

Integrating Eco-Theological Values into Islamic Religious Education in Adiwiyata Schools

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Abstract

The global environmental crisis demands educational interventions capable of fostering ecological awareness and sustainable behavior. This study aims to analyze the integration of eco-theological values into Islamic Religious Education at SMPN 11 Makassar, an Adiwiyata (eco-friendly) school. A qualitative case study approach was employed, involving interviews, classroom observations, and document analysis with teachers, students, and school administrators. The findings show that Islamic Education teachers integrate eco-theological values by linking Qur'anic verses with environmental issues, applying project-based learning, and modeling environmentally responsible behavior. These values are also embedded in key subjects such as aqidah, fiqh, and akhlak, and are reinforced by school policies and multi-stakeholder collaboration. The main challenges, students' inconsistent behavior outside school and limited facilities, are addressed through partnerships and participatory programs. In conclusion, the eco-theological approach in Islamic Religious Education offers a contextual, values-based model for sustainability education that can be replicated in other school settings.

Keywords: Eco-theology; Islamic Religious Education; Environmental Sustainability; Adiwiyata School

Abstrak

Krisis lingkungan global menuntut adanya intervensi pendidikan yang mampu menumbuhkan kesadaran ekologis dan perilaku berkelanjutan. Penelitian ini bertujuan untuk menganalisis integrasi nilai-nilai ekoteologis dalam Pendidikan Agama Islam di SMPN 11 Makassar sebagai sekolah Adiwiyata. Pendekatan yang digunakan adalah kualitatif dengan desain studi kasus melalui wawancara, observasi kelas, dan analisis dokumen yang melibatkan guru, siswa, dan pengelola sekolah. Hasil penelitian menunjukkan bahwa guru PAI mengintegrasikan nilai ekoteologi melalui pengaitan ayat Al-Qur'an dengan isu lingkungan, pembelajaran berbasis proyek, serta keteladanan. Nilai-nilai tersebut juga terinternalisasi dalam materi pembelajaran PAI, seperti aqidah, ibadah, dan akhlak, diperkuat oleh kebijakan sekolah dan kolaborasi dengan berbagai pihak. Tantangan utama berupa inkonsistensi perilaku siswa di luar sekolah dan keterbatasan fasilitas diatasi melalui kemitraan dan program partisipatif. Kesimpulannya, pendekatan ekoteologis dalam PAI dapat menjadi model pendidikan keberlanjutan berbasis nilai agama yang kontekstual dan dapat direplikasi di sekolah lain.

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I. Introduction

The global environmental crisis, marked by climate change, loss of biodiversity, and the degradation of natural resources, calls for cross-sectoral interventions, including those from the educational domain. Within this context, the eco-theological approach emerges as a strategic framework that integrates religious values with environmental ethics. In the Islamic tradition, this approach is rooted in the concepts of *khalifah fil-ardh* (human beings as stewards on earth), *tawhid* (the unity of creation), and *wasatiyyah* (the principle of moderation in resource utilization) (Rohmatulloh et al., 2023). These values position environmental preservation as a concrete manifestation of faith, expressed through actions such as water conservation, ethical consumption, and the avoidance of wasteful behavior (*tabdhir*) (Rohmatulloh et al., 2023).

Islamic Religious Education (Pendidikan Agama Islam, PAI) holds a strategic role in fostering ecological awareness from an early age by linking theological principles with real-life actions in both school and community settings (Warapsari et al., 2023). Critiques of anthropocentric paradigms—which position humans as dominant over nature—have also enriched Islamic eco-theological discourse by emphasizing the spiritual relationship between humanity and the environment as a moral responsibility (Wasil & Muizudin, 2023). Educational models such as Green Pesantren and Madrasah Adiwiyata exemplify how sustainability values can be institutionalized through school policies, curricula, and cultures via tangible activities such as waste management, greening programs, and energy conservation (Romlah et al., 2024).

The integration of character values into Islamic education demonstrates that environmental learning should not only be cognitive but must also encompass affective and moral dimensions, enabling students to both understand and practice environmental ethics (Fata et al., 2023). Within the conceptual framework that explains the relationship between the integration of character values in Islamic education, the dimensions of environmental learning, and the role of Adiwiyata schools as spaces for implementation, Adiwiyata schools, which combine policy, curriculum, and community participation, serve as crucial platforms for developing ecological literacy and *habitus* among young generations (Najihah, 2025).

