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# Eco-Spiritual Pedagogy across World Religions: A Comparative Analysis of Environmental Education in Islamic, Christian, Buddhist, and Indigenous Traditions

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## Abstract

**Background:** The global ecological crisis is increasingly recognized as a moral and spiritual challenge, yet environmental education has largely remained siloed from religious education. Religious traditions possess rich ecological resources, but comparative studies examining how these resources are operationalized pedagogically across traditions remain scarce. **Purpose:** This study undertakes a comparative analysis of eco-spiritual pedagogy across Islamic, Christian, Buddhist, and Indigenous (Maya) traditions, examining theological framings, pedagogical mechanisms, and the translation of belief into environmental action. **Methods:** A comparative religious education framework was applied, synthesising peer-reviewed literature (2020–2026) and documented case studies including Indonesia’s Adiwiyata Madrasah, Finnish Lutheran/Orthodox textbook analysis, Thai forest monastery practices, and Maya eco-justice education. **Findings:** All four traditions exhibit a common “translation chain” belief → ritual → identity → action as the core pedagogical mechanism. Ritual functions as the critical bridge from abstract theology to embodied practice. Divergences include theistic stewardship (Islam, Christianity) versus non-theistic interdependence (Buddhism) versus relational kinship (Indigenous). Teacher literacy in ecotheology and resource constraints is cross-cutting challenges. **Conclusion:** Effective eco-spiritual pedagogy requires integrating environmental themes into core religious curricula, designing ritual-rich embodied learning, and investing in sustained teacher formation. Overlap situations (shared ecological problems) enable interfaith collaboration without theological consensus. **Recommendation:** Future research should prioritize primary empirical studies, longitudinal outcomes, and under-represented regions (Africa, South Asia, Latin America) while respecting Indigenous knowledge sovereignty.

**Keywords:** Eco-spiritual pedagogy; environmental education; comparative religion; translation chain; sustainability education

## 1. Introduction

The escalating global ecological crisis manifesting as climate disruption, biodiversity collapse, and pervasive environmental injustice has reached a scale that fundamentally challenges contemporary educational paradigms. While scientific literacy and technological innovation remain indispensable,

a growing consensus holds that the crisis is as much moral and spiritual as it is technical and economic. According to Pope Francis (2015), articulated this dimension in *Laudato si'*, arguing that environmental degradation reflects a profound spiritual rupture in humanity's relationship with the natural world and with the divine. In response, educators and scholars have increasingly recognized that sustainability education requires frameworks that engage not merely behavioral changes but the deeper structures of meaning-making, ethical responsibility, and existential belonging (Burns, 2024). This recognition has catalyzed the emergence of eco-spiritual pedagogy, an approach that integrates religious and spiritual values with environmental education to cultivate what Windsor and Franck (2025) term “the fertile ground between sustainability and religious education”.

Eco-spiritual pedagogy differs substantively from both traditional religious education and conventional environmental education in its intentional integration of these domains. Traditional religious education has historically centered on doctrinal formation, scriptural study, and ritual practice, with ecological themes often marginalized or treated as secondary ethical applications (Marshall, 2025). Conversely, conventional environmental education, particularly in secular and science-oriented curricula, has frequently eschewed spiritual dimensions, privileging empirical data, risk communication, and behavior modification as its primary pedagogical vehicles. Marshall (2025) notes that while subjects such as geography and science approach sustainability through empirical or technical lenses; religious education provides a “distinctive space for exploring theological reasoning, moral frameworks, and existential questions around human responsibility”. Eco-spiritual pedagogy seeks to bridge this divide, recognising that sustainable human flourishing inherently engages fundamental questions about humanity's relationship with nature, responsibilities to future generations, and the meaning of ecological virtue.

Despite growing scholarly interest in the intersection of religion and environmentalism (Windsor & Franck, 2025; Goshu and Ridwan, 2024), research has largely proceeded within single-tradition silos. Substantial literatures have developed on Islamic environmental ethics and its educational applications (Sapitri et al., 2025; Hubby et al., 2025), on Christian ecological theology and faith formation following *Laudato si'* (Francisco & Flores, 2024; Palos Rey & Diez Bosch, 2024), on Buddhist eco-dharma and engaged environmental practice (Buddasarn & Kantaseelo, 2022), and on Indigenous relational epistemologies and their pedagogical implications for sustainability education (Tecun, 2024). However, comparative studies that examine how eco-spiritual pedagogy is operationalised *across* these distinct religious traditions remain exceptionally rare. This absence is significant, for as Windsor and Franck (2025) observe, the inclusion of sustainability themes in “all forms of religious education” demands attention to the diverse theological frameworks, pedagogical mechanisms, and contextual challenges that each tradition presents.

Moreover, the global distribution of environmental impact suggests that no religious tradition has successfully resisted what Pope Francis (2015) terms the “technocratic paradigm” the reduction of nature to mere resource. High carbon-emitting societies span Christian-majority nations (the United States, Germany), Confucian-Buddhist societies (China, Japan, and South Korea), Hindu-majority India, and Muslim-majority nations (Iran, Saudi Arabia). This distribution underscores the need for cross-traditional learning: each tradition offers distinctive resources and faces distinctive challenges, and comparative analysis can illuminate common pedagogical mechanisms while respecting irreducible theological divergence.

This study therefore undertakes a comparative analysis of eco-spiritual pedagogy across four major religious traditions Islamic, Christian, Buddhist, and Indigenous (with specific attention to Maya spirituality) examining how each tradition frames human-nature relationships theologically, translates those theological commitments into concrete pedagogical practices, and addresses environmental responsibility as a dimension of spiritual formation. The study is guided by the following research questions:

- How do Islamic, Christian, Buddhist, and Indigenous traditions theologically frame human-nature relationships for educational purposes, and what distinctive virtues or ethical orientations does each foreground?
- What pedagogical mechanisms, including curriculum design, ritual practice, narrative resources, and community-based action translate theological concepts into environmental education across these traditions?
- What common patterns and distinctive divergences emerge from cross-traditional comparison, and what theoretical implications do these hold for the further development of eco-spiritual pedagogy as a field?

The significance of this comparative study is threefold. Theoretically, it advances the emerging field of eco-spiritual pedagogy by providing a systematic framework for cross-traditional analysis, moving beyond single-tradition case studies to identify common mechanisms, such as what previous research has termed a “translation chain” from belief to ritual to identity to action and their variations across distinct theological landscapes. Practically, it offers concrete resources for educators, curriculum developers, and religious institutions seeking to integrate environmental themes into religious education in ways that are theologically authentic and pedagogically effective. The systematic literature review conducted by Sapitri et al. (2025) on Islamic religious education identifies “three main pathways: curriculum strengthening, contextual–reflective pedagogies, and authentic assessment”, while research on Christian faith formation following *Laudato si'* emphasises “pedagogical integration, community engagement, and ecological conversion” as core themes (Francisco & Flores, 2024). Comparative synthesis of such pathways across traditions has the potential to generate more robust, transferable pedagogical models. Policy-wise, the study speaks to international frameworks such as the United Nations Sustainable Development Goals (particularly SDG 4 on quality education and SDG 13 on climate action), which increasingly recognize the role of values-based and holistic education in achieving sustainability transitions.

## **2. Theoretical Framework**

To systematically examine how diverse religious traditions operationalize ecological values within educational settings, this study develops a theoretical framework anchored in three interconnected constructs: the definition and scope of eco-spiritual pedagogy, the concept of overlap situations, and the translation chain mechanism.

### **2.1 Defining Eco-Spiritual Pedagogy**

Eco-spiritual pedagogy is an emergent educational approach that intentionally integrates ecological awareness with spiritual beliefs, recognizing that environmental crises are not merely technical or

scientific problems but fundamentally moral and existential ones (Burns, 2024). Unlike conventional environmental education, which typically privileges empirical data, risk communication, and behaviour modification, eco-spiritual pedagogy engages learners at the level of meaning-making, identity formation, and ethical virtue. As Simanjuntak, Lubis and Lay (2024) argue, ecospirituality “merges ecological awareness with spiritual beliefs, providing a holistic framework that not only encourages ecological stewardship but also aligns these practices with religious values” (p. 2). This holistic orientation addresses a key limitation of secular sustainability education: its frequent inability to motivate sustained behavioural change when divorced from deeper frameworks of meaning and purpose (Burns, 2024).

The distinctive contribution of eco-spiritual pedagogy lies in its recognition that questions of sustainability invariably engage fundamental human concerns about humanity’s relationship with nature, responsibilities to future generations, and the meaning of human flourishing. Windsor and Franck (2025) describe sustainability issues as occupying a “fertile ground between sustainability and religious education”, where empirical facts about ecological degradation intersect with theological reasoning about creation, justice, and eschatology. This intersection is not incidental but integral: as Marshall (2025) notes, while geography and science approach sustainability through empirical or technical lenses, religious education provides a “distinctive space for exploring theological reasoning, moral frameworks, and existential questions around human responsibility”.

