

ECO-PEDAGOGY IN EARLY CHILDHOOD ISLAMIC EDUCATION: FOSTERING ECOLOGICAL BEHAVIOUR THROUGH FAMILY-BASED PRACTICESMusnif Istiqomah¹, Rayhan Witra Pratama², Dian Maisaroh³¹ UIN Sunan Kalijaga Yogyakarta^{1,2} Institut Agama Islam Negeri Kerinci**Corresponding Author:**

Musnif Istiqomah

Department of Islamic Education, Islamic Studies, Doctoral Program, UIN Sunan Kalijaga University.

Email: musnif81@gmail.com

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Abstract

The ecological crisis marked by recent flash floods and landslides in Sumatra and Aceh demonstrates that environmental damage is not merely technical but is closely related to the weak internalization of ecological ethics within social and educational structures. This article examines the operationalization of the concept of *khalifah fi al-ardh* as an ethical mandate within the Eco-pedagogy of Early Childhood Islamic Education (PIAUD) and analyzes the role of the family in shaping children's ecological behavioral habits. Using a qualitative-descriptive approach based on a systematic literature review and reflexive thematic analysis, this study synthesizes contemporary works on Eco-pedagogy, early childhood environmental education, and Islamic environmental ethics. The results show that integrating the *khalifah-amanah* framework into domestic educational practices forms an ecological habitus in children through parental modeling, ritualized environmental practices, and spiritually meaningful daily routines. This article offers a novel conceptual contribution by proposing a family-based Islamic ecopedagogy model that bridges ecological literacy, critical pedagogy, and Islamic ethical principles, positioning the family as the primary locus for early ecological formation. This model strengthens the paradigm of environmental education that is not only cognitive but also ethical, spiritual, and practical, and provides a culturally rooted strategy for addressing ecological crises in Muslim-majority contexts. The study further highlights implications for reorienting Islamic early childhood education toward transformative ecological awareness.

Keywords: Eco-pedagogy; Early Childhood Islamic Education; *Khalifah fi al-Ardh*; Ecological Behavior.



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INTRODUCTION

The flash floods and landslides that struck several provinces in Sumatra and Aceh in late 2025 caused extensive ecological damage and resulted in a large number of casualties. International media reports and national agencies have recorded thousands of people affected, with hundreds more dead or missing, and basic infrastructure suffering severe damage (Reuters, 2025). This incident has sparked a public debate about the root causes of the disaster, ranging from extreme rainfall to deforestation, mining expansion and unsustainable land-use planning (WALHI, 2024). The BMKG's hydro meteorological analysis indicates that extreme rainfall was the direct trigger, but various studies confirm that the vulnerability of ecosystems resulting from deforestation, watershed degradation and land-use change significantly increases the risk of disasters (BMKG, 2025). Records of forest cover loss over the last two decades show that anthropogenic factors have contributed significantly to the severity of disasters. This situation indicates that the ecological crisis in Indonesia is not merely a natural phenomenon, but reflects a collective failure to safeguard environmental sustainability (Nofrizal & Ferki Ahmad Marlion, 2025).

Various studies on the ecological crisis have highlighted the importance of ecological literacy, systemic awareness, and humanity's ethical responsibility towards the environment. The concept of ecological literacy put forward by Orr (Orr, 2002), and the systems thinking perspective (Capra & Luisi, 2014) emphasises that humans are part of an interdependent web of life. In the context of Indonesian Muslim society, theological studies on the concept of the *khalīfah* also demonstrate how religious interpretations influence ecological behaviour (Hanif et al., 2022). However, previous research has largely focused on the macro level such as policy, the curriculum or formal education and has not yet adequately examined how ecological values are instilled from an early age through the domestic sphere (F. A. Marlion et al., 2025). Furthermore, there is a tendency in research to treat ecological literacy as a cognitive skill, whereas various recent studies emphasise the need for affective, spiritual and practical approaches in shaping ecological behaviour (Veríssimo et al., 2024). This gap in the literature highlights the need for research that integrates Islamic environmental ethics with the development of children's ecological behaviour within the family context (F. A. dan T. Y. W. Marlion, 2019).

