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ECOSPIRITUAL EDUCATION AND STUDENTS' ENVIRONMENTAL AWARENESS IN AN INDONESIAN PESANTREN: A PHENOMENOLOGICAL STUDY

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Abstract

Environmental education in Islamic boarding schools (*pesantren*) can promote ecological sustainability. Although eco-*pesantren* studies have examined environmental programs, sanitation, and institutional management, the interrelationship between ecological knowledge, emotional engagement, everyday practices, and spiritual meaning-making in students' lived experiences warrants further examination. This study examines how students experience and interpret ecospiritual education in relation to environmental awareness at El-Azzam Islamic Boarding School, Indonesia. Employing a qualitative phenomenological design, the study involved seven purposively selected participants: five students and two caregivers. Data were collected over six months through in-depth interviews, participant observation, and document analysis, and were analysed through data condensation, data display, and conclusion drawing and verification. The findings identify four interrelated dimensions: ecological literacy, emotional engagement, experiential learning, and spiritual internalization. Ecological literacy is reflected in environmental learning and interaction with nature; emotional engagement in empathy, gratitude, and care for living beings; and experiential learning in farming, livestock care, waste management, and environmental maintenance. Spiritual internalization emerges as students interpret environmental care in terms of worship, gratitude, divine trust (*amānah*), and obedience to Allah. These dimensions transform routine ecological practices into moral and religious commitments. By foregrounding students' lived experiences, this study extends eco-*pesantren* research and positions Islamic spirituality as a transformative foundation for holistic and sustainable environmental education.

Keywords: Ecospiritual Education; Environmental Awareness; Islamic Education; Eco-Pesantren; Phenomenology.

Abstrak

Pendidikan lingkungan di pesantren berpotensi mendorong keberlanjutan ekologis. Meskipun penelitian pesantren ekologis telah mengkaji program lingkungan, sanitasi, dan pengelolaan kelembagaan, keterkaitan antara pengetahuan ekologis, keterlibatan emosional, praktik sehari-hari, dan pemaknaan spiritual dalam pengalaman hidup santri masih memerlukan kajian lebih lanjut. Penelitian ini menganalisis bagaimana

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santri mengalami dan memaknai pendidikan ekospiritual dalam kaitannya dengan kesadaran lingkungan di Pondok Pesantren El-Azzam, Indonesia. Dengan desain fenomenologi kualitatif, penelitian melibatkan tujuh partisipan yang dipilih secara purposif, terdiri atas lima santri dan dua pengasuh. Data dikumpulkan selama enam bulan melalui wawancara mendalam, observasi partisipatif, dan analisis dokumen, kemudian dianalisis melalui kondensasi data, penyajian data, serta penarikan dan verifikasi kesimpulan. Temuan mengidentifikasi empat dimensi yang saling berkaitan: literasi ekologis, keterlibatan emosional, pembelajaran berbasis pengalaman, dan internalisasi spiritual. Literasi ekologis tercermin dalam pembelajaran lingkungan dan interaksi dengan alam; keterlibatan emosional dalam empati, rasa syukur, dan kepedulian terhadap makhluk hidup; serta pembelajaran berbasis pengalaman dalam kegiatan pertanian, peternakan, pengelolaan sampah, dan pemeliharaan lingkungan. Internalisasi spiritual terlihat ketika santri memaknai pemeliharaan lingkungan sebagai ibadah, rasa syukur, amanah dari Allah, dan bentuk ketaatan kepada-Nya. Keempat dimensi tersebut mentransformasikan praktik ekologis menjadi komitmen moral dan keagamaan. Penelitian ini memperluas kajian pesantren ekologis dengan menegaskan spiritualitas Islam sebagai landasan transformatif bagi pendidikan lingkungan yang holistik dan berkelanjutan.

Kata Kunci: *Pendidikan Ekospiritual; Kesadaran Lingkungan; Pendidikan Islam; Pesantren Ekologis; Fenomenologi.*

مستخلص

تسهم التربية البيئية في المعاهد الإسلامية الداخلية (البيسانترين) في دعم الاستدامة البيئية. وعلى الرغم من تناول دراسات البيسانترين البيئي للبرامج البيئية والصرف الصحي والإدارة المؤسسية، فإن الترابط بين المعرفة البيئية والمشاركة الوجدانية والممارسات اليومية وإضفاء المعنى الروحي على خبرات الطلاب المعيشة لا يزال بحاجة إلى مزيد من البحث. تهدف هذه الدراسة إلى فهم كيفية معايشة الطلاب للتربية البيئية الروحية وتأويلهم لها في علاقتها بالوعي البيئي في معهد العزّام الإسلامي الداخلي بإندونيسيا. اعتمدت الدراسة تصميمًا نوعيًا ظاهراتيًا، وشارك فيها سبعة أشخاص اختيروا بطريقة قصدية، وهم خمسة طلاب واثنان من المشرفين على رعايتهم. وجُمعت البيانات على مدى ستة أشهر من خلال المقابلات المتعمقة، والملاحظة بالمشاركة، وتحليل الوثائق، وحُللت عبر تكثيف البيانات وعرضها واستخلاص النتائج والتحقق منها. وكشفت النتائج عن أربعة أبعاد مترابطة: الإلمام البيئي، والمشاركة الوجدانية، والتعلم القائم على الخبرة، والاستدماج الروحي. ويتجلى الإلمام البيئي في التعلم البيئي والتفاعل مع الطبيعة، والمشاركة الوجدانية في التعاطف والامتنان والعناية بالكائنات الحية، والتعلم القائم على الخبرة في الزراعة ورعاية الماشية وإدارة النفايات والمحافظة على البيئة. ويظهر الاستدماج الروحي عندما يفسر الطلاب رعاية البيئة بوصفها عبادةً وشكرًا لله وأمانةً إلهيةً وطاعةً له. وتحوّل هذه الأبعاد الممارسات البيئية المعتادة إلى التزامات أخلاقية ودينية. ومن خلال التركيز على خبرات الطلاب المعيشة، تسهم الدراسة في توسيع بحوث البيسانترين البيئي، وتؤكد مكانة الروحانية الإسلامية بوصفها أساسًا تحويليًا للتربية البيئية الشمولية والمستدامة.

الكلمات الرئيسية: التربية البيئية الروحية؛ الوعي البيئي؛ التربية الإسلامية؛ البيسانترين البيئي؛ المنهج الظاهراتي

ECOSPIRITUAL EDUCATION AND STUDENTS' ENVIRONMENTAL AWARENESS IN AN INDONESIAN PESANTREN: A PHENOMENOLOGICAL STUDY

A. Introduction

The escalating global environmental crisis has intensified concern about the role of educational institutions in cultivating ecological awareness and sustainable behavior. Climate change, environmental degradation, excessive waste production, biodiversity loss, and declining ecological ethics are multidimensional challenges that cannot be addressed solely through technological innovation or policy intervention. Seyyed Hossein Nasr, Mawil Izzi Dien, and Richard Foltz argue that environmental degradation also reflects a deeper moral and spiritual crisis in humanity's relationship with nature.[1] Education must therefore extend beyond transmitting scientific knowledge to develop ecological consciousness, ethical responsibility, and sustainable lifestyles grounded in moral values and spiritual worldviews. David Orr emphasizes ecological literacy and ethical awareness,[2] while Palmer and Tilbury advocate transformative learning capable of reshaping human attitudes toward the environment.[3]

Within Islamic discourse, environmental responsibility is rooted in the concept of humans as *khalīfah* (vicegerents) entrusted with maintaining the balance of creation. Islamic environmental ethics accordingly emphasize stewardship, moderation, cleanliness, and harmony between humans and nature.[4] Seyyed Hossein Nasr, Ibrahim Abdul-Matin, and Mustafa Abu-Sway further discuss the ethical and spiritual dimensions of human responsibility toward the environment.[5] Nasr particularly views the ecological crisis as a consequence of modern humanity's separation from sacred cosmology and argues that nature should be understood as a manifestation of divine signs *(āyāt Allāh*).[6] This perspective has encouraged the development of eco-theology and ecospirituality as paradigms that address environmental degradation through ethical and spiritual transformation.

Recent scholarship has increasingly examined the relationship between Islam, spirituality, and environmental sustainability. Ali and Agushi, Cheema and Rahman, Gueye and

[1] Seyyed Hossein Nasr, "The Order of Nature," in *Religion & The Order of Nature* (Oxford University Press, 1996), 29–66, https://doi.org/10.1093/acprof:oso/9780195108231.003.0003; Mawil Izzi Dien, *The Environmental Dimensions of Islam* (Cambridge: The Lutterworth Press, 2000); Richard Foltz, *Islam and Ecology: A Bestowed Trust* (Center for the Study of World Religions, Harvard Divinity School, 2003).

