

Environmental Ethics and Islamic Philanthropy Based on the Eco-Pesantren Model in Indonesian Islamic Boarding Schools

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The growing environmental crisis demands educational approaches that cultivate sustainability competencies, ethical values, and character development beyond technological and policy interventions. Although Indonesia has promoted eco-pesantren as a faith-based environmental initiative, its implementation remains fragmented and predominantly project-oriented, with limited integration into curriculum, pedagogy, assessment, and institutional learning. Moreover, previous studies have largely examined eco-pesantren from governance, environmental ethics, or Islamic philanthropy perspectives independently, leaving limited understanding of how these dimensions collectively shape sustainability learning. This study aims to develop a Sustainable Learning Model for eco-pesantren by integrating Islamic environmental ethics, Islamic philanthropy, and Education for Sustainable Development (ESD) into a unified pedagogical framework. Employing a qualitative multiple-case study design, the research was conducted in three eco-pesantren in Indonesia using Soft Systems Methodology (SSM). Data were collected through semi-structured interviews, participant observation, document analysis, and field notes involving pesantren leaders, teachers, students, philanthropic institutions, and government agencies. The findings reveal that environmental initiatives are largely implemented as extracurricular or infrastructure-based programmes rather than as transformative learning processes that systematically develop sustainability competencies and ecological character. This study proposes a Sustainable

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Learning Model that integrates Islamic environmental ethics, experiential learning, institutional culture, curriculum, community engagement, and Islamic philanthropy to strengthen environmental literacy, green entrepreneurship, and character education. The study contributes theoretically by bridging Islamic environmental ethics, faith-based sustainability education, and ESD within a single learning framework, while empirically providing an adaptable model for strengthening sustainability learning and character development in Islamic educational institutions.

Keywords: eco-pesantren; sustainability learning; Islamic environmental ethics; Islamic philanthropy; character education

1. 1. Introduction

The accelerating environmental crisis has intensified global concern over the sustainability of human development and highlighted the urgent need to transform the way environmental issues are understood and addressed. Climate change, biodiversity loss, pollution, and the depletion of natural resources demonstrate that technological innovation and regulatory interventions alone are insufficient to achieve long-term sustainability. Recent international studies increasingly argue that environmental problems are not merely ecological or economic challenges but also ethical and educational issues that require fundamental changes in human values, behaviour, and learning processes (Drechsler et al., 2024; Drechsler, Chafik, et al., 2025; Filho et al., 2021). Consequently, sustainability can no longer be approached solely through technocratic governance; instead, it requires educational systems capable of integrating environmental knowledge with ethics, cultural values, and spirituality to foster responsible citizenship and long-term ecological awareness.

Within the Islamic worldview, environmental sustainability is inseparable from religious responsibility. Islamic teachings position human beings as *khalfah* (stewards of the earth), entrusted with the obligation to preserve ecological balance (*mizān*) and protect nature as an *amanah* (divine trust) (Abdelzaher et al., 2019a; Drechsler, Chafik, et al., 2025; Ongaro & Tantardini, 2024c; A. M. Rizvi, 2010). These

principles reject exploitative relationships between humans and nature by emphasizing justice, responsibility, and harmony as fundamental values of environmental stewardship (Luetz & Nunn, 2023b; Marshall, 2025). Rather than viewing environmental protection as a purely technical activity, Islamic environmental ethics frames ecological conservation as a moral obligation and an act of worship. Contemporary scholarship therefore increasingly recognizes religion as an important ethical foundation for sustainability, particularly in societies where religious institutions remain influential in shaping public behaviour and community values (Drechsler, Chafik, et al., 2025; Husamah et al., 2025; Keskitalo, 2023; Ongaro & Tantardini, 2024d).

In Indonesia, pesantren represent one of the most influential Islamic educational institutions for translating these theological principles into everyday educational practices. Beyond functioning as centres of religious instruction, pesantren are community-based learning environments where students experience continuous interactions among religious education, social engagement, economic activities, and environmental practices. The close relationship between *kiai*, students (*santri*), and surrounding communities creates an authentic educational setting in which ecological values can be learned not only through classroom instruction but also through direct participation in community life. Such characteristics position pesantren as potential learning ecosystems

capable of supporting Education for Sustainable Development (ESD), particularly by integrating environmental ethics, local wisdom, and community participation into meaningful learning experiences (Abdelzaher & Abdelzaher, 2017; A. M. Rizvi, 2010). Students are therefore encouraged not only to understand Islamic teachings but also to practice sustainable agriculture, responsible resource management, and environmentally responsible lifestyles within their daily learning environment.

The concept of eco-pesantren emerged from this educational potential by encouraging Islamic boarding schools to integrate environmental conservation into institutional life. Since its introduction by the Indonesian government, eco-pesantren has promoted initiatives such as waste management, water conservation, tree planting, organic farming, and environmentally friendly infrastructure. These initiatives demonstrate growing awareness of environmental sustainability within Islamic educational institutions. Nevertheless, previous studies consistently indicate that implementation remains fragmented. Most environmental activities continue to operate as isolated projects rather than as systematically designed learning processes integrated into curriculum, pedagogy, assessment, and competency development (Luetz & Nunn, 2023b; Marshall, 2025; Shahida, 2024). As a result, environmental education in many pesantren remains activity-oriented instead of becoming a comprehensive educational approach capable of fostering environmental literacy, sustainability competencies, and green entrepreneurial capacity among learners.

Previous studies have substantially contributed to understanding eco-pesantren from various perspectives, including environmental movements, Islamic environmental ethics, public policy, sustainable governance, and green economic development. Research has demonstrated the importance of Islamic ecological principles in promoting environmental responsibility (Ongaro & Ho, 2025; Ongaro & Tantardini, 2024d), while other studies have explored the contribution of Islamic philanthropy (including *zakat*, *waqf*, *infaq*, and

sadaqah) in supporting sustainable development and green economic initiatives (O. Al-Jayyousi et al., 2022; Ongaro & Tantardini, 2024a, 2024d). However, these strands of literature generally remain disconnected. Environmental ethics is frequently discussed as a theological discourse, whereas Islamic philanthropy is primarily examined as a financing mechanism. Likewise, eco-pesantren has largely been analysed from governance and institutional perspectives rather than through educational processes that explain how Islamic values are transformed into meaningful learning experiences capable of influencing students' environmental knowledge, attitudes, and behaviours.

