

The Ecological Caliphate Paradigm: Integrating Islamic Eco-Theology and Fiqh al-Bi'ah in Islamic Religious Education

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Abstract

This study develops a conceptual framework connecting khalifah fil ard, Islamic eco-theology, and environmental jurisprudence with Islamic Religious Education. Method: It uses a qualitative, purposive literature synthesis rather than an empirical evaluation. Selected Qur'anic passages and authenticated hadith reports are read alongside recent scholarship on Islamic environmental ethics, environmental education, and sustainability. Content analysis identifies textual principles; thematic interpretation examines responsibility, restraint, justice, and care; conceptual synthesis translates these themes into curriculum design. Results: The resulting Ecological Caliphate Paradigm links theological justification, differentiated legal responsibility, learning activities, and assessable outcomes. Four curriculum pillars are proposed: theological understanding, environmental fiqh, ecological character, and participatory pedagogy. Applications include water-use audits within thaharah lessons, waste prevention in consumption ethics, and community conservation projects. Environmental responsibility is interpreted as combining collective provision with personal duties that depend on harm, capacity, and authority, rather than assigning every activity the same legal status. Conclusion: The framework offers a traceable way to connect religious reasoning with environmental learning. Its educational effectiveness remains untested and requires classroom research before claims about sustained behavioural change can be made

Keywords

Ecological Stewardship; Environmental Fiqh; Islamic Eco-Theology; Islamic Religious Education; Sustainability Education

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1. INTRODUCTION

Climate change places pressure on health, livelihoods, and ecosystems, while the gap between environmental commitments and implementation remains substantial (Intergovernmental Panel on Climate Change [IPCC], 2023; United Nations Environment Programme [UNEP], 2024b). Scientific evidence and public policy are indispensable to addressing these problems. Education also needs to examine the values through which people understand responsibility, distribute environmental burdens, and decide whether to act. In Islamic Religious Education (IRE), or Pendidikan Agama Islam (PAI), this raises a practical question: how can religious understanding inform a defensible response to environmental problems encountered in everyday life?



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Islamic environmental scholarship provides several starting points. Studies of Qur'anic ethics connect human responsibility with restraint, care, and accountable use of resources (Helfaya et al., 2018)). Work on environmental jurisprudence, or *fiqh al-bi'ah*, examines the implications of those commitments for preventing harm and sustaining shared resources (Acim & Suharti, 2023; Munib et al., 2022). The concept *khalifah fil ard* is used here consistently to denote humanity's entrusted responsibility on earth. Its ecological interpretation is an ethical reading of human accountability, not a proposal for a political system or an assertion that every historical interpretation of *khalifah* has been environmental.

Connections between Islam and sustainability already extend beyond theological argument. Abdelzaher et al. (2019) explicitly address the move from environmental belief to action. Indonesian studies examine conservation fatwas, religious organisations, and the relationship between ecological commitments and political advocacy (Efendi et al., 2021; Mangunjaya & Praharawati, 2019; Mufid, 2020). At an international level, *Al-Mizan* brings Islamic environmental principles into dialogue with collective action (UNEP, 2024a). These contributions make it difficult to defend a claim that integration itself is entirely new.

Zabidi et al., (2021) analyze environmental values in science and Islamic education textbooks. Masturin, (2022) propose *tawhid*-based green learning within Islamic higher education, while Lutfauziah et al., (2023) develop an environmental curriculum for Islamic boarding schools. More recent studies examine the integration of religious values and environmental practice in *pesantren* and *madrasahs* (Muzakki et al., 2025)(Syukri et al., 2024). This literature provides a foundation for curriculum development, but findings from particular institutions should not be treated as evidence that a single model works across all PAI settings.

A more specific problem remains: the relationship between a doctrinal principle, the allocation of responsibility, a learning task, and the evidence used to assess that task often needs to be made explicit. A learner may repeat that humans are stewards without being able to explain who should repair a leaking communal water system or how to assess whether an intervention reduced waste. Religious motivation also cannot be assumed to produce environmental action automatically. Koehrsen,(2021) identifies considerable diversity in Muslim responses to climate change, and Fikri and Fikri & Colombijn (2021) question optimistic accounts of the behavioral influence of Green Islam. These reservations require a framework that accommodates both agency and practical constraints.