Nevertheless, a gap remains between the ideal eco-theological values and students' daily practices in non-pesantren schools. Several studies show that students' ecological awareness tends to be inconsistent outside the school environment, and explicit linkages between religious content and environmental issues in formal curricula remain limited (Putri et al., 2024). The gap referred to in the statement indicates a discrepancy between the ideal eco-theological values taught in religious education and the actual environmental practices of students in their daily lives, particularly in formal non-

pesantren schools. In educational contexts, Islamic teachings often emphasize the responsibility of humans as khalifah on earth who are obliged to protect and preserve the environment. However, these values are not always consistently internalized in students' behavior.

The inconsistency in students' ecological awareness can be observed in several concrete situations. For instance, students may demonstrate environmentally responsible behavior within the school environment—such as disposing of waste properly, participating in school cleaning activities, or engaging in greening programs—but these behaviors often do not continue outside the school context, such as at home or in public spaces. This indicates that environmental concern has not yet become a stable habitus or ingrained behavior, but rather remains situational and influenced by institutional rules within the school.

This gap is not merely an assumption but is supported by findings from previous studies indicating that environmental issues in formal religious education are often treated as supplementary topics rather than integral components of religious teachings. Consequently, the connection between religious principles and ecological responsibility is not fully understood by students, which limits the development of consistent and sustainable ecological awareness and behavior (Putri et al., 2024). In this context, Islamic Education teachers play a central role not only as transmitters of knowledge but also as models of ecological lifestyles inside and outside the classroom (Hanik & Khamidah, 2022).

Several approaches have been proposed to bridge religious values and ecological actions, including strengthening school policies that support environmental practices, integrating environmental themes across subjects, and expanding collaborative networks with external stakeholders. Indonesia's Adiwiyata program represents a systemic effort to internalize sustainability values through school policies and practices that position students not merely as learners but also as agents of change (Salimi et al., 2023). This approach aligns with the Sustainable Development Goals (SDGs), which promote quality education and sustainable communities through the integration of Islamic values into curricular and co-curricular activities (Salsabila et al., 2024).

The literature further highlights the importance of contextual and project-based approaches, employing thematic interpretations of Qur'anic verses and hadith to address contemporary ecological issues while encouraging students' direct engagement in environmental action (Wasil & Muizudin, 2023). Interdisciplinary learning that combines science and Islamic education has been shown to enhance conceptual understanding and ethical awareness, framing science not as value-neutral but as morally accountable (Jamilah et al., 2023). Strengthening character values such as honesty (shidq), social care

(ta'awun), simplicity, and balance (tawazun) within Islamic Education also contributes to developing students' ecological dispositions (Rohmatulloh et al., 2023).

Nevertheless, the effectiveness of these approaches largely depends on the sustainability of practices, teachers' exemplarity, and a school ecosystem that enables meaningful participation (Romlah et al., 2024). Operational strategies described in the literature include campus greening projects, waste banks, recycling systems, energy-saving initiatives, and the creation of green educational spaces that involve students in planning and monitoring (Khoirurrijal et al., 2023). These strategies are reinforced by Islamic principles such as human responsibility as *khalifah fil-ardh* and the ecological balance principle (*mizan*), linking spiritual motivation with ecological competence (Priatmoko, 2025).

On the other hand, scholars emphasize the need for a more systematic evaluation framework to assess the medium- and long-term impacts of eco-theological programs in schools. Many studies focus solely on knowledge and attitudes, while empirical assessments of behavioral sustainability remain limited (Najihah, 2025). Moreover, the integration of religious narratives with environmental curricula in public schools has not yet been consistently implemented, and local cultural contexts have not been optimally utilized as social capital to enhance the relevance of Islamic education (Putri et al., 2024).

This study specifically examines SMPN 11 Makassar, a Provincial Adiwiyata School, to understand how Islamic Education teachers internalize eco-theological values through policies, curricula, and instructional practices. Previous literature shows that teacher exemplarity, supportive school policies, and consistent habituation are critical factors in shaping behavioral transformation (Lutfiyah & Kurjum, 2024). Overall, the main difference of this research lies in the integrative analysis between the theological, pedagogical, and institutional dimensions in the process of internalizing ecotheological values in public schools, which has not been elaborated in depth in previous research. However, further elaboration is needed on how thematic interpretation of religious texts, project-based instructional design, and collaborative school ecosystems operate integratively within the context of public schools.