[2] David W Orr, *Earth in Mind: On Education, Environment, and the Human Prospect* (Princeton: Princeton University Press, 2004).

[3] Joy Palmer, *Environmental Education in the 21st Century: Theory, Practice, Progress and Promise* (London: Routledge, 2002); Daniella Tilbury, "Environmental Education for Sustainability: Defining the New Focus of Environmental Education in the 1990s," *Environmental Education Research* 1, no. 2 (January 28, 1995): 195–212, https://doi.org/10.1080/1350462950010206.

[4] Dien, *The Environmental Dimensions of Islam*; Foltz, *Islam and Ecology: A Bestowed Trust*.

[5] Seyyed Hossein Nasr, *Man and Nature: The Spiritual Crisis of Modern Man*, Reprint ed (London: Unwin Paperbacks, 1990); Ibrahim Abdul-Matin, *Green Deen: What Islam Teaches about Protecting the Planet* (Berrett-Koehler Publishers, 2010); Mustafa Abu-Sway, "Towards an Islamic Jurisprudence of the Environment," in *Islam and Ecology: A Bestowed Trust*, ed. Richard C Foltz, Frederick M Denny, and Azizan Baharuddin (Cambridge, MA: Harvard University Press, 2003), 49–84.

[6] Nasr, *Man and Nature: The Spiritual Crisis of Modern Man*; Abu-Sway, "Towards an Islamic Jurisprudence of the Environment."

Mohamed, and Hasan discuss Islamic ethical approaches to environmental protection and sustainable living.[7] Adow et al. identify ecospirituality as an interdisciplinary field integrating spirituality, ecological consciousness, moral responsibility, and sustainable behavior,[8] whereas Billet defines it as an internalized moral relationship between humans and nature grounded in sacred meaning and existential awareness.[9] In Indonesia, this discourse has developed through studies of ecotawḥīd and green spirituality.[10] Nevertheless, much of the literature remains conceptual and normative, while empirical research on how ecospiritual values are experienced and internalized within Islamic educational institutions is still limited.

As one of Indonesia's oldest Islamic educational institutions, pesantren possess considerable potential to advance environmental sustainability through character formation, spiritual habituation, and value-based education. Pesantren are not merely places of religious instruction but socio-cultural environments in which students internalize ethical and spiritual values through daily practices and close interaction with religious authorities. However, studies by Agustin et al., Nurdiani and Muslim, and Hasbi document sanitation and waste-management challenges as well as efforts to develop ecospiritual attitudes in particular pesantren settings.[11] Inadequate sanitation and waste management may even normalize unhealthy living conditions, revealing a contradiction between Islamic teachings on cleanliness and stewardship and the environmental realities of some pesantren.

The eco-pesantren movement has emerged in response to these challenges by integrating Islamic values with environmental sustainability. Its initiatives commonly include

[7] Muhamed Ali and Muaz Agushi, "Eco-Islam: Integrating Islamic Ethics into Environmental Policy for Sustainable Living," *International Journal of Religion* 5, no. 9 (June 2, 2024): 949–57, https://doi.org/10.61707/gq0we205; Abdul Mannan Cheema and Abaid Ur Rahman, "Exploring The Islamic Ecotheology To Address Environmental Crisis: A Pathway To Global Sustainability," *Al-Tabyeen:(Bi-Annual Research Journal of Islamic Studies)* 9, no. 1 (2025): 209–29, https://journals.uol.edu.pk/al-tabyeen/article/view/4055; Moustapha Kamal Gueye and Najma Mohamed, "An Islamic Perspective on Ecology and Sustainability," in *Ecotheology - Sustainability and Religions of the World* (IntechOpen, 2023), 213–30, https://doi.org/10.5772/intechopen.105032; Heba Hasan, "Islam and Ecological Sustainability: An Exploration into Prophet's Perspective on Environment," *Social Science Journal for Advanced Research* 2, no. 6 (November 30, 2022): 15–21, https://doi.org/10.54741/ssjar.2.6.4.

[8] A. H.E. Adow et al., "A Synthesis of Academic Literature on Eco-Spirituality," *Global Journal of Environmental Science and Management* 10, no. 4 (2024): 2163–78, https://doi.org/10.22034/gjesm.2024.04.40.

[9] Matthew Ira Billet et al., "Ecospirituality: The Psychology of Moral Concern for Nature," *Journal of Environmental Psychology* 87 (May 2023): 102001, https://doi.org/10.1016/j.jenvp.2023.102001.

[10] Suraijiah Suraijiah, Rusdiah Rusdiah, and Surawardi Surawardi, "Implementation of Environmental Education in the Concept of Ecotawhid and Ecotheology in Students," *Kharisma: Jurnal Administrasi Dan Manajemen Pendidikan* 4, no. 2 (January 13, 2026): 232–45, https://doi.org/10.59373/kharisma.v4i2.113; Zulaika et al., "Green Spirituality in The Qur'an: Integration of Spiritual Values and Environmental Conservation Education," *Jurnal Progress: Wahana Kreativitas Dan Intelektualitas* 13, no. 1 (June 27, 2025): 91–107, https://doi.org/10.31942/pgrs.v13i1.12693.

[11] Niken Oktaria Agustin et al., "Analisis Sanitasi Lingkungan Di Pondok Pesantren Kota Bengkulu Tahun 2021," *Jurnal Ilmiah Mahasiswa Miracle* 2, no. 01 (2022): 117–124, https://jurnal.umb.ac.id/index.php/miracle/article/view/3249; Laily Novika Nurdiani and Azis Muslim, "Pengelolaan Sampah Di Pondok Pesantren Ibnul Qoyyim Putri Sebagai Implementasi Tujuan Pembangunan Berkelanjutan," *Jurnal Pengendalian Pencemaran Lingkungan (JPPL)* 4, no. 2 (October 6, 2022): 38–50, https://doi.org/10.35970/jppl.v4i2.1472; Mukhammad Hasbi, "Ekopesantren Dan Upaya Membentuk Sikap Ekospiritual Santri Di Pondok Pesantren Annuqayah Guluk-Guluk Sumenep" (Universitas Muhammadiyah Malang, 2023).

environmentally friendly agriculture, waste management, tree planting, water conservation, and ecological campaigns. Studies by Anjani and Badruddin, Mizwar, Ferdinan et al., and Rekan and Mokhtar show that several pesantren have incorporated ecological programs into Islamic educational reform and sustainable development.[12] Related scholarship has also explored Islamic eco-theology and spiritual leadership in environmental education.[13] These developments demonstrate a growing recognition that environmental sustainability constitutes an integral dimension of religious responsibility.

Despite this progress, eco-pesantren research continues to emphasize physical infrastructure, sanitation, environmental management, institutional programs, and curriculum integration. For example, Anjani and Badruddin examined the empowerment of pesantren communities through land conversion and ecological initiatives.[14] Mizwar focused on environmental theology and environmental management practices at an eco-pesantren.[15] Ferdinan et al. examined eco-Islamic education and its contribution to sustainable development goals in Muhammadiyah boarding schools. Although recent research has explored students' ecotheological experiences, further attention can be given to how ecological literacy, emotional engagement, experiential learning, and spiritual internalization intersect within particular pesantren settings. Consequently, how students interpret environmental preservation as part of their relationship with God, and how ecological awareness becomes integrated into their religious identities, remains insufficiently understood. This gap is particularly important because the distinctive educational strength of pesantren lies in religious habituation, ethical discipline, spiritual guidance, and character formation.[16]

Addressing this gap requires moving beyond evaluations of environmental programs toward an examination of students' subjective experiences. A phenomenological approach is

[12] Sari Tri Anjani and Syamsiah Badruddin, "Ecopesantren As Empowering Boarding Boarding Communities Through Land Conversion Movement," *IJESS International Journal of Education and Social Science* 5, no. 1 (April 24, 2024): 40–50, https://doi.org/10.56371/ijess.v5i1.240; Mochammad Mizwar, "Eco-Pesantren: Analisis Pemahaman Teologi Lingkungan Di Pondok Pesantren Al-Ittifaq," in *Gunung Djati Conference Series*, vol. 24 (Bandung: Universitas Islam Negeri Sunan Gunung Djati Bandung, 2023), 22–39; Ferdinan et al., "Eco Islamic Education and Its Contribution to Sustainable Development Goals in Muhammadiyah Boarding Schools of South Sulawesi," *Discover Sustainability* 7, no. 1 (January 29, 2026): 310, https://doi.org/10.1007/s43621-026-02647-6; Abd. Aziz Rekan and Mohd Istajib Mokhtar, "The Development of Eco-Tahfiz In Malaysia: Bridging Islamic Education and Environmental Sustainability," *Ulumuna* 29, no. 1 (June 10, 2025): 1–31, https://doi.org/10.20414/ujis.v29i1.1431.