This study therefore asks three questions: (1) How can *khalifah fil ard* provide a theological justification for environmental responsibility? (2) How can Islamic eco-theology and *fiqh al-bi'ah* clarify individual and collective duties in responding to environmental harm? (3) How can these commitments inform PAI content, teaching activities, and assessment? The contribution is a conceptual organization of these relationships, termed the Ecological Caliphate Paradigm. Its proposed value lies in making the steps from textual reasoning to educational practice open to examination, while distinguishing a defensible curriculum proposal from demonstrated educational effectiveness.

2. METHODS

Research Design

The article uses a qualitative, purposive literature synthesis with a textual and conceptual orientation. The purpose is to develop an argument and a curriculum framework, not to estimate an intervention effect or provide an exhaustive systematic review. This choice follows the distinction between integrative reviewing and comprehensive evidence synthesis discussed by Snyder (2019) and the requirement that conceptual articles explain how selected theories contribute to their argument (Jaakkola, 2020). The analysis treats scripture as normative primary material, contemporary scholarship

as interpretive or empirical literature, and institutional publications as scientific or educational context. These source types are not interchangeable forms of evidence.

Sources and Selection

The primary textual corpus consists of eight Qur'anic passages and four hadith reports specified in Tables 1 and 2. Passages were selected for their relevance to entrusted responsibility, balance, restraint, corruption, cooperation, or care. Hadiths were restricted to identifiable reports in Sahih al-Bukhari and Sahih Muslim. Qur'anic content is presented as concise thematic paraphrase, not as a new translation. Canonical surah and verse references identify each passage. Hadith entries state the Companion narrator, collection, book, and commonly used digital reference number; numbering may differ between editions. The Arabic text and collection identity, rather than a number alone, remain the basis for matching editions.

The supporting bibliography contains 40 contemporary sources: 34 journal articles and six institutional publications or frameworks. These serve different roles in the argument; the bibliography is not a sample of 40 empirical studies. Searches and citation-following during the preparation of this synthesis used combinations of "Islamic environmental ethics," "khalifah," "fiqh al-bi'ah," "Islamic environmental education," "Green Deen," and "environmental education outcomes." Exact-title and DOI searches were used to check bibliographic identity against journal or publisher records. Relevant sources were located through publicly accessible scholarly search results, publisher sites, institutional repositories, and official IPCC, UNESCO, UNEP, and United Nations pages. No subscription-database coverage is claimed.

Contemporary sources were included when they were published within 2017–2026, addressed at least one research question or a necessary methodological issue, and had a traceable publication record. English and Indonesian literature formed the main accessible literature base. Sources were excluded when their identity could not be established, when they were duplicate records, or when their relationship to the argument was only incidental. A DOI was checked against its title rather than treated as proof that a claim was correct. Where only an abstract or publisher summary was available, its use was restricted to the scope stated there. Older ideas, including Green Deen, are discussed through identified recent secondary scholarship rather than assigned an artificial recent publication date. Scripture is treated separately from the date restriction on contemporary scholarship.

Analytical Procedure

First, content analysis separated what each textual unit states from the environmental application proposed here. The initial categories were entrusted responsibility, restraint, prevention of harm, shared benefit, and cooperation. The distinction between textual content and application is visible in Tables 1 and 2. For example, a report of the Prophet's economical use of water supplies a normative example; a classroom water audit is a contemporary educational application, not an activity prescribed in the report.

Second, a framework-guided thematic reading compared these categories with contemporary discussions of ecological ethics, legal responsibility, and education. Particular attention was given to distinctions that could otherwise be lost: personal conduct versus collective provision, theological justification versus causal explanation, and learning outcomes versus environmental outcomes. The reading was iterative and interpretive, informed by reflexive thematic analysis rather than a frequency count of religious terms (Braun & Clarke, 2019). Contrary evidence concerning the limits of religious environmentalism was retained rather than removed to obtain a uniformly positive account.