Therefore, this study aims to: (1) analyze the strategies employed by Islamic Education teachers in integrating eco-theological values into teaching and school culture; (2) map the roles of Adiwiyata policy, curriculum, and multi-stakeholder collaboration in supporting value internalization; and (3) identify challenges and operational solutions in stabilizing students' ecological behavior. The novelty of this study lies in modeling the contextual integration of eco-theology within public Adiwiyata schools by combining theological, pedagogical, and institutional dimensions into a single, replicable operational framework.

II. Research Method

This study employed a qualitative approach using a case study design to explore how Islamic Religious Education (PAI) teachers internalize eco-theological values within teaching practices and school culture. The case study approach was chosen because it allows for an in-depth investigation of a real-life context in which spiritual and ecological values are not only taught theoretically but also practiced in everyday school life.

The case study design was combined with ethnographic, grounded theory, and narrative approaches to enrich the depth of understanding. The ethnographic approach was used to observe daily interactions that reflect religious practices and environmental awareness, consistent with studies on eco-pesantren that demonstrate how rituals and habits embody eco-theological principles (Quddus, 2020). Observations were conducted over a week to examine how students reflect religious practices and environmental awareness. Grounded theory was employed to develop a conceptual framework based on field data, similar to Karman et al. (2023), who linked Qur'anic principles to eco-theological applications. The narrative approach complemented both by exploring teachers' and students' personal stories that reveal how Islamic teachings are internalized in ecological contexts (Mulya & Salvi, 2024).

Data collection techniques included semi-structured interviews, classroom and extracurricular observations, and document analysis. Interviews were conducted with Islamic Education teachers, students, the principal, and the Adiwiyata program coordinators to gain insight into how religious education intersects with environmental awareness (Karman et al., 2023). Observations covered learning activities, religious practices, and environmental programs such as "Clean Friday" (Jumat Bersih) and the "Green School Movement," which represent the practical embodiment of eco-theological values (Widianto et al., 2023). Document analysis encompassed Islamic Education curricula, school policies, Adiwiyata regulations, and teaching materials to identify the formal integration of environmental values (Mulya & Salvi, 2024).

To ensure data validity, the study applied triangulation by combining multiple data sources and collection methods. Data from interviews were cross-checked with observational and documentary findings to confirm consistency (Runtuwene, 2025). A member-checking process was also carried out by returning preliminary interpretations to participants for verification to enhance accuracy and credibility (Akoto, 2025). Additionally, the researcher's continuous engagement in the field allowed for a deeper contextual understanding of school dynamics.

III. Result and Discussion

A. Research Finding

1. The Research Location

SMPN 11 Makassar is a public junior high school located in Makassar City, South Sulawesi Province. The school is situated in a densely populated urban area with a

heterogeneous community environment. This condition creates diversity in the social and cultural backgrounds of the students, making character development including environmental awareness an important focus in the school's educational activities. Physically, the school environment is equipped with various facilities that support teaching and learning activities as well as environmental education programs. The school area includes classrooms, a teachers' room, administrative offices, a library, and a school yard that functions as a green open space and planting area. Several parts of the school are also equipped with separated waste bins, school gardens, and greening areas maintained by students and teachers as part of environmental care practices.

As a school implementing the Adiwiyata program, SMPN 11 Makassar develops various activities that support the cultivation of an environmentally responsible culture. These programs include waste management through a school waste bank, electricity conservation in classrooms, the reuse of ablution water for watering plants, and encouraging students to bring reusable bottles and lunch boxes to reduce single-use plastic. In addition, the school regularly conducts communal cleaning activities every Friday after the Duha prayer. The implementation of the Adiwiyata School Program at SMPN 11 Makassar was carried out gradually until the school achieved the Provincial Adiwiyata Award in South Sulawesi in 2025. Before the program was implemented systematically, environmental management in the school was still limited to routine cleaning and basic greening activities, and students' environmental awareness had not yet become a consistent habit.

After adopting the Adiwiyata program, environmental values began to be integrated into school policies, learning activities, and daily practices. Various initiatives were developed, such as waste management through a school waste bank, energy-saving practices in classrooms, reusing ablution water for watering plants, encouraging students to bring reusable bottles and lunch boxes, and conducting regular collective cleaning activities every Friday after the Dhuha prayer. As a result, the school environment became cleaner, greener, and more organized, while students gradually developed environmentally responsible habits. The success of this program has also positioned SMPN 11 Makassar as an example for other schools in South Sulawesi in implementing environmentally oriented education and fostering ecological awareness among students.