Eco-spiritual pedagogy thus occupies a liminal position between three established fields. It differs from traditional religious education, which has historically centred on doctrinal formation and scriptural study while treating ecological themes as secondary ethical applications at best. It diverges from conventional environmental education, which has frequently eschewed spiritual dimensions in favor of ostensibly value-neutral scientific instruction. And it distinguishes itself from secular transformative sustainability pedagogy, which, while attending to values and worldviews, typically operates within non-religious or post-secular framings (Burns, 2024). Instead, eco-spiritual pedagogy intentionally draws on the theological resources, ritual practices, and community structures of specific religious traditions to cultivate ecological consciousness as an integral dimension of spiritual formation.

## **2.2 Overlap Situations: The Intersection of Sustainability Challenges and Religious Education**

A central theoretical challenge for comparative eco-spiritual pedagogy concerns how distinct religious traditions can engage in meaningful dialogue and mutual learning without either relativizing their distinctive theological commitments or foreclosing genuine exchange. This study employs the concept of overlap situations to address this challenge. Overlap situations refer to concrete, shared problems that transcend religious boundaries and create common ground for dialogue and collaboration, even among traditions with divergent theological frameworks.

The climate crisis, biodiversity collapse, water scarcity, and environmental injustice constitute quintessential overlap situations. These challenges affect all communities regardless of religious affiliation, and addressing them requires collective action that necessarily engages religious communities’ moral authority, institutional infrastructure, and capacity for mobilization. Critically, overlap situations do not require agreement on ultimate questions of theology or soteriology. Rather, they provide what Altmeyer and Dreesmann (2020) term “thematic overlap” – shared

concerns that enable “further reflection and interreligious learning” without demanding doctrinal convergence. The concept of the Anthropocene itself has been identified as a “boundary object” that can facilitate dialogue between religious and secular worldviews, precisely because the scale and urgency of planetary ecological change disrupts business-as-usual across all traditions (Windsor & Franck, 2025, Chapter 2).

In pedagogical terms, overlap situations function as entry points for interreligious environmental education. Rather than beginning with comparative theology as an abstract exercise, educators can start with a shared ecological challenge – a local water crisis, deforestation, pollution affecting multiple communities and invite students from different religious backgrounds to explore what their respective traditions offer in response. This approach respects theological difference while demonstrating that religious communities can collaborate effectively around shared problems. The Nigerian context, where interfaith learning around African eco-spirituality has been explored as a means to “resolve tensions between Christians and Nigerian Indigenous religious followers while promoting environmental sustainability”, exemplifies this pedagogical logic (Edom & Ekwueme, 2026, p. 2).

### **2.3 The Translation Chain: Belief → Ritual → Identity → Action**

The third pillar of the theoretical framework is the translation chain pedagogical mechanism that explains how abstract theological beliefs are transformed into concrete environmental action. Originally identified through comparative empirical research on Islamic environmental movements in Indonesia and interfaith environmental organising in the United States, the translation chain traces a sequence: belief → ritual → identity → action (Iriawan et al., 2026).

The translation chain addresses a persistent puzzle in environmental education: why knowledge alone rarely produces sustained behavioural change. Iriawan and colleagues (2026) found that across both the Green Sufism network in Indonesian *pesantren* (Islamic boarding schools) and the GreenFaith interfaith movement in the United States, “a translation chain—*belief* → *ritual* → *identity* → *action* emerged as the mechanism that connects spirituality to ecological activism” (p. 53). Each link in the chain performs a distinct pedagogical function.

First, belief provides the theological foundation. Islamic concepts such as *tawhid* (the oneness of God) and *khalifah* (stewardship or vicegerency) establish that care for creation is not an optional ethical add-on but a sacred obligation rooted in divine command. Comparable frameworks across traditions include Christian stewardship theology, Buddhist dependent origination, and Indigenous relational ontologies that treat non-human beings as persons with whom ethical reciprocity is required. These beliefs supply the normative justification for environmental action.

Second, ritual functions as the crucial bridge between abstract belief and embodied practice. In the Green Sufism case, daily practices such as *tadabbur alam* (contemplation of nature), *dzikr* (remembrance of God) performed outdoors, and ritualised waste management create what Berger and Luckmann (1966) would term “habitualised” patterns of environmentally significant behaviour. Ritual transforms propositional belief into sensory, affective, and collective experience. The pedagogical power of ritual lies in its capacity to engage learners at levels deeper

than cognitive instruction alone can reach, embedding ecological values into bodily habit and emotional disposition.

Third, identity consolidates ritualised behaviour into durable self-understanding. When learners regularly perform environmentally significant rituals as part of their religious practice, they come to see themselves as people who care for creation as an integral expression of their faith. This identity shift – from exogenous compliance to endogenous motivation – is the key mechanism that sustains behaviour beyond structured educational settings. As Iriawan et al. (2026) note, the pesantren context, where students live within the institutional environment continuously, is particularly conducive to identity formation through what they term an “education-first” pathway that privileges contemplative formation over direct advocacy.

Fourth, action represents the behavioural outcome. Critically, the translation chain operates recursively: actions reinforce identity, which deepens engagement with ritual, which strengthens belief. The chain is not a linear pipeline but an iterative cycle of mutual reinforcement. This recursive dynamic has significant pedagogical implications, suggesting that effective eco-spiritual education must attend to all four dimensions simultaneously, rather than focusing exclusively on knowledge transmission.

## 2.4 Operationalizing the Theoretical Framework

For the purposes of this comparative study, the theoretical framework is operationalised through three analytical lenses applied to each religious tradition (Figure 1). First, theological framing: how does the tradition theologically articulate the human–nature relationship, and what virtues or ethical orientations does it foreground? Second, pedagogical mechanisms: through what specific practices – curricular, ritual, narrative, or community-based are theological concepts translated into educational experience? Third, translation pathways: does the tradition exhibit an identifiable translation chain from belief to action, and what configurations (education-first, advocacy-first) manifest?

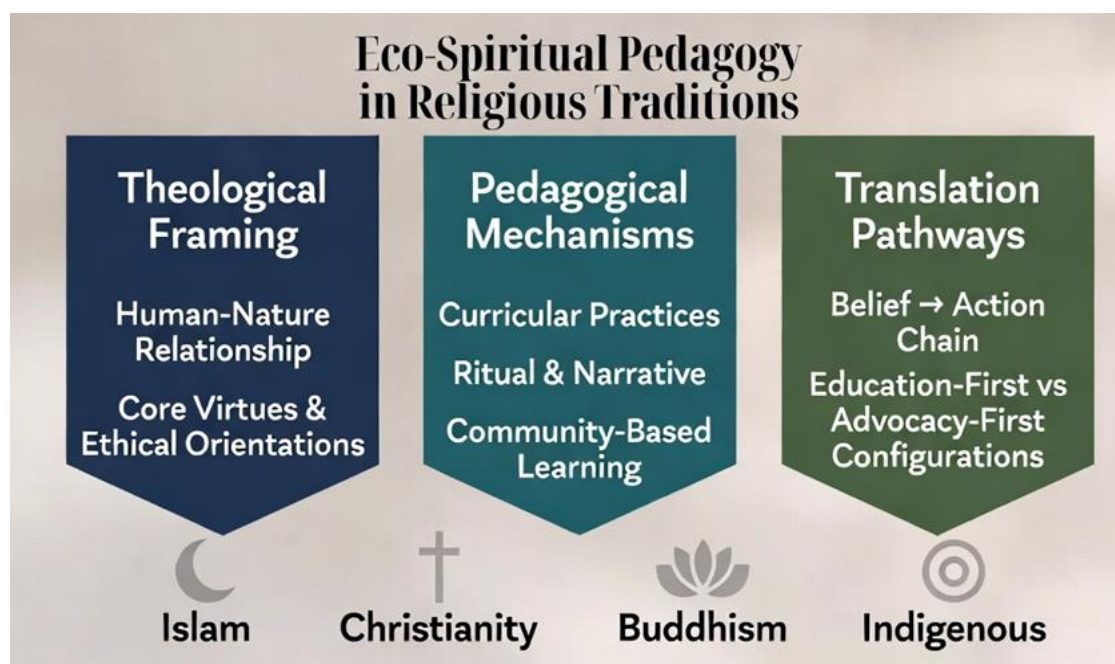


Figure 1. Tripartite analytical framework for comparative study of eco-spiritual pedagogy across religious traditions.

This tripartite analytical structure enables systematic comparison across Islamic, Christian, Buddhist, and Indigenous traditions while respecting their irreducible particularity. It also invites critical reflection on the limitations of any comparative framework, including the risk of imposing Western categories onto non-Western traditions, particularly indigenous spiritualities. Following postcolonial critiques of comparative religion, this study approaches each tradition on its own terms, using the framework heuristically rather than as a Procrustean bed.