Third, conceptual synthesis connected the themes through four questions: What justifies a duty? Who can reasonably carry it? What learning activity addresses it? What evidence would show learning or practical improvement? This produced the four curriculum pillars and the propositions in the discussion. The tables provide an explicit record of these analytical connections. The concern for

transparent links between evidence and interpretation (Nowell et al., 2017) ; it does not imply that independent coding or inter-rater reliability testing was conducted. In keeping with Braun & Clarke (2021), quality is judged through methodological coherence, source traceability, and the clarity of interpretive limits. There were no interviews, observations, classroom trials, or newly collected student data.

3. FINDINGS AND DISCUSSIONS

Findings

Textual Foundations of Environmental Responsibility

The primary texts support several distinguishable ethical concerns. They address humanity's position and accountability, the rejection of excess and corruption, and care for shared life. Their ecological relevance depends on a reasoned connection between these concerns and a particular environmental problem. Table 1 separates the textual content from that interpretive step.

Table 1. Qur'anic Material and Proposed Ecological Interpretation

Textual unit	Content of the passage in paraphrase	Interpretive use and boundary
Qur'an 2:30	God announces a khalifah on earth; the angels raise the issue of corruption and bloodshed.	Human responsibility must be examined alongside the capacity to cause harm; the verse is not a technical resource-management rule.
Qur'an 6:165	Human beings succeed one another on earth and are tested through what they receive.	Resources and authority entail accountability; unequal capacities matter when assigning tasks.
Qur'an 33:72	Humanity bears the trust that the heavens, earth, and mountains declined.	Amanah provides an ethical lens for accountable conduct; its meaning is broader than environmental stewardship.
Qur'an 55:7–9	The passage connects the raised heaven, the balance, and justice in weighing.	Mizan supports restraint and fairness; the ecological reading does not replace scientific descriptions of dynamic ecosystems.
Qur'an 7:31	Eating and drinking are permitted, while excess is rejected.	Israf supports scrutiny of avoidable waste; necessity and circumstances still require judgement.
Qur'an 7:56	Corruption on earth after its ordering is prohibited.	Preventing destructive practices is a normative concern; identifying environmental harm requires contextual evidence.
Qur'an 30:41	Corruption on land and sea is connected with human actions and a call to return.	An ethical basis for reflecting on human-caused harm, not proof that particular disasters reveal victims' moral failings.
Qur'an 5:2	Cooperation in righteousness is encouraged; cooperation in wrongdoing is rejected.	Environmental cooperation is defensible where it protects shared well-being; the application is contemporary.

Reading khalifah together with amanah limits the inference that human capability authorises unrestricted exploitation. The environmental implication is responsibility for the consequences of resource use, including consequences borne by others. This is consistent with contemporary readings of Qur'anic environmental ethics (Acim & Suharti, 2023; Helfaya et al., 2018), but it is not a claim that khalifah has only one exegetical meaning. Likewise, mizan can inform an ethic of proportion and

fairness without being equated with a scientific law of ecosystem equilibrium. Ecological change must still be investigated through environmental science.

Table 2 gives identifiable hadith examples concerning water, planting, and care for animals. Each report is located in a named collection so that its textual content can be distinguished from the contemporary application proposed here.

Table 2. Hadith Evidence and Educational Applications

Source and Narrator	Report Content in Paraphrase	Proposed Application
Anas ibn Malik Sahih al-Bukhari 201 Kitab al-Wudu	The Prophet performed wudu using one mudd of water.	Discuss sufficient purification and avoidable waste. A mudd is not converted here into a universal compulsory litre limit.
Anas ibn Malik Sahih al-Bukhari 2320 Kitab al-Muzara'ah	Planting that feeds a person, bird, or animal counts as charity.	Plan planting with attention to suitable species, maintenance, and survival.
Abu Hurayrah Sahih Muslim 282a Kitab al-Taharah	Urinating in standing water and subsequently washing in it are prohibited.	Examine contamination and shared water use; broader pollution rules require additional legal and scientific reasoning.
Abu Hurayrah Sahih al-Bukhari 2363 Kitab al-Musaqah	A man's provision of water to a thirsty dog is rewarded; care for living creatures has moral value.	Analyse humane responses to animal need and responsible stewardship.