Studies in Islamic environmental ethics have provided a robust normative framework, particularly through the concept of *khalīfah–amanah*, which positions humanity as the guardian of the balance of creation within the framework of ecological *tawhīd* (Sayem, 2023). However, a number of studies have criticised the reductionist interpretation that positions humans as absolute rulers, thereby potentially legitimising the exploitation of the environment (Khalid, 2019). On the other hand, contemporary studies in eco-pedagogy emphasise the importance of reflective, critical and experience-based learning (Kahn, 2010); (Misiaszek, 2015), however, most research places greater emphasis on formal educational institutions than on the family. Recent findings suggest that the family is the most effective setting for fostering an ecological mindset through role modelling, domestic rituals and emotional bonds (Barrable & Booth, 2020), however, the integration of these findings with the Islamic ecological framework within the context of PIAUD

remains limited (Tri Yulia Wijayanti & Ferki Ahmad Marlion, 2019). This study is therefore designed to bridge this gap between theory and practice.

Based on this evaluation, it appears that the ecological crisis is caused not only by weak regulation or a lack of knowledge, but also by the fact that pedagogical and cultural mechanisms have not yet been optimally utilised to translate ecological values into concrete action at the level of the transformative family (R. Rahman et al., 2025). Islamic education has the strategic potential to reshape ecological awareness through the integration of environmental science, Islamic ethics and the cultivation of habits from an early age (Ferki Ahmad Marlion et al., 2021). In this context, the development of an ecological habitus through the family is of paramount importance, as the family is the child's primary educational environment. This article therefore aims to address two key issues: (1) how the concept of *khalifah fi al-ard* is understood and applied within the framework of Eco-pedagogy in Early Childhood Islamic Education (PIAUD) to foster environmentally friendly behaviour; and (2) the role of the family, particularly parents, in helping children internalize ecological values through consistent, reflective and meaningful daily practices. This research provides a conceptual foundation for the development of a holistic, transformative family-based Eco-pedagogy model.

LITERATURE REVIEW

Ecopedagogy as a Framework for Transformative Education

Eco-pedagogy is a critical educational approach that integrates ecological awareness with social justice and environmental ethics, with the aim of transforming the way people think and act towards nature through a reflective and emancipatory pedagogical process (Kahn, 2010) (Misiaszek, 2015). Eco-pedagogy has emerged as a critical response to the failure of modern education to address the ever-worsening ecological crisis. This paradigm views the environmental crisis not merely as a technical problem, but as the result of power relations and an exploitative logic of development (Kopnina, 2020). Within this framework, education is understood as a space for practice that enables the development of reflective ecological awareness through emancipatory learning experiences. Ardoïn et al. (Ardoïn et al., 2020) emphasises that transformative environmental education requires affective engagement, critical reflection and a direct connection to the learners' ecological context. Thus, eco-pedagogy does not merely transmit knowledge, but builds an ethical relationship between the individual and nature.

Contemporary literature categorises eco-pedagogy into three main approaches: direct ecological experience, disaster-based critical pedagogy, and community-based reflective models. The ecological experience approach emphasises children's emotional connection with nature as the foundation for the development of an ecological disposition (Barrable & Booth, 2020). Chawla's Study (Chawla, 2015a) indicates that ecological experiences from an early age contribute significantly to the development of pro-environmental behaviour in adulthood. Meanwhile, disaster-based critical pedagogy utilises extreme ecological experiences (such as floods or forest fires) as catalysts for reflection on socio-ecological structures. Community-based approaches emphasise social relationships as the arena for the internalisation of ecological values and habits. In the Indonesian context, Mangunjaya and McKay (Mangunjaya & McKay, 2012) shows that environmental education based on religious values extends the scope of ecological pedagogy to the domestic sphere, religious rituals, and cultural practices that are embedded in everyday life.

The Concept of *Khalifah fi Al-Ard* – A Trust in Islamic Environmental Ethics

Linguistically, the concept of the *khalifah* derives from the three Arabic letters kha-lam-fa, which convey the meanings of substitution, continuity (succession) and transformation (Ibn