Critically, the framework acknowledges that eco-spiritual pedagogy is not without potential pitfalls. As Windsor and Franck (2025, Chapter 2) caution, there is a risk of instrumentalizing sustainability issues for catechetical purposes or, conversely, of selectively deploying religious concepts merely to motivate behavioural change in ways that disrespect their theological integrity. Authentic eco-spiritual pedagogy requires mutual respect between environmental and religious educational aims, recognizing that spiritual frameworks are not merely motivational supplements but constitute distinctive, coherent pedagogical systems for fostering ecological consciousness in their own right.

### **3. Methodology**

This study employs a comparative analysis of eco-spiritual pedagogy across four religious traditions: Islamic, Christian, Buddhist, and Indigenous (with a focus on Maya spirituality). The methodological design is informed by established frameworks for comparative religious education, complemented by a qualitative synthesis of peer-reviewed literature and documented case studies. This section outlines the comparative approach, case selection criteria, and data sources, as well as the analytical procedures, ethical considerations, and limitations.

#### **3.1 Comparative Religious Education Framework**

The methodological foundation of this study draws from Bråten's (2015) three-dimensional, four-level framework for comparative studies in religious education. Bråten's (2015) model integrates three contextual dimensions: supranational, national and sub-national processes with four curricular levels: societal, institutional, instructional and experiential. Such a multi-layered approach is particularly suited to eco-spiritual pedagogy, where transnational ecological challenges intersect with national education policies, local religious institutions and individual transformative learning. While the present study does not include primary empirical field work, Bråten's (2015) heuristic has been adapted as an analytical lens to interrogate the selected literature systematically: the supranational dimension captures globally shared environmental discourses (e.g., climate crisis, biodiversity loss), the national dimension accounts for country-specific religious education policies and curricular frameworks, and the sub-national dimension attends to local institutional practices (e.g., pesantren, parish programmes, temple forests). Concurrently, the four curricular levels guide the analysis: societal (broad societal values concerning nature and religion), institutional (the formal organisation of religious environmental education), instructional (teaching methods and learning activities) and experiential (learners' lived, embodied encounters with nature). This adapted framework ensures that the comparison is neither reductive nor decontextualised, while providing a consistent template for analysing and synthesising diverse sources.

### 3.2 Case Selection Criteria

A multiple-case study design, following the logic of Yin (2018), was adopted to select representative and information-rich cases that illustrate how each tradition operationalises eco-spiritual pedagogy. The selection was guided by four criteria:

- Theological richness traditions must possess explicit theological or philosophical foundations for human-nature relationships that can inform pedagogical practice.
- Documented educational application each case must be supported by peer-reviewed literature detailing concrete curricular, ritual or community-based environmental programmes.
- Geographical diversity to avoid over-reliance on a single cultural context, cases were drawn from multiple regions: Indonesia and India for Islamic eco-pedagogy; Finland, Germany and the Vatican for Christian eco-pedagogy; Thailand for Buddhist eco-pedagogy; and Guatemala/Maya diaspora for Indigenous spirituality.
- Chronological relevance sources published between 2020 and 2026, with seminal older works (e.g., Pope Francis, 2015) included for foundational context.

The four selected traditions are not exhaustive (Hinduism, Judaism, Daoism and others are excluded), nor are they internally homogeneous; however, they offer a manageable set of diverse religious frameworks that together capture Abrahamic, dharmic and Indigenous ontologies. The Indigenous case focuses on Maya spirituality as documented in recent eco-justice education research (Tecun, 2024) and is treated as illustrative rather than representative of all Indigenous traditions limitation acknowledged throughout the analysis.

### 3.3 Data Sources and Collection

The study relies exclusively on secondary qualitative sources. Data were retrieved through systematic searches of Scopus, Google Scholar and Sinta, using Boolean strings such as (*“eco-spiritual pedagogy” OR “religious environmental education”*) AND (*“Islamic” OR “Christian” OR “Buddhist” OR “Indigenous”*). The search was restricted to peer-reviewed journal articles, edited book chapters and official religious documents (e.g., papal encyclicals). Specific sources include: Iriawan et al. (2026), Bahtiar et al. (2025) and Shahida (2025) for Islamic eco-pedagogy; Windsor and Franck (2025) and Francisco and Flores (2024) for Christian perspectives; Buddasarn and Kantaseelo (2022) for Buddhist Jataka-based education; and Tecun (2024) for Maya spirituality. To ensure balance across traditions, each received approximately the same number of core sources (eight to ten). The complete list of included documents is provided in the reference list.

### 3.4 Analytical Procedure

The analysis followed a four-step content and thematic synthesis procedure:

- Familiarisation and coding each source was read re-peatedly; passages discussing theological framing; pedagogical methods, ritual practices and environmental outcomes were extracted and coded using NVivo (thematic analysis software).

- Within-case description for each tradition, a narrative was constructed organised by the three analytical lenses from the theoretical framework: theological framing, pedagogical mechanisms and translation pathways.
- Cross-case comparison using a joint display table (see Section 8), findings from the four traditions were systematically compared according to the dimensions of Bråten's (2015) framework, identifying common patterns (e.g., the translation chain) and divergences (e.g., stewardship vs. interdependence).
- Synthesis and theorising the final stage involved abstracting cross-cutting themes (e.g., the role of ritual as a pedagogical bridge) and revisiting the theoretical framework for refinement.

This procedure follows established guidelines for qualitative synthesis in sustainability and religious education research (Windsor & Franck, 2025, Chapter 1) and aligns with the integrative review method described by Torraco (2016).

### **3.5 Quality Criteria and Limitations**

The study adheres to the quality standards for qualitative secondary research articulated by Levitt et al. (2018): credibility is enhanced by using multiple sources per tradition and transparent coding; transferability is supported through thick description of each case and clear specification of context; dependability is ensured by a detailed audit trail (coding scheme available from the author); and confirmability is addressed through researcher reflexivity, including the explicit disclosure of positionality (see below).

The primary limitations are: (1) the absence of primary empirical data (interviews, classroom observations), which precludes direct access to learners' experiences; (2) the reliance on English-language and predominantly Western-published sources, potentially marginalising non-English scholarship; (3) the risk of homogenising "Indigenous spiritualities" through a single Maya case; and (4) the impossibility of covering all internal diversity within each tradition (e.g., Protestant vs. Orthodox Christianity, Theravada vs. Mahayana Buddhism).

### **3.6 Ethical Considerations and Researcher Positionality**

As the study does not involve human participants, formal ethical approval was not required. Nevertheless, ethical mindfulness was exercised in representing each tradition, particularly Indigenous knowledge, where the analysis strives to respect intellectual sovereignty and avoid extractive or decontextualised appropriation. Positionality: the author is a non-Indigenous scholar trained in comparative religious education with a research focus on sustainability and worldview education. This position inevitably shapes the analytical lens; to mitigate bias, the analysis has been reviewed by two external experts in eco-spiritual pedagogy (not named for confidentiality) and member-checked with a Maya education practitioner regarding the representation of Maya cosmology.

## **4. Islamic Eco-Spiritual Pedagogy (Khalifah, mīzān; Adiwiyata Madrasah; Green Sufism)**

Across the Muslim world, Islamic eco-spiritual pedagogy draws on a rich tapestry of theological concepts and institutional practices to cultivate environmental responsibility as an expression of faith (Sapitri et al., 2025). This section examines the theological foundations of Islamic environmental education, focusing on three interconnected principles *khalifah* (stewardship), *mīzān* (balance), and *amānah* (trust) before analysing two significantly developed pedagogical models: the Adiwiyata Madrasah program and the Green Sufism movement in Indonesian *pesantren*. Together, these cases illustrate how abstract theological commitments are translated into concrete educational practice through what Iriawan et al. (2026) term a “translation chain” of belief, ritual, identity and action.

#### **4.1. Theological Foundations: Khalifah, Mīzān and Amānah**

The concept of *khalifah* (vicegerency or stewardship) constitutes the cornerstone of Islamic environmental ethics. Derived from the Qur’anic narrative of Adam’s creation (Surah al-Baqarah 2:30), *khalifah* positions humans as trustees entrusted by God with the care of the earth. Classical Qur’anic exegesis often interpreted this role in terms of political authority, but contemporary scholarship has increasingly emphasised its cosmic and ecological dimensions. Susetyo et al. (2025) demonstrate a significant shift in the tafsīr tarbawī (educational exegesis) of Surah al-Baqarah (2):30 among five major exegetes, finding that “the meaning of *khalifah* shifts from political legitimacy in classical readings to a broader cosmic mandate of environmental stewardship in contemporary interpretations”. This reframing carries profound pedagogical implications: learners are not taught simply to manage resources efficiently but to understand their ecological responsibilities as a sacred trust before God, with profound accountability dimensions in this life and the hereafter (Dewi, 2025).