Source locators: <https://sunnah.com/bukhari:201>; <https://sunnah.com/bukhari:2320>; <https://sunnah.com/muslim:282a>; <https://sunnah.com/bukhari:2363>. Reports are paraphrased.

The reports connect religious concern with ordinary conduct: washing, using shared water, cultivating plants, and responding to animal need. They support attention to how an action affects other living beings. However, moving from a report about standing water to a rule on industrial effluent requires additional reasoning about the pollutant, exposure, and harm. Contemporary work on environmental health and water protection provides a relevant interpretive bridge (Mohamad & Ismail, 2023; Mohidem & Hashim, 2023).

Environmental Fiqh and The Allocation Of Responsibility

Environmental fiqh adds a question that general encouragement to care for nature cannot settle on its own: which actions are required of which actors? The maqasid perspective connects environmental protection with the conditions needed to safeguard life, livelihoods, and future generations (Muhamad et al., 2020; Munib et al., 2022). Hifz al-bi'ah can therefore be discussed as an environmental development within maqasid reasoning. It should not be presented as an uncontested sixth objective accepted uniformly by all jurists.

Studies of Indonesian fatwas show that ecological responsibilities are interpreted through organised deliberation as well as individual ethics (Harnowo & Habib, 2024; Mufid, 2020). Conservation practice also requires communication with the communities expected to act (Mangunjaya & Praharawati, 2019). Coastal conservation illustrates the importance of locating legal reasoning within specific resource-use problems rather than treating all environmental issues as equivalent (Hancock, 2019; Mufid, 2018). These studies inform the allocation proposed in Table 3; the table is the present article's conceptual formulation, not a report of unanimous legal rulings.

Table 3. Proposed Allocation of Environmental Responsibility

Situation	Responsibility to Examine	PAI Case Question
A learner unnecessarily leaves water running	Personal restraint within the learner's control; avoidable excess should not be excused by collective programmes.	What can this learner change without compromising purification?
Shared taps leak because maintenance is delayed	Collective provision requires a responsible institution; managers have particular duties within their authority.	Who can authorise repair, provide resources, and check completion?
A community needs a functioning waste system	Fard kifayah concerns adequate provision, not merely attendance at an activity.	What would count as the shared need actually being met?
A responsible adult can prevent an immediate serious contamination event	A specific personal duty may arise from capacity, control, and the urgency of harm.	Why is a general appeal to someone else insufficient here?
A proposed environmental measure is costly or unsafe for a family	Feasible alternatives and proportional responsibility must be considered.	How can a school avoid transferring unfair costs or risks?

Connecting Doctrinal Reasoning with Sustainability Targets

The SDGs provide a shared vocabulary for discussing water, consumption, climate, and biodiversity. They are not derived from Islamic scripture, and apparent alignment does not establish theological equivalence. Existing conceptual work nevertheless supports dialogue between Islamic environmental commitments and contemporary sustainability concerns (Bsoul et al., 2022; Latifah, 2024; Rahardjanto et al., 2025). Table 4 translates selected links into possible school-level evidence. Target and indicator identifiers follow the United Nations Statistics Division (2026); school measures are proposed local proxies, not official SDG indicators.

Table 4. Doctrinal Links and Proposed School Measures

Sdg Target and Indicator	Relevant Textual Basis	Proposed Local Evidence
6.4 / 6.4.1 Water-use efficiency	Qur'an 7:31; Bukhari 201	Litres per observed complete wudu; repaired leaks. These are school proxies.
12.5 / 12.5.1 Waste reduction and recycling	Qur'an 7:31	Waste mass per pupil per day; documented destinations for separated materials.
13.3 / 13.3.1 Climate education and mainstreaming	Qur'an 6:165; 30:41	A scored climate-responsibility case; documented PAI lesson integration.
14.1 / 14.1.1 Marine pollution	Qur'an 7:56; Muslim 282a by contextual analogy	Repeated litter counts on a defined safe route; explanation of land-to-water pathways.
15.1 / 15.1.1 Terrestrial ecosystems and forest area	Bukhari 2320; 2363	Survival of locally suitable planted trees; simple habitat observations, not a national forest measure.
17.17 / 17.17.1 Partnerships and infrastructure commitments	Qur'an 5:2	Documented school–community responsibilities and completed tasks; not a financial SDG indicator.