Another important limitation concerns the utilization of Islamic philanthropy within educational contexts. Existing practices indicate that philanthropic resources are predominantly allocated to physical infrastructure, charitable assistance, or short-term environmental projects (Azwar, 2023b; Herdiansyah et al., 2019; Zahara et al., 2024). Although these contributions are valuable, they rarely function as sustainable educational resources that continuously support curriculum innovation, experiential learning, environmental entrepreneurship, or student-centred sustainability programmes. Consequently, eco-pesantren frequently depend on temporary initiatives without developing institutional learning systems that enable environmental values to become embedded in everyday educational practices. This condition reflects a significant gap between the normative potential of Islamic philanthropy and its pedagogical contribution to sustainability education within Islamic educational institutions.

2. Theoretical Foundations of Sustainable Learning in Eco-Pesantren

The growing complexity of environmental degradation has shifted sustainability from a predominantly environmental issue toward an educational challenge that requires transformative learning capable of reshaping values, behaviours, and institutional cultures. Within Education for Sustainable Development (ESD), sustainability is no longer understood as

the transmission of environmental knowledge alone but as the development of competencies that enable learners to critically engage with ecological, social, economic, and ethical dimensions of sustainability. Consequently, educational institutions are increasingly expected to function as learning ecosystems that integrate curriculum, institutional practices, community engagement, and value formation. In Islamic educational contexts, this transformation requires integrating theological principles with sustainability education so that environmental stewardship becomes both a religious commitment and a learning outcome.

Although eco-pesantren has attracted increasing scholarly attention, existing studies remain fragmented across several disciplinary traditions, including Islamic environmental ethics, environmental governance, Islamic philanthropy, and sustainability practices. Few studies have systematically integrated these perspectives into a coherent learning framework capable of explaining how Islamic values are translated into educational processes that develop environmental literacy, sustainability competencies, and green economic independence among students. This literature review therefore synthesizes four complementary perspectives of Islamic environmental ethics, eco-pesantren as a sustainability learning ecosystem, Islamic philanthropy for sustainability learning, and the theoretical gap that underpins the development of an integrated sustainable learning model.

2.1 2.1. Islamic Environmental Ethics as the Foundation of Sustainability Learning

Islamic environmental ethics provides one of the strongest normative foundations for sustainability education within Muslim societies. Unlike anthropocentric paradigms that position nature primarily as an economic resource, Islamic environmental ethics emphasizes reciprocal relationships between humans, society, and nature through the concepts of *tawhīd*, *khilāfah*, *mīzān*, and *amānah*. These principles construct environmental responsibility as both an ethical obligation and a spiritual commitment rather than

merely an environmental policy objective. Recent studies increasingly demonstrate that religious values significantly influence environmental behaviour by strengthening moral reasoning, ecological responsibility, and intrinsic motivation for environmental stewardship (O. R. Al-Jayyousi, 2022; S. A. A. Rizvi, 2010). Within Islamic education, these theological principles possess considerable pedagogical significance because they encourage learners to understand environmental stewardship through experiential, reflective, and value-based learning rather than through cognitive instruction alone.

The integration of Qur'anic ecological ethics into curriculum and institutional culture has been shown to strengthen environmental awareness, ecological responsibility, and character formation among students, particularly when sustainability is embedded in authentic educational practices rather than isolated environmental activities (Redman, Wiek, & Barth, 2021; Shahida, 2024). Nevertheless, previous studies have primarily discussed Islamic environmental ethics as theological discourse or environmental philosophy. Limited attention has been devoted to explaining how these ethical principles can be operationalized into comprehensive pedagogical models that integrate curriculum, learning activities, institutional management, character education, and community participation. Consequently, Islamic environmental ethics remains predominantly normative despite its considerable potential to support sustainability learning and the development of sustainability competencies within Islamic educational institutions (Redman, Wiek, & Barth, 2021; Redman, Wiek, & others, 2021).

Although previous studies have established that Islamic environmental ethics provides a strong theological and moral foundation for environmental stewardship, the literature remains largely concentrated on normative interpretations of Islamic ecological principles or descriptive accounts of environmental practices within Islamic institutions. Existing research has made important contributions by explaining the ethical significance of *tawhīd*, *khilāfah*, *mīzān*, and *amānah* in promoting environmental responsibility, yet

limited attention has been devoted to understanding how these principles can be systematically translated into pedagogical practices that shape sustainability competencies, environmental literacy, and character development through formal learning processes. Consequently, the relationship between Islamic environmental ethics and Education for Sustainable Development (ESD) remains insufficiently theorized, particularly regarding curriculum integration, experiential learning, institutional culture, and community engagement within Islamic educational settings. Addressing this gap, the present study repositions Islamic environmental ethics from a predominantly normative theological discourse to a pedagogical framework for sustainability learning. By integrating Islamic environmental ethics with Islamic philanthropy, experiential learning, and eco-pesantren practices, this research proposes a Sustainable Learning Model that connects ethical values with curriculum design, authentic learning experiences, and character education. In doing so, the study complements previous scholarship by demonstrating that the effectiveness of Islamic environmental ethics should be assessed not only through environmental awareness or institutional initiatives but also through its capacity to cultivate environmentally responsible learners equipped with the knowledge, competencies, values, and ecological character required to address contemporary sustainability challenges.

2.2 Eco-Pesantren as a Sustainability Learning Ecosystem

The concept of eco-pesantren emerged as an institutional response to environmental degradation by integrating environmental conservation into the everyday life of Islamic boarding schools. Unlike conventional educational institutions, pesantren integrate formal learning, religious rituals, hidden curriculum, institutional culture, and community engagement into a holistic educational environment. This unique characteristic enables sustainability learning to occur continuously through authentic educational experiences rather than exclusively through classroom instruction.

Previous studies consistently demonstrate that eco-pesantren contributes to waste management, organic agriculture, water conservation, biodiversity protection, renewable energy initiatives, and students' environmental awareness, while simultaneously strengthening environmental responsibility through Islamic values (O. R. Al-Jayyousi, 2022; Lozano et al., 2017; S. A. A. Rizvi, 2010). These characteristics position eco-pesantren as a distinctive form of faith-based sustainability education, where ecological responsibility is cultivated through the interaction of religious beliefs, institutional practices, and community participation.

