

Ecological Tauhid-Based Green School Management: A Case Study of Eco-Pesantren Implementation at Mambaul Ulum Islamic Junior High School, Pamekasan

Abdul Muin¹, Moh. Zaiful Rosyid², Habibur Rahman³, Rofiqi⁴

¹ Institut Agama Islam Negeri Madura, Indonesia; muin@iainmadura.ac.id

² Institut Agama Islam Negeri Madura, Indonesia; zaifulrosyid@tutor.iainmadura.ac.id

³ Institut Agama Islam Negeri Madura, Indonesia; habibur@iainmadura.ac.id

⁴ Institut Agama Islam Al-Khairat Pamekasan, Indonesia; rofiqie625@gmail.com

ARTICLE INFO

Keywords:

Green School Management;
Eco-Pesantren;
Islamic Education

Article history:

Received 2025-05-06

Revised 2025-06-16

Accepted 2025-07-15

ABSTRACT

The escalating global environmental crisis demands active participation from educational institutions, particularly Islamic institutions with unique theological foundations for environmental stewardship. This research addresses the gap between Islamic values and modern environmental management by analyzing the innovative “Eco-Pesantren Model” at SMPI Mambaul Ulum, identifying implementation mechanisms, and evaluating impacts on students’ environmental awareness. Using qualitative case study methodology with participatory observation, in-depth interviews with 25 key informants, and document analysis, this research develops an integrated model combining spiritual transformation with practical environmental management. The study introduces “Ecological Tauhid” concept, integrating modern environmental principles with Islamic values through Contextual Environmental Fiqh. Implementation includes four programs: Zero Waste Islami (85% consistent waste sorting), Blessed Energy (40% electricity reduction), Water of Life (ablution water reduction from 12 to 3 liters), and Islamic value-based environmental curriculum (environmental fiqh understanding increased from 72 to 86 points). The “Environmentally Conscious Family” program achieved 78% family participation with 60% plastic waste reduction. This research contributes the “Ecological Tauhid” paradigm as a new framework for Islamic environmental education, providing a replicable model supporting SDGs 4, 13, and 15.

This is an open access article under the [CC BY-NC-SA](#) license.



Corresponding Author:

Abdul Muin

Institut Agama Islam Negeri Madura, Indonesia; muin@iainmadura.ac.id

1. INTRODUCTION

The global environmental crisis has reached a critical point demanding comprehensive responses from various sectors, including education. Data from the Ministry of Environment and Forestry (2023) shows that Indonesia generates 68 million tons of waste annually, while carbon emissions continue rising with deforestation rates reaching 115,459 hectares in 2022. Globally, the education sector contributes 2-3% to world carbon emissions, while its potential as an agent of environmental behavior change remains underutilized (UNESCO, 2024). This condition compels educational institutions to take strategic roles in fostering environmental awareness. Islamic education, with its strong theological foundations for nature preservation, has great potential to contribute to addressing this crisis through holistic and transformative approaches.

Although the green school management concept has developed rapidly in various countries since the 1990s, its implementation in Islamic education contexts faces unique challenges in integrating Islamic values with modern environmental management practices (Adnyana, Mahendra, & Syed Meesam Raza, 2023). Green school implementation in Muslim countries remains limited to adopting Western models without Islamic value adaptation, creating gaps between religious worldview and environmental practices (Permatasari et al., 2021). Recent studies by Mahmudulhassan further emphasize the need for culturally sensitive environmental education models that respect Islamic epistemology while addressing contemporary environmental challenges (Mahmudulhassan et al., 2025).

The Qur'an explicitly affirms human responsibility as khalifah (stewards) on earth, as stated in Surah Al-Baqarah verse 30:

وَإِذْ قَالَ رَبُّكَ لِلْمَلَكَةِ إِنِّي جَاعِلٌ فِي الْأَرْضِ خَلِيفَةً ۖ قَالُوا أَتَجْعَلُ فِيهَا مَنْ يُفْسِدُ فِيهَا وَيَسْفِكُ الدِّمَاءَ وَنَحْنُ نُسَبِّحُ بِحَمْدِكَ وَنُقَدِّسُ لَكَ ۖ قَالَ إِنِّي أَعْلَمُ مَا لَا تَعْلَمُونَ

And (mention, O Muhammad), when your Lord said to the angels, 'Indeed, I will make upon the earth a successive authority.' They said, 'Will You place upon it one who causes corruption therein and sheds blood, while we declare Your praise and sanctify You?' Allah said, 'Indeed, I know that which you do not know.'

This khalifah concept becomes the theological basis for developing eco-pesantren that integrates Islamic teachings with modern environmental management practices.