In the learning process, environmental awareness is integrated into several subjects, including Islamic Education. Teachers do not only deliver theoretical material but also connect religious teachings with practical actions related to environmental cleanliness and sustainability. Interviews with Islamic Education teachers indicate that lessons often begin by ensuring that the classroom is clean, emphasizing that cleanliness is part of faith (*an-nadzafatu minal iman*) and relating it to Qur'anic teachings about caring for the environment. Teachers also combine explanation with practical habituation, encouraging

students to clean and organize their classroom as part of the learning process. This approach is further reinforced through programs such as LISA (Lihat Sampah Ambil – “See Trash, Pick It Up”), which encourages students to pick up litter they encounter at school. Through these practices, the school environment functions not only as a place for academic learning but also as a space for developing students’ ecological character.

2. Strategies of Islamic Education Teachers in Integrating Eco-theological Values

The integration of eco-theological values into Islamic Religious Education (PAI) at SMPN 11 Makassar is reflected in the strategies employed by teachers to convey subject matter while simultaneously shaping students’ ecological character. The main strategies include the connection of Qur’anic verses and hadith with environmental issues, the use of lecture-reflection methods, direct practice, and exemplary modeling.

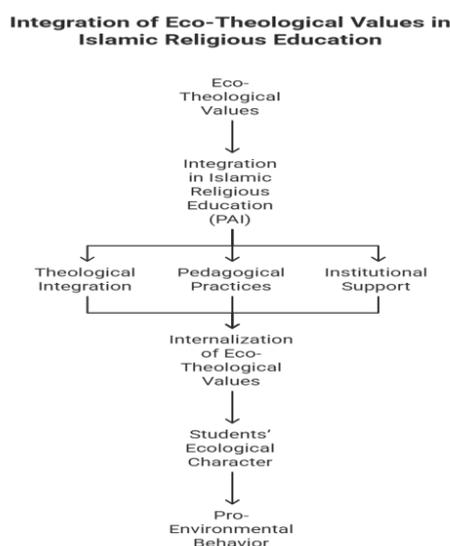


Figure 1. Eco-Theological Integration Conceptual Model Diagram

One of the initial approaches observed was the teacher’s emphasis on cleanliness as a prerequisite for learning. Teachers would not begin the lesson until the classroom was clean, often accompanied by a hadith about cleanliness being part of faith. This practice was affirmed by students who spontaneously cleaned their desks and floors without direct instruction. During observation, a teacher began the session with a prayer and a short reflection:

“If we seek knowledge that brings blessings, we must begin from a clean environment.”

The teaching methods employed were not only cognitive but also addressed affective dimensions. Teachers used visual contrasts between clean and polluted environments and invited students to reflect on their real-life implications. After reflection sessions,

students were assigned to clean their classroom or the school garden. Observations revealed that these activities were not performed as administrative duties but as a form of value understanding.

Teachers also introduced simple practices that linked *aqidah* (creed) to ecological action, such as the “LISA” (Lihat Sampah Ambil – “See Trash, Pick It Up”) program. Through religious narratives emphasizing that every good deed brings reward, students were encouraged to regard small environmental acts as forms of worship. In interviews, one teacher mentioned that verses such as Qur’an 30:41 (QS. Ar-Rum: 41) and Qur’an 2:205 (QS. Al-Baqarah: 205) were often used to discuss human-caused environmental destruction.

Table 1. Strategies and Practices of Islamic Education Teachers in Integrating Eco-Theological Values

Strategy	Practice
Linking verses and <i>hadith</i>	Using QS. Ar-Rum:41 and QS. Al-Baqarah:205 to discuss environmental degradation
Lecture and reflection	Showing images of clean vs. polluted environments followed by discussion and opening prayer
Direct practice	Students clean classrooms or school gardens after lessons
Habituation	Teachers do not start class until the room is clean; “LISA” program tied to reward and ecological responsibility
Exemplary behavior	Teachers bring reusable bottles and avoid single-use plastics
Contextualization of <i>fiqh</i>	The topic of <i>thaharah</i> (purification) is linked to the wise use of water during <i>wudu</i>

Observations also revealed that teachers use *fiqh* material on *thaharah* to broaden students’ understanding of cleanliness beyond ritual practices. In the learning process, teachers explain that purification is not only related to personal worship but also to maintaining environmental cleanliness and using resources responsibly. As explained by one Islamic Education teacher, the lesson on ablution is used to emphasize that cleanliness should include the surrounding environment, not only the body. The teacher noted that while learning about *thaharah*, students are reminded that purification practices should encourage them to maintain a clean environment as part of their religious responsibility.