Recent international scholarship increasingly interprets sustainability education through the perspectives of ecopedagogy, transformative learning, and whole-institution approaches, arguing that sustainability cannot be achieved through environmental knowledge alone but requires educational environments in which curriculum, pedagogy, institutional culture, leadership, assessment, and community partnerships interact as an integrated learning system. Research by Lozano et al., (2017, 2019, 2022); Lozano & Barreiro-Gen (2019, 2021); Wiek et al., (2011), and Redman, Wiek, & Barth (2021, 2021) emphasizes that sustainability competencies including systems thinking, anticipatory thinking, normative competence, collaboration, and strategic action and develop most effectively through experiential learning and authentic engagement with real-world sustainability challenges rather than through transmissive teaching. Likewise, whole-institution approaches demonstrate that sustainability learning becomes more meaningful when environmental values are embedded across institutional governance, curriculum, campus culture, student participation, and community engagement instead of being implemented as isolated environmental projects.

These perspectives strongly resonate with the educational character of eco-pesantren. Daily activities such as composting, organic farming, waste recycling, renewable energy management, water conservation, and environmental restoration provide authentic contexts through

which students construct ecological knowledge while simultaneously internalizing Islamic ethical values of *khalifah*, *amanah*, and *mizan*. From the perspective of Education for Sustainable Development (ESD), such experiences represent transformative learning because they integrate cognitive understanding, ethical reflection, practical action, and social participation within a single educational process (Luetz & Nunn, 2023b; Marshall, 2025; S. A. A. Rizvi, 2010). Experiential learning therefore becomes the mechanism through which environmental literacy, sustainability competencies, ecological responsibility, and character formation develop simultaneously. Rather than functioning solely as environmental programmes, these activities create opportunities for learners to engage critically with environmental problems while translating religious values into everyday environmental practices.

Despite these theoretical advances, important empirical and conceptual limitations remain within the eco-pesantren literature. First, most existing studies continue to evaluate eco-pesantren primarily through environmental performance, conservation activities, institutional management, or community participation, with relatively limited attention devoted to curriculum integration, pedagogical design, competency assessment, and learning outcomes. Second, research on Islamic environmental ethics generally remains situated within theological or philosophical discourse, while sustainability education research largely develops independently from Islamic educational scholarship. Third, studies on Islamic philanthropy, environmental ethics, eco-pesantren, and sustainability education have evolved as separate bodies of knowledge with minimal conceptual integration. Consequently, current scholarship provides limited explanation of how religious values, institutional culture, philanthropic resources, experiential learning, and curriculum collectively shape sustainability competencies and ecological character among students. Recent systematic reviews of whole-institution approaches similarly conclude that sustainability education continues to suffer from

fragmented implementation, where environmental initiatives often remain disconnected from institutional learning systems, competency development, and assessment frameworks.

Addressing these gaps, the present study reconceptualizes eco-pesantren as a Sustainability Learning Ecosystem rather than merely an environmental programme or institutional innovation. Unlike previous studies that predominantly emphasize conservation practices, governance arrangements, or environmental awareness, this research integrates Islamic environmental ethics, Islamic philanthropy, experiential learning, Education for Sustainable Development, and character education into a unified conceptual framework. The proposed Sustainable Learning Model explains how Islamic values are transformed into curriculum, pedagogy, authentic learning experiences, institutional culture, and community engagement that collectively foster sustainability competencies, environmental literacy, green entrepreneurial capacity, and ecological character. In doing so, this study complements previous scholarship by bridging two research traditions that have largely developed independently (Islamic environmental education and sustainability learning) thereby offering both a theoretical contribution to faith-based sustainability education and a practical framework that can be adapted by Islamic educational institutions seeking to strengthen Education for Sustainable Development in diverse socio-cultural contexts.

2.3. Islamic Philanthropy as a Catalyst for Sustainable Learning

Islamic philanthropy constitutes a strategic yet underexplored dimension of sustainability education, particularly within Islamic educational institutions that seek to integrate faith-based values with environmental responsibility (Luetz & Nunn, 2023b; Marshall, 2025). Traditionally, philanthropic instruments such as *zakat*, *waqf*, *ṣadaqah*, and *infaq* have been understood primarily as mechanisms for poverty alleviation, social welfare, and community development. However,

recent scholarship suggests that Islamic philanthropy possesses a broader transformative capacity by supporting environmental conservation, renewable energy, sustainable agriculture, climate resilience, and green economic development (Bsoul et al., 2022; Dörre, 2024; Drechsler, Chafik, et al., 2025). Unlike conventional charitable models that focus predominantly on short-term assistance, Islamic philanthropy is grounded in the principles of social justice, collective responsibility, and *maqāṣid al-sharīʿah*, which emphasize the protection of life, wealth, intellect, and the natural environment (Azwar, 2023b, 2023a; Rahman et al., 2024). These ethical foundations position philanthropy not merely as an economic instrument but as a vehicle for promoting sustainable development through long-term investment in human and social capabilities.

Despite this considerable potential, the existing literature continues to conceptualize Islamic philanthropy largely from the perspectives of Islamic economics, public governance, or social finance, while its contribution to educational transformation remains insufficiently explored. Most empirical studies focus on the role of *zakat* and *waqf* in financing poverty reduction, supporting micro-enterprises, or improving public services, with limited attention to their capacity to strengthen educational innovation and sustainability learning (Azwar, 2023b, 2023a). Within eco-pesantren, philanthropic resources are predominantly allocated to the construction of environmental infrastructure, waste management facilities, water conservation systems, or short-term environmental campaigns. Although these investments contribute to improving institutional environmental performance, they rarely support curriculum development, teacher capacity building, sustainability-oriented pedagogy, or competency-based environmental education. Consequently, philanthropic initiatives often remain project-oriented and fail to generate continuous learning processes capable of fostering long-term environmental literacy and behavioural change among students.