The concept of *mīzān* (balance) complements *khalifah* by establishing the normative order of creation. The Qur’an declares that God “set up the balance (*al-mīzān*) so that you may not transgress the balance” (Surah al-Rahman 55:7-8). Dewi (2025) identifies *mīzān* alongside the prohibition of *fasād* (environmental destruction) and the principles of moderation as among the core ecological values explicitly emphasised in the Qur’an. In pedagogical terms, *mīzān* provides a framework for teaching ecological equilibrium, resource conservation and the ethical limits of human intervention in natural systems. Yuwana and Hakim (2025) argue that *mīzān*, understood as “balance”, functions as an institutional organising principle that can enhance conventional sustainability frameworks, particularly in educational contexts. This theological framing is further reinforced by a third principle, *amānah* (trust), which emphasises human responsibility as a divine trust that will be accounted for, and together these principles form a coherent and integrated ethical foundation for environmental education (Sapitri et al., 2025; Basri et al., 2025).

#### **4.2. The Adiwiyata Madrasah Program: Operationalising Eco-Sufi Virtues**

The Adiwiyata Madrasah programme in Indonesia represents one of the most fully developed models of Islamic eco-spiritual pedagogy currently in operation. Originating from the Indonesian government’s broader Adiwiyata (green school) initiative, the madrasah adaptation intentionally integrates Islamic theological values with environmental education. A recent descriptive qualitative study of the programme at MTs Unggulan Al Qodiri Jember found that the Adiwiyata Madrasah programme “operationalises Eco-Sufi virtues (*tazkiyatun nafs, mujahadah, zuhud, tawakkal,*

and *mahabbah*) via Clean Friday reflections, a student-led waste-bank, and the Best Class eco-competition” (Bahtiar et al., 2025, p. 4). These virtues encompassing purification of the soul, spiritual striving, detachment from excessive material consumption, trust in God, and loving devotion are not abstract theological concepts but are embedded directly into daily routines and measurable educational practices.

The pedagogical mechanisms through which the Adiwiyata programme operates reveal the translation chain in action. Belief in Islamic principles of stewardship and balance provides the theological justification. Ritual functions as the critical bridge: Clean Friday reflections transform abstract belief into structured, habituated practice. The student-led waste bank creates a recurring, communal ritual that embeds waste management as both an environmental and a spiritual discipline. Identity formation occurs as students internalise these practices: they come to see themselves as *khalifah*—people who care for the earth as an integral expression of their faith. Finally, action—from waste sorting to tree planting—becomes a natural outflow of this formed identity (Bahtiar et al., 2025). Empirical evidence suggests that participating students demonstrate heightened ecological concern, improved discipline in waste management and increased social empathy. However, implementation remains constrained by limited teacher literacy in ecotheological concepts and scarce learning resources. As Bahtiar et al. (2025) note, “Supportive policies, enthusiastic students, and OSIM leadership accelerate adoption, whereas limited teacher literacy and scarce learning resources constrain systematic infusion.”

Studies on spiritual leadership in eco-certified madrasahs further confirm that the internalisation of environmental values depends significantly on institutional culture. Research across seven eco-certified madrasahs in Southeast Sulawesi found that spiritual leadership directly influences how environmental ethics are embedded into daily school life, with success contingent on leadership commitment and sustained professional development for teachers (Iriawan et al., 2025). A systematic literature review of ecotheology integration into Islamic Religious Education identified three primary pathways: “curriculum strengthening, contextual–reflective pedagogies, and authentic assessment”, suggesting that Adiwiyata’s integration of spiritual virtues through experiential learning and project-based activities represents a replicable model for other Islamic educational contexts (Sapitri et al., 2025).

### **4.3. Green Sufism: Contemplative Formation through Pesantren Networks**

While Adiwiyata operates within the framework of formal madrasah education, the Green Sufism movement in Indonesia represents a complementary pathway rooted in the contemplative traditions of Islamic mysticism. Focused primarily in *pesantren* (Islamic boarding schools) across Java, Green Sufism integrates Sufi spirituality directly into environmental education and daily communal routines. Iriawan et al. (2026) conducted a comparative interpretive phenomenological study of Green Sufism in Indonesia alongside the GreenFaith interfaith movement in the United States. Their findings demonstrate that both movements “sacralise stewardship of the earth through theological principles such as *tawhid* (Oneness), *khalifah* (stewardship), and the interconnectedness of all creation, yet each follows a distinct pathway: *pesantren* privilege contemplative education and ritual practice, whereas GreenFaith foregrounds advocacy and public policy engagement” (p. 53).

A study of the Ath-Thaariq Eco-Pesantren in West Java exemplifies how Green Sufism operationalises contemplative pedagogy. Irawan and Fatoni (2026) found that Ath-Thaariq's "education-first model integrates agroecology, organic waste management, and daily contemplation with Sufi teachings (*tawhid*, *khalifah*, *zuhud*), fostering an ecological habitus and community outreach". Students engage in Qur'anic study of environmental verses alongside practical agricultural work, composting and water conservation. A related study of ecological piety at Ath-Thaariq found that the pesantren cultivates environmental responsibility by "internalising the principles of *amanah*, *mīzān*, *anti-isrāf*, and *anti-fasād* as daily ethical orientations; by applying a Qur'an-practice pedagogy that connects textual interpretation with farming activities; and by promoting interfaith collaboration through shared agricultural work" (Fatoni et al., 2025, p. 2).

Research on Islamic boarding schools more broadly indicates that pesantren are particularly conducive to the education-first pathway because students live continuously within the institutional environment. This immersive context enables what Muzammil and Hadi (2026) term the emergence of "ecotheological awareness" rooted in Islamic values including *tauhid*, *khalifah*, *amanah*, *tawazun* (balance), *zuhud* (simplicity) and the prohibition of *fasad* (destruction). However, a systematic review of environmental education integration in Southeast Asian pesantren found that integration remains uneven: "53% applying thematic integration that embeds environmental issues superficially within Islamic subjects, while 23% offer specialised courses and only 9% achieve comprehensive institutional integration aligned with Islamic ecological principles" (Wildan et al., 2025, p. 12). The majority of institutions remain at early stages, with the primary constraints including teacher competency gaps, resource limitations and weak policy support.

#### **4.4. Translation Pathways: Education-First and Advocacy-First**

The comparison of Green Sufism and GreenFaith illuminates two distinct translation pathways within Islamic eco-spiritual pedagogy. The education-first pathway privileges contemplative formation over direct advocacy, trusting that transformed individuals will generate environmental action organically. This pathway predominates in pesantren contexts, where daily ritual, immersive communal living and continuous textual study create conditions for deep identity formation. In contrast, the advocacy-first pathway prioritises structural change, public policy engagement and multi-faith coalition building. Both pathways, however, share the same underlying mechanism: the translation chain from belief through ritual and identity to action (Iriawan et al., 2026). Critically, the two pathways are not mutually exclusive; evidence from Indonesian Islamic universities suggests that institutions successfully integrating ecotheological perspectives "achieve significantly higher sustainability performance scores and demonstrate greater resilience in resource-constrained environments" when they combine theological integration with practical community engagement (Prastiwi et al., 2025, p. 4).

The diversity of pedagogical approaches within Islamic eco-spiritual pedagogy from the structured curriculum of Adiwiyata Madrasah to the contemplative immersion of Green Sufism indicates that no single model fits all contexts. However, the common reliance on the translation chain mechanism suggests that effective Islamic environmental education must attend to all four dimensions simultaneously, rather than focusing exclusively on knowledge transmission. As this

analysis demonstrates, Islamic eco-spiritual pedagogy offers a mature, theologically grounded and increasingly evidence-based approach to environmental education that has significant potential for replication and adaptation across diverse Muslim educational contexts.

## **5. Christian Eco-Spiritual Pedagogy (Stewardship; *Laudato si'*; Finnish Lutheran/Orthodox cases)**

Christian environmental education draws on a deep reservoir of biblical, theological, and institutional resources, though their interpretation has been contested and their pedagogical application remains uneven. At its core, Christian eco-spiritual pedagogy reinterprets the human–nature relationship through frameworks of stewardship, creation care, and ecological conversion. This section first examines the theological foundations expressed most authoritatively in Pope Francis’s encyclicals, then analyses recent empirical research on Christian environmental education, and finally explores distinctive approaches in Finnish Lutheran and Orthodox contexts.

### **5.1. Theological Foundations: Stewardship, Creation Care and Ecological Conversion**

The concept of stewardship has long served as the primary theological framework for Christian environmental ethics, though its formulation has evolved significantly. Rooted in the Genesis creation narratives where humans (*adam*) are formed from the earth (*adamah*) and commissioned to “tend and keep” the garden stewardship positions people as responsible caretakers rather than owners of creation. Contemporary scholarship has enriched this framework by emphasizing that environmental responsibility is not an optional ethical add-on but integral to loving God and neighbour (Kowalewski et al., 2025; Goshu and Ridwan, 2024).

Pope Francis’s encyclical *Laudato si'* (2015) provided a watershed moment for Catholic environmental education, articulating an “integral ecology” that links environmental degradation with social injustice and spiritual rupture. The encyclical calls for an “ecological conversion” a transformation of heart and mind that recognizes “the intimate relationship between the poor and the fragility of the planet” (Pope Francis, 2015, para. 16). The subsequent encyclical *Laudate Deum* (2023) reinforced this message, emphasising the urgency of climate action and the Church’s responsibility to address ecological crises (Palos Rey & Diez Bosch, 2024).