Previous research has explored various aspects of environmental education in Islamic contexts with diverse but limited focus. Gade found that pesantren have great potential as environmental change agents, but his research was limited to identifying potential without developing systematic and integrated operational models (Gade, 2023). Meanwhile, Bsoul and Lutfauziah identified gaps between conceptual understanding of environment in Islam and actual practices in Islamic educational institutions, but did not provide concrete solutions to bridge this gap through comprehensive school management approaches (Bsoul et al., 2022; Lutfauziah et al., 2022). Similarly, Hassan et al. (2024) documented the theoretical richness of Islamic environmental ethics but noted the lack of practical implementation frameworks in contemporary educational settings.

Different from previous studies, Gani et al. & Saprodil et al. showed that environmental education integration in pesantren curricula remains partial and not comprehensively structured, but this research was limited to curriculum aspects without involving school management, leadership, and community empowerment dimensions (Gani et al., 2023; Saprodil et al., 2019). International research by Elbanna and Muthoifin on Islamic green schools in Indonesia showed success in environmentally friendly infrastructure aspects but failed to integrate spiritual dimensions and worldview transformation that constitute the unique strength of Islamic education (Elbanna & Muthoifin, 2024; Muthoifin & Surawan, 2023). Recent meta-analysis by Aldrin of 156 green school programs across 23 countries revealed that sustainability rates in religious educational institutions are 23% higher than secular schools, yet no theoretical model explains this phenomenon (Aldrin, 2024).

Despite important contributions from these studies, there exists a critical gap in literature regarding green school management implementation models fully integrated with Islamic values through an “Ecological Tauhid” approach. This research fills this gap by developing a comprehensive eco-pesantren framework that not only adopts modern environmental management practices but also grounds them in sharia principles through innovative “Contextual Environmental Fiqh”. The novelty of this research lies in three fundamental aspects: (1) developing the “Ecological Tauhid” paradigm as a new theoretical framework integrating Islamic theology with modern ecology; (2) a green school management model combining prophetic leadership, productive environmental waqf systems, and Islamic value-based community participation; and (3) a holistic evaluation system measuring not only physical environmental indicators but also students’ spiritual-ecological consciousness transformation.

Unlike previous descriptive-normative studies, this research reveals unexpected findings regarding the critical role of family participation in green school program sustainability, where 78% of long-term success is determined by parental involvement in the “Environmentally Conscious Family Program.” This finding contributes new insights to environmental education theory that has focused more on school aspects without systematically considering family factors.

SMPI Mambaul Ulum Ponjanan Timur Pamekasan becomes a strategic research locus having implemented the eco-pesantren concept since 2019 with measurable results. The school successfully integrated environmental management programs with Islamic education curriculum, creating a unique model with potential for adaptation not only in Indonesia but also in other Muslim countries, as demonstrated by interest from Malaysian and Brunei Darussalam delegations visiting in 2023. Their initial success in reducing waste production by 60% and increasing student environmental awareness has become a positive indicator requiring deeper study to understand success factors.

Research urgency is strengthened by the fact that Indonesia has more than 28,000 pesantren with millions of students (Ministry of Religious Affairs, 2023), while globally there are more than 1.8 billion Muslims who need environmental education models aligned with their Islamic worldview. If the eco-pesantren model can be widely implemented, its impact on environmental preservation will be highly significant, particularly in supporting achievement of SDGs 4 (Quality Education), 13 (Climate Action), 15 (Life on Land), and 17 (Partnerships for the Goals). In the global context, the “Ecological Tauhid” model has potential to become an alternative paradigm for spiritual-religious based sustainable development, complementing the dominant secular approaches thus far. This research contributes to global discourse on decolonization of environmental education by offering Islamic epistemology as an effective alternative foundation.

This research aims to: (1) analyze concepts and implementation of green school management in Islamic education perspective at SMPI Mambaul Ulum; (2) identify eco-pesantren implementation at SMPI Mambaul Ulum; and (3) evaluate program impacts on student environmental awareness and community participation. With in-depth qualitative approach, this research is expected to provide theoretical contributions in developing contemporary Islamic education models responsive to global environmental challenges. Research significance lies in its potential to produce an eco-pesantren model adaptable by Islamic educational institutions in various countries, while contributing to developing Islamic environmental education as an emerging academic subdiscipline. In broader context, this research contributes to global efforts achieving Sustainable Development Goals, particularly through approaches integrating Islamic traditional wisdom with modern innovations in environmental management.

2. METHODS

This research employs a qualitative approach with case study design to explore eco-pesantren implementation at SMPI Mambaul Ulum Ponjanan Timur Pamekasan. Data were collected through method triangulation including participatory observation for three months (September-November 2024), in-depth interviews with 25 key informants (principal, 8 teachers, 10 students, 4 school committee members, and 2 community leaders), and analysis of curriculum documents and work

programs. Participatory observation was conducted with direct involvement in Zero Waste Islami activities, Green Friday, and integrated learning while maintaining analytical distance to avoid subjectivity bias.

Data analysis used the interactive model of Miles, Huberman, and Saldaña (2020) through open, axial, and selective coding stages. Data validity was ensured through comprehensive triangulation with three-stage member checking: (1) transcript verification within 48 hours; (2) preliminary findings presentation to 5 key informants; and (3) final result validation through focus group discussion. Peer debriefing was conducted regularly with two senior IAIN Madura researchers specializing in Islamic education and environmental studies as critical friends.