From the perspective of Education for Sustainable Development (ESD), this limitation reflects a broader challenge in translating financial resources into meaningful educational transformation. UNESCO emphasizes that sustainability education requires more than physical infrastructure or environmental programmes; it requires learning environments that cultivate critical thinking, systems thinking, collaboration, ethical reasoning, and active participation in solving real-world sustainability challenges (Ongaro & Tantardini, 2024c, 2024a, 2024b). Therefore, philanthropic resources should be viewed not simply as financial capital but as educational capital capable of expanding opportunities for authentic learning. Within eco-pesantren, this perspective enables *zakat*, *waqf*, *ṣadaqah*, and *infaq* to finance student-led environmental projects, school gardens, organic farming laboratories, renewable energy demonstrations, waste recycling enterprises, and community-based conservation programmes. These initiatives provide experiential learning opportunities through which students actively construct knowledge while simultaneously developing sustainability competencies and ecological responsibility.

Furthermore, Islamic philanthropy contributes not only to environmental learning but also to the cultivation of character education, which constitutes a central objective of both Islamic education and Education for Sustainable Development. Participation in philanthropic-supported environmental activities encourages students to internalize values such as responsibility (*amānah*), stewardship (*khalīfah*), compassion, cooperation, discipline, and social solidarity through direct engagement with environmental and community issues. Rather than perceiving philanthropy solely as charitable giving, learners experience it as a practical expression of faith that strengthens their moral commitment to environmental stewardship and collective well-being. This experiential process connects cognitive understanding with ethical action, thereby fostering ecological character alongside environmental literacy.

This study argues that Islamic philanthropy should be repositioned as an enabling mechanism within a Sustainable Learning Model, rather than merely as an external source of institutional financing. Such a perspective bridges Islamic environmental ethics, sustainability education, and experiential pedagogy by demonstrating that philanthropic resources can support curriculum innovation, authentic learning experiences, environmental entrepreneurship, and community engagement simultaneously. This conceptual shift extends the existing literature by redefining Islamic philanthropy as a pedagogical resource that generates both educational and environmental value. Consequently, eco-pesantren is positioned not only as a recipient of philanthropic assistance but also as a transformative learning ecosystem in which Islamic philanthropy becomes an integral component of sustainability learning, character formation, and the development of environmentally responsible citizens capable of contributing to sustainable development within and beyond their communities.

3. Methodology

This study employed a qualitative multiple-case study design integrated with Soft Systems Methodology (SSM) (Checkland, 1990; Mehregan et al., 2012; Peter Checkland and John Po, 2010) to develop a sustainable learning model for eco-pesantren grounded in Islamic environmental ethics and Islamic philanthropy. A qualitative approach was selected because sustainability learning is inherently a socially constructed process that cannot be adequately understood through quantitative indicators alone. Rather than measuring educational outcomes statistically, this study sought to explore how environmental values rooted in Islamic teachings are interpreted, experienced, and translated into learning practices within Islamic boarding schools. The qualitative paradigm by Creswell, (2008; 2018) therefore enabled a comprehensive understanding of the interactions among religious values, institutional culture, learning experiences, and community engagement that collectively shape sustainability education.

Theoretically, this research is situated within the perspective of Education for Sustainable Development (ESD), which views learning as a transformative process that enables learners to develop the knowledge, competencies, values, and attitudes necessary to respond to environmental challenges. Unlike conventional environmental education that primarily emphasizes knowledge acquisition, ESD promotes experiential, participatory, and community-based learning capable of transforming learners' behaviour and social responsibility. Within the context of Islamic education, these principles resonate strongly with Islamic environmental ethics, particularly the concepts of *khalifah*, *mizān*, *amānah*, and *ihsān*, which position environmental stewardship as both a moral obligation and a lifelong learning process. Consequently, the present study conceptualizes eco-pesantren not merely as an environmental programme but as an authentic sustainability learning ecosystem in which Islamic values, environmental practices, and community participation become mutually reinforcing dimensions of learning.

To investigate this complexity, the study adopted Soft Systems Methodology (SSM) developed by Checkland because the development of sustainability learning within eco-pesantren involves multiple actors, institutional values, educational practices, and organizational dynamics that cannot be adequately analysed using linear or positivistic approaches (Checkland, 1990; Langervik, 2001; Peter Checkland and John Po, 2010). SSM is particularly appropriate for educational research that seeks not only to explain existing practices but also to generate conceptual improvements through stakeholder participation and systemic reflection. In this study, SSM served as an analytical framework for understanding how sustainability learning is currently implemented, identifying systemic constraints, and reconstructing an integrated learning model that reflects both empirical realities and Islamic educational values.

The research was conducted in three eco-pesantren located in Magelang, Ponorogo, and

Madiun, Indonesia. These sites were selected purposively because they represent diverse characteristics of environmental learning within Islamic boarding schools. Eco-pesantren in Magelang emphasize the internalization of ecological values through religious education and daily institutional culture. Ponorogo demonstrates experiential sustainability learning through organic farming, maggot cultivation, compost production, and semi-organic agriculture that actively involve students in environmental problem-solving. Meanwhile, eco-pesantren in Madiun illustrate the contribution of Islamic philanthropic organizations in supporting environmental facilities and educational activities. The diversity of these institutional contexts provided opportunities for comparative analysis to identify common learning principles while acknowledging contextual variations in sustainability education.

Participants were selected using purposive sampling based on their direct involvement in sustainability learning within eco-pesantren. They consisted of pesantren leaders (*kiai*), teachers, environmental programme coordinators, students actively participating in environmental activities, managers of Islamic philanthropic institutions, officials from the Ministry of Religious Affairs, and representatives of local Environmental Agencies (*Dinas Lingkungan Hidup*). The inclusion of multiple stakeholders enabled the study to capture diverse perspectives regarding curriculum implementation, institutional learning, environmental practices, and community participation, thereby strengthening the credibility of the findings through data triangulation. Data were collected through four complementary techniques. Semi-structured interviews were conducted to explore participants' experiences, perceptions, and interpretations regarding the integration of Islamic environmental ethics into sustainability learning. Participant observation enabled the researcher to directly examine learning activities such as organic farming, waste segregation, composting, maggot cultivation, environmental campaigns, renewable energy initiatives, and community-based environmental programmes

undertaken by students. Document analysis was employed to review eco-pesantren curricula, institutional policies, environmental programme reports, teaching materials, and relevant national regulations concerning eco-pesantren and environmental education. In addition, field notes were maintained throughout the research process to document interactions among students, teachers, institutional leaders, community members, and philanthropic organizations within everyday learning activities.