This mapping distinguishes a learning contribution from a claim to achieve an SDG. Measuring water used during wudu, for example, can support reflection on efficiency; it cannot establish a national improvement in water-use efficiency. A school project may also shift burdens rather than remove them. Sending separated waste to an unreliable collector could leave pollution unchanged. Students therefore need to investigate what happens after material leaves the classroom or school grounds.

Four Pillars for Reconstructing PAI Learning

The proposed pillars organise curriculum design rather than replace the established subjects of PAI. They connect religious understanding with practical judgement and reflection. This orientation is compatible with UNESCO's (2017, 2020) emphasis on competencies, educator capacity, learning environments, and local action. Research reviews also indicate that environmental education can address several kinds of learning, while the strength and durability of outcomes depend on programme design and evaluation (Ardoin et al., 2018; Monroe et al., 2019; Silva et al., 2025).

Table 5. Curriculum Pillars and Illustrative Assessment

Pillar and PAI Content	Illustrative Learning Activity	Evidence of Learning
Theological understanding Aqidah and Qur'an studies	Compare khalifah, amanah, and israf with a local water-use problem.	Explanation identifies a textual basis, affected parties, and the limit of the inference.
Environmental fiqh Thaharah and muamalah	Distinguish valid wudu, personal water use, and communal maintenance duties.	Case response allocates responsibilities with reasons; an audit records method and units.
Ecological character Akhlak and consumption ethics	Keep a short record of avoidable food or material waste and discuss realistic changes.	Reflection links moderation to a decision; observations support any behavioural claim.
Participatory pedagogy Integrated PAI project	Plan a small conservation task with school staff and evaluate it.	Project record states baseline, roles, actions, outcome measures, and limitations.

A thaharah unit demonstrates how the pillars can work together. The teacher first discusses the purposes and requirements of wudu, Qur'an 7:31, and Sahih al-Bukhari 201. Students then examine a practical problem: water continuing to flow between washing steps or a leaking tap near the prayer room. They distinguish a student's use of water from a maintenance problem that requires adult or institutional action. The aim is sufficient and valid purification with avoidable waste reduced, not a competition to use the smallest possible quantity.

With teacher supervision, students can measure water use before and after an agreed change. Mean water use per observed wudu is calculated as total measured litres divided by the number of observed complete wudu events. The comparison should record tap flow, observation duration, user numbers, and any repairs. Students explain possible measurement errors and why a reduction cannot be attributed to teaching alone if facilities changed at the same time. Those who cannot undertake the practical task can analyse measurements or assess the proposed responsibilities. No results from such an exercise are reported in this article.

A parallel unit on consumption can link israf with preventable food waste and purchasing decisions. Learners can compare what is purchased, consumed, and discarded, then discuss cost and access rather than assume every family can buy more expensive reusable products. Biodiversity activities can similarly focus on whether planted trees survive and suit their location, rather than count planting ceremonies. These examples make the framework applicable while preserving the distinction between a design illustration and empirical evidence.

Planning a Feasible Learning Sequence

The framework can be introduced through a short sequence embedded in an existing PAI unit. In the opening lesson, the teacher presents a familiar case and asks students to identify the problem before introducing a preferred solution. A leaking tap, for instance, invites questions about the source of the loss, the people affected, and the person authorized to arrange repairs. Students then consult the relevant religious material and explain what it contributes to the case. This sequence gives textual interpretation a clear purpose while allowing the problem to remain open to investigation.

A subsequent lesson can focus on planning and gathering evidence. Each group specifies one manageable question, a unit of measurement, and the circumstances under which observations will be made. For a water audit, measurements should concern the amount used rather than the identity or perceived piety of individual worshippers. Participation must respect privacy and avoid disrupting purification. Where direct observation would be intrusive, a teacher can demonstrate flow measurement using a container and elapsed time, and students can reason from those measurements. This remains a proposed teaching arrangement, not a report of a completed lesson.