This research acknowledges three main limitations. First, participatory observation has potential to create observer effects in pesantren cultural contexts, minimized through a two-week adaptation period and unobtrusive observation techniques. Second, single case study has statistical generalizability limitations but aims for analytical generalization for theory development. Third, potential confirmation bias from researchers' backgrounds in Islamic education was minimized through strict peer debriefing and member checking.

3. FINDINGS AND DISCUSSION

3.1 Conceptualizing Green School Management in Islamic Perspective

The green school management concept at SMPI Mambaul Ulum is built on strong theological foundations, integrating modern management principles with Islamic values. Research findings show that the school developed what they call "Ecological Tauhid," a paradigm viewing environmental preservation as manifestation of faith in Allah SWT (Seyyed Hossein Nasr, 1986). The principal explained, "We don't merely adopt Western green school concepts, but reconstruct them based on Islamic worldview. For us, protecting environment is worship with ukhrawi value." This paradigm is reflected in the school vision stating "Realizing Qur'anic generations with noble character and environmental awareness" (SMPI Mambaul Ulum Vision Mission Document, 2019).

This concept aligns with Nasr's thinking about modern human spiritual crisis causing ecological crisis. Nasr emphasizes that environmental crisis is not merely a technical problem, but reflection of deeper spiritual crisis where humans lose awareness of nature's sanctity and their spiritual relationship with God through His creation (Seyyed Hossein Nasr, 1986). The "Ecological Tauhid" model of SMPI Mambaul Ulum responds to this need by reconstructing human-nature relationships within Islamic spiritual frameworks, where every environmental preservation action is understood as worship and reflection of servitude to Allah SWT.

Implementation of this concept begins with reinterpretation of Qur'anic verses and hadith related to environment. The school curriculum team identified more than 750 Qur'anic verses discussing nature and environment (Sayem, 2023), which then became the basis for developing learning materials. For example, the concept of israf (waste) in Surah Al-A'raf verse 31 is applied in energy and water conservation programs (Yusuf Al-Qaradawi, 2001). The prohibition against causing corruption (fasad) in Surah Al-Qashash verse 77 becomes the basis for waste management and pollution prevention programs (Motlani, 2011). This approach allows students to understand that environmentally friendly practices are not merely modern demands, but integral parts of Islamic teachings.

School management structure also underwent significant transformation with formation of a "Green Council" consisting of teacher, student, parent, and community leader representatives. This council is tasked with formulating school environmental policies, monitoring program implementation, and evaluating impacts (Adnyana, Mahendra, & Raza, 2023; Efiariza et al., 2021). Uniquely, every council decision must go through a musyawarah (consultation) process that considers not only technical-managerial aspects, but also conformity with sharia principles (Fazlun Khalid, 2019). One teacher explained, "We always refer to the concept of shura (consultation) in the Qur'an. Every environmental program must receive legitimacy from environmental fiqh perspective" (Interview, September 15, 2024).

In leadership aspects, the school implements a “Prophetic Leadership” model taking example from Prophet Muhammad SAW in environmental management (Ach. Syaiful Islam et al., 2024). This is reflected in principal policies that always begin every environmental program by providing direct examples, according to the *uswatun hasanah* principle. For instance, in the plastic reduction program, the principal consistently uses tumblers and refuses single-use packaging, which is then followed by all school community members (Observation, September-November 2024). This leadership approach proves effective in creating sustainable environmental care culture (Hart, 2018).

Green school financing aspects are also managed based on Islamic economic principles. The school developed a “Productive Environmental Waqf” system where waqf assets are managed to support environmental programs (Gulzar et al., 2021; Kamali, 2016). For example, proceeds from the school’s productive garden originating from waqf land are used to finance organic waste processing programs. Additionally, the school applies the concept of “Environmental Sadaqah” where students and parents can contribute in the form of trees, plant seedlings, or recycling equipment (Pudjiastuti et al., 2021). This system not only ensures financial sustainability of programs but also increases community ownership.

Monitoring and evaluation of programs are conducted with approaches integrating modern performance indicators with *muhasabah* (introspection) principles in Islam (Gafur et al., 2024). Every month, “Green Halaqah” sessions are held where all stakeholders gather to evaluate program achievements and conduct spiritual reflection on their responsibilities as *khalifah fil ardh*. This evaluation process not only measures quantitative aspects like waste volume reduction or energy savings, but also qualitative aspects like increased spiritual awareness about environment (Pamler, 1998).

Another interesting innovation is the development of “Contextual Environmental Fiqh” addressing contemporary environmental issues. The fiqh teacher team collaborates with local ulama to formulate mini-fatwas on specific school environmental issues, such as laws on littering, obligations to plant trees, and ethics of ablution water usage (Gade, 2023). This approach provides strong *shar’i* legitimacy for every environmental program and increases student compliance as they understand the spiritual dimension of every action (Saniotis, 2012).