In addition, teachers relate the use of water in ablution to the principle of sustainability by encouraging students to use water wisely and avoid waste. Through this explanation, students are guided to understand that Islamic teachings about purification also contain values of environmental responsibility and resource conservation, which can be practiced in daily life at school. Exemplary behavior was a key element of this approach. In several classes, teachers were observed carrying their own drinking bottles,

using cloth bags, and refusing single-use plastics. This not only provided direct examples but also normalized environmentally conscious behavior. One student stated,

“When we see our teacher refusing plastic, we feel embarrassed if we bring snacks in plastic packaging.”

These strategies demonstrate that Islamic Education teachers at this school function not merely as transmitters of knowledge but as shapers of students’ ecological character by enlivening religious values through concrete actions.

3. The Role of Adiwiyata Policy, Curriculum, and Multi-Stakeholder Collaboration

The reinforcement of eco-theological values cannot stand alone without structural support. At SMPN 11 Makassar, the school’s policies provide a strong foundation through the integration of environmental awareness into its vision, mission, routine programs, and student behavior guidelines.

An examination of the school’s vision and mission documents revealed that religiosity and environmental concern are inseparable from the institution’s educational objectives. One concrete manifestation of this integration is the “Clean Friday” (Jumat Bersih) program, which involves all members of the school community, including teachers and staff. On these days, lessons begin later than usual as students and teachers collectively clean the surrounding environment, accompanied by the recitation of relevant Qur’anic verses or hadith.

The integration of eco-theological values is also embedded within the curriculum. Core Islamic Education subjects, *aqidah* (faith), *ibadah* (worship), and *akhlak* (ethics), serve as platforms to explore ecological values from an Islamic perspective. In *fiqh*, particularly in discussions of *thaharah* (purification), students reflect on the importance of preserving water as a vital resource. In *aqidah*, students are guided to understand the order and harmony of creation as a manifestation of divine power. Meanwhile, in *akhlak*, principles of simplicity and social responsibility form the foundation for discussions on energy saving and waste management.

During interviews, teachers explained that Qur’anic verses were used not merely in a verbalistic way but in a contextualized manner.

For instance, Qur’an 14:32 (QS. Ibrahim: 32), which discusses the blessings of water and plants, was employed as a thematic entry point for discussions on environmental conservation. This approach opens opportunities for students to interpret religious texts in connection with their lived ecological experiences.

Curricular reinforcement was complemented by co-curricular activities such as cleanliness competitions, tree-planting projects, and composting organic waste from the

school canteen. One notable initiative was the reuse of water from wudu (ablution) to irrigate plants. Field observations showed that the school installed a simple water-harvesting system near the ablution area, which students used each morning as part of their responsibility to maintain the school garden. Multi-stakeholder collaboration further strengthened the implementation of eco-theological values. Internally, Islamic Education teachers closely collaborated with the Adiwiyata team, science teachers, and homeroom teachers to design thematic, cross-disciplinary environmental programs. Regular coordination meetings were held to ensure that environmental activities aligned with Islamic perspectives.

Externally, the school established partnerships with the Environmental Agency and several NGOs. These collaborations included waste management training, composting workshops, and the establishment of an “Organic School Garden Project.” Such partnerships allowed students to witness firsthand how religious and scientific knowledge could jointly address real-world environmental challenges. Direct observations also revealed that teachers from other subjects actively supported the ecological culture. Mathematics teachers, for instance, linked statistical lessons to calculating plastic waste per class, while art teachers encouraged students to create works from recycled materials. These examples demonstrate that the eco-theological approach had evolved into a school-wide culture rather than remaining confined to Islamic Education programs alone.

4. Challenges and Solution in Stabilizing Student’s Ecological Behavior

Although the implementation of eco-theological principles at SMPN 11 Makassar has shown positive outcomes, this study identified several challenges that hinder the consistency of students’ ecological behavior, particularly outside the school environment. One major challenge is the inconsistency of students’ environmental behavior at home. Interviews with teachers revealed that environmentally friendly habits developed at school such as maintaining cleanliness, managing waste, bringing reusable bottles, and conserving resources sometimes decline when students return to home environments that do not support such practices. Teachers explained that some students come from neighborhoods where environmental awareness is still limited, which affects the consistency of these behaviors outside school. One teacher noted that students initially find it difficult to adopt environmental habits because the environments in which they live are not yet accustomed to such practices, although gradually they begin to apply what they learn at school.