Data analysis followed the interactive model proposed by Miles, Huberman, and Saldaña, comprising data condensation, data display, and conclusion drawing, while simultaneously integrating the seven stages of Soft Systems Methodology. The analytical process began by exploring problematic situations related to sustainability learning through interviews, observations, and document analysis. These findings were subsequently synthesized into Rich Pictures to visualize the relationships among educational actors, environmental practices, institutional culture, and philanthropic support. The analysis then proceeded with the development of Root Definitions using the CATWOE framework to identify customers, actors, transformation processes, worldviews, owners, and environmental constraints influencing sustainability learning within eco-pesantren. Based on these analyses, Conceptual Models were constructed to represent desirable learning systems and subsequently compared with empirical practices observed across the three research sites. This iterative comparison enabled the identification of feasible improvements and ultimately facilitated the development of a Sustainable Learning Model integrating Islamic environmental ethics, Islamic philanthropy, experiential learning, and community engagement as interconnected components of sustainability education.

To ensure methodological rigor, this study adopted the criteria of credibility, transferability, dependability, and confirmability. Credibility was strengthened through triangulation of data sources, methods, and institutional contexts, as well as member checking with selected

participants to verify the interpretation of findings. Transferability was supported through detailed descriptions of the educational contexts and institutional characteristics of each eco-pesantren, allowing readers to assess the applicability of the findings in similar settings. Dependability and confirmability were maintained by documenting the entire research process, analytical decisions, and model development through an audit trail, thereby ensuring transparency and consistency throughout the study. From a methodological perspective, the contribution of this study lies not only in applying Soft Systems Methodology within Islamic educational research but also in repositioning SSM as an approach for developing sustainability learning models rather than merely analysing organizational or policy problems. By integrating Islamic environmental ethics, Islamic philanthropy, and Education for Sustainable Development into a single analytical framework, this study offers an innovative methodological approach for investigating sustainability learning within faith-based educational institutions while simultaneously generating a conceptual model that is empirically grounded, theoretically informed, and pedagogically applicable.

4. Results and Discussion

4.1. Sustainability Learning in Indonesian Eco-Pesantren

The findings indicate that the implementation of eco-pesantren in Indonesia has established an important institutional foundation for sustainability education; however, learning practices remain uneven across educational settings. National initiatives introduced by the Ministry of Environment and Forestry and the Ministry of Religious Affairs have encouraged Islamic boarding schools to adopt environmental programmes through waste management, water conservation, greening activities, and environmental awareness campaigns. Nevertheless, empirical evidence from Magelang, Madiun, and Ponorogo demonstrates that these initiatives are predominantly implemented as institutional or extracurricular activities rather than as systematically designed learning processes

embedded within curriculum, pedagogy, and student competency development. As a result, sustainability learning largely depends on the commitment of individual pesantren leaders, local environmental initiatives, and external support, leading to considerable variation in students' opportunities to develop environmental literacy and sustainability competencies. These findings suggest that the current eco-pesantren movement has successfully promoted environmental awareness but has yet to function as a coherent sustainability learning ecosystem capable of supporting Education for Sustainable Development within Islamic educational institutions.

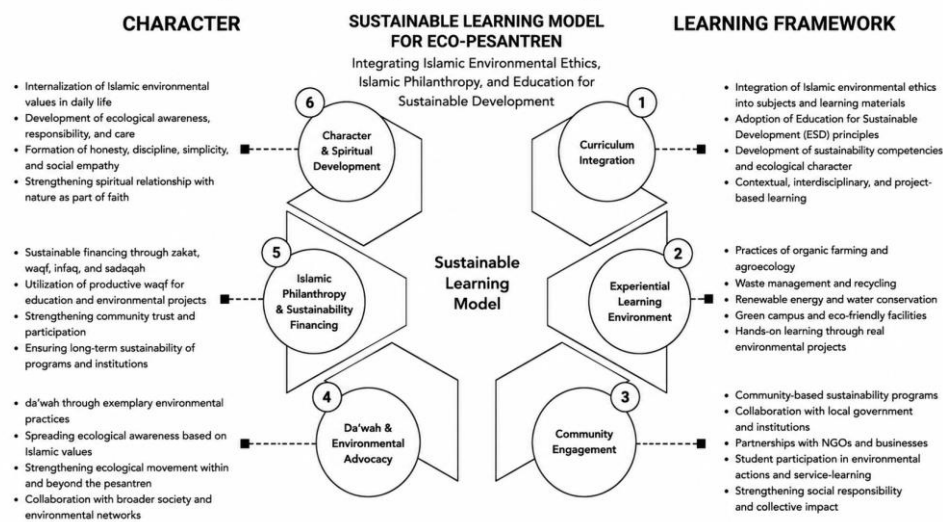
From an educational perspective, these variations reflect the absence of an integrated learning framework that systematically connects Islamic environmental ethics, experiential learning, and Islamic philanthropy within everyday educational practices. Field observations show that eco-pesantren in Magelang primarily internalize ecological values through religious activities and institutional culture, while Ponorogo emphasizes experiential learning through organic farming, composting, maggot cultivation, and semi-organic agriculture. In contrast, Madiun demonstrates how Islamic philanthropic organizations can provide learning resources through environmental facilities and community partnerships. Although these approaches contribute positively to students' environmental awareness, they remain fragmented because environmental activities are rarely aligned with curriculum objectives, learning outcomes, and competency assessment. This fragmentation indicates that strengthening eco-pesantren requires not only institutional commitment but also the development of a sustainable learning model that integrates Islamic environmental ethics as the philosophical foundation, Islamic philanthropy as a learning support mechanism, and experiential environmental practices as authentic pedagogical strategies for developing environmentally responsible learners.

Academic studies on *ekopesantren* in Indonesia remain relatively stagnant; most research is descriptive or limited to single-case analyses,

without advancing a coherent theoretical framework. Local *ekopesantren* phenomena are predominantly narrated within the contexts of Islamic social movements or public policy (Herdiansyah et al., 2019; Karman et al., 2023), rather than from a conceptual perspective of Islam–environmental integration. Existing studies on Islamic *ekopesantren* movements have yet to challenge dominant Western paradigms of socio-ecological movements. In other words, scholarship has primarily emphasized socio-political and governance aspects of Islamic environmental programs, while religious and

philanthropic dimensions remain underdeveloped. Research on Islam and sustainability in Indonesia continues to be dominated by generic sustainability themes (Adawiah et al., 2022; Albar et al., 2024; Karman et al., 2023). The ISEAS (2020) report highlights that local pro-environment Islamic initiatives (such as *Kader Hijau Muhammadiyah* and the *Nabdliyin Forum for Natural Resources Sovereignty*) have not been able to reshape the national discourse, as they remain largely grassroots-based.