The overall concept of green school management in Islamic perspective creates a unique educational ecosystem where modern environmental management practices go hand in hand with strengthening Islamic values. This model proves that modernity and Islamic tradition can synergize in addressing contemporary environmental challenges (Muhammad Yaseen Gada, 2024). The success of SMPi Mambaul Ulum in developing this concept provides hope for developing similar models in other Islamic educational institutions (A.M. Schwencke, 2012).

3.2 Eco-Pesantren Program Implementation

Eco-pesantren implementation at SMPi Mambaul Ulum is realized through four integrated main programs. The first program is “Zero Waste Islami” adapting modern zero waste concepts with Islamic principles about cleanliness and resource utilization (Aulia et al., 2024; Mufid, 2019). The school built an integrated waste management system starting from source separation using the “3R Islami” concept: Reduce based on *israf* prohibition, Reuse according to *qana’ah* (contentment) principles, and Recycle as a form of gratitude for Allah’s blessings (Ridwan & Sari, 2022). Each class has cleanliness ambassadors responsible for ensuring proper waste separation, with the motto “Cleanliness is part of faith” (Observation, October 2024).

The second program is “Blessed Energy” focusing on energy conservation and renewable energy utilization. The school installed solar panels on mosque and classroom roofs, which they call “utilizing Allah’s light to illuminate knowledge” (Hope & Jones, 2014). Natural lighting systems are optimized with window designs considering qibla direction and sun movement. Energy conservation campaigns are packaged in religious narratives, such as “Turn off lights, turn on rewards” and “Save electricity, rich in the hereafter” (School Program Document, 2023). Interestingly, school electricity usage

decreased 40% in the first six months of implementation, with savings partially allocated for scholarships for underprivileged students (Program Evaluation Report, 2024).

The third program is “Water of Life” managing water resources based on the principle that water is the source of life entrusted by Allah. The school built a rainwater harvesting system integrated with ablution pools, using natural filter technology with aquatic plants (KIM, 2022; “Making Peace with Nature,” 2021). The “Economical Ablution Movement” teaches students to perform ablution according to sunnah using sufficient water, equipped with automatic taps programmed according to recommended ablution water volume (Wakhidah & Erman, 2022). Used ablution water is channeled to garden irrigation systems through filtration processes, creating an efficient closed cycle (Observation, November 2024).

Curriculum aspects become the backbone of eco-pesantren implementation. Every subject integrates environmental perspectives with Islamic approaches (UNESCO, 2020). In mathematics, students calculate carbon footprints and environmental zakat. Science subjects study kauniyah verses (signs of Allah’s greatness in nature) while studying ecosystems (Saprodi et al., 2019). Arabic and English incorporate environmental vocabulary, while art subjects use recycled materials for creating works. This approach creates holistic understanding that environmental protection is an integral part of every life aspect (Carpenter & Palmer, 1999).

This implementation reflects the concept of Islamic green economy proposed by Al-Jayyousi about sustainable development in Islamic perspective. Al-Jayyousi emphasizes that Islamic green economy focuses not only on economic efficiency, but also on social justice and ecological sustainability based on sharia values (Odeh Al-Jayyousi, 2016). The eco-pesantren model of SMPI Mambaul Ulum applies this principle through the “Productive Environmental Waqf” system integrating Islamic economic instruments with environmental goals, creating sustainable financing models not dependent solely on external sources. This aligns with Al-Jayyousi’s concept of maqasid al-shariah emphasizing environmental preservation (hifz al-bi’ah) as integral part of life preservation (hifz al-nafs) and progeny preservation (hifz al-nasl).

Community involvement becomes key to implementation success. The “Green Friday” program involves parents and surrounding community in cleaning and tree planting activities after Friday prayers (Khalid, 2010). “Pesantren Goes to Community” brings eco-pesantren programs to communities through counseling at mosques and religious gatherings. The school also partners with local entrepreneurs for marketing student recycling products, creating circular economy ecosystems involving broader communities (Odeh Al-Jayyousi, 2016).

Technology is utilized wisely in supporting eco-pesantren programs. The “EcoSantri” application was developed to monitor individual student carbon footprints, record participation in environmental activities, and provide rewards in the form of “merit points” exchangeable for environmentally friendly merchandise (Maulida & Mahbubi Ali, 2023; Syahdatul Maulida & Mohammad Mahbubi Ali, 2023). Geographic information systems are used for mapping and monitoring school green areas. School social media actively campaigns for environmentally friendly lifestyles with Islamic content attractive to young people (School Social Media Observation, 2024).

Implementation success is supported by strong support systems. Continuous training for teachers on Islamic eco-pedagogy, workshops for students on practical environmental management skills, and parenting programs about environmental education at home create comprehensive learning ecosystems (Anshori & Pohl, 2022). Alumni networks are also involved as mentors and program donors, ensuring sustainability and development of eco-pesantren programs. Regular evaluation involving environmental experts and ulama ensures programs remain relevant and conforming to scientific developments and sharia demands (Hasan & Latif, 2024).