Faris Zakariyya, 1979). The Qur'an uses two different verb forms: *khalafa-yakhlifu*, meaning 'to replace', and *istakhlafa-yastakhlifu*, meaning 'to appoint' or 'to entrust with a mandate' (Abd al-Baqi, 1997), which indicates that the caliphate is not merely a matter of biological succession, but a theological and normative construct that carries an ethical mandate (Ferki Ahmad Marlion & Ahmad Dardiri, 2019). In *Tafsir al-Miṣbāḥ*, M. Quraish Shihab emphasises that *khalīfah fī al-arḍ* cannot be interpreted as legitimising human domination over nature, but rather as a divine mandate that inherently entails a trust: a moral and spiritual responsibility to maintain balance (*mīzān*), protect the sustainability of life, and prevent the corruption of the earth (*fasād fī al-arḍ*) (Shihab, 2002). Thus, the relationship between humanity and nature is not based on domination, but is one of stewardship, in which nature is regarded as a trust that must be managed with moral justice and a focus on sustainability (T. Y. W. F. A. Marlion, 2022). Within this framework, Islamic environmental ethics integrates spiritual, moral and ecological dimensions as the foundation for the development of environmentally responsible behaviour (F. A. Marlion & Dardiri, 2019).

A number of academic works note the ambiguity in the interpretation of the concept of *khalīfah*, particularly when it is understood in an anthropocentric manner as legitimising human domination over nature. Such a reductionist approach is often used to justify the exploitation of natural resources for short-term economic gain (Mangunjaya & Mckay, 2012). Criticism of this view points to the need to reconstruct the meaning of *khalīfah-amanah* as a restrictive ethical mandate, namely one that curbs exploitative impulses and binds people to a moral commitment to safeguarding sustainability (Sayem, 2023). In an educational context, this critical interpretation opens up opportunities for Islamic education to serve as a forum for theological correction of anthropocentric tendencies in the community's social practices. This reconstructive framework is relevant for integrating Islamic ethics into adaptive ecological learning practices for young children.

The Role of the Family in Shaping Children's Ecological Habits

The latest literature identifies the family as the most stable and sustainable setting for socialisation compared to formal schools (Ardoin et al., 2020). Families foster children's environmental awareness not through formal instruction, but through the repetition of everyday practices, emotional bonding, and consistent relationship-based learning. This process involves children's direct observation of their parents' behaviour, deep emotional interactions, and active participation in household environmental activities, thereby fostering a more intuitive and profound understanding. Barrable and Booth (Barrable & Booth, 2020) emphasises that the development of ecological connectedness in young children is more effective when practised within an intimate and consistent relational environment, which is empirically more commonly found in the home than in the classroom (Ferki Ahmad Marlion, 2017). This engagement is not merely a repetition of routines, but fosters a mindset and attitudes that are emotionally ingrained. Furthermore, families provide a cultural context and values that reinforce children's motivation to care for the environment, as eco-friendly behaviour is internalised as part of their identity and moral responsibility.

From an evaluative perspective, the role of the family in shaping ecological habits can be categorised into three main forms: parental ecological role modelling, the ritualisation of environmentally friendly practices, and the internalisation of values through religious narratives. Chawla (Chawla, 2015b) demonstrates that children's emotional engagement in family-based ecological activities has a long-term correlation with sustained pro-environmental attitudes.

Within the context of Muslim families, the concept of *amanah* and daily religious practices such as performing wudu without *isrāf*, or conserving water serve as concrete pedagogical mechanisms that link ecological behaviour with religious piety (Mangunjaya &

Mckay, 2012) (Sayem, 2023). This practice not only builds ecological skills but also shapes children's moral and spiritual framework in responding to environmental issues. These findings reinforce the argument that the family is the primary pedagogical locus within the PIAUD eco-pedagogy model proposed in this article, whilst also underscoring the importance of collaboration between formal and domestic education for the development of authentic and sustainable ecological awareness.

RESEARCH METHOD

This study stems from the increasingly acute ecological crisis and the limited effectiveness of formal environmental education in fostering eco-friendly behaviour from an early age. This issue was chosen because various ecological disasters highlight a structural disconnect between environmental ethics and everyday practice, particularly within the context of Muslim families. The focus on early childhood is based on research findings which confirm that the early stages of life are the most critical period for the formation of moral and ecological habits (Nofrizal et al., 2022). This study conceptually positions the concept of *khalīfah fī al-arḍ* as the normative foundation for reconstructing ecological responsibility within Early Childhood Islamic Education (PIAUD). The research design employed was a qualitative-descriptive study based on library research, with data comprising conceptual, normative and analytical texts relating to eco-pedagogy, early childhood environmental education and Islamic environmental ethics.