Figure Proposed Sustainable Learning Model for Eco-Pesantren Integrating Islamic Environmental Ethics, Experiential Learning, Islamic Philanthropy, and Character Education



This figure presents the Sustainable Learning Model for Eco-Pesantren, which emerged from the integration of empirical findings and the synthesis of Education for Sustainable Development (ESD), Islamic environmental ethics, experiential learning, and Islamic philanthropy. Unlike previous eco-pesantren models that primarily emphasize environmental programmes or institutional management, this model conceptualizes eco-pesantren as a sustainability learning ecosystem in which curriculum, learning environments, community engagement, Islamic values, governance, and philanthropic support operate as mutually reinforcing educational components. Rather than functioning independently, these six dimensions collectively facilitate the transformation of

environmental knowledge into sustainability competencies, ecological character, and environmentally responsible behaviour through continuous learning processes embedded within the daily life of the pesantren.

The proposed Sustainable Learning Model reconceptualizes eco-pesantren as an integrated sustainability learning ecosystem that connects curriculum integration, experiential learning, community engagement, Islamic environmental ethics, sustainable governance, and Islamic philanthropy into a unified pedagogical framework. Sustainability is embedded across learning objectives, institutional culture, and authentic environmental practices, enabling students to translate Islamic values into ecological action while developing environmental literacy,

sustainability competencies, ecological character, responsible citizenship, and lifelong sustainability learning. Unlike previous eco-pesantren initiatives, which have largely functioned as fragmented environmental programmes or moral movements, the model institutionalizes sustainability through continuous governance, competency assessment, and philanthropic support for environmental innovation and green entrepreneurship. This reconstruction is particularly significant because, despite the Indonesian government's introduction of the eco-pesantren policy since 2008 and its reinforcement through Law No. 18/2019 on Pesantren, Law No. 32/2009 on Environmental Protection and Management, Government Regulation No. 46/2017 on Environmental Economic Instruments, and Presidential Regulation No. 59/2017 on the Sustainable Development Goals (SDGs), implementation remains weakly integrated into curriculum and institutional learning systems. By aligning Islamic educational values with SDG 4 (Quality Education), SDG 13 (Climate Action), and SDG 15 (Life on Land), the proposed model addresses this policy–practice gap and advances eco-pesantren from a collection of environmental activities into a coherent, transferable framework for faith-based sustainability education and character development.

At the technical level, the MoEF issued guidelines on *ekopesantren* indicators aligned with the green building concept (2018), emphasizing energy, water, waste management, and greening. These guidelines also connect to MoEF regulations on community participation in environmental management, although pesantren are not explicitly mentioned. This reveals a regulatory gap, whereby *ekopesantren* are not fully recognized as formal entities within the national environmental protection system. Yet Law No. 18/2019 on Pesantren explicitly states pesantren's obligation to conduct community empowerment, which could be extended toward ecological empowerment (Farouq et al., 2024). The gap between legal mandates and practice contributes to stagnation, as pesantren initiatives largely rely on independent institutional or

foundation-based efforts rather than a cohesive policy framework (Ali et al., 2025; Sumi et al., 2025). From the perspective of public governance theory and Islamic Public Value (Drechsler, Chafik, et al., 2025; Ongaro & Tantardini, 2024a, 2024d), the fragmented implementation of *ekopesantren* reflects a disjuncture between normative policy values and practical realities. Islamic concepts such as *khalifah*, *mizān*, and ecological justice already hold theological legitimacy and are accommodated within the Pesantren Law and MoEF programs. However, the absence of specific derivative instruments such as Government Regulations or Ministerial Decrees dedicated to *ekopesantren* governance and the lack of sustainable funding mechanisms have trapped the policy at a normative level. Conversely, diverse local practices demonstrate strong social capital and philanthropy, albeit fragmented. Thus, bridging coherence between law, policy, and practice requires policy reconstruction that integrates pesantren regulations, environmental policy, and Islamic philanthropy mechanisms into an adaptive and sustainable governance framework.

While these findings confirm that eco-pesantren has acquired a relatively strong normative and legal foundation within Indonesia's educational and environmental policy frameworks, they also reveal that policy implementation has not yet been translated into a coherent sustainability learning system. Environmental initiatives continue to operate as institutional programmes rather than structured educational processes that systematically integrate Islamic environmental ethics into curriculum, pedagogy, experiential learning, and student competency development. Consequently, the educational potential of eco-pesantren remains underutilized, with considerable variation in learning experiences across institutions. From the perspective of Education for Sustainable Development (ESD), this fragmentation suggests that strengthening eco-pesantren requires more than regulatory refinement or governance coordination; it requires an integrated learning framework capable of connecting Islamic environmental ethics, community participation, and Islamic

philanthropy with authentic learning experiences that foster environmental literacy, sustainability competencies, and green economic awareness among students. Accordingly, eco-pesantren should be repositioned not merely as an environmental programme but as a sustainability learning ecosystem that enables Islamic educational institutions to translate ecological values into transformative educational practices.

Philosophically, this policy aligns with UNESCO's framework of Education for Sustainable Development (ESD) (Albar et al., 2024; Farouq et al., 2024; Mutmainnah et al., 2025), though grounded specifically in Islamic religious values. National policy thus provides both normative and administrative umbrellas for the transformation toward "green pesantren." However, field findings at the local implementation level reveal significant empirical variation. Official documents from East Java's Environmental Agency (DLH, 2023) note that several pesantren have received facilities such as segregated waste bins, infiltration wells, green open spaces, and student-based reforestation programs. In Madiun, the Islamic philanthropic body *Lembaga Manajemen Infraq* (LMI) collaborated with DLH to build green infrastructure in pesantren, with success indicators including food security, environmental health, student awareness, and waste management. Meanwhile, Ponorogo showcases a different approach centered on technical innovations such as converting kitchen waste into compost, cultivating maggots for fertilizer, experimenting with semi-organic farming, and creating *biopori* infiltration holes. These practices emphasize technical-experimental aspects but remain insufficiently integrated into pesantren curricula. In Magelang, efforts focus more on greening pesantren land, drainage management, and embedding environmental awareness into routine religious activities.