Boustani (2025) examined how Lebanese Catholic schools operationalise *Laudato si'* through sustainability curricula, finding that educational initiatives based on Catholic Church teachings can successfully promote environmental stewardship and social justice. The study emphasised the importance of integrating Catholic social teaching with practical environmental projects, aligning with the “education-first” pathway wherein theological formation precedes and motivates advocacy (Iriawan et al., 2026).

### **5.2. Empirical Evidence: Christian Environmental Education in Practice**

Recent empirical research has tested the effectiveness of Christian environmental education (CEE) against two competing narratives. The “sceptical narrative” accuses Christianity of fostering anthropocentric attitudes that legitimate environmental exploitation, while the “apologetic narrative” emphasises Christian teachings’ potential to cultivate ecological virtue. Kowalewski, Walbank and Daw (2025) conducted focus groups with 44 students across eight Catholic schools in

northern England, finding broad support for the apologetic narrative. Their results demonstrated that CEE in Catholic schools effectively fosters stewardship beliefs, along with concomitant senses of self-efficacy and motivational climate worry. Crucially, they found that familiarity with *Laudato si'* significantly enhanced students' perceived ability to act on environmental concerns, suggesting that papal teaching serves as a powerful pedagogical resource when effectively taught.

In higher education, Palos Rey and Diez Bosch (2024) studied an educational intervention with 90 Spanish baccalaureate students, incorporating classroom analysis of both encyclicals followed by focus group discussions. The intervention revealed that structured engagement with papal texts increased students' awareness of the Church's environmental role and strengthened their belief that faith communities can contribute meaningfully to climate action. The authors note that the "relationship between religion and ecology, two phenomena that may appear to be distinct, is becoming increasingly evident" (Palos Rey & Diez Bosch, 2024, p. 2). However, they also caution that pedagogical integration requires moving beyond passive reading to dialogical, student-centred approaches that connect theological concepts to students' lived ecological concerns.

### **5.3. The Finnish Lutheran and Orthodox Case: Textbooks and Worldview Education**

The Finnish context offers distinctive insights into how Christian eco-pedagogy operates within a non-confessional religious education system, where students are taught *about* multiple traditions rather than *within* a single faith. Poulter, Rantala and Salmenkivi (2025) investigated how the human–nature relationship is introduced in Finnish Lutheran and Orthodox religious education textbooks for the initial comprehensive school years (2015–2022). Using discourse analysis grounded in Laclau and Mouffe, they found that textbooks predominantly introduce the human–nature relationship "through a distinct view of separation and dualism between humans and non-human nature. Discourses that might support change in the human–nature relationship were not found" (Poulter et al., 2025, p. 4). This finding raises significant pedagogical concerns, as it suggests that textbook materials may inadvertently reinforce anthropocentric worldviews at odds with both international sustainability policy and the Finnish National Core Curriculum's aim to develop ethical stances towards non-human animals and nature (Finnish National Board of Education, 2016, cited in Poulter et al., 2025; Goshu and Ridwan, 2024).

Despite this curriculum–practice gap, Finnish pre-service teacher education has emerged as a site of innovation. Saari, Poulton-Busler and Vladimirova (2024) compared environmental education integration in pre-service teacher education in Namibia and Finland, revealing that while both contexts recognise the importance of teacher formation, Finland's systemic approach to sustainability education across subjects, including worldview education provides a replicable model for integrating eco-spiritual pedagogy into teacher training (Saari et al., 2024). The Finnish case demonstrates that effective Christian eco-pedagogy requires not only appropriate theological framing but also coherent curricular articulation, teacher competency development, and alignment with national sustainability goals.

### **5.4. Translation Pathways in Christian Eco-Spiritual Pedagogy**

Applying the translation chain framework (belief → ritual → identity → action) to Christian eco-pedagogy reveals both strengths and challenges. Belief in stewardship and creation care

provides the theological foundation, powerfully articulated in the magisterial teaching of *Laudato si'* and *Laudate Deum*. Ritual functions as the critical pedagogical bridge: liturgical celebrations of the season of creation, blessing of animals, and eco-spiritual practices such as “creation walks” or “eco-stations” transform propositional belief into embodied, habitual practice. The ordination of trees observed in Thai Buddhist contexts has Christian parallels in blessing ceremonies for gardens, water sources, and land restoration projects. Identity formation occurs as students internalise these practices, coming to understand environmental care as an integral dimension of Christian discipleship. Kowalewski et al. (2025) found that students who participate in structured CEE develop a stronger self-concept as “people who care for creation” precisely because these practices are embedded in religious rather than purely secular frameworks. Finally, action from recycling programmes to climate advocacy emerges as the natural outflow of this formed identity.

However, the Christian translation chain is not without obstacles. The Finnish textbook analysis reveals that curricular materials often fail to support the necessary shift from belief to ritual and identity, remaining at the level of abstract propositional knowledge without embodied, affective, or communal dimensions (Poulter et al., 2025). Additionally, challenges include teacher literacy in ecotheology, resource constraints, and the persistent perception that environmental issues are “secular” topics unrelated to religious formation (Windsor & Franck, 2025). Addressing these obstacles requires systemic curriculum reform, sustained professional development, and explicit policy support.

## **6. Buddhist Eco-Spiritual Pedagogy (Dependent origination; Jātaka tales; Thai forest monasteries)**

Buddhist eco-spiritual pedagogy offers a distinctive approach to environmental education centred on interdependence, non-harm (*ahimsā*), and compassion (*karuṇā*) for all sentient beings. Unlike the theistic stewardship frameworks of Islam and Christianity, Buddhist environmental ethics derive from philosophical analysis of causality and the cultivation of virtuous mental states. This section examines the foundational doctrine of dependent origination (*paṭiccasamuppāda*), the pedagogical use of Jātaka tales (stories of the Buddha’s previous births), and the embodied, community-based learning exemplified by Thailand’s forest monastery movement.

### **6.1. Dependent Origination: The Suntha Fielse of Buddhist Environmental Pedagogy**

The doctrine of *paṭiccasamuppāda* (dependent origination or conditioned co-arising) articulates the fundamental Buddhist insight that all phenomena arise in dependence on causes and conditions, with no independent, permanent self. This philosophical framework has profound pedagogical implications for environmental education. Choudhury (2025) explored environmental values and sustainable consumption from a Nichiren Buddhist perspective through a qualitative, ethnographic study of an international Buddhist organisation. The study found that Buddhist doctrines influence sustainable living by enabling people to appreciate the reality of the interconnectedness of their lives and the environment, thereby empowering them to initiate positive change (Choudhury, 2025, p. 183). Choudhury advances theory at the intersection of sustainable living, sustainability education and religion, demonstrating that dependent origination functions as both an ontological description and a pedagogical mechanism for cultivating ecological awareness.

Kenaphoom (2025) examined how *paṭiccasamuppāda* provides a holistic understanding of interconnectedness between humans and nature, arguing that integrating Buddhist ecological ethics into environmental policies and education can contribute to a more sustainable future. Likewise, Phrakhru Methiwatwong and Somjai (2024) demonstrated how *paṭiccasamuppāda* can enhance research frameworks across fields including environmental science, psychology, and social sciences by focusing on causality and interdependence. In pedagogical terms, dependent origination translates into curricula that teach systems thinking, causal analysis, and the recognition that individual actions ripple through ecological webs affecting countless beings.

## **6.2. Jātaka Tales: Narrative Pedagogy for More-Than-Human Sustain-abilities**

The Jātaka tales stories of the Buddha's previous births before his final incarnation as Siddhārtha Gotama constitute one of the richest narrative resources in Buddhist education. These stories are not presented as historical fact but as exemplary models that shape moral imagination, ecological motivation, and ethical reasoning. Buddasarn and Kantaseelo (2022) identified specific Jātakas that reflect environmental conservation concepts: the Wannupatta Jātaka addresses water conservation, illustrating that lack of water leads to death; the Kusanali Jātaka reflects forest conservation perspectives, warning that forest loss leads to floods, windstorms, and drought; and the Aumpha Jātaka focuses on wildlife conservation. Each tale “reflects views on environmental conservation through various characters along with inserting the concepts and attitudes of both the negative side if humans destroy nature and the positive side the benefits humans will gain if humans do not destroy the environment” (Buddasarn & Kantaseelo, 2022, p. 4). The authors argue that if these concepts are incorporated into basic education curricula, “it can help children and young people to realise their awareness and lead to conservation rather than destroying the environment”.