The research data sources were identified through systematic and purposive literature reviews. Primary sources included articles from reputable journals published within the last ten years that discuss Islamic eco-pedagogy, early childhood environmental education, and faith-based character education (Chawla, 2015b) (Davis, 2015); (Ardoin et al., 2020); (Barrable & Booth, 2020); (Kopnina, 2020)). Secondary sources include exegetical works, literature on environmental jurisprudence, and works of Islamic thought that explore the concepts of *khalīfah*, *amanah*, and the relationship between humanity and nature ((Mangunjaya & McKay, 2012). The data selection technique employed inclusion criteria such as thematic relevance, conceptual depth, and suitability within the context of Islamic education. Data collection was carried out by searching reputable academic databases such as Scopus, Web of Science, and Google Scholar, as well as through bibliographic snowballing from key articles.

Data analysis was conducted using reflexive thematic analysis (Braun & Clarke, 2006) combined with content analysis. The stages of analysis include: repeated reading to understand the context of the text, initial coding of key concepts, grouping of codes into thematic categories, and the development of a theoretical framework that bridges Islamic theological concepts with a contemporary eco-pedagogical framework. The synthesis process was conducted critically by comparing findings across the literature to formulate a conceptual model of family-based eco-pedagogy within the context of early childhood Islamic education. This study is not intended to empirically test the model's effectiveness, but rather to produce a conceptual framework that can serve as a reference for further research and the development of Islamic education policies oriented towards ecological sustainability.

RESULTS

The Conceptualisation of *Khalīfah fī al-Arḍ* as a Trusted Mandate in Ecopedagogy within Early Childhood Islamic Education

The concept of *khalīfah fī al-arḍ* in Islam positions humanity as moral agents entrusted with a divine mandate to preserve the balance of life, rather than as absolute owners of the earth. Within this framework, the relationship between humanity and nature is of a spiritual-ethical nature, as nature is understood as *āyāt kauniyyah*—signs of God's greatness that demand respect, responsibility, and transcendental awareness (Sayem, 2023). This perspective challenges the

theocentric view that human actions towards nature do not stand alone, but have implications for the spiritual well-being of those who carry them out. Consequently, ecological damage is viewed not merely as an ecological transgression, but also as an ethical transgression that disrupts the cosmic harmony of God's creation. This understanding of the caliphate forms the conceptual foundation for Islamic education, particularly in fostering ecological awareness from an early age (Refania, Ahmad Marlion, et al., 2026). Thus, the caliphate serves as a normative framework that integrates faith, ethics and ecological action, whilst emphasising that every individual bears a non-negotiable ecological responsibility. This perspective is highly relevant in the context of the contemporary environmental crisis, where ecological spirituality is needed as the basis for collective behavioural change (Wulan Kurnia et al., 2026).

Within the framework of eco-pedagogy, the concept of *khalifah-amanah* evolves from a theological doctrine into a pedagogical principle that integrally links faith, ethics and ecological action. Eco-pedagogy, which is rooted in critical pedagogy and transformative environmental education, emphasises the importance of shifting from an anthropocentric and consumerist mindset towards a reflective and responsible ecological consciousness (Ardoin et al., 2020)(R. Rahman et al., 2025). When applied to Early Childhood Islamic Education (PIAUD), this framework broadens the meaning of khilafah from a passive identity to an active project of shaping ecological subjects (Kamaluddin et al., 2023). Children are positioned as developing moral agents, rather than merely users of nature or recipients of moral instruction (Sahri & Aziz, 2023). Consequently, the concept of the caliphate should not be taught as an abstract idea that is difficult for children to grasp, but must be translated into concrete experiences that are appropriate to their cognitive, emotional and spiritual development. Through this approach, Islamic eco-pedagogy not only instils knowledge, but also fosters children's love, empathy and sense of connection with nature (Khoiriyah et al., 2023).

The integration of eco-pedagogy with Islamic tradition reinforces the holistic dimension of learning, as ecological responsibility is situated within the framework of socio-spiritual worship, rather than merely a rational moral obligation. In Islamic tradition, *amanah* lies at the heart of the caliphate: to be a caliph is to bear the ecological responsibility inherent in the spiritual identity of humankind (Kamaluddin, Ferki Ahmad Marlion, Nurlaila Nurlaila, Amelia Amelia, Lathifah Al Husna, Hamidah Fitri, 2023). Violations of the natural balance are regarded as a form of corruption that has ethical and spiritual consequences, not merely environmental damage (Zaimina & Munib, 2025). Consequently, this approach calls for a behavioural transformation spanning from the affective to the practical level. Ecological education in early childhood education must foster a moral awareness that small actions such as wasting water or harming living creatures have spiritual consequences from an Islamic perspective (Walidah & Husaini, 2023). This perspective enables children to recognise the connection between religious observance, daily habits and environmental sustainability. It is this combination of spirituality, ethics and ecological experience that forms the foundation of transformative Islamic eco-pedagogy.