The final lesson brings the evidence back to the original ethical question. Students explain whether their proposed action addresses the cause of the problem and whether another actor needs to become involved. A group may conclude that reminders are appropriate, that a repair is necessary, or that available observations are insufficient. Each conclusion should be defensible from the evidence. This emphasis on investigating and revising an action is consistent with sustainability education that connects knowledge, competencies, and opportunities for participation (UNESCO, 2017, 2020). The specific lesson sequence is the present article's curriculum proposal.

Teachers can adapt the sequence without requiring identical resources across institutions. A school with limited equipment might investigate discarded food using counts and categories before attempting weight measurements. Older students could compare purchasing arrangements or interview authorized staff, subject to ordinary school permissions. Younger learners could explain a single choice through a picture or an oral account. Adaptation should preserve the connection between a reason, a feasible responsibility, and evidence of learning. It should not make access to equipment a condition for receiving a good assessment.

The Ecological Caliphate Paradigm organizes five dimensions: theological justification, environmental fiqh, ecological ethics, sustainability learning, and environmental justice. Its four curriculum pillars are the teaching arrangements through which those dimensions can be addressed. The dimensions explain what the framework contains; the pillars explain how it can enter a course. Justice cuts across all four, asking whose needs are recognized and who carries the cost of environmental action (Al Banna & Rosyidah, 2025; Gani et al., 2025; Jayadi et al., 2026).

The central relationship is conditional. A theological commitment becomes educationally meaningful when learners can relate it to a concrete problem, reason about responsibility, act within their capacity, and evaluate what happened. Feedback can change the proposed action: a water audit may reveal that repairing infrastructure matters more than reminders to students. Religious commitment supplies a reason to take the problem seriously; environmental knowledge and institutional capacity help determine an appropriate response. The framework does not assume that motivation alone is sufficient.

Discussion

The first research question concerns justification. The synthesis interprets khalifah fil ard as responsibility constrained by trust, restraint, and care. Its educational contribution is to make environmental choices morally discussable within PAI. A student can ask whether a practice is consistent with entrusted responsibility and whose welfare it affects, rather than merely identify a rule to memorise. This does not require a claim that Islamic ethics is superior to all other environmental

ethics or that secular education lacks moral commitments.

There is also an interpretive boundary. Qur'anic language about *fasad* offers a basis for condemning destructive conduct, but it does not identify the physical causes of an individual flood or determine the emissions associated with a particular product. Neither disaster victims nor learners should be judged religiously deficient because they experience environmental harm. Scientific evidence is needed to explain environmental processes; theological reasoning addresses responsibility in light of that evidence. El-Sherbini et al., (2023) place religious leadership within a wider planetary-health conversation, supporting engagement between domains rather than the substitution of one for another.

The second research question requires a more differentiated answer than calling environmental protection a collective duty. *Fard kifayah* concerns necessary provision that a community must ensure is adequately carried out. In environmental matters, this may involve sanitation, protection of shared water sources, or competent monitoring. Collective responsibility is not discharged merely because a small group has organised a symbolic activity; the relevant need must actually be addressed. Conversely, the classification does not mean that every person must perform every specialised task.

Personal duties concern conduct for which an individual bears responsibility and has relevant capacity. The existence of a communal waste programme does not excuse a person's avoidable contamination of a shared water source. Where a person holds specific authority or is uniquely able to prevent a serious and immediate harm, an otherwise shared task can become a determinate personal responsibility. This article proposes that harm, capacity, control, and available alternatives guide the educational discussion. The formulation draws on environmental legal reasoning (Ali & Agushi, 2024; Hussein et al., 2024; Mohamad & Ismail, 2023), but is not offered as a binding fatwa on all climate-related conduct.

Climate change makes this distinction especially important because harm is cumulative and the capacity to respond is unequally distributed. A pupil, a school manager, and a major resource user do not exercise the same control. It would be unreasonable to make students responsible for replacing a school's energy system, yet managers can be asked to account for procurement and maintenance decisions within their authority. The appropriate learning outcome is reasoned differentiation of duties, not a blanket declaration that every carbon-emitting activity has the same legal status. The need for scientific expertise and public coordination also remains: environmental jurisprudence can inform judgement without replacing technical assessment or enforceable governance.