These patterns indicate a "fragmentation of implementation," wherein uniform national policies are interpreted in highly diverse ways at the local level, depending on pesantren capacities and leadership orientations. This gap between normative national policy and diverse local

practices is best understood through the lens of public governance theory. Within the concept of Islamic Public Value, public value in the Islamic context is assessed not only through policy outputs (Drechsler, Chafik, et al., 2025; Ongaro & Tantardini, 2024d), but also in terms of how policies reflect *maqāṣid al-sharī'ah*—the higher objectives of Islamic law: *hifẓ al-dīn* (protection of religion), *hifẓ al-nafs* (protection of life), *hifẓ al-'aql* (protection of intellect), *hifẓ al-nasl* (protection of lineage), and *hifẓ al-māl* (protection of property) (O. Al-Jayyousi et al., 2022; Ongaro & Tantardini, 2024a, 2024d). From this perspective, *ekopesantren* policies cannot be considered holistic if they focus solely on technical aspects, since Islamic public value requires integrating ethics, theology, and ecological welfare (Alhammadi, 2024; Azwar, 2023a; Drechsler, Chafik, et al., 2025; Subaidi et al., 2023). Furthermore, *ekopesantren* policies may be situated within the broader trend of global faith-based environmentalism. In other Muslim-majority countries such as Malaysia and Pakistan, recent studies show that embedding religious values into environmental policies enhances social legitimacy and strengthens community participation (Drechsler, Prasoj, et al., 2025; Ramlan, 2020).

Since the adoption of the Sustainable Development Goals (SDGs), sustainability discourses have increasingly required Muslim-majority countries such as Indonesia to develop environmental governance models aligned with religious and social values (Mutmainnah et al., 2025; Namiyah, et.al, 2025). In this context, *ekopesantren* emerges as a strategic innovation. As traditional Islamic educational institutions deeply rooted in communities, pesantren have the potential to integrate religious ethics, educational praxis, and environmental sustainability. Nevertheless, despite government efforts to introduce the concept nationally, local-level implementation remains fragmented. At the policy level, the MoEF and the Ministry of Religious Affairs began promoting environmentally oriented pesantren in 2008, later reinforced in 2018 through the integration of *ekopesantren* into the national green building framework. The MoEF even issued official

guidelines outlining *ekopesantren* indicators, covering energy, water, waste management, and greening. Yet, as indicated by East Java DLH's 2023 report, while a normative framework exists, financing mechanisms, monitoring, and replication remain weak. Many pesantren lack sufficient funding access, leading *ekopesantren* implementation to be limited to ceremonial events or short-term projects.

The empirical evidence suggests that the principal challenge facing eco-pesantren is not the absence of environmental policies, but the limited pedagogical transformation through which these policies are translated into meaningful learning experiences. Although national regulations have established normative directions for environmentally oriented pesantren, their implementation remains predominantly project-based and infrastructure-oriented, with limited integration into curriculum design, classroom instruction, experiential learning, and competency assessment. Consequently, students often participate in environmental activities such as waste management, organic farming, or greening programmes without these practices being systematically connected to reflective learning, environmental literacy, and sustainability competencies. From the perspective of Education for Sustainable Development (ESD), this fragmentation illustrates that sustainability cannot be achieved merely through institutional compliance with environmental indicators but requires learning systems that enable students to construct ecological knowledge, internalize ethical values, and develop transformative capacities for addressing complex environmental problems (Albar et al., 2024; Farouq et al., 2024; Mutmainnah et al., 2025). Accordingly, eco-pesantren should be understood not simply as an environmentally friendly institution but as a sustainability learning ecosystem in which Islamic environmental ethics, community participation, and authentic environmental practices collectively shape lifelong learning and behavioural transformation.

From a theoretical perspective, these findings extend the discourse on Islamic Public Value by

demonstrating that public value within Islamic educational institutions is not created solely through governance arrangements or policy outputs but also through educational processes that cultivate ecological responsibility, moral agency, and collective action. Philosophically, this study argues that the concepts of *khalīfah*, *mīzān*, *amānah*, and *maqāṣid al-sharī'ah* should not be interpreted merely as normative principles guiding environmental governance, but as epistemological foundations for sustainability learning that integrate spiritual values with experiential education. This perspective contributes to the literature by repositioning eco-pesantren from a policy-driven environmental programme toward a transformative educational model that bridges Islamic environmental ethics, Islamic philanthropy, and Education for Sustainable Development within a unified learning framework. Rather than viewing philanthropy solely as a financing mechanism and environmental programmes as institutional compliance, the proposed framework conceptualizes both as educational resources that support authentic learning, strengthen environmental literacy, and foster green economic competencies among students. In doing so, this study advances a philosophical shift from governing sustainability toward learning sustainability, offering a theoretical foundation for developing faith-based sustainability learning models that are contextually relevant to Islamic educational institutions while enriching the global discourse on sustainability education.

The Indonesian *ekopesantren* model is also relevant for comparison with faith-based environmental policies in other Muslim-majority countries. Malaysia, for instance, has developed Eco-Mosque Guidelines facilitated by *Jabatan Kemajuan Islam Malaysia* (JAKIM) in collaboration with the Ministry of Environment (Azmi et al., 2021). This policy formally establishes indicators for environmentally friendly mosques, including energy and water management as well as Islamic environmental education (Bsoul et al., 2022; Orellano et al., 2020). Pakistan's Green Mosque Initiative, managed by the Punjab provincial government, remains a pilot project focused

mainly on energy efficiency (Abdelzaher et al., 2019b). In Turkey, the Directorate of Religious Affairs (Diyanet) integrates sustainability principles into madrasa curricula and imam training (Abdelzaher, 2017; Bsoul et al., 2022), emphasizing Islam as a religion of *rahmatan lil-'alamin* (Abdelzaher & Abdelzaher, 2017). In Egypt, Al-Azhar University, as a leading religious authority, has issued fatwas obligating environmental protection and rejecting exploitative practices that harm ecosystems (Abdelzaher et al., 2019b; Azmi et al., 2021).