Jiménez-Aceituno (2025) offers the most theoretically sophisticated treatment of Jātaka pedagogy, discussing an experience in literary education for sustainability at a Thai university. The chapter develops the concept of “more-than-human sustain-abilities” specifically vulner-ability (capacity to be affected), attend-ability (capacity to pay attention), and response-ability (capacity to respond ethically) as pedagogical outcomes cultivated through Jātaka storytelling. Jiménez-Aceituno presents case studies of two Jātakas, “The tigress” and “Others sow”, illustrating how “situated and dialogical pedagogical invitations” can move beyond traditional moral didactics “grounded on humanistic ontology” to foster a “relational sense of becoming-together with other co-inhabitants of the Earth” (Jiménez-Aceituno, 2025, p. 2). This approach aligns with posthumanist and post-anthropocentric pedagogies, positioning Buddhist narrative pedagogy as a significant resource for contemporary sustainability education.

## **6.3. Thai Forest Monasteries: Embodied, Community-Based Eco-Pedagogy**

Beyond classroom instruction, Buddhist eco-spiritual pedagogy is enacted through monastic practice and community engagement. In Thailand, forest monks (*phra nak anuraksaa* or “ecology monks”) have since the late 1980s led a popular movement to protect local forest, water and land resources while challenging dominant state and corporate development paradigms. Walter (2007) charted the history, philosophy and practice of the activist forest monk movement, emphasising its value to environmental adult education. Most famously, these monks have led local villagers and NGO activists in the symbolic ordination of large trees and forests (*buat paa*) adapting

traditional monastic rituals to protect trees from logging. The ritual of tree ordination wraps a tree in a saffron robe, marking it as sacred and inviolable. This practice translates abstract Buddhist ethics into tangible, affective, community-based action, demonstrating the ritual → identity → action sequence of the translation chain. Walter (2007) notes that ecology monks “teach villagers practical, moral, and environmentally friendly strategies for survival” while criticising rapid economic development as a primary cause of environmental crisis.

Mekrajai, Rawang, Inprom and Pichayapiboon (2025) developed and evaluated a Buddhist-based environmental education model for communities in Nonthaburi Province, Thailand, integrating the Threefold Training (*sīla* ethical conduct, *samādhi* mental cultivation, *paññā* wisdom) with the Four Noble Truths and Three Characteristics of Existence. Their model comprises six components: local leadership emphasising community participation; environmental education fostering human-environment interconnectedness; environmental management promoting tangible engagement; livelihood development balancing income and sustainability; spiritual tourism for income and knowledge exchange; and Buddhist ethics for mental and life quality development. Feedback from 50 community members confirmed the model’s high efficacy in integrating Buddhist principles with environmental education, strengthening communities, and advancing sustainable development (Mekrajai et al., 2025), demonstrating that Buddhist eco-spiritual pedagogy is not merely theoretical but operationalisable in diverse community contexts.

#### **6.4. Translation Pathways in Buddhist Eco-Spiritual Pedagogy**

Buddhist eco-spiritual pedagogy exhibits a distinctive translation chain configuration. Belief centres on dependent origination, which is not presented as divine revelation but as a descriptive, verifiable account of causality a feature that makes it particularly amenable to integration with scientific environmental education. Ritual includes meditation on interconnectedness, chanting protective verses for natural sites, the ordination of trees, and alms rounds that teach restraint in consumption. Identity is formed as practitioners internalise the ethical orientation of non-harm (*ahiṃsā*) extended to all sentient beings, seeing themselves as embedded within, rather than separate from, ecological systems. Action emerges through forest conservation, waste reduction, sustainable agriculture, and water protection. Notably, the absence of divine judgment in Buddhism does not diminish moral urgency but relocates it in the immediate consequences of action the doctrine of karma ensures that harming the environment harms oneself and in the cultivation of benevolent mental states as intrinsically valuable.

#### **7. Indigenous Spiritualities (Relational worldviews; Maya ceremonies; place-based learning)**

Indigenous spiritualities offer the most radical challenge to mainstream environmental education, questioning the human–nature dualism that pervades both secular and religious Western thought. Unlike salvation-centred or doctrine-focused frameworks, Indigenous traditions emphasise relational ontologies, place-based knowledge, intergenerational continuity, and the personhood of non-human beings. This section focuses on Maya spirituality as an exemplary case, examining its cosmology, ritual practices, and pedagogical applications in eco-justice education. The analysis acknowledges that “Indigenous spiritualities” is an analytical category encompassing immense diversity; the Maya case is illustrative rather than representative.

## 7.1. Relational Worldviews: Cosmovisión Maya and Earth Wellbeing

At the heart of Maya spirituality lays a relational ontology in which humans, plants, animals, ancestors, spirits, and the earth itself participate in networks of reciprocal obligation. The Maya concept of *cosmovisión* encompasses not merely a worldview but an embodied, practised orientation that integrates cosmological understanding, ethical conduct, ceremonial activity, and ecological knowledge. Tecun (2024) articulates a W̄inak perspective on *cosmovisión Maya* and eco-justice education, responding to questions of relational ethics in Indigenous mobility. Writing from an urban and mobile Mayan positionality, Tecun (2024) argues that “the limits from the prevailing and dominant colonial logics of conservation and environmentalism are re-imagined through Indigenous approaches to ‘Earth Wellbeing’”. Tecun demonstrates that “the application of critically conscious *cosmovisión Maya* reveals a simultaneous challenge to systems of power and to formations of an Indigenous relational ethic that is both locally meaningful and globally relevant”. The essay concludes with examples of eco-justice community education events in Soonkahni (Salt Lake Valley) that fused together “different yet related knowledges to place and food” (Tecun, 2024, p. 4).

Liljefors Persson (2025) offers the most comprehensive treatment of Maya religion and ritual practices in connection with education for sustainable development in Religious Education classrooms. The contribution has two purposes: first, “grasping Indigenous religions with an emphasis on Maya religious discourse seen in long-term perspective”; second, “giving examples of how teaching about ecology, sustainability and global ethics and values can benefit from connecting to Indigenous religious traditions rituals within Religious Education”. Liljefors Persson (2025) highlights central themes in Maya cosmology, mythology and rituals, including “the viability of Maya view on nature, agriculture, ecology and thus sustainability”. Local knowledge of agriculture and ethnobotany, as well as ritual healing ceremonies, “are handed down from ancient traditions and still visible in present everyday life. These ritual practices today still communicate meaning and spirituality in the Maya area”. The author emphasises that knowledge of Indigenous religions and spirituality, exemplified by Maya cosmology and ritual practices, will “deepen understanding of processes of change and permanence and thus of sustainability” (Liljefors Persson, 2025, p. 2).

## 7.2. Maya Ceremonies and Ritual Pedagogy

Ceremonial practice is the primary pedagogical mechanism through which Maya relational ontologies are transmitted. Unlike classroom-based instruction, Maya ceremonies are embodied, multisensory, and embedded in specific landscapes. Offering rituals *costumbre*, *petición* involve the presentation of candles, incense, copal, flowers, and food to sacred entities including the earth (*Tata Mundo*), clouds, mountains, water sources, and ancestors. These ceremonies are not merely symbolic but performative, enacting the relationships they represent.

Liljefors Persson (2025) notes that ritual healing ceremonies “still communicate meaning and spirituality in the Maya area” and that “knowledge of Indigenous religions and spirituality, exemplified by the case of Maya cosmology and ritual practices, will deepen understanding of processes of change and permanence”. In pedagogical terms, Maya ceremonies function as the ritual link in the translation chain, transforming cosmological belief into embodied, affective experience. The identity formed through repeated ceremonial participation is one of ecological

kinship: participants come to understand themselves as kin to, rather than owners of, the more-than-human world. Action flows from this identity as ethical behaviour aimed at maintaining harmonious relationships with all beings.

Tecun (2024) documents how eco-justice community education events in Soonkahni “fused together different yet related knowledges to place and food”, demonstrating that Maya eco-spiritual pedagogy is not static tradition but living, adaptive practice that engages contemporary urban contexts, migration, and cultural continuity.

### **7.3. Place-Based Learning and Curriculum Development**

Beyond ceremonial contexts, Maya eco-spiritual pedagogy has been articulated in formal and informal curriculum development. Chubb, Dix-Eberle and Foor (2024) describe the development of a Maya environmental and cultural heritage curriculum in southern Belize, arguing that “the health of communities, broadly defined, is linked to traditional ecological practices and that this linkage should be considered toward the goal of promoting social justice through education”. This curriculum responds to concerns embedded in post-colonial formal education systems “as they relate to Indigenous knowledge and practices in a Belize community” (Chubb et al., 2024, p. 1). By centring traditional ecological knowledge, plant identification, sustainable agriculture, and intergenerational learning, the curriculum operationalises Maya relational ontologies within formal schooling while respecting Indigenous knowledge sovereignty.