[13] Taufik Hidayatulloh et al., "Eco-Theology in Islamic Thought: Religious Moderation and Organizational Roles in Mining Management in Indonesia," *Progresiva : Jurnal Pemikiran Dan Pendidikan Islam* 13, no. 03 (December 8, 2024): 379–92, https://doi.org/10.22219/progresiva.v13i03.37102; La Hadisi et al., "The Role of Spiritual Leadership in Internalizing Environmental Values in Islamic Eco-Madrasah," *Nazhruna: Jurnal Pendidikan Islam* 8, no. 3 (December 15, 2025): 732–48, https://doi.org/10.31538/nzh.v8i3.141.

[14] Anjani and Syamsiah Badruddin, "Ecopesantren As Empowering Boarding Boarding Communities Through Land Conversion Movement."

[15] Mizwar, "Eco-Pesantren: Analisis Pemahaman Teologi Lingkungan Di Pondok Pesantren Al-Ittifaq."

[16] Hasbi, "Ekopesantren Dan Upaya Membentuk Sikap Ekospiritual Santri Di Pondok Pesantren Annuqayah Guluk-Guluk Sumenep."

particularly relevant because it explores how individuals experience, interpret, and assign meaning to ecological practices in everyday life. Such an approach can explain how environmental awareness develops through religious practice, spiritual reflection, and direct engagement with nature rather than through formal environmental instruction alone.[17]

This study therefore examines ecospiritual education at El-Azzam Islamic Boarding School in Kuningan, West Java. It investigates how students perceive and interpret environmental preservation as part of their spiritual and religious lives and how ecospiritual practices embedded in pesantren activities shape ecological awareness, moral responsibility, and environmentally responsible behavior. For example, Anjani and Badruddin examined eco-pesantren initiatives through community empowerment and land conversion,[18] while Mizwar focused on environmental theology and environmental management practices.[19] Nurdiani and Muslim examined waste management in a pesantren context as part of sustainable development efforts[20]. Unlike studies centered on institutional management and program implementation, this research foregrounds students' lived experiences and processes of value internalization. A recent phenomenological study at Pesantren Minhajul Haq similarly examined students' lived experiences of ecotheological values through everyday ecological practices, particularly agriculture and experiential learning.[21]

The contribution of this study lies in its context-specific examination of how ecological literacy, emotional engagement, experiential learning, and spiritual internalization intersect in students' experiences at El-Azzam. It emphasizes the meanings students attach to environmental practices through religious reflection and everyday engagement with nature. Theoretically, the study contributes to Islamic ecospirituality by explaining how ecological awareness emerges from religious consciousness and spiritual practice. Empirically, it extends eco-pesantren scholarship beyond technical and programmatic approaches by providing phenomenological evidence from an Indonesian pesantren. The study thus proposes a more spiritually grounded, holistic, and transformative framework for Islamic environmental education.

[17] Hidayat Hidayat, Hamdi Zas Pendi, and Jumira Warlizasusi, "Faith-Based Ecological Counselling: Integrating Spirituality and Sustainability for Muslim Students," *Studia Ecologiae et Bioethicae* 24, no. 1 (February 7, 2026): 45–60, https://doi.org/10.21697/seb.5873.

[18] Anjani and Syamsiah Badruddin, "Ecopesantren As Empowering Boarding Boarding Communities Through Land Conversion Movement."

[19] Mizwar, "Eco-Pesantren: Analisis Pemahaman Teologi Lingkungan Di Pondok Pesantren Al-Ittifaq."

[20] Nurdiani and Muslim, "Pengelolaan Sampah Di Pondok Pesantren Ibnul Qoyyim Putri Sebagai Implementasi Tujuan Pembangunan Berkelanjutan."

[21] Cahyudi Prima, Isrun Abdurahman, and Akhmad Jafar, "Beyond Textual Traditions: The Phenomenology of Ecotheological Value Integration in Pesantren Minhajul Haq," *Jurnal Ilmiah Islam Futura* 26, no. 1 (February 27, 2026): 244–68, https://doi.org/10.22373/jiif.v261.35145.

B. Method

This study employed a qualitative phenomenological design to explore students lived experiences of ecospiritual education within the pesantren environment. Phenomenology was selected because the study aimed not to measure students' environmental attitudes or evaluate the effectiveness of institutional environmental programs, but to understand how students experience, interpret, and assign meaning to environmental practices embedded in their everyday religious and educational lives. The study sought to examine how students interpret ecological practices in relation to environmental awareness, moral responsibility, and spiritual consciousness. Creswell and Poth explain that phenomenological research examines individuals' everyday experiences to understand the essence of a phenomenon.[22] Similarly, Moustakas emphasizes uncovering the meanings underlying human experiences from participants' perspectives.[23] This approach was therefore appropriate for examining the intersection of spirituality, environmental ethics, and ecological behavior in the pesantren context.

The study was conducted at El-Azzam Islamic Boarding School in Kuningan Regency, West Java, Indonesia. The site was selected because it had actively implemented ecospiritual programs integrating Islamic values with environmental stewardship, including waste management, environmental hygiene campaigns, tree planting, gardening, and religious reflection on environmental responsibility. These programs provided a relevant setting for examining how ecological awareness is experienced and internalized through daily religious and educational activities.

Seven participants were purposively selected based on their direct experience with the pesantren's ecospiritual practices. They comprised five students—two final-year Tsanawiyah students and three final-year Aliyah students—and two pesantren caregivers. Parental consent was obtained for the Tsanawiyah participants, who were reported to be under 18. The students had actively participated in environmental programs, while the caregivers supervised these activities and integrated ecological values into religious education. To ensure confidentiality, the students were coded P1–P5 and the caregivers P6–P7.

Data were collected over six months through in-depth interviews, participant observation, and document analysis. Semi-structured interviews explored participants' perceptions, experiences, and interpretations of environmental practices. Observations were

[22] John W Creswell and Cheryl N Poth, Qualitative Inquiry and Research Design: Choosing Among Five Approaches, 4th ed. (Thousand Oaks, CA: Sage Publications, 2018), 75–78.
[23] Clark Moustakas, *Phenomenological Research Methods* (Thousand Oaks, CA: Sage Publications, 1994).

conducted during waste management, gardening, cleaning programs, and religious gatherings addressing environmental awareness, enabling the researcher to document participants' behavior, interactions, and practices in their natural setting. Document analysis covered institutional profiles, environmental education programs, eco-pesantren activity reports, photographs, and other relevant records. The combination of these sources enabled comparisons between interview accounts, observations, and institutional documents.[24]

Data were analyzed using the interactive model of Miles, Huberman, and Saldaña, comprising data condensation, data display, and conclusion drawing and verification.[25] Interview recordings were transcribed verbatim and reviewed repeatedly. Initial codes were generated from interview transcripts, observation notes, and documents and grouped into broader categories and themes concerning environmental responsibility, spiritual awareness, ecological practices, and the integration of Islamic values into environmental behavior. Emerging themes were continuously compared across data sources to maintain analytical consistency and conceptual coherence.

Trustworthiness was established through methodological and source triangulation by comparing interview data with observational findings and documentary evidence. Member checking was conducted by sharing preliminary interpretations with selected participants, while prolonged engagement enabled a deeper understanding of their experiences and reduced superficial interpretation. These procedures supported the credibility, dependability, and confirmability of the findings.[26] Ethical principles were observed throughout the study. Participants were informed of the research objectives, the voluntary nature of their participation, and their right to withdraw at any stage. Informed consent was obtained before data collection, participant identities were anonymized, and all data were securely stored and used exclusively for academic purposes.

C. Discussion

The findings indicate that ecospiritual education at El-Azzam Islamic Boarding School integrates spirituality, ecological ethics, environmental practices, and character formation within everyday educational experiences. Unlike conventional environmental education

[24] Norman K Denzin and Yvonna S Lincoln, eds., The SAGE Handbook of Qualitative Research, 5th ed. (Thousand Oaks, CA: SAGE Publications, 2018), 31-45.
[25] Matthew B. Miles, A. Michael Huberman, and Johnny Saldaña, *Qualitative Data Analysis: A Methods Sourcebook* (Thousand Oaks: Sage publications, 2019).
[26] Yvonna S Lincoln and Egon G. Guba, Naturalistic Inquiry (Beverly Hills, CA: Sage Publications, 1985), 289-331; Sharan B Merriam and Elizabeth J Tisdell, Qualitative Research: A Guide to Design and Implementation, 4th ed. (San Francisco, CA: Jossey-Bass, 2016), 242-258.

approaches that often emphasize technical literacy and behavioral regulation, the ecospiritual model developed at El-Azzam positions environmental responsibility as an inseparable component of Islamic spirituality and moral consciousness. This integration enables students to perceive environmental care not merely as a practical obligation but as a sacred responsibility grounded in religious teachings, spiritual awareness, and everyday lived experience.