The Role of the Family in the Internalisation of Ecological Ethics Based on the *Khalifah-Amanah*

Recent literature positions the family not merely as a primary space for socialisation, but as an arena for the formation of ecological meaning, where human-nature relationships are first established in practice. Unlike schools, which operate through a formal curriculum, the family shapes ecological subjects through the repetition of everyday actions, the intimacy of relationships, and the continuity of stable emotional experiences (Barrable & Booth, 2020). In the context of the global ecological crisis, characterised by systemic environmental degradation and

the dominance of a consumerist culture, the role of the family has become increasingly strategic, as a person's first ecological experiences always originate at home (Kamaluddin et al., 2024). Within the domestic sphere, children learn to link simple actions such as disposing of rubbish, tidying up, or conserving water with broader moral values concerning responsibility and care. This is what distinguishes the family from educational institutions: it does not merely teach norms, but brings them to life in practice. For this reason, the literature on eco-pedagogy emphasises that the family is the strongest foundation for the development of long-term ecological dispositions (Güven & Nihan, 2017).

Within Muslim families, the process of internalising ecological ethics takes place within a distinctive theological framework, in which nature is not understood as a neutral entity, but rather as part of the cosmic order entrusted to humanity as stewards (Kamaluddin et al., 2022). Tawhid cosmology provides a spiritual framework for children's ecological experiences, so that simple actions such as saving water, keeping things clean, or treating living beings with kindness are framed as expressions of religious devotion, rather than merely moral activities (Irawan, 2017). Domestic religious practices such as performing wudu without extravagance, daily prayers that instil gratitude for nature, or prophetic stories about compassion towards animals—serve as pedagogical tools that simultaneously integrate cognitive, spiritual, affective and ecological dimensions (Mohamad & Ismail, 2023). Muslim families thus have a unique capacity to instil an ecological understanding that is not only rational but also transcendental, fostering the perception that harming nature amounts to a breach of God's trust (Tri Yulia Wijayanti et al., 2022). This perspective provides a strong foundation for the development of children's ecological morality from an early age.

Critically, the dominance of the modern, school-oriented environmental education paradigm has led to a tendency to reduce ecological issues to technical, curricular or procedural matters (Kamaluddin, Ferki Ahmad Marlion, Nurlaila, Amelia, 2023). Many environmental education programmes emphasise cognitive skills, but neglect the affective and moral dimensions, which are in fact formed most strongly within the family (Jickling & Wals, 2012). A strict separation between formal education and the home environment risks creating a fragmentation of values, whereby the environmental messages taught at school fail to find practical resonance within the household (Basri et al., 2025). In Muslim societies, where spiritual experiences largely take place within the domestic sphere, the lack of connection between schools and families means that ecological messages lose their practical foundation. Consequently, critical pedagogical literature regards the family not as an extension of the school, but as the primary pedagogical locus that actually determines the direction of children's ecological habitus formation. This approach paves the way for a rethinking of the environmental education paradigm by focusing on the role of the family as an agent of ecological change.

Family Ecopedagogy as a Post-Disaster Cultural Strategy: Lessons from the Ecological Crisis

The flash floods and landslides that struck the regions of Sumatra and Aceh in late November 2025 not only reflect a hydrometeorological crisis, but also highlight the ecological consequences of unequal power relations in the extractive management of natural resources. Within the framework of critical eco-pedagogy, disasters are not understood merely as natural phenomena, but as pedagogical moments spaces for reflection that open up opportunities for the reconstruction of collective ecological consciousness (Ardoin et al., 2020). This crisis highlights how ecological damage often accumulates through development policies that normalise land exploitation, large-scale deforestation and the conversion of communities' living spaces. The ecological burden of these processes is borne disproportionately by vulnerable communities,

particularly rural residents, women and children (Kopnina, 2020). Disasters therefore serve as a key entry point for environmental education, as they provide concrete experiences that highlight the causal link between political and economic decisions and the environmental vulnerabilities faced by communities.