This account gives environmental justice a practical role. It asks whether a proposed measure transfers costs to families with fewer resources, overlooks cleaners' work, or excludes learners with disabilities. Political and institutional action are part of the picture, as illustrated by Muhammadiyah's engagement with public policy (Efendi et al., 2021; Zuhdi et al., 2024). Yet theological support for advocacy does not itself demonstrate successful environmental protection. The outcome must be assessed separately.

The third research question concerns the framework's educational contribution. Table 6 compares its intended role with Green Deen and documented Islamic environmental education approaches. The Green Deen comparison is limited to the principles discussed in Latifah, (2024), which cites Abdul-Matin's earlier work. It is not presented as a comprehensive analysis of the original book.

Table 6. Conceptual Positioning of The Proposed Paradigm

Approach	Established Contribution	Relationship to This Proposal
Green Deen Secondary account in Latifah (2024, p. 90)	Connects environmental care with unity, stewardship, trust, justice, balance, and divine signs.	Provides an ethical comparison. This proposal adds an explicit curriculum sequence; no comprehensive claim is

Approach	Established Contribution	Relationship to This Proposal
		made about what the original book lacks.
Eco-Islam Abdelzaher et al. (2019)	Moves from the reasons for environmental care to behavioural applications, including business contexts.	The belief-to-action move is acknowledged as prior work. Here the focus is PAI responsibility and assessment.
Tawhid-based green learning Masturin et al. (2022)	Connects theology, higher-education curricula, campus practice, and graduate formation.	Shows that integration predates this paper. The proposed model makes duty allocation explicit.
Islamic environmental education Lutfauziah et al. (2023); Zabidi et al. (2021)	Includes curriculum development and analysis of religious values in learning materials; it is a field, not one uniform model.	Provides pedagogical foundations and contexts for adaptation rather than a rival doctrine.
Ecological Caliphate Paradigm Present conceptual proposal	Links justification, differentiated responsibility, activity, and assessment through four curriculum pillars.	A design for testing. Comparative superiority and sustained behavioural effects are not established.

The comparison places the proposed contribution at the level of explicit relationships and assessable design. Abdelzaher et al. (2019), Shaleh & Islam, (2024), and Tu'itahi et al., (2021) already make the conceptual move from Islamic belief to environmental action; therefore, the present article cannot claim that move as its invention. Likewise, tawhid-based learning and environmental curriculum development already connect Islamic commitments with teaching and institutional practice. The proposed addition is to make differentiated responsibility a visible intermediate step and to distinguish evidence of religious reasoning, participation, and environmental change.

Evidence from Islamic institutions supports the feasibility of developing this agenda, but not the effectiveness of the present paradigm. Putri (2024) examine ecological piety and living environmental fiqh within pesantren. Muzakki et al. (2025) describe curriculum and practical activities across two madrasahs, and Sulaeman et al. (2025) report a project-based learning intervention in higher education. These studies offer contexts and approaches worth examining. Their findings should not be transferred as effect estimates for a new framework, particularly across different age groups, institutions, or assessment instruments. Early-years evidence likewise needs age-appropriate interpretation (Ardoin & Bowers, 2020).

Theoretical Propositions and Assessment

Three propositions summarise the framework. First, theological understanding is more likely to support reasoned environmental judgement when learners explicitly connect a principle to a particular harm and affected parties. Second, translating judgement into action depends on whether responsibilities are allocated to actors with relevant capacity and control. Third, sustained educational practice requires alignment between taught values, opportunities to act, and the institution's own routines. These are propositions for investigation, not relationships established by this textual study.

A future evaluation should separate at least three outcomes. Doctrinal reasoning can be assessed through an explanation that accurately distinguishes text from application. Practical competence can be assessed through an audit or a justified intervention plan. Environmental change requires independent observations such as measured water use or repeated waste quantities. A well-written reflection is evidence of learning, not proof of reduced resource consumption. This distinction responds to the difficulty of connecting educational activities with conservation outcomes identified by Bin Salman & Asmanto, (2024) and Latif et al., (2023) .