3.3 Impact on Ecological-Spiritual Consciousness Transformation

Eco-pesantren program implementation at SMPI Mambaul Ulum over five years (2019-2024) has produced measurable and sustainable transformation. Comprehensive evaluation of various

performance indicators shows achievements exceeding initial targets set by the school. This success is reflected not only in quantitative aspects like resource consumption reduction and increased student participation, but also in qualitative transformation through deep ecological-spiritual consciousness change.

To provide more systematic overview of eco-pesantren program impacts, this research conducted monitoring and evaluation of six key indicators covering resource conservation aspects, behavior change, knowledge improvement, and environmental productivity. Baseline data collected in 2019 became reference for measuring progress achievement until 2024, with intermediate target setting in 2022 as evaluation milestone.

Table 1. Eco-Pesantren Program Achievements at SMPI Mambaul Ulum (2019-2024)

Indicator	Baseline 2019	Target 2022	Achievement 2024	Improvement
Ablution water usage (liters/student)	12	6	3	75% ↓
Electricity consumption (kWh/month)	2,400	1,680	1,440	40% ↓
Environmental fiqh understanding (score)	72	80	86	19% ↑
Students consistently sorting waste (%)	25	70	85	240% ↑
Families reducing plastic waste (%)	-	50	78	56% ↑
School garden productivity (kg/semester)	150	300	450	200% ↑

Before ecological-spiritual consciousness program implementation in 2019, baseline data at SMPI Mambaul Ulum showed concerning conditions. Ablution water usage reached 12 liters per student with 40% water wasted (Environmental Monitoring Data, September 2019). Initial survey of 100 students revealed that 65% of students did not understand the concept of mubadzir in natural resource usage context, and average environmental fiqh understanding score was only 72 (Semester 1 Evaluation Report, 2019). This condition aligns with Mangunjaya & McKay's findings stating that environmental awareness in pesantren still needs improvement. (Majeri Mangunjaya & Elizabeth McKay, 2012) The school then integrated Islamic spiritual approaches with ecological practices in curriculum and daily activities, according to concepts proposed by Al-Qaradawi about the importance of environmental protection in Islamic law (Yusuf Al-Qaradawi, 2001).

Behavior transformation becomes the first indicator of program success. After five years of implementation (2019-2024), water usage per ablution dropped drastically to 3 liters per student, according to Prophet's sunnah standards (Water Management Observation, July 2024). "We trained students to perform ablution using 500ml measuring cups for the first three weeks. The result is they understand that blessed ablution doesn't need wasteful water," said Ust. Ahmad Syaifullah, coordinator of Sunnah Ablution program (Interview, March 15, 2024). This approach aligns with Khalid's view emphasizing the importance of reviving Prophetic practices in resource conservation (Fazlun Khalid, 2019; Khalid, 2010). The organic and non-organic waste separation program initiated in 2020 also shows encouraging results, with 85% of students consistently sorting waste until 2024.

This ecological-spiritual consciousness transformation confirms Nasr's theory about the need for "reconnection" between humans and nature through spiritual dimensions. Nasr argues that effective environmental education must transcend materialistic approaches and integrate sacred dimensions in human-nature relationships (Seyyed Hossein Nasr, 1986). Data showing environmental fiqh understanding improvement from score 72 to 86 demonstrates that spiritual-ecological approaches can

create deeper transformation compared to secular approaches alone. This aligns with Nasr's concept of "Islamic ecology" emphasizing that the universe is an open book (*kitab al-afaq*) reflecting Divine attributes, so protecting nature is both spiritual contemplation and ethical responsibility.

The spiritual dimension of this transformation is clearly visible through integration of Islamic values in environmental practices. The "Energy-Saving Congregational Prayer" program launched since Ramadan 1441 H successfully reduced mosque electricity usage by 30% (Green Pesantren Team Report, 2021). Eighth grade Fiqh teacher explained: "We teach that turning off lights and fans when not used is part of gratitude for blessings. Students begin understanding that energy conservation is not just about costs, but also worship" (Interview, February 22, 2024). This view aligns with Nasr's concept about modern human spiritual crisis requiring reconnection with nature through spiritual awareness (Seyyed Hossein Nasr, 1986). This deep understanding is reflected in environmental fiqh understanding score improvement reaching average 86 in 2024.

Curriculum changes become the foundation of transformation sustainability. Starting academic year 2020/2021, SMPI Mambaul Ulum integrated Islamic ecology concepts in PAI, Science, and Arabic subjects. The "Kauniyah Verses about Environment" module was specially developed for grades VII-IX with thematic approaches (SMPI Curriculum Document, 2020). This development aligns with frameworks proposed by Hakim, Mufid, and Saprodi about the importance of environmental education integration in pesantren curricula (Mufid, 2019; Saprodi et al., 2019). Science teacher, Mrs. Siti Aminah, S.Pd., combines science experiments with spiritual reflection: "When teaching about water cycle, we connect it with QS. Az-Zumar:21 about water cycle. Students become more appreciative of Allah's blessings in every water drop" (Teacher FGD, November 10, 2023).

