexts is not merely an educational outcome but the result of a progressive interaction between cognition, spirituality, and moral action. This perspective offers a theoretical foundation for curriculum development, interdisciplinary pedagogy, and character-oriented environmental education in Islamic elementary school.

Despite these contributions, the framework remains conceptual and requires empirical validation in diverse educational settings. Future research should develop and validate multidimensional instruments for measuring Islamic Environmental Literacy, examine the relationships among its core dimensions, and evaluate curriculum- and school-based interventions. Such studies will strengthen the empirical foundation of the framework and further advance the role of Islamic education in promoting environmental sustainability.

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The author used ChatGPT to assist with language editing, grammar checking, and improving the clarity of the writing. All AI-generated suggestions were reviewed, revised, and verified by the author. Nevertheless, if any shortcomings or errors remain, the author apologizes and is open to suggestions for improvement. The author takes full responsibility for the accuracy, originality, and integrity of the manuscript.

Conflict of Interest

The author declares no conflict of interest.

Data Availability

This study is a systematic literature review of previously published articles. All data supporting the findings are available in the cited publications. No primary data were generated. The complete list of included studies and the PRISMA flow diagram are presented within the article.

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