In a post-disaster context, the family can no longer be understood merely as a unit for the reproduction of values, but as a strategic cultural actor directly confronting the reality of ecological vulnerability (Risqi & Levina, 2026). In the wake of floods and landslides, families in Sumatra and Aceh have suffered the loss of their homes, the loss of productive land, damage to water sources, and ecological trauma that has affected their psychological and social well-being (Amanda et al., 2026). This situation creates an opportunity for experiential eco-pedagogy, in which the experience of a disaster serves as a medium for children to understand the cause-and-effect relationship between development policies, environmental degradation and their impact on daily life (Veríssimo et al., 2024). Through domestic interactions, parents can transform traumatic experiences into a critical learning process, not by normalising the disaster, but by reinterpreting these experiences as part of a broader ecological understanding. In this way, the family serves as the primary space for the reconstruction of ecological meaning in the aftermath of a disaster.

Within Muslim families, post-disaster reflection carries a distinctive theological resonance. Disasters are not viewed fatalistically as a fate beyond human control, but rather as *āyāt kauniyyah* cosmic signs that carry ethical warnings and a call for self-correction. From this perspective, the concept of *khalifah–amanah* takes on practical relevance when children are encouraged to understand that deforestation, the unchecked extraction of resources, and development that disregards ecological justice make a tangible contribution to the emergence of the ecological crisis (Shihab, 2002). Parents can instil the understanding that disasters are a reflection of humanity's collective failure to safeguard the Earth, rather than merely neutral meteorological phenomena (Sayem, 2023). When this theological reflection is linked to children's direct experiences, the pedagogical process that ensues not only fosters ecological awareness, but also a spiritual awareness that damaging nature constitutes a moral failure.

DISCUSSION

In practice, eco-pedagogy based on the concept of *khalifah–amanah* is implemented through a reflective habit-forming pedagogy that treats ecological experiences as a form of training in fulfilling one's trust. Children are guided to care for plants, conserve water whilst performing wudu, keep the environment clean, and treat animals with empathy—not as technical tasks, but as part of a spiritual journey (Refania, Julianti, et al., 2026). This approach is consistent with the principles of early moral ecology, which emphasises that ecological habits are formed through concrete experiences, meaningful repetition, and emotional connections with the environment. In developmental psychology, early childhood is regarded as a critical period for the formation of moral character (Muqowim, 2022), so that simple activities carried out routinely can become a framework of values that endures into adulthood. The classic proverb *al-ta'allum fī al-ṣighar ka al-naqsh 'ala al-ḥajar* (learning in childhood is like carving on stone, etched deeply) further emphasises the importance of instilling ecological values from an early age, as they will become deeply ingrained in the child's personality. Through this strategy, PIAUD serves as a space for ecological moral education that seamlessly integrates theory, experience and spiritual practice.

From a sociological perspective, the internalisation of ecological values in early Islamic education can be analysed through Pierre Bourdieu's theory of habitus, which emphasises that dispositions are shaped not only by cognitive knowledge, but through patterns of action repeated

within everyday social spaces. In the context of Islamic eco-pedagogy, the family functions as the primary ecological field that shapes a child's initial dispositions through role modelling, routines, and consistent ecological interactions. The PIAUD institution then serves as a reinforcing pedagogical space that strengthens, expands and reflects upon these ecological experiences (Kopnina, 2020). Thus, the development of ecological awareness does not depend solely on the formal curriculum, but on the synergy between home and school as two social spaces that shape children's spiritual-ecological habitus (Kurnia & Silvia, 2026). This model emphasises that *khalifah-amanah*-based eco-pedagogy aims to foster an ecological habitus that is deeply rooted in the social and spiritual spheres, so that children not only understand ecological values but also make them the guiding principle for their actions in daily life (Risqi & Levina, 2026).

The internalisation of family-based ecological ethics possesses a transformative capacity that cannot be achieved by a purely technocratic approach, as domestic practices enable children to develop an ecological moral identity that links their relationship with nature to spiritual meaning and transcendental responsibility (A. K. Rahman, 2022). When the concept of *khalifah-amanah* is consistently put into practice, the family functions as an active ethical agent and a space of cultural resistance against modern exploitative logic (Mangunjaya & McKay, 2012). A synthesis of the literature from the past decade underscores the need for a family eco-pedagogy model that moves beyond conventional normative approaches by establishing three mutually reinforcing layers: a theological foundation based on ecological tauhīd; domestic pedagogical mechanisms in the form of role modelling, rituality, moral symbols, and habits embodied in the child's body and emotions; and a horizon of transformation aimed at fostering long-term ecological dispositions (Futri et al., 2026). Unlike mainstream environmental education, which emphasises technocratic problem-solving skills, this framework aims to reshape the paradigm from pre-school onwards, based on the understanding that nature is a spiritual and ethical realm, not merely an object of rational management (Al-Attar, 2017). Thus, the family does not merely complement the school, but plays a fundamental role in shaping the ecological character of the Muslim generation.