The significance of this finding becomes particularly relevant in the context of the contemporary global environmental crisis. Environmental degradation, climate change, excessive waste production, ecological exploitation, and unsustainable consumption patterns continue to threaten human civilization and natural ecosystems. However, many scholars argue that these crises are not solely technological or political problems but are fundamentally connected to moral and spiritual disorientation. Seyyed Hossein Nasr argues that modern environmental destruction reflects a "spiritual crisis" caused by humanity's separation from the sacred meaning of nature. Modern civilization, according to Nasr, has desacralized the natural world by reducing it into an object of exploitation and economic utility rather than recognizing it as a manifestation of divine reality. The participants' accounts provide a contextual illustration consistent with Nasr's perspective, as students associate ecological practices with spiritual consciousness and religious identity.

1. Ecospiritual Education and the Reconstruction of Human–Nature Relationships

The students' interview accounts indicate that participants interpret their relationship with nature through moral and spiritual values. At El-Azzam Islamic Boarding School, students participate in ecological activities such as farming, waste management, livestock care, and environmental maintenance. Interview data from P1 and P2 reveal that students associate these activities with worship, gratitude, and responsibility toward Allah SWT. These accounts suggest that environmental care is experienced not merely as an institutional obligation but also as part of students' religious and moral commitments.

Phenomenologically, students do not simply perform environmental activities but experience them as spiritually meaningful encounters. Nature is understood not merely in functional or utilitarian terms but as a medium of religious engagement that strengthens awareness of divine creation. This experience reflects Billet's concept of ecospirituality as an internalized moral and spiritual relationship between humans and nature grounded in sacred

meaning and existential awareness.[27] Environmental care thus becomes both an ecological practice and a lived spiritual experience through which students construct meaning and identity.

Students particularly interpret ecological practices as manifestations of *ibādah* (worship), *shukr* (gratitude), and *amānah* (trust). This interpretation is supported by interview data from two students (P1 and P2), who described environmental care as an expression of religious responsibility and devotion to Allah SWT. One student stated, "Maintaining cleanliness is a calling of the soul because I realize that the environment is a trust (*amanah*) from Allah" (P1). Another explained, "I care for plants as a form of worship and as a way of safeguarding Allah's trust, not merely because I like plants" (P2). These narratives indicate that the students understand environmental responsibility as a religious obligation rather than solely as a response to institutional regulations. This interpretation is consistent with ecospiritual scholarship that connects environmental concern with moral and spiritual meaning.[28]

This reconstruction of the human–nature relationship corresponds with the Islamic ecological ethics developed by Mawil Izzi Dien, Richard Foltz, Mustafa Abu-Sway, and Ibrahim Abdul-Matin. Dien positions humans as custodians entrusted with maintaining environmental balance through justice, moderation, and responsibility.[29] This principle is embodied in the Qur'anic concept of *khalīfah*, which identifies humans as God's vicegerents on earth (Qur'an 2:30), while Qur'an 6:165 emphasizes their accountability in exercising this trust. Abu-Sway discusses environmental responsibility as an ethical and legal obligation within Islamic teachings.[30] Environmental stewardship is therefore not optional but an ethical and spiritual obligation.

This study extends these theoretical arguments by demonstrating how the principles of *khalīfah* and *amānah* are internalized through everyday educational experiences. Students encounter these concepts not only in formal religious instruction but also through continuous interaction with nature. Through repeated practice, reflection, and communal participation, students describe how abstract theological principles become meaningful in their everyday environmental responsibilities.

This process highlights the moral and spiritual dimensions of environmental education alongside ecological knowledge and everyday practices. David Orr criticizes modern education for producing highly educated individuals who continue to contribute to environmental

[27] Billet et al., "Ecospirituality: The Psychology of Moral Concern for Nature.", 112-130.
[28] Adow et al., "A Synthesis of Academic Literature on Eco-Spirituality."
[29] Dien, *The Environmental Dimensions of Islam*.
[30] Abu-Sway, "Towards an Islamic Jurisprudence of the Environment."

destruction because their education lacks ethical and spiritual foundations.[31] Palmer and Tilbury similarly argue that sustainability education requires transformative learning capable of reshaping values, beliefs, and worldviews rather than merely transmitting information.[32] The findings at El-Azzam support these perspectives by showing that Islamic spirituality can provide a strong moral foundation for ecological ethics and responsible behavior.

The findings also contribute to contemporary discussions of eco-Islam and eco-theology. Ali and Agushi maintain that Islamic ethical principles offer a comprehensive framework for sustainable living by connecting environmental preservation with moral accountability and spiritual consciousness.[33] Cheema likewise presents Islamic eco-theology as an alternative response to environmental crises through ethical transformation rather than purely technological solutions.[34] At El-Azzam, participants associate everyday educational practices with the eco-theological principles of *khalīfah*, *amānah*, and responsibility toward creation.

Students' accounts also reflect a sacred understanding of nature. Students increasingly perceive the natural environment not merely as a physical resource but as a manifestation of divine signs (*āyāt Allāh*) deserving respect, care, and protection. This finding resonates with Nasr's argument that contemporary ecological crises originate in the desacralization of nature and the loss of humanity's spiritual relationship with the natural world.[35] Reconnecting ecological practices with religious meaning can therefore restore ecological consciousness and encourage sustainable behavior.

Overall, the findings provide empirical evidence that Islamic ecological ethics can be embodied through pesantren education. Environmental stewardship becomes more deeply internalized when students experience ecological practices as expressions of faith, worship, gratitude, and moral responsibility. The findings therefore illustrate how Islamic spirituality provides moral meaning for ecological ethics and environmental practices within the El-Azzam setting.

[31] Orr, *Earth in Mind: On Education, Environment, and the Human Prospect*.
[32] Palmer, *Environmental Education in the 21st Century: Theory, Practice, Progress and Promise*; Tilbury, "Environmental Education for Sustainability: Defining the New Focus of Environmental Education in the 1990s."
[33] Ali and Agushi, "Eco-Islam: Integrating Islamic Ethics into Environmental Policy for Sustainable Living."
[34] Cheema and Rahman, "Exploring The Islamic Ecotheology To Address Environmental Crisis: A Pathway To Global Sustainability."
[35] Nasr, "The Order of Nature."

2. Nature as a Living Educational Environment

The natural environment of El-Azzam Islamic Boarding School plays a central role in developing students' ecological awareness and environmental ethics. Located at the foot of Mount Ciremai and surrounded by agricultural land, trees, livestock areas, water resources, and diverse natural landscapes, the pesantren provides an immersive setting in which students continuously interact with nature. Unlike conventional environmental education that is often confined to classrooms and textbooks, El-Azzam treats nature as a living educational environment that facilitates direct experience, observation, reflection, and spiritual contemplation. Ecological education is therefore not merely taught but experienced as part of students' everyday lives.

From a phenomenological perspective, participants perceive nature as an active element of learning rather than a passive background. Their daily interaction with plants, animals, soil, water, and agricultural activities develops an awareness of ecological interdependence. One student stated, "When I work in the garden every morning, I feel closer to nature and more aware that every living thing depends on one another. It makes me realize that humans should not damage the environment" (P3). Another explained, "Caring for animals teaches patience and responsibility. I learn that all creatures are part of Allah's creation and deserve proper treatment" (P4). These experiences show that students acquire not only ecological knowledge but also emotional attachment, ethical sensitivity, and spiritual appreciation through direct interaction with nature.

This finding corresponds with Fritjof Capra's concept of ecological literacy, which emphasizes understanding ecological interdependence through engagement with natural systems.[36] Capra argues that meaningful environmental education cannot rely exclusively on classroom instruction because ecological understanding develops through lived experience of ecosystems and natural processes. At El-Azzam, students participate in planting cycles, observe the decomposition of organic waste, care for livestock, maintain environmental cleanliness, and practice sustainable agriculture. These activities allow them to observe ecological relationships directly and develop a more comprehensive understanding of environmental interconnectedness.