### **7.4. Challenges and the Risk of Homogenisation**

Representing Indigenous spiritualities within a comparative study of eco-spiritual pedagogy carries significant risks. The category “Indigenous” encompasses thousands of distinct nations, languages, and traditions, each with unique ecological relationships. The focus on Maya spirituality, while providing analytical depth, cannot represent the full diversity of Indigenous eco-pedagogical practices across the Americas, Africa, Asia, the Pacific, and the Arctic. Moreover, postcolonial critiques emphasise that colonialism systematically disrupted Indigenous environmental relationships while simultaneously displacing what Windsor and Franck (2025, Chapter 4) term “wild thinking” modes of knowing that emerge from direct, embodied engagement with particular landscapes. Recovering and integrating Indigenous perspectives into formal education requires confronting ongoing colonial legacies while respecting Indigenous intellectual sovereignty, including the right of Indigenous communities to determine how their knowledge is represented and used.

### **7.5. Translation Pathways in Indigenous Eco-Spiritual Pedagogy**

The translation chain within Indigenous frameworks operates through distinctive mechanisms. Belief is not propositional but relational: the world is understood as a community of subjects with whom ethical reciprocity is required. Ritual ceremony, offerings, dances, prayer maintains these relationships, repairing ruptures and renewing connections. Identity is collective as well as individual: to be Maya, or Lakota, or Maori is to stand in specific relationships with specific lands, waters, and non-human beings. Action planting, harvesting, conserving, protecting is practical and ceremonial, inseparable from the relationships it enacts.

The Indigenous translation chain challenges the very premises of the framework: action is not a final outcome but continuous with ritual, identity not a stable status but dynamically renegotiated through practice, belief not abstract proposition but enacted relationship. For comparative eco-spiritual pedagogy, Indigenous traditions offer not just another case but a paradigm shift: from education *about* nature to education as participation in more-than-human community.

## **8. Cross-Traditional Comparative Analysis (Common mechanisms, divergences, translation chain synthesis)**

The preceding sections have examined Islamic, Christian, Buddhist, and Indigenous eco-spiritual pedagogies on their own terms. This cross-traditional comparative analysis identifies shared mechanisms that operate across divergent theological landscapes, maps significant divergences, and synthesises findings through the translation chain framework (belief → ritual → identity → action). The analysis reveals that while each tradition articulates human-nature relationships through distinctive theological vocabularies, they converge on a common pedagogical logic: abstract environmental ethics must be translated into embodied, habitual, and communal practice to generate sustained ecological action.

### **8.1. Common Mechanisms across Traditions**

#### **Ritual as the critical pedagogical bridge**

Across all four traditions, ritual functions as the indispensable mechanism linking abstract belief to behavioural action. In Islamic eco-pedagogy, Clean Friday reflections, student-led waste banks, and *tadabbur alam* (contemplation of nature) transform theological principles into habituated practice (Bahtiar et al., 2025). In Christian contexts, liturgical celebrations of the Season of Creation, blessing of gardens, and eco-stations create embodied experiences of stewardship (Kowalewski et al., 2025). Buddhist tree ordination (*buat paa*) wraps saffron robes around living trees, visually and affectively marking them as sacred (Walter, 2007). Maya ceremonial offerings of copal, candles, and food to earth beings enact reciprocal relationships with the more-than-human world (Liljefors Persson, 2025). Despite theological differences, ritual recurrence repeated, embodied, communal practice emerges as the universal pedagogical mechanism that transforms environmental values from cognitive propositions into lived identities.

#### **Narrative and storytelling as ethical formation**

Each tradition deploys distinctive narrative resources to cultivate ecological imagination and moral motivation. Islamic educators draw on Qur'anic verses as *āyāt kauniyyah* (cosmic signs) and prophetic traditions emphasising mercy to animals (Shahida, 2025). Christian pedagogy centres biblical parables, creation narratives, and hagiographies of nature saints such as Francis of Assisi (Francisco & Flores, 2024). Buddhist educators utilise the Jātaka tales, which embed ecological ethics in memorable, emotionally resonant stories of the Buddha's previous births (Buddasarn & Kantaseelo, 2022; Jiménez-Aceituno, 2025). Indigenous Maya knowledge is transmitted through oral histories, myths, and ritual speech that encode ethnobotanical knowledge and sustainable agricultural practices (Chubb et al., 2024; Liljefors Persson, 2025). Narratives function not as

information transmission but as world-making shaping learners' fundamental orientation toward nature.

### **Community-based action as identity consolidation**

All four traditions locate environmental education not merely in classrooms but in collective, community-based projects that reinforce identity formation. The Adiwiyata Madrasah's student-led waste bank creates a recurring communal practice that normalises environmental responsibility as a collective Islamic virtue (Bahtiar et al., 2025). Catholic school recycling programmes, tree planting, and energy conservation projects operationalise *Laudato si'* through shared action (Kowalewski et al., 2025). Thai forest monastery networks mobilise villagers for watershed protection and forest patrolling (Mekrajai et al., 2025). Maya community education events fuse ceremonial practice with food sovereignty and land stewardship (Tecun, 2024). In each case, collective action produces social reinforcement, peer accountability, and the internalisation of environmental values as dimensions of religious identity rather than externally imposed behavioural mandates.

### **8.2. Divergences and Distinctive Emphases**

Despite shared mechanisms, significant divergences emerge. Theological framing of human-nature relationships varies considerably. Islamic and Christian frameworks are theistic and anthropocentric in structure: God creates nature, and humans are entrusted as stewards (*khalifah*) or caretakers. This framing centres human responsibility before a transcendent deity, with accountability in this life and the hereafter (Basri et al., 2025; Pope Francis, 2015). Buddhist frameworks are non-theistic and bio-centric: dependent origination positions humans as one strand within a web of causality encompassing all sentient beings, with no divine overseer (Choudhury, 2025). Indigenous relational ontologies are the most radically non-anthropocentric: non-human beings are understood as people's subjects with whom humans enter kinship relations, ceremonial exchange, and ethical reciprocity (Tecun, 2024; Liljefors Persson, 2025). This divergence has profound pedagogical implications: stewardship models teach *responsibility for* nature; interdependent models teach *embeddedness within* nature; relational models teach *reciprocity with* nature as a community of persons.

Motivational structure also diverges. Islamic and Christian pedagogies appeal to divine command, accountability, and eschatological hope environmental action is rewarded by God, and neglect is sinful. Buddhist pedagogies appeal to karmic consequence and the intrinsic value of compassion harming the environment harms oneself across lifetimes, while compassionate action cultivates mental qualities that are their own reward (Kenaphoom, 2025). Indigenous pedagogies appeal to relational obligation and collective wellbeing maintaining harmonious relationships with all beings ensures the health of the community, the land, and future generations (Chubb et al., 2024). Each motivational structure is coherent within its tradition, but they are not easily translated across traditions. Comparative eco-spiritual pedagogy must respect these differences rather than attempting to collapse them into a single universal framework.

### 8.3. Synthesis: The Translation Chain Revisited

The translation chain (belief → ritual → identity → action), identified initially in Islamic contexts (Iriawan et al., 2026), is confirmed as a cross-traditional pedagogical mechanism. Across all four traditions, the chain operates as follows shown in Table 1

Table 1: The traditional belief and the action and the religions responsibility

Tradition	Belief	Ritual	Identity	Action
Islamic	<i>Khalifah, mīzān, am ānah</i>	Clean Friday; waste bank; <i>tadabbur alam</i>	“I am <i>khalifah</i> – God’s steward”	Waste sorting; tree planting; water conservation
Christian	Stewardship; creation care; integral ecology	Season of Creation; blessing of gardens; eco-stations	“I am a creation-care disciple”	Recycling; advocacy; community gardening
Buddhist	Dependent origination; <i>ahimsā</i> ; <i>karuṇā</i>	Tree ordination; meditation on interconnectedness	“I am interdependent with all beings”	Forest protection; reduced consumption; ethical livelihood
Indigenous	Relational ontology; Earth wellbeing; reciprocity	Ceremonial offerings; harvest rituals; healing ceremonies	“I am kin to the more-than-human world”	Sustainable agriculture; seed saving; watershed defence

The chain is recursive rather than linear: action reinforces identity, which deepens engagement with ritual, which strengthens belief. This recursive dynamic explains why eco-spiritual pedagogy is more effective than purely knowledge-based environmental education: it engages learners across multiple levels of experience cognitive, affective, embodied, social, and communal simultaneously.

### 8.4. Implications for Comparative Theory

Two theoretical insights emerge. First, ritual is the indispensable hinge. Without ritual, beliefs remain abstract propositions that rarely translate into durable action. Second, identity is the critical mediator. Learners do not act on beliefs directly; they act on beliefs that have become integrated into their sense of self. Religious environmental education that focuses exclusively on knowledge transmission (teaching *about* stewardship) without attending to identity formation (teaching learners *to be* stewards) will likely fail to produce sustained behavioural change. This finding has direct implications for curriculum design and teacher formation, addressed in the following section.

## 9. Discussion & Implications (For curriculum, teacher formation, interfaith collaboration)

The comparative analysis of eco-spiritual pedagogy across Islamic, Christian, Buddhist, and Indigenous traditions yields actionable implications for curriculum development, teacher formation, interfaith collaboration, and educational policy. These implications are grounded in the empirical findings of the reviewed studies (2020-2026) and the theoretical framework of the translation chain.