This indicates that the internalization of ecological values requires continuous reinforcement not only at school but also within the family and community. Differences between the environmental culture at school and at home often create challenges in sustaining students’ ecological behavior consistently in their daily lives. Another internal

challenge is related to facilities. Limited land area prevented the school from expanding its greening zones or establishing a large-scale composting area. Several organic and inorganic waste bins provided around the school were not yet optimally used by all students. Observations also found that the school canteen had not fully implemented a plastic-free policy, even though the school encouraged students to bring their own lunchboxes.

To address these challenges, the school adopted project-based and habituation-oriented strategies. One key initiative was the establishment of environmental behavior monitoring teams in each class. These student teams were responsible for checking classroom cleanliness, the use of reusable bottles, and the completion of environmental journals. They reported their findings to the homeroom teachers, who then coordinated with Islamic Education teachers to integrate these reports into classroom reflection sessions. This system encouraged collective accountability and motivated students to become active agents of change within their communities.

Another strategy was the introduction of symbolic incentives for students who consistently practiced ecological behaviors. For instance, the “Green Student of the Month”, award was presented during the flag ceremony and received enthusiastic responses from the student body. Such recognition not only encouraged positive competition but also strengthened the emotional and moral connection between ecological and religious values.

The school also enhanced family involvement by distributing a short guide titled “Islam and the Environment” to parents. The booklet contained Qur’anic verses, hadith, and simple household environmental practices, aiming to bridge the value gap between home and school. This initiative sought to extend the eco-theological message beyond institutional boundaries and foster a supportive social ecosystem for students’ behavioral continuity.

Overall, the challenges identified in this study highlight that the internalization of eco-theological values is a long-term process that requires consistency, synergy among school elements, and engagement with students’ broader social environments. Observations of teacher-student interactions, participation in programs, and classroom atmosphere revealed that despite existing limitations, strong collective commitment and leadership within SMPN 11 Makassar sustained the momentum for eco-theological transformation.

B. Discussion

The findings of this study reveal that the integration of eco-theological principles into Islamic Religious Education (PAI) at SMPN 11 Makassar has shaped a comprehensive pedagogical model that combines religious and environmental education in a mutually reinforcing way. Eco-theological values were not only embedded in school policies but also manifested in classroom practices, curriculum design, collaborative networks, and

innovative solutions to contextual challenges. This section discusses the findings by connecting them to existing literature and theoretical frameworks.

School policy played a strategic role in supporting the internalization of eco-theological values. The school's vision, which integrates spiritual and ecological dimensions, created an administrative framework that supports the long-term development of environmentally responsible behavior. This aligns with the findings of Lutfiyah and Khumairotul (2023), who emphasize that a comprehensive policy grounded in religious values is essential to cultivating environmental culture. Programs such as Clean Friday and Qur'anic Garden at SMPN 11 Makassar demonstrate that faith-based initiatives can transform ecological actions into acts of worship. This perspective is consistent with Begum et al. (2021), who found that environmental education infused with Islamic teachings fosters a stronger sense of moral responsibility toward nature among students.

The role of Islamic Education teachers as primary agents of eco-theological integration is another key point. Teachers not only cited verses about environmental stewardship but also modeled sustainable lifestyles, such as reducing plastic use and participating in tree-planting activities. Abbas and Sudika (2023) highlight that Islamic Education teachers bear a dual responsibility, cultivating both spirituality and environmental ethics among students. While Mulyana et al. (2023) discuss character formation in Islamic education, the present study extends this discourse by illustrating how such character building is concretized through ecological action. Teacher exemplarity thus serves as a crucial bridge between students' cognitive understanding and their tangible behavioral change.

Integrating eco-theological values into the Islamic Education curriculum further reinforced environmental awareness as part of Islamic identity. Lessons in aqidah, fiqh, and akhlak at SMPN 11 Makassar were designed to help students recognize the interconnection between faith and environmental care. Hidayat (2023) asserts that Islamic eco-theology deepens students' spiritual relationship with nature, motivating them to engage in sustainability practices. Similarly, Boffi et al. (2022) found that incorporating sustainability principles across disciplines enhances critical thinking and long-term pro-environmental attitudes. The project-based initiatives at SMPN 11 Makassar, such as the Green School Movement, provided experiential opportunities for students to embody these values in daily life.