Nevertheless, the findings extend beyond Capra's ecological systems perspective because students interpret their experiences through a spiritual framework. Nature is understood not simply as a biological system but as *āyāt kawniyyah*—cosmic signs of God that invite

[36] Fritjof Capra, The Hidden Connections: A Science for Sustainable Living (New York: Anchor Books, 2004), 230-245.

contemplation, gratitude, and spiritual reflection. One participant explained, "Being in nature reminds me of Allah's greatness. When I see plants grow or animals being cared for, I feel that Allah teaches us through His creation" (P5). A caregiver similarly stated, "Nature is part of God's message. Students are encouraged to reflect on creation so that environmental care becomes part of their faith" (P6). Ecological interaction thus functions simultaneously as an educational process and a means of strengthening religious consciousness. This finding aligns with Zulaika et al.'s study of Qur'anic green spirituality, which demonstrates that environmental conservation acquires deeper meaning when connected with spiritual contemplation and religious narratives.[37]

The findings also support Husni Thamrin's concept of Eco-Islamic Culture, which maintains that ecological awareness develops effectively when environmental values are embedded in communal culture, collective practices, and religious traditions.[38] At El-Azzam, environmental care is not implemented as an isolated program but integrated into institutional norms, religious instruction, daily routines, and communal responsibilities. Students collectively participate in environmental maintenance, agriculture, waste management, and livestock care. These repeated practices form part of an ecological culture through which students encounter environmental values in communal and religious life.

Compared with previous eco-pesantren research, this study reveals a deeper process of spiritual internalization. Hasbi's study of Pondok Pesantren Annuqayah examined eco-pesantren programs intended to strengthen students' ecospiritual attitudes,[39] while Mizwar's research at Pondok Pesantren Al-Ittifaq emphasized theological understanding and environmental management practices.[40] Although both studies demonstrate the development of environmental awareness in pesantren, their analyses focus primarily on institutional programs and ecological initiatives. The present study extends this scholarship by examining how students experience, interpret, and emotionally engage with ecological practices in their everyday lives, thereby shifting the focus from institutional implementation to lived ecological consciousness.

The educational significance of nature also extends beyond ecological literacy to emotional and spiritual formation. Students described feelings of peace, gratitude, humility, and

[37] Zulaika et al., "Green Spirituality in The Qur'an: Integration of Spiritual Values and Environmental Conservation Education."
[38] Husni Thamrin, *Eco-Islamic-Culture Pendekatan Sosiologi Lingkungan Dalam Penyelamatan Lingkungan*, ed. M Us Dr. H. Jamaluddin (Penerbit Magnum Pustaka Utama, 2019).
[39] Hasbi, "Ekopesantren Dan Upaya Membentuk Sikap Ekospiritual Santri Di Pondok Pesantren Annuqayah Guluk-Guluk Sumenep."
[40] Mizwar, "Eco-Pesantren: Analisis Pemahaman Teologi Lingkungan Di Pondok Pesantren Al-Ittifaq."

responsibility when interacting with their environment. Nature consequently functions not only as a source of ecological knowledge but also as a medium for character formation and spiritual development. This finding reinforces contemporary ecospiritual scholarship, which argues that meaningful environmental education should integrate cognitive, emotional, ethical, and spiritual dimensions rather than focus exclusively on environmental knowledge.[41] The theoretical foundations and empirical dimensions of ecospiritual education identified at El-Azzam Islamic Boarding School are summarized in Table 1.

Table 1
Four Interconnected Dimensions of Ecospiritual Education at El-Azzam Islamic Boarding School

Dimension	Educational Practices at El-Azzam	Theoretical Foundation	Empirical Expression
Ecological Literacy	Environmental learning, Qur'anic interpretation, environmental discussion, nature observation and understanding ecological relationship	Fritjof Capra and Seyyed Hossein Nasr	Students understand nature as an interconnected system and recognize environmental care as a human responsibility
Emotional Engagement	environmental reflection, collective farming, plant and animal care	P. Wesley Schultz and Louise Chawla	Students develop empathy, gratitude, compassion, tranquility, and emotional attachment to nature
Experiential Learning	Farming, livestock care, composting, waste management, gardening, and environmental maintenance	John Dewey	Students develop ecological skills, discipline, patience, responsibility and environmental practices through direct experience
Spiritual Internalization	Dhikr, contemplation of nature, eco-theological reflection, and integration of environmental care with religious practice	Seyyed Hossein Nasr	Students interpret environmental stewardship as *ʿibādah*, *amānah*, *khalīfah*, gratitude, and responsibility before Allah
Eco-Theological Consciousness	Nature as āyāt kawniyyah	Mustafa Abu-Sway	Provides empirical evidence of eco-theological internalization

Overall, the natural environment at El-Azzam functions as a living educational space in which the four dimensions of ecospiritual education are continuously interconnected. Ecological literacy provides students with knowledge and understanding of ecological

[41] Adow et al., "A Synthesis of Academic Literature on Eco-Spirituality."

relationships, while emotional engagement enables them to develop empathy, gratitude, and attachment to nature. Experiential learning translates these understandings and feelings into repeated ecological practices, including farming, livestock care, composting, waste management, and environmental maintenance. Spiritual internalization gives these experiences religious meaning by connecting environmental stewardship with worship, divine trust, human responsibility, and gratitude to Allah. Thus, the four dimensions should not be understood as isolated components but as mutually reinforcing processes through which ecological awareness develops as a lived moral and spiritual orientation.

3. Experiential Learning and Ecological Character Formation

Ecological character formation at El-Azzam Islamic Boarding School occurs primarily through experiential learning rather than formal instruction alone. Farming, livestock care, composting, environmental maintenance, and waste management form integral parts of students' daily education. Continuous participation enables them not only to acquire ecological knowledge but also to develop values, attitudes, habits, and moral dispositions embedded in everyday behavior.

From a phenomenological perspective, students experience these activities as transformative processes that cultivate responsibility, patience, discipline, gratitude, and compassion. One participant explained, "Through farming activities, I learned that everything requires a process. We cannot expect immediate results. It taught me patience and responsibility" (P3). Another stated, "When we care for animals every day, we become more sensitive to the needs of other living beings. We learn compassion and responsibility because they depend on us" (P4). These narratives indicate that ecological character develops through repeated interaction with living systems and direct engagement with the consequences of human actions, rather than through moral instruction alone.

This finding reflects John Dewey's theory of experiential education, which maintains that meaningful learning arises from active engagement with real-life situations instead of the passive reception of information.[42] Dewey criticizes the separation of theoretical knowledge from practical experience and emphasizes that learning becomes transformative when students interact with and reflect on their environment. At El-Azzam, students directly experience growth, interdependence, care, and environmental responsibility, allowing ecological values to become internalized as character rather than remaining abstract concepts.

[42] John Dewey, *Experience and Education* (New York: Kappa Delta, 1938).

The findings also correspond with Kolb's experiential learning cycle of concrete experience, reflective observation, conceptual understanding, and active experimentation.[43] Students participate directly in ecological activities, reflect on them through religious contemplation and discussion, connect their experiences with Islamic teachings, and apply the resulting understanding to everyday behavior. Through this cycle, environmental knowledge develops into ecological character and sustained behavioral commitment.

Research in environmental psychology likewise indicates that direct interaction with nature can strengthen pro-environmental behavior. Billet et al. examine ecospirituality in relation to the spiritual significance of nature and its association with moral concern for the natural world.[44] Hidayat, Pendi, and Warlizasusi similarly found that faith-based ecological counseling and reflective environmental activities enhance students' environmental empathy and sustainability awareness.[45] These perspectives confirm the importance of emotional engagement, which was consistently evident in the experiences of El-Azzam students.

This study further demonstrates that students perceive experiential ecological learning as spiritually meaningful when integrated with religious values. Through farming, gardening, waste management, and environmental maintenance, students associated their everyday ecological practices with *ṣabr* (patience), *shukr* (gratitude), *ikhlāṣ* (sincerity), and *raḥmah* (compassion). These findings suggest that experiential learning provides opportunities for students to connect environmental responsibility with their religious understanding and moral commitment.

Farming, in particular, becomes a process of spiritual cultivation. Waiting for crops to grow develops patience and perseverance, while observing natural growth inspires gratitude and humility. One student explained, "When I see a small seed eventually become a plant that produces food, I realize how great Allah's creation is. It makes me grateful and more careful in treating nature" (P5). Such experiences encourage students to understand nature as *āyāt kawniyyah*—divine signs manifested in creation—thereby transforming ecological activities into opportunities for strengthening faith and moral awareness.

[43] David A Kolb, *Experiential Learning: Experience as the Source of Learning and Development*, 2nd ed. (Upper Saddle River, NJ: Pearson Education, 2015).
[44] Billet et al., "Ecospirituality: The Psychology of Moral Concern for Nature."
[45] Hidayat, Pendi, and Warlizasusi, "Faith-Based Ecological Counselling: Integrating Spirituality and Sustainability for Muslim Students."