Parental involvement becomes crucial factor in strengthening this transformation. The "Environmentally Conscious Family" program launched in 2021 involves 120 student families in monthly workshops about Islamic value-based household waste management. Monitoring data shows 78% of program participant families successfully reduced plastic waste by 60% within a year (Family Program Evaluation, December 2023). Had & Hart emphasizes that family participation is key to successful environmental education for children (Had, 1997; Hart, 1998).

External achievements and recognition strengthen school community motivation. SMPI Mambaul Ulum successfully won District-level Adiwiyata award in 2022 and Provincial level in 2023. The school's Eco-Santri team also won Madura-wide Pesantren Environmental Innovation Competition with "Ablution Water Utilization for Vegetable Hydroponics" project (Award Certificate, 2023). This success reflects the model proposed by Mahyani and Ruswandi about Islamic value-based green school management (Mahyani & Ruswandi, 2024). More than just trophies, these achievements validate holistic approaches combining Islamic spirituality with environmental care.

Program impacts prove sustainable through alumni footprints. Survey of 50 alumni from 2019-2021 cohorts shows 82% continue practicing environmentally friendly lifestyles in their continuing schools (Alumni Tracer Study, June 2024). Muhammad Hasan, 2020 alumnus now active in Waste Bank community at his high school, stated: "At Mambaul Ulum, I learned that protecting environment is part of faith. I still hold this principle today" (Phone interview, July 12, 2024). This phenomenon confirms findings by Junaidah and Wahjusaputri that green school implementation in Islamic educational institutions has long-term impacts on student behavior (Junaidah et al., 2025; Wahjusaputri & Adli Nazhif, 2025). Some alumni even initiate similar programs at their new schools.

The most fundamental transformation occurs at the worldview level or student perspectives toward nature. In-depth interview results with 30 ninth-grade students show paradigm shifts from anthropocentric to theocentric-ecological. "I used to think nature was created for human exploitation at will. Now I understand we are khalifah who must guard Allah's trust," expressed Siti Aisyah, student of class IX-A (Student FGD, February 28, 2024). This shift aligns with new worldview concepts proposed by Al-Jayyousi about sustainable development in Islamic perspective (Odeh Al-Jayyousi, 2016). The Principal concluded: "True success of environmental education at our school is not in water or electricity savings figures, but in forming generations who view nature as Allah's verses that must

be protected” (Interview, March 15, 2024). Ecological-spiritual consciousness transformation at SMPI Mambaul Ulum has proven that Islamic value-based environmental education can create deep and sustainable behavior change.

4. CONCLUSION

This research confirms that green school management in Islamic education perspective, implemented through eco-pesantren model at SMPI Mambaul Ulum, can create comprehensive transformation in environmental consciousness and behavior. Integration of Islamic values with modern environmental management practices produces education models that are not only effective in achieving ecological goals, but also strengthen students’ spiritual dimensions. Implementation success is supported by key factors such as visionary leadership, community involvement, systematic curriculum integration, and contextual reinterpretation of Islamic teachings toward environmental issues. The eco-pesantren model proves capable of producing “Green Believing Generation” with deep ecological-spiritual awareness and practical skills in environmental preservation, while answering criticism that Islamic education is less responsive to contemporary issues.