An appropriate pilot could compare a conventional unit with a unit using the proposed framework, collect baseline and follow-up measures, and document differences in facilities, teacher preparation, and student characteristics. Interviews or learning journals could then examine how students understood responsibility. Such a design would help investigate the proposed pathway while avoiding the assumption that a before-and-after difference alone establishes causation. Teachers should assess the quality of reasoning and documented practice rather than claim to measure the sincerity of a student's faith. An assessment rubric can examine textual accuracy, the justification of responsibility, and the quality of evidence separately. Textual accuracy concerns whether a student identifies the relevant passage and avoids presenting a contemporary application as a literal command. Justification concerns whether the proposed duty fits the actor's control and available alternatives. Evidence concerns whether observations support the stated conclusion and whether limitations are acknowledged. These criteria operationalise the proposed framework; their reliability and suitability for different age groups would require assessment research before standardised use.

Consider two hypothetical responses to a water problem. One learner attributes all waste to classmates and proposes a general moral reminder. Another identifies a faulty tap, distinguishes user behaviour from maintenance, and explains why measurements are needed before judging the size of the loss. The second response demonstrates more developed reasoning even if repair has not yet occurred. Conversely, a fall in water use after repair does not by itself establish that students understand the ethical argument. Separating these judgements prevents environmental outcomes from becoming an unfair substitute for assessing learning.

Institutional follow through also deserves attention. A project that asks students to report faults should identify who receives reports and how responses will be communicated. Otherwise, participation may end with a task that learners have no authority to complete. Teachers and managers can review whether responsibilities were accepted, whether the proposed action was feasible, and what remained unresolved. The analysis of religious organisations and environmental advocacy offers a reason to take such organisational conditions seriously. Here, however, the suggested review process is an educational implication rather than an established finding from school implementation.

These arrangements also help keep assessment proportionate. Students should not lose marks because a manager postpones expenditure or a service provider fails to collect waste. They can instead be assessed on recognising the obstacle, documenting it accurately, and proposing a reasonable next step. Environmental improvement remains a separate outcome to investigate over time. This distinction allows the curriculum to encourage responsibility without assigning learners control over decisions they cannot make.

Methodological Limitations

This study is a purposive textual and conceptual synthesis. Source selection was not exhaustive, and access to some publications was limited to abstracts or publisher summaries. The English and Indonesian emphasis may underrepresent Arabic-language jurisprudence and other educational traditions. Contemporary ecological readings of selected verses also cannot substitute for a comprehensive comparison of tafsir or legal schools. Consequently, the framework should be read as a reasoned educational proposal rather than a statement of universal scholarly consensus.

No classroom data were collected to test the four pillars, the propositions, or the suggested measures. Existing studies report context-specific experiences and cannot validate this framework by proxy. The possibility that institutional constraints outweigh religious motivation remains open, as the contrasting assessments of religious environmentalism indicate (Fikri & Colombijn, 2021; Koehrsen, 2021). The principal implication is therefore a proposal for careful curriculum development and evaluation, not an instruction to adopt an already proven model at national scale.

4. CONCLUSION

The analysis answers the first research question by interpreting khalifah fil ard as an entrusted responsibility that is constrained by restraint, care, and accountability. Read together, the selected Qur'anic passages and hadith reports provide reasons to protect shared resources and other living beings. Their application to contemporary environmental problems requires interpretation and scientific knowledge rather than a direct equation between scriptural concepts and ecological mechanisms.

For the second question, fiqh al-bi'ah connects these reasons with responsibilities that differ according to harm, capacity, and authority. Collective provision and individual accountability operate together: communal environmental programmes do not cancel personal duties, while individuals cannot reasonably be assigned all institutional obligations. This differentiated account is the legal-ethical connection developed in the proposed framework.

For the third question, the Ecological Caliphate Paradigm translates that connection into four curriculum pillars: theological understanding, environmental fiqh, ecological character, and participatory pedagogy. Its central proposition is that stewardship becomes educationally actionable when justification, responsibility, activity, and assessment are explicitly connected. Water conservation in thaharah provides one concrete illustration. The contribution is a traceable conceptual design for PAI; its effects on learning, behaviour, and environmental outcomes remain to be tested.

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