These findings correspond with the research of Fua et al., which examines Islamic educational strategies for developing students' environmental character.[46] In a separate study, Fua et al. investigate religion-based approaches to developing environmental care attitudes among Indonesian students. [47] The present study extends these findings by showing that religious values are internalized cognitively, emotionally, behaviorally, and spiritually through students' daily ecological experiences.

The interconnected cognitive, affective, practical, transcendental, and socio-economic components identified in these experiences are summarized in Table 2. The table demonstrates how specific educational activities contribute simultaneously to ecological competence, spiritual formation, and communal responsibility.

Table 2
Educational Processes Supporting the Four Dimensions of Ecospiritual Education

Main Dimension	**Educational Activities**	**Ecological Impact**	**Spiritual & Character Impact**
Ecological Literacy	Environmental *fiqh*, Qur'anic interpretation, ecological discussions	Increased understanding of ecological relationships and environmental responsibility	Understanding environmental care as Islamic responsibility
Emotional Engagement	*Tadabbur alam*, eco-reflection, collective farming	Development of ecological empathy and emotional attachment to nature	Gratitude, compassion, humility and appreciation of Allah's Creation
Experiential Learning	Farming, composting, livestock care, waste management, and environmental maintenance	Development of ecological skills through everyday environmental practices	Discipline, patience, responsibility, and perseverance Internalization of discipline and responsibility
Spiritual Internalization	Dhikr, contemplation of nature, eco-theological reflection	Reported moral and religious commitment to environmental care	Development of *tawḥīd* consciousness and understanding environmental stewardship as *ʿibādah*, *amānah*, and *khalīfah*

[46] Jumarddin La Fua et al., "Strategy of Islamic Education in Developing Character Building of Environmental Students in Indonesia," *IOP Conference Series: Earth and Environmental Science* 175, no. 1 (July 24, 2018): 012149, https://doi.org/10.1088/1755-1315/175/1/012149.

[47] JL Fua et al., "Development of Environmental Care Attitude of Students through Religion Education Approach in Indonesia," *IOP Conference Series: Earth and Environmental Science* 175 (July 24, 2018): 012229, https://doi.org/10.1088/1755-1315/175/1/012229.

Cross-cutting Socio-Economic Context	Community agriculture and livestock production	Resource use and communal environmental practices associated with pesantren activities	Understanding Environmental stewardship as a shared social responsibility

Source: Authors' analysis of interview, observation, and documentary data.

The cognitive, affective, practical, and transcendental processes represented in the table function as learning processes within the four main dimensions rather than as separate analytical dimensions. In this sense, ecological literacy is primarily associated with cognitive understanding, emotional engagement with affective development, experiential learning with practical participation, and spiritual internalization with transcendental reflection. The socio-economic activities of the pesantren provide a contextual setting in which these dimensions are integrated into communal life.

The dimensions summarized in Table 2 are evident in both educational activities and students' interpretations of environmental responsibility. The cognitive dimension (*head*) develops through environmental *fiqh*, Qur'anic interpretation, and ecological dialogue, enabling students to understand environmental preservation as part of the Islamic principles of *khalīfah* and *amānah*. The affective dimension (*heart*) emerges through collective farming, *tadabbur alam*, environmental reflection, and interaction with nature, fostering attachment, gratitude, compassion, inner peace, and respect for creation.

The practical dimension (*hands*) is developed through farming, composting, livestock care, waste management, and environmental maintenance. These activities cultivate ecological skills alongside discipline, perseverance, and responsibility. Meanwhile, the transcendental dimension (*spirit*) becomes visible when students interpret nature as *āyāt kawniyyah* and ecological processes as manifestations of divine wisdom. Environmental engagement consequently strengthens their relationship with Allah and appreciation of creation.

The socio-economic dimension extends ecospiritual education beyond individual character formation. Agricultural and livestock activities support community sustainability, collective responsibility, and environmental resilience. Students therefore understand stewardship as both a personal ethical obligation and a communal commitment to sustainable living.

Overall, experiential learning integrated with spiritual reflection enables El-Azzam to cultivate a holistic ecological character. By connecting ecological engagement with patience,

gratitude, sincerity, compassion, and responsibility, the findings illustrate how environmental practices acquire moral and spiritual meaning within students' ecological character formation.

4. Emotional Engagement and Ecological Empathy

Another significant finding is the central role of emotional engagement in shaping students' ecological awareness. Through daily interaction with plants, animals, agricultural activities, and the surrounding environment, students develop affection, compassion, tranquility, gratitude, and emotional attachment to nature. Ecological awareness is therefore not merely cognitive but also affective and relational. Students do not simply understand environmental issues; they establish emotional bonds that influence how they perceive, value, and protect the natural environment.

From a phenomenological perspective, ecological empathy develops through repeated experiences of caring for living beings and observing natural processes. One participant explained, "When I water the plants every day and see them grow, I feel happy and responsible for them. If they wither because of neglect, I feel sad because I think I have failed to take care of Allah's creation" (P3). Another stated, "I become concerned when I see people throwing garbage carelessly because I feel the environment is something that should be protected, not damaged" (P4). These narratives show that environmental responsibility emerges through emotional investment as well as knowledge. Students experience environmental care as a personal and moral concern, indicating that ecological values have been emotionally internalized.

This finding supports Tilbury's argument that effective environmental education must integrate cognitive, affective, and behavioral dimensions.[48] Emotional engagement is especially important because environmental responsibility becomes more sustainable when individuals establish meaningful relationships with nature. Behavior motivated solely by external rules may disappear when supervision is absent, whereas ecological concern grounded in empathy, compassion, and moral responsibility is more likely to persist.

The findings also correspond with environmental psychology emphasizing emotional attachment as a determinant of pro-environmental behavior. Schultz argues that environmental concern develops when individuals perceive themselves as interconnected with other living beings and ecological systems.[49] Chawla similarly maintains that positive emotional

[48] Tilbury, "Environmental Education for Sustainability: Defining the New Focus of Environmental Education in the 1990s."
[49] P Wesley Schultz, "Inclusion with Nature: Understanding Human–Nature Relationships," in *Psychology of Sustainable Development*, ed. Peter Schmuck and P Wesley Schultz (Boston, MA: Springer, 2002), 61–78, https://doi.org/10.1007/0-306-47596-1_4.

experiences in nature contribute to environmental commitment and sustained ecological behavior.[50] At El-Azzam, such emotional connections are cultivated through continuous participation in ecological activities integrated into everyday pesantren life.

These experiences also reflect Islamic teachings concerning compassion toward all creation. Hasan explains that prophetic traditions encourage mercy toward animals, plants, and ecosystems as an integral component of Islamic ethics.[51] Syauqi, Askar, and Ghofur similarly discuss the concept of *khalīfah* as a basis for environmental responsibility within Islamic teachings.[52] The findings demonstrate how these principles are internalized through everyday ecological practices. Students' emotional attachment to nature thus reflects both psychological processes and religious commitments, integrating spirituality with environmental ethics.

Compared with eco-pesantren research that primarily emphasizes infrastructure, sanitation, waste management, and institutional programs, this study foregrounds emotional and spiritual transformation. Studies by Agustin et al. and Nurdiani and Muslim focus mainly on sanitation challenges and waste management practices within pesantren.[53] Although these studies provide important insights into environmental conditions and institutional management, they offer limited explanations of how students emotionally and spiritually experience ecological practices. The present study adds an experiential perspective by showing how students describe environmental care as emotionally significant and spiritually meaningful.

Emotional engagement also contributes directly to ecological empathy. Students expressed concern when witnessing environmental damage and satisfaction when participating in conservation activities. These responses demonstrate an emerging capacity to understand, value, and respond compassionately to the well-being of living organisms and ecosystems. Ecological empathy therefore transforms environmental responsibility from an external obligation into an internal moral commitment.

Overall, emotional engagement is a critical dimension of ecospiritual education at El-Azzam. Direct interaction with nature cultivates compassion, gratitude, empathy, and moral concern, allowing environmental awareness to be intellectually understood, emotionally

[50] Louise Chawla, "Significant Life Experiences Revisited: A Review of Research on Sources of Environmental Sensitivity," *The Journal of Environmental Education* 29, no. 3 (January 1998): 11–21, https://doi.org/10.1080/00958969809599114.
[51] Hasan, "Islam and Ecological Sustainability: An Exploration into Prophet's Perspective on Environment."
[52] M Syauqi, Romlah Abubakar Askar, and Abdul Ghofur, "Ekologi Dan Hadits: Analisis Tentang Peran Manusia Sebagai Khalifah Di Bumi," *Socius: Jurnal Penelitian Ilmu-Ilmu Sosial* 2, no. 10 (2025): 231–37, https://ojs.daarulhuda.or.id/index.php/Socius/article/view/1373.
[53] Agustin et al., "Analisis Sanitasi Lingkungan Di Pondok Pesantren Kota Bengkulu Tahun 2021"; Nurdiani and Muslim, "Pengelolaan Sampah Di Pondok Pesantren Ibnul Qoyyim Putri Sebagai Implementasi Tujuan Pembangunan Berkelanjutan."

experienced, and spiritually internalized. Sustainable environmental education should therefore integrate emotional and spiritual formation with its cognitive and behavioral dimensions.