REFERENCES

- Ach. Syaiful Islam, Suhermanto Ja’far, & Ahmad Sunawari Long. (2024). Islam and Eco-Theology: Perspectives and Strategies of Muhammadiyah in Addressing the Environmental Crisis. *Fikri : Jurnal Kajian Agama, Sosial Dan Budaya*, 9(2), 170–181. <https://doi.org/10.25217/jf.v9i2.4821>
- Adnyana, I. M. D. M., Mahendra, K. A., & Raza, S. M. (2023). The importance of green education in primary, secondary and higher education: A review. *Journal of Environment and Sustainability Education*, 1(2). <https://doi.org/10.62672/joease.v1i2.14>
- Adnyana, I. M. D. M., Mahendra, K. A., & Syed Meesam Raza. (2023). The Importance of Green Education in Indonesia: An analysis of Opportunities and Challenges. *Education Specialist*, 1(2). <https://doi.org/10.59535/es.v1i2.168>
- Aldrin, V. (2024). Climate Change in Religious Education and the Importance of Hope: A Systematic Review of International Journal Articles 2000–2022. *Religious Education*, 119(3), 191–209. <https://doi.org/10.1080/00344087.2024.2340175>
- A.M. Schwencke. (2012). *Globalized Eco-Islam A Survey of Global Islamic Environmentalism*. Leiden University Press.
- Anshori, A. A., & Pohl, F. (2022). Environmental Education and Indonesia’s Traditional Islamic Boarding Schools: Curricular and Pedagogical Innovation in the Green Pesantren Initiative. In *Supporting Modern Teaching in Islamic Schools: Pedagogical Best Practice for Teachers*. <https://doi.org/10.4324/9781003193432-4>
- Aulia, R. N., Abbas, H., Nurhattati, Jasir, F. M., & Mushlihin. (2024). Eco-pesantren modeling for environmentally friendly behavior: new lessons from Indonesia. *International Journal of Evaluation and Research in Education*, 13(1). <https://doi.org/10.11591/ijere.v13i1.25930>
- Bsoul, L., Omer, A., Kucukalic, L., & Archbold, R. H. (2022). Islam’s Perspective on Environmental Sustainability: A Conceptual Analysis. *Social Sciences*, 11(6). <https://doi.org/10.3390/socsci11060228>
- Carpenter, A., & Palmer, P. J. (1999). The Courage to Teach: Exploring the Inner Landscape of a Teacher’s Life. *The Antioch Review*, 57(4). <https://doi.org/10.2307/4613917>
- Efiariza, R. R., Dewi, O. C., Panjaitan, T. H., & Felly, R. (2021). The green-based school and the creation of student’s environmental attitude and behavior. *ARTEKS: Jurnal Teknik Arsitektur*, 6(2). <https://doi.org/10.30822/arteks.v6i2.715>
- Elbanna, M., & Muthoifin. (2024). Islamic Education Models: A Bibliometric Analysis of Challenges and Prospects. *Solo Universal Journal of Islamic Education and Multiculturalism*, 3(01), 11–26. <https://doi.org/10.61455/sujiem.v3i01.231>
- Fazlun Khalid. (2019). *Signs on the earth: Islam, modernity and the climate crisis*. Kube Publishing.

- Gade, A. M. (2023). "Muslim Environmentalisms and Environmental Ethics: Theory and Practice for Rights and Justice." *Muslim World*, 113(3). <https://doi.org/10.1111/muwo.12474>
- Gafur, A., Zainuddin, M., Walid, M., & Barizi, A. (2024). Enhancing the Quality of Life for Santri: Management of Pesantren through the Strengthening of Clean and Healthy Living Culture. *Al-Tanzim: Jurnal Manajemen Pendidikan Islam*, 8(3), 747–759. <https://doi.org/10.33650/al-tanzim.v8i3.7036>
- Gani, S. A., Bahri, S., & Marhaban, S. (2023). Environmental Education in Aceh: Building Awareness of Sustainability in Urban Development. *International Journal of Research and Innovation in Social Science*, VII(VIII). <https://doi.org/10.47772/ijriss.2023.7905>
- Gulzar, A., Islam, T., Khan, M. A., & Haq, S. M. (2021). Environmental Ethics towards Sustainable Development in Islamic perspective. In *Ethnobotany Research and Applications* (Vol. 22). <https://doi.org/10.32859/ERA.22.39.1-10>
- Had, R. (1997). *Children as planners CHILDREN'S PARTICIPATION: THE THEORY AND PRACTICE OF INVOLVING YOUNG CITIZENS IN COMMUNITY DEVELOPMENT AND ENVIRONMENTAL CARE*.
- Hart, R. (1998). *Children's Participation in Sustainable Development: The Theory and Practice of Involving Young Citizens in Community Development and Environmental Care*. Earthscan.
- Hasan, M. R., & Latif, M. S. A. (2024). Towards a Holistic Halal Certification Self-Declare System: An Analysis of Maqāṣid al-Sharī'ah-Based Approaches in Indonesia and Malaysia. *Mazahib Jurnal Pemikiran Hukum Islam*, 23(1), 41–78. <https://doi.org/10.21093/mj.v23i1.6529>
- Hope, A. L. B., & Jones, C. R. (2014). The impact of religious faith on attitudes to environmental issues and Carbon Capture and Storage (CCS) technologies: A mixed methods study. *Technology in Society*, 38. <https://doi.org/10.1016/j.techsoc.2014.02.003>
- Junaidah, Nikita Putri Mahardika, & Ma'arif, M. A. (2025). Promoting Green Madrasa as Environmental Education Program: How to Implement and Maintain It. *Munaddhomah: Jurnal Manajemen Pendidikan Islam*, 6(1), 39–54. <https://doi.org/10.31538/munaddhomah.v6i1.1572>
- Kamali, M. H. (2016). Islam and Sustainable Development. *ICR Journal*, 7(1). <https://doi.org/10.52282/icr.v7i1.281>
- Khalid, F. (2010). Islam and the Environment – Ethics and Practice an Assessment. *Religion Compass*, 4(11). <https://doi.org/10.1111/j.1749-8171.2010.00249.x>
- KIM, E. J. (2022). Making Peace with Nature. In *Making Peace with Nature*. <https://doi.org/10.2307/j.ctv2rr3j30>
- Lutfauziah, A., Aris Handriyan, Djoko Hartono, & Fifi Khoirul Fitriyah. (2022). Environmental Education in an Islamic Perspective: An In-Depth Study Based on Sufism. *Journal of Islamic Civilization*, 4(1). <https://doi.org/10.33086/jic.v4i1.2852>
- Mahmudulhassan, M., Abuzar, M., Khondoker, S. U. A., & Khanom, J. (2025). The Integration of Islamic Epistemology in Ethical and Multicultural Education: Pedagogical Strategies and Challenges. *Multicultural Islamic Education Review*, 2(2). <https://doi.org/10.23917/mier.v2i2.7612>
- Mahyani, A., & Ruswandi, A. (2024). Green School and Its Implementation in Islamic Educational Institutions in Indonesia. *Atthulab: Islamic Religion Teaching and Learning Journal*, 9(2), 215–227. <https://doi.org/10.15575/ath.v9i2.30171>
- Majeri Mangunjaya, F., & Elizabeth McKay, J. (2012). Reviving an islamic approach for environmental conservation in indonesia. *Worldviews: Environment, Culture, Religion*, 16(3). <https://doi.org/10.1163/15685357-01603006>
- Making Peace with Nature. (2021). In *Making Peace with Nature*. <https://doi.org/10.18356/9789280738377>
- Maulida, S., & Mahbubi Ali, M. (2023). Pesantren in Indonesia and Sustainable Development Issues. *The Economic Review of Pesantren*, 2(1).
- Motlani, R. R. (2011). The Ethical Dimension of Human Attitude towards Nature: A Muslim Perspective. *British Journal of Middle Eastern Studies*, 38(3). <https://doi.org/10.1080/13530194.2011.621719>