The positioning of the family as the primary locus of eco-pedagogy also serves as a critique of the institutional bias in modern education, which places too much emphasis on formal schools when it comes to ecological transformation (Collado et al., 2017). The family is understood as a micro-political space of morality, where ecological values are not merely taught but lived out through emotional closeness, the symbolic authority of parents, and the repetition of everyday practices. In Muslim societies, the relational power of the family provides a realistic structural basis for the formation of an ecological habitus (Hajar, 2024), meanwhile, schools serve as spaces of resonance that reinforce the ethical patterns developing within the home. As a conceptual model, this framework is designed as an open framework that is adaptable to context, avoiding the pitfalls of universalisation that overlooks cultural diversity, class stratification, urbanisation and local ecological vulnerabilities (Horsthemke, 2025). In Indonesia, this flexibility is essential to ensure its relevance across a range of socio-ecological contexts. Consequently, the family-based eco-pedagogical model not only offers a pedagogical framework but also presents an ethical and political project that positions Early Childhood Islamic Education as a strategic arena for the development of an ecological civilisation rooted in spirituality, rather than merely instrumental rationality.

Post-disaster eco-pedagogy calls for a shift in the focus of education from mere prevention towards the development of ecological resilience, which strengthens children's adaptive capacity in the face of environmental change (Quadir, 2013). Within the family, this is

put into practice through simple yet meaningful actions: encouraging children to replant trees as a symbol of ecological restoration, managing rainwater wisely, sorting waste, and fostering empathy for disaster victims through family social activities. These practices are not merely technical activities, but serve as educational rituals that link traumatic experiences with the responsibility of stewardship (Muqowim, 2022). This experience provides an opportunity for the development of a strong ecological character, in which children learn that the restoration of nature requires collective effort, spiritual care and ethical perseverance (Reva Risky Ramadhani, 2026). As such, the family becomes the most effective setting for building value-based ecological resilience.

This subsection emphasises that the ecological disasters in Sumatra and Aceh serve not merely as an empirical backdrop for research, but as a concrete context for articulating the urgency of a family-based eco-pedagogical model in Early Childhood Islamic Education. These disasters demonstrate that a purely normative approach is insufficient for fostering ecological awareness; pedagogical strategies rooted in the lived experiences of the community and Islamic spirituality are required. The family eco-pedagogy model proposed in this article does not, therefore, exist in an abstract theoretical realm, but is grounded in the socio-ecological realities experienced by Indonesian Muslim communities. The post-disaster period serves as a moment for reflection, demonstrating that the development of ecological awareness must begin at home as the primary and most influential pedagogical space. Thus, the integration of disaster experiences, the values of *khilafah*, and domestic practices provides a strong conceptual foundation for the development of a sustainable and transformative ecological consciousness.

CONCLUSIONS

This article argues that eco-pedagogy in Early Childhood Islamic Education (PIAUD) cannot be reduced to the technical teaching of environmentally friendly behaviour, but must be understood as a project of ethical–spiritual formation rooted in the concepts of *khalīfah* and *amanah* within the framework of ecological *tawhīd*. The family has proven to be a key pedagogical locus in the formation of children’s ecological habitus through repetitive and spiritually meaningful domestic practices. The ecological crisis in Sumatra and Aceh demonstrates that environmental degradation is not merely a failure of governance, but also a pedagogical and cultural failure to internalise ecological responsibilities. The family-based eco-pedagogy model proposed here contributes to a paradigm shift in environmental education towards an approach that is more reflective, transformative and rooted in Islamic spirituality.

Further research should test this model empirically through ethnographic studies of Muslim families in disaster-prone areas, as well as participatory action research in early childhood education and care (PIAUD) institutions to assess the implementation of its practices. Furthermore, comparative studies across cultures and religious traditions are essential to test the applicability and dialogical nature of the *khalīfah*–*amanah* framework in a global context. It is hoped that this research will contribute to the development of environmental education policies that are ecologically, socially and spiritually just.

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