5. Spirituality as the Core of Environmental Ethics

The most distinctive finding of this study is that spirituality functions as the primary foundation of environmental ethics within the pesantren context. Although ecological literacy, practical skills, and emotional attachment contribute to environmental responsibility, participants consistently associated their motivation to care for nature with their relationship with Allah SWT. Environmental stewardship was understood as an expression of worship, obedience, gratitude, and moral accountability. Environmental ethics at El-Azzam are therefore embedded in a spiritual worldview that integrates faith, morality, and ecological responsibility.

Participants interpreted environmental activities through explicit religious meanings. One student reflected, "Through farming activities, I learned the value of patience because what is planted today cannot be harvested immediately" (P3). Another student explained, "When I see a small seed grow into a plant, that provides food for people, I become more aware of Allah's greatness" (P4). These narratives illustrate how ecological activities are experienced not only as practical environmental responsibilities but also as opportunities for spiritual reflection, patience and appreciation of divine creation.

This finding supports Seyyed Hossein Nasr's argument regarding the sacred foundations of environmental ethics. Nasr contends that contemporary environmental crises arise from the desacralization of nature and humanity's separation from spiritual reality.[54] Ecological solutions therefore require the re-sacralization of nature by restoring humanity's spiritual relationship with creation. The experiences of El-Azzam students provide empirical support for this perspective: they understand nature as a divine trust and a manifestation of God's signs rather than merely a material resource. Environmental stewardship consequently becomes an expression of religious devotion, not simply a practical necessity.

The findings also correspond with contemporary discussions of eco-theology and *ecotawḥīd*. Suraijiah, Rusdiah, and Surawardi explain that *ecotawḥīd* connects environmental responsibility with the doctrine of divine unity, emphasizing that ecological destruction reflects disharmony in humanity's relationship with God and creation.[55] Hidayatulloh, Sunawari, and Saumantri similarly argue that Islamic eco-theology strengthens environmental sustainability

[54] Nasr, "The Order of Nature."
[55] Suraijiah, Rusdiah, and Surawardi, "Implementation of Environmental Education in the Concept of Ecotawhid and Ecotheology in Students."

by embedding ecological responsibility within religious identity and spiritual commitment.[56] The El-Azzam experience demonstrates how these theological principles can be translated into daily educational practices that shape students' ecological consciousness.

Spiritually grounded environmental ethics also appear more durable because they encourage self-regulated responsibility. Unlike ecological behavior dependent on supervision or institutional regulations, students reported maintaining environmental practices even in the absence of teachers or caregivers. They regarded environmental care as a moral obligation before Allah, indicating that spirituality provides both transcendental meaning and intrinsic motivation for sustainable behavior.

This finding reinforces Adow et al.'s conclusion that ecospirituality offers a holistic framework integrating ethics, spirituality, ecological awareness, and sustainable behavior.[57] At El-Azzam, environmental stewardship is inseparable from religious life and becomes part of students' spiritual identities. Ecological responsibility is consequently sustained through moral conviction, spiritual commitment, and religious consciousness.

Overall, spirituality constitutes the central axis of environmental ethics at El-Azzam Islamic Boarding School. By connecting environmental responsibility with faith, worship, gratitude, and accountability before God, the pesantren cultivates an ecological consciousness that transcends utilitarian and regulatory approaches. Ecospiritual education therefore offers a transformative model in which sustainable environmental behavior emerges through the integration of ethical, emotional, and spiritual formation.

6. Integration of Ecology, Economy, and Social Responsibility

The integration of ecology, economy, and social responsibility is reflected in the pesantren's agricultural and livestock activities. Based on participant observations and interviews, students are involved in activities such as farming and animal care. The products from these activities are used to support some of the pesantren's daily needs. These practices connect environmental care with practical learning and social responsibility. Rather than indicating full economic independence, the activities show how ecological practices can contribute to meeting pesantren needs while providing students with practical skills and a sense of responsibility.

[56] Hidayatulloh et al., "Eco-Theology in Islamic Thought: Religious Moderation and Organizational Roles in Mining Management in Indonesia."
[57] Adow et al., "A Synthesis of Academic Literature on Eco-Spirituality."

Participants understood environmental activities as contributing to both ecological preservation and communal welfare. One student explained, "The vegetables we plant are used by the pesantren community. This makes us realize that taking care of the environment also helps other people" (P3). Another stated, "Through farming and livestock activities, we learn that environmental care can provide benefits for everyone, not only for ourselves" (P4). These experiences show that students perceive sustainability holistically, encompassing ecological preservation, social welfare, and economic responsibility. Environmental stewardship therefore becomes a collective endeavor that benefits both people and nature.

This finding corresponds with Paulo Freire's transformative philosophy of education, which emphasizes learners' critical engagement with social realities and contribution to collective well-being.[58] For Freire, meaningful education extends beyond knowledge transmission by developing critical consciousness, social responsibility, and active participation in community development. The El-Azzam experience reflects this perspective because students learn that environmental sustainability is inseparable from social solidarity and economic resilience.

The findings also align with sustainability scholarship advocating the integration of environmental, social, and economic dimensions. Related research on eco-tahfiz institutions in Malaysia also examines the integration of Islamic education, environmental sustainability, and community engagement.[59] This perspective is reflected at El-Azzam, where environmental activities are integrated into students' daily learning and practical responsibilities. The present study supports these findings while demonstrating that such integration can be strengthened through Islamic spirituality and religious commitment.

The El-Azzam model, however, introduces a spiritual dimension that is often absent from conventional sustainability frameworks. Students interpret agricultural and livestock activities not merely as productive endeavors but as expressions of *shukr* (gratitude), *khalīfah* (stewardship), and *amānah* (trust). Economic sustainability is thus embedded in ethical responsibility and religious devotion. Ecospiritual education consequently offers an alternative to market-oriented sustainability by integrating ecological responsibility, communal welfare, economic resilience, and spiritual meaning.

Overall, the integration of ecology, economy, and social responsibility constitutes a distinctive feature of ecospiritual education at El-Azzam. By connecting environmental

[58] Paulo Freire, *Pedagogy of the Oppressed*, 30th Anniv (New York: Continuum, 2000).
[59] Rekan and Mokhtar, "The Development of Eco-Tahfiz In Malaysia: Bridging Islamic Education and Environmental Sustainability."

stewardship with communal welfare and economic sustainability, the pesantren develops a holistic model of sustainability grounded in both Islamic ethical values and contemporary sustainability principles.

7. Ecospiritual Education as Transformative Islamic Education

Interviews with five students indicate that they perceived ecospiritual education at El-Azzam as contributing to changes in their environmental knowledge, attitudes, and everyday practices**.** Students described becoming more aware of environmental issues, developing greater concern for nature, and applying environmental practices in their daily lives. These accounts suggest that ecospiritual education may foster changes in students' environmental awareness and practices, particularly through the integration of Islamic values, direct interaction with nature, and everyday environmental activities. Students not only develop a cognitive understanding of environmental preservation but also internalize it as part of their religious values and daily practices. The interview findings indicate the students perceived a shift in their understanding of environmental preservation, from viewing it primarily as maintaining physical cleanliness to recognizing it as an expression of worship and religious responsibility. Their experiences at the *pesantren* encouraged them to associate everyday ecological practices, such as conserving water, maintaining cleanliness, and caring for plants, with Islamic values and collective well-being. Students also expressed an intention to continue applying these practices beyond the *pesantren* environment, suggesting that ecospiritual education may contribute to the internalization of ecological responsibility as part of their moral and religious identity. One student explained: "Before entering the Islamic boarding school, I thought protecting the environment was only about cleanliness. After studying here, I understand that protecting nature is also part of my worship and responsibility as a Muslim" (P1).

This statement illustrates a shift from a limited understanding of environmental preservation as physical cleanliness toward a more comprehensive awareness that connects ecological responsibility with worship and Muslim identity. Another student emphasized the social benefits and future continuity of the practices learned at the pesantren: "Education at the Islamic boarding school made me more aware that small actions like conserving water, maintaining cleanliness, and caring for plants have benefits for many people. I want to apply these practices when I return to society" (P2).

Several other participants similarly explained that religion and environmental preservation were inseparable. Islamic teachings about the responsibility to protect nature were

not merely conveyed theoretically by religious teachers but practiced through water conservation, environmental maintenance, plant care, farming, waste management, and other daily pesantren activities. These experiences demonstrate that ecospiritual education connects religious knowledge with concrete ecological behavior.