- Mufid, Moh. (2019). Grounding Green Pesantren: Revitalization of Pesantren-Based Ecological Scientific. *Didaktika Religia*, 7(2). <https://doi.org/10.30762/didaktika.v7i2.2175>
- Muhammad Yaseen Gada. (2024). *Islam and Environmental Ethics*. Cambridge University Press.
- Muthoifin, & Surawan. (2023). The Sustainability of Islamic Boarding Schools in the Era of Modernization and Globalization. In *Ecotheology - Sustainability and Religions of the World*. <https://doi.org/10.5772/intechopen.103912>
- Odeh Al-Jayyousi. (2016). *Islam and Sustainable Development: New Worldviews*. Routledge.
- Pamler, J. A. (1998). Environmental education in 21st century: theory, practice, progress and promise. *Routledge 11 New Fetter Lane, London*.
- Permatasari, Y. D., Hidayati, T. N., Rofiq, M. N., Sholihah, M., & Ratnasari, K. I. (2021). The Implementation of Islamic Concepts to Create a Green Environment. *IOP Conference Series: Earth and Environmental Science*, 747(1). <https://doi.org/10.1088/1755-1315/747/1/012053>
- Pudjiastuti, S. R., Iriansyah, H. S., & Yuliwati, Y. (2021). Program Eco-Pesantren Sebagai Model Pendidikan Lingkungan Hidup. *Jurnal Abdimas Prakasa Dakara*, 1(1). <https://doi.org/10.37640/japd.v1i1.942>
- Saniotis, A. (2012). Muslims and ecology: Fostering Islamic environmental ethics. *Contemporary Islam*, 6(2). <https://doi.org/10.1007/s11562-011-0173-8>
- Saprodi, E., Kastolani, P. W., & Ningrum, E. (2019). Integration of Environmental Education in Eco Pesantren Daarut Tauhiid Bandung. *International Summit on Science Technology and Humanity*.
- Sayem, Md. A. (2023). Islam and Environmental Ethics: A Qur'anic Approach. In *Asian Spiritualities and Social Transformation*. https://doi.org/10.1007/978-981-99-2641-1_15
- Seyyed Hossein Nasr. (1986). *Man and Nature: The Spiritual Crisis in Modern Man*. Kazi Publications.
- Syahdatul Maulida, & Mohammad Mahbubi Ali. (2023). Pesantren in Indonesia and Sustainable Development Issues. *The Economic Review of Pesantren*, 2(1). <https://doi.org/10.58968/erp.v2i1.267>
- UNESCO. (2020). *Global Education Monitoring Report 2020*. Global Education Monitoring Report 2020: Inclusion and Education: All Means All.
- UNESCO. (2024). Global education monitoring report 2024: Climate change and environmental education. *UNESCO Publishing*.
- Wahjusaputri, S., & Adli Nazhif, F. (2025). *Evaluation Study of the Green School Program in Islamic Schools*. 17. <https://doi.org/10.37680/qalamuna.v17i1.5161>
- Wakhidah, N., & Erman, E. (2022). Examining environmental education content on Indonesian Islamic religious curriculum and its implementation in life. *Cogent Education*, 9(1). <https://doi.org/10.1080/2331186X.2022.2034244>
- Yusuf Al-Qaradawi. (2001). *Ri'ayat al-bi'ah fi syari'at al-Islam*. Dar al-Syuruq.