Experiential learning emerged as a vital component of developing students' sustainability consciousness. Mudrikah et al. (2023) note that teachers' sense of responsibility can motivate students to actively participate in environmental activities. Observations at SMPN 11 Makassar showed that students learned not only through textual study of religious teachings but also by engaging in conservation practices, waste

management, and eco-action projects. The combination of textual reflection and practical engagement exemplifies the effectiveness of experience-based eco-theological education, where environmental ethics are not abstract ideals but lived practices.

Collaboration among multiple stakeholders, including teachers, administrators, and external partners, proved crucial for effective eco-theological education. The formation of the school's eco-theology team, composed of PAI and science teachers alongside extracurricular coordinators, demonstrated a participatory governance model for environmental education. Braßler and Sprenger (2021) argue that partnerships with external organizations enhance environmental education by providing resources and technical expertise. The school's collaborations with government environmental agencies and NGOs, such as through composting workshops and seed-planting programs, concretely illustrate this synergy. Lin et al. (2023) also showed that teacher training in environmental aesthetics improves student engagement in ecology-based learning, a finding reflected in the Makassar case.

However, the challenges identified at SMPN 11 Makassar indicate that the internalization of eco-theological values does not always proceed linearly. A major obstacle lies in students' inconsistent environmental behavior outside of school. This finding resonates with Asare (2022), who found that family disengagement, inadequate facilities, and cultural resistance often hinder faith-based sustainability education. The study underscores the need to extend environmental education to families and communities so that values instilled in school can be sustained beyond institutional boundaries.

Another challenge concerns the school's limited physical infrastructure, such as insufficient green space and waste management facilities. Despite collaborative efforts, these structural limitations reduced the scope of eco-theological initiatives. Suhadi and Parker (2021), in their study of Franciscan schools in Indonesia, found that adequate facilities play a decisive role in the success of religion-based environmental education. Similarly, Quddus (2020) observed that eco-pesantren effectively link Islamic teachings to environmental practices largely due to institutional support and adequate resources—insights that can inform improvements in public-school settings like SMPN 11 Makassar.

The literature also highlights the absence of systematic evaluation mechanisms in eco-theological education. SMPN 11 Makassar, like many other schools, lacked a structured framework to measure long-term behavioral outcomes. This aligns with Moebin (2022), who critiques the lack of assessment tools that encompass cognitive, affective, and psychomotor domains in value-based education. A mixed-method evaluation system, combining qualitative observation and quantitative behavioral metrics, could provide a more holistic assessment of the effectiveness of eco-theological integration.

In situating the findings within global discourse, this study demonstrates that Islamic education can serve as a transformative agent for ecological ethics. The integration of eco-theological values into school policy, teaching, curriculum, and collaboration at SMPN 11 Makassar exemplifies how Islamic education can address ecological crises in a contextually relevant and ethically grounded way. Despite structural and cultural barriers, strong leadership, teacher exemplarity, adaptive curriculum design, and collaborative engagement have created a learning environment that is both spiritual and ecological. Hence, the eco-theological approach to Islamic Religious Education in SMPN 11 Makassar offers a replicable model for other schools seeking to advance sustainability through faith-based education.

IV. Conclusion

This study demonstrates that the integration of eco-theological values into Islamic Religious Education at SMPN 11 Makassar, a school implementing the Adiwiyata School Program, has been carried out through an interconnected approach that combines theological understanding, pedagogical practices, and institutional support. Islamic Education teachers play a central role in internalizing environmental values by linking Qur'anic teachings and hadith with practical ecological actions, applying reflective learning methods, and modeling environmentally responsible behavior. These efforts are strengthened by school policies, curriculum integration, and collaborative programs that encourage students to practice sustainability through daily activities such as waste management, energy conservation, and environmental care initiatives.

However, the study also identifies several challenges, particularly the inconsistency of students' ecological behavior outside the school environment and limitations in facilities that support environmental programs. Addressing these challenges requires stronger collaboration between schools, families, and communities, as well as more systematic evaluation mechanisms to measure the long-term impact of eco-theological education. Overall, the findings indicate that the integration of eco-theology within Islamic education can effectively foster ecological awareness and character development, offering a practical model for implementing sustainability-oriented education in public schools.

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