Taken together, the findings position ecospiritual education at El-Azzam as a transformative model of Islamic education that integrates ecological awareness, spirituality, ethics, emotional engagement, practical skills, and social responsibility within a coherent pedagogical framework. Rather than treating environmental education as a separate subject or temporary institutional program, El-Azzam embeds ecological values in students' religious practices, daily experiences, communal activities, and moral formation.

From a phenomenological perspective, participants described perceived changes in their environmental understanding, values, and everyday practices. Ecological awareness developed not primarily through external enforcement but through gradual internalization involving direct experience, reflection, habituation, and spiritual meaning. Students increasingly perceived environmental stewardship as part of their identity as Muslims, transforming it from an externally imposed obligation into an internal moral and religious commitment.

This finding can be interpreted through transformative learning theory, which emphasizes changes in learners' worldviews, values, and self-understanding beyond the acquisition of knowledge.[60] Ecological engagement at El-Azzam encourages students to reinterpret their relationships with nature, society, and God. Environmental education consequently becomes a process of personal, moral, and spiritual transformation rather than merely technical environmental training. These findings also contribute to eco-pesantren scholarship by foregrounding students' lived experiences alongside institutional and programmatic perspectives. They further illustrate how ecospirituality is interpreted and practiced within everyday educational activities, linking ecological responsibility with ethical reasoning and spiritual consciousness.

This transformative potential is particularly relevant amid environmental degradation, consumerism, and moral disorientation. Islamic educational institutions can contribute to global sustainability by connecting environmental protection with faith, compassion, responsibility, and ethical human existence. The El-Azzam findings therefore illustrate how locally grounded Islamic educational practices may contribute to addressing contemporary environmental challenges.

[60] Jack Mezirow, *Transformative Dimensions of Adult Learning* (San Francisco, CA: Jossey-Bass, 1991).

To clarify the contribution and novelty of these findings, Table 3 compares the focus, findings, and limitations of previous eco-pesantren research with the phenomenological and transformative contributions of the present study.

Table 3
Comparative Analysis Between Ecospiritual Education at El-Azzam and Previous Eco-Pesantren Studies

Previous Studies	Main Focus	Key Findings	Limitations	Contribution of the Present Study
Hasbi (2023)	Ecospiritual attitudes in pesantren	Eco-pesantren strengthens environmental awareness	Limited discussion of lived experiences	Explores spiritual internalization phenomenologically
Mizwar (2023)	Eco-theology in pesantren	Highlights environmental theology	Focuses on theology and management practices	Adds emotional and experiential dimensions
Agustin et al. (2022)	Sanitation in pesantren	Identifies hygiene and sanitation issues	Limited spiritual analysis	Connects environmental practices with ecospiritual awareness
Nurdiani & Muslim (2022)	Waste management and SDGs	Discusses waste management implementation	Focuses on technical dimensions	Highlights ecological character formation
Fua (2018)	Religion-based environmental education	Religious values strengthen ecological attitudes	Limited pesantren context	Examines students' ecospiritual experiences in a pesantren context
Hidayat et al. (2026)	Faith-based ecological counselling	Reflection strengthens ecological empathy	Focused on counselling practices	Expands into institutional ecospiritual pedagogy

As shown in Table 3, this study extends previous research by focusing on students' lived experiences, spiritual internalization, emotional engagement, and ecological character formation. Previous studies have examined institutional environmental programs, sanitation, waste management, environmental theology, counselling practices, and students' ecotheological experiences. The present study adds a context-specific account of how ecological literacy, emotional engagement, experiential learning, and spiritual internalization are interrelated in the experiences of El-Azzam participants.

8. Contribution of Ecospiritual Education to Environmental Awareness

The findings indicate that ecospiritual education contributes to students' environmental awareness through several interconnected dimensions. Environmental consciousness emerges

not only from ecological knowledge but also from direct practice, spiritual reflection, religious values, communal participation, and socio-economic engagement. This multidimensional approach develops cognitive understanding, emotional attachment, responsible behavior, and spiritual commitment toward the environment. The principal contributions of these educational dimensions, their effects on students, and the supporting interview evidence are summarized in Table 4.

Table 4
Contributions of Ecospiritual Education to Students' Environmental Awareness

Main dimension	**Empirical Practices in El-Azzam**	**Contribution to Students**	**Interview evidence**
Ecological Literacy	Environmental learning, gardening activities, nature observation, and discussion of human-environment relationship	Strengthens students' understanding of ecological processes and the consequences of human actions.	When I work in the garden every morning, I feel closer to nature and more aware that every living thing depends on one another. It makes me realize that humans should not damage the environment" (P3)
Emotional Engagement	Daily care of plants and animals, collective farming, *tadabbur alam,* and environmental reflection	Develops ecological empathy, affection, gratitude, and emotional attachment to living beings.	"When I care for plants and animals every day, I understand that all living things need attention. I feel sad when plants died because they are not cared for" (P2).
Experiential Learning	Farming, livestock care, composting, waste management, and environmental management.	Develops ecological skills, sustainable habits, discipline, patience, and responsibility through direct experience.	"From the craft lessons and gardening activities, I learned that how humans manage the environment will affect the results they obtain in the future" (P1).
Spiritual Internalization	Religious teaching, environmental reflection, dhikr, contemplation of nature and interpretation of environmental care as worship and divine trust	Strengthens environmentally responsible behavior by connecting ecological practices with *ibadah, amanah*, gratitude, and responsibility before Allah.	"At the Islamic boarding schools, we were thought that protecting the environment is part of our worship an and a mandate form Allah, Therefore I try not to litter" (P4)

Cross-Cutting Socio-Economic Context	Garden and livestock production for pesantren needs and communal activities.	Demonstrates the relationship between environmental preservation, communal welfare, and resource sustainability.	"The produce from the garden and livestock is used for the needs of the Islamic boarding school. I learned the importance of protecting the environment" (P5).

Table 4 shows that the four dimensions of ecospiritual education contribute to environmental awareness through different but interconnected pathways. Ecological literacy provides the cognitive foundation for understanding ecological relationships and human responsibility toward nature. Emotional engagement strengthens students' affective relationships with living beings, while experiential learning translates ecological knowledge and values into everyday environmental practices. Spiritual internalization gives these experiences religious meaning by connecting environmental care with worship, divine trust, gratitude, and responsibility before Allah.

These dimensions are reflected in everyday pesantren activities rather than exclusively in formal classroom instruction. Farming, livestock care, gardening, composting, waste management, and environmental maintenance provide opportunities for ecological learning, emotional engagement, practical participation, and spiritual reflection. The use of agricultural and livestock products for pesantren needs further illustrates how environmental practices are associated with communal welfare. Environmental awareness at El-Azzam can therefore be understood as an integrated experience in which knowledge, emotion, practice, and spirituality reinforce one another.

D. Conclusion

This study reveals that ecospiritual education at El-Azzam Islamic Boarding School is associated with students' environmental awareness through four interconnected dimensions: ecological literacy, emotional engagement, experiential learning, and spiritual internalization. Drawing on students' lived experiences, the findings indicate that environmental awareness is developed not only through ecological knowledge but also through direct engagement with nature, emotional attachment to living beings, and religious reflection. Students interpret environmental stewardship as an expression of worship (*ibādah*), divine trust (*amānah*), gratitude (*shukr*), and responsibility before Allah SWT.

The four dimensions operate as mutually reinforcing processes. Ecological literacy provides an understanding of environmental relationships, while emotional engagement fosters

empathy, compassion, and care for living beings. Experiential learning through farming, livestock care, waste management, composting, and environmental maintenance provides opportunities to practice ecological responsibility. Spiritual internalization connects these experiences with Islamic values, allowing students to perceive environmental care as part of their moral and religious commitments. Agricultural and livestock activities also provide a socio-economic context in which ecological practices are connected with communal responsibility and support for pesantren needs, rather than constituting a separate dimension of ecospiritual education.

Theoretically, this study contributes to Islamic environmental education by providing a phenomenological understanding of how ecological values are experienced and interpreted in relation to students' spiritual and moral consciousness. Building on previous eco-pesantren and phenomenological research, this study highlights the interrelationship between ecological literacy, emotional engagement, experiential learning, and spiritual meaning-making within the El-Azzam context.

As a qualitative phenomenological study conducted in a single pesantren with five student participants and two supporting informants, the findings provide context-specific insights rather than evidence of measurable or long-term behavioral transformation. Further research involving multiple pesantren and longitudinal approaches is recommended to examine how ecospiritual practices relate to the development and continuity of environmental awareness and behavior over time.

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