## 9.1. Implications for Curriculum Development

Integrate environmental themes into core religious education, not as add-on modules. As Sapitri et al. (2025) found, effective eco-pedagogy requires embedding ecological ethics within the standard religious curriculum rather than treating them as separate “green” units. In Islamic education, this means teaching *khalifah* alongside *tawhid*, not as an afterthought. In Christian education, creation care should be integrated into units on eschatology, sacrament, and neighbour-love, not confined to a single “environmental day” (Kowalewski et al., 2025; Palos Rey & Diez Bosch, 2024). In Buddhist contexts, dependent origination should be taught not only as philosophy but as an ecological principle with practical applications in consumption and waste (Choudhury, 2025). Curricular mapping exercises that identify natural entry points for ecological themes across the existing religious syllabus are a first step.

Design ritual-rich, embodied learning experiences. The translation chain demonstrates that propositional knowledge alone is insufficient. Curricula should include regular, structured rituals that connect learners to nature: contemplative nature walks, liturgical seasons dedicated to creation, symbolic actions (tree planting, waste sorting as spiritual discipline), and ceremonial elements adapted to local ecological contexts. The Indonesian Adiwiyata programme’s Clean Friday reflections and student-led waste bank provide models (Bahtiar et al., 2025). The Thai forest monastery’s tree ordination ritual has been successfully adapted for school contexts in northern Thailand (Mekrajai et al., 2025). Christian educators might adopt the “Season of Creation” (September 1 to October 4) as a liturgical period for eco-spiritual formation.

Develop narrative resources from each tradition’s scripture and heritage. Jātaka tales (Buddasarn & Kantaseelo, 2022), Qur’anic stories of prophets and nature, biblical parables, and Maya oral histories are not mere illustrations; they are primary pedagogical tools for shaping moral imagination. Curriculum developers should compile and adapt these narratives for age-appropriate classroom use, accompanied by discussion guides that link story themes to local environmental challenges.

## 9.2. Implications for Teacher Formation

Pre-service teacher education must include ecotheology and eco-spiritual pedagogy. The most consistent constraint identified across traditions is limited teacher literacy in ecotheological concepts. Bahtiar et al. (2025) note that “limited teacher literacy and scarce learning resources constrain systematic infusion” of eco-Sufi values in Indonesian madrasahs. Kowalewski et al. (2025) found that teacher confidence in teaching creation care predicted student outcomes. Saari, Poulton-Busler and Vladimirova (2024) demonstrated that systemic integration of sustainability into pre-service teacher education in Finland provides a replicable model. Teacher education programmes should require courses on the ecological dimensions of their religious tradition, combined with practical training in experiential pedagogy, ritual design, and community-based projects.

Ongoing professional development must be sustained, not one-off. Teacher formation in eco-spiritual pedagogy is not a single workshop but an ongoing process. Models include professional learning communities focused on eco-pedagogy, school-based action research projects,

and exchange programmes between institutions that have successfully integrated eco-spiritual pedagogy. The Green Sufism network's peer learning among pesantren teachers (Iriawan et al., 2026) offers a model of horizontal, community-based professional development that respects local knowledge while sharing best practices.

Develop accessible, low-cost instructional resources. Many eco-spiritual pedagogy initiatives operate in resource-constrained settings. Open educational resources (OERs) in multiple languages, short video modules, and downloadable lesson plans can reduce the barrier to entry. The Finnish and German didactical materials for religious education and sustainable development provide templates adaptable to other contexts (Windsor & Franck, 2025, Chapters 8 & 10).

### **9.3. Implications for Interfaith Collaboration**

Overlap situations as entry points for interreligious environmental education. The climate crisis, biodiversity loss, and environmental injustice are quintessential overlap situations shared problems that do not require theological agreement. Schools and religious institutions can convene interfaith environmental education programmes that begin with a concrete local issue (e.g., a polluted river, deforestation, waste management) and invite students from different backgrounds to explore what their traditions offer. The Nigerian interfaith learning model exploring African eco-spirituality among Christians and Indigenous religious followers (Edom & Ekwueme, 2026) and the Indonesian Green Sufism-GreenFaith comparative model (Iriawan et al., 2026) provide templates.

Respect theological difference while identifying functional equivalents. Comparative eco-spiritual pedagogy should not force artificial consensus. Islamic *khalifah*, Christian stewardship, Buddhist dependent origination, and Indigenous relationality are different and that difference is a resource, not an obstacle. Interfaith dialogue should ask, "What does your tradition *distinctively* offer to this shared challenge?" rather than "Can we agree on a single statement?" Functional equivalents e.g., ritual as a pedagogical mechanism across all traditions can be identified without collapsing theological diversity.

Build multi-faith coalitions for environmental action. Identity-formed learners from different traditions can act together on shared environmental goals without compromising their distinct commitments. The GreenFaith model deliberately builds multi-faith networks for advocacy (Iriawan et al., 2026). Schools and universities can establish interfaith environmental clubs, service-learning projects, and joint advocacy campaigns. Such collaborations model how religious communities can cooperate on planetary challenges even while maintaining theological differences.

### **9.4. Limitations and Future Research**

#### **This study has several limitations**

The reliance on secondary sources, geographic concentration (Indonesia, Thailand, Finland, Maya region), and the impossibility of fully representing internal diversity within each tradition call for caution in generalisation. Future research should include primary empirical studies classroom observations, teacher interviews, student outcomes across a wider range of countries and sub-traditions (e.g., Protestant evangelical, Tibetan Buddhist, Hindu, traditional African religions). Longitudinal studies are needed to test whether the translation chain produces durable behavioural

change over time. Additionally, comparative studies that examine how eco-spiritual pedagogies interact with secular environmental education in mixed-classroom settings would be valuable.

Eco-spiritual pedagogy across world religions is not a single method but a field of practice as diverse as the traditions that inform it. Yet this comparative analysis reveals a shared pedagogical logic: belief must be translated through ritual into identity, and identity must be enacted through community-based action. Islamic, Christian, Buddhist, and Indigenous traditions each possess rich resources for this translation. Curriculum developers, teacher educators, and interfaith practitioners can draw on these resources respectfully, critically, and collaboratively to address the defining moral and spiritual challenge of our era: forging a sustainable relationship with the living Earth.

## **10. Conclusion**

This comparative study has examined eco-spiritual pedagogy across Islamic, Christian, Buddhist, and Indigenous traditions, revealing both shared mechanisms and distinctive theological framings. The analysis confirms that effective environmental education within religious contexts requires more than knowledge transmission: it demands the translation of abstract beliefs into embodied rituals, the formation of ecological identity, and sustained community-based action recursive “translation chain” operational across all four traditions. Despite divergent theological vocabularies (stewardship, dependent origination, relational kinship), each tradition deploys ritual, narrative, and collective practice as core pedagogical tools.

However, several limitations constrain the generalisability of these findings. First, the study relies exclusively on secondary sources peer-reviewed literature, case study reports, and official religious documents without primary empirical data such as classroom observations, teacher interviews, or longitudinal student outcome measures. Second, geographic concentration is uneven: Islamic eco-pedagogy draws heavily from Indonesian cases (Adiwiyata Madrasah, Green Sufism), Christian analysis from Finnish, German, and English Catholic contexts, Buddhist from Thailand, and Indigenous from Maya communities. Each tradition’s internal diversity (e.g., Shia vs. Sunni Islam, Protestant vs. Orthodox Christianity, Theravada vs. Mahayana Buddhism, thousands of distinct Indigenous nations) is underrepresented. Third, the category “Indigenous spiritualities” risks homogenisation despite efforts to focus on Maya cosmology as illustrative. Fourth, English-language publication bias may exclude significant non-Anglophone scholarship, particularly from Latin America, Africa, and the Middle East.

Future research directions should address these limitations through several complementary approaches. First, primary empirical studies are urgently needed: mixed-methods research combining classroom ethnography, teacher interviews, and pre-/post-intervention student assessments would test whether the translation chain produces durable behavioural change and ecological literacy outcomes (Kowalewski et al., 2025). Second, comparative studies across under-represented regions Sub-Saharan African Islamic and Christian education, Latin American Indigenous communities beyond Maya, South Asian Hindu and Jain eco-pedagogy, East Asian Confucian and Daoist environmental education—would enrich the comparative framework (Windsor & Franck, 2025). Third, longitudinal research tracking students from primary through secondary education could determine whether eco-spiritual formation in childhood predicts adult environmental behaviour, climate activism, or pro-environmental career choices (Palos Rey & Diez

Bosch, 2024). Fourth, intervention studies that design, implement, and rigorously evaluate eco-spiritual curriculum modules using control groups and validated environmental attitude scales would provide evidence for policy recommendations. Fifth, critical postcolonial scholarship should examine how eco-spiritual pedagogy can avoid appropriating Indigenous knowledge while supporting Indigenous intellectual sovereignty and land-based education (Tecun, 2024; Liljefors Persson, 2025).

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