A comparative analysis with other Muslim-majority countries demonstrates that the integration of religious values into environmental policy follows a relatively similar pattern: strong in normative legitimacy but diverse in implementation mechanisms. Malaysia and Morocco have succeeded in executing policies with the support of formal regulations and international financing, rendering them more sustainable. Pakistan and Egypt place greater emphasis on fatwas and moral initiatives, while Türkiye seeks to incorporate environmental issues into educational governance and the religious bureaucracy. Indonesia, through the *ecopesantren* concept, is distinctive in that it not only focuses on mosques as centers of worship but also on *pesantren* as educational, social, and economic institutions. Nevertheless, policy fragmentation at the local level and the weakness of derivative legal instruments indicate that Indonesia lags behind in systematization. This theoretical and practical gap highlights the opportunity for *ecopesantren* to evolve into a hybrid model that combines educational approaches (Türkiye), technical regulation (Malaysia), normative fatwas (Egypt), and international funding (Morocco), thereby advancing a more coherent framework of Islamic value-based environmental governance.

Empirically, interviews with *pesantren* leaders and program managers reveal key challenges, including limited funding, low environmental awareness, and insufficient support from local governments. The leaders emphasize that Islamic philanthropy holds considerable potential, yet it is often directed toward consumptive charity

rather than green investment. This finding is consistent with Azwar (2023) Albar (2024), Drechsler (2025), dan Yardlo (2024) who observe that zakat and waqf funds are only marginally allocated to renewable energy and environmental education. Thus, the integration of Islamic environmental ethics and philanthropy remains underutilized within the *ecopesantren* policy framework. From an academic standpoint, research on *ecopesantren* has predominantly remained descriptive. Previous studies tend to narrate local practices as moral or social movements, without linking them to Islamic public value or public value theory. Subaidi (2023), Herdiansyah (2019), dan Zahara (2024) for instance, affirm that *ecopesantren* foster ecological awareness, but they have yet to develop a structured framework for green economic governance.

Furthermore, the implementation of *ecopesantren* in Magelang demonstrates a tendency to prioritize physical greening efforts, such as tree planting and the establishment of environmental gardens, without accompanying sustainable governance mechanisms. In Madiun, a different dynamic emerges, where collaboration with Islamic philanthropic organizations such as LMI enables *pesantren* to develop waste management and environmental education programs. However, these initiatives remain heavily dependent on external funding and lack a sustainable financing system. In Ponorogo, *pesantren* demonstrate more technical innovation, for instance, through maggot cultivation for organic waste management and the production of semi-organic rice. Although creative, these practices remain localized and have not been integrated into broader *pesantren* policies in Ponorogo.

The discrepancy between national policy design and local practice illustrates the fragmentation of *ecopesantren* in Indonesia. National frameworks are formulated in a top-down, bureaucratic manner, while local practices evolve bottom-up with diverse yet sporadic models. In public governance theory, this condition reflects weak policy coherence. Ongaro & Tantardini (2024), in their study of religion and public value, argue

that the integration of religious values into public policy is only effective when mechanisms are in place to connect normative values with practical policy instruments. In the case of *ecopesantren*, such mechanisms remain underdeveloped, thereby widening the gap between norms and practice. From an environmental ethics perspective, this phenomenon underscores the limitations of the modern paradigm. Al-Jayyousi (2022) dan Keskitalo (2023) critique how the secular anthropocentric paradigm fails to cultivate moral attachment between humans and nature. *Ecopesantren* provides an alternative by positioning Islamic spirituality as the foundation of environmental conservation. Yet, without clear governance structures and sustainable financing, spirituality alone is insufficient to sustain structural transformation.

Overall, these findings indicate that the future development of eco-pesantren should extend beyond strengthening environmental governance toward establishing sustainability learning as its core educational mission. Comparative experiences from other Muslim-majority countries demonstrate that religious legitimacy enhances the acceptance of environmental programmes; however, long-term sustainability depends on the extent to which ecological values are systematically embedded within curriculum, pedagogy, and students' daily learning experiences rather than implemented as isolated projects or administrative initiatives. The diversity of practices observed in Magelang, Madiun, and Ponorogo illustrates that eco-pesantren possesses considerable educational potential, yet this potential remains constrained by the absence of an integrated learning framework that connects Islamic environmental ethics, Islamic philanthropy, experiential learning, and community engagement. Consequently, eco-pesantren should be repositioned as a sustainability learning ecosystem, where environmental stewardship becomes an integral component of the educational process rather than merely an institutional environmental programme. Such a transformation aligns closely with the principles of Education for Sustainable Development (ESD), which emphasize learning

environments that enable students to acquire sustainability competencies through authentic participation, critical reflection, and collaborative problem-solving.

From a philosophical and educational perspective, this transformation also contributes to character education by positioning Islamic environmental ethics as a foundation for nurturing ecological responsibility, moral integrity, and social solidarity among learners. The Islamic concepts of *khalifah*, *mizān*, *amanah*, and *ihsān* are not merely theological principles for environmental governance but constitute educational values that shape students' environmental character through continuous practice and reflection. When supported by Islamic philanthropy as a learning resource, activities such as organic farming, waste management, conservation projects, and community service become authentic pedagogical experiences through which students internalize responsibility, cooperation, discipline, empathy, and stewardship toward both society and nature. This perspective extends the discourse of eco-pesantren beyond environmental awareness by proposing a Sustainable Learning Model that integrates faith, character formation, and experiential sustainability learning within a unified educational framework. Theoretically, this study contributes to the literature by demonstrating that the success of sustainability education in Islamic educational institutions should be assessed not only through environmental outcomes or institutional compliance but also through the development of students' sustainability competencies and ecological character, thereby enriching the discourse of Education for Sustainable Development with an Islamic pedagogical perspective.

4.2. Integration of Islamic Environmental Ethics and Islamic Philanthropy

Islamic environmental ethics is rooted in the principles of *khalifah* and *mizān*, which affirm humanity's responsibility to maintain ecological balance (Abdelzaher et al., 2019b; Drechsler,

Prasojo, et al., 2025; Ongaro & Tantardini, 2024a). These principles provide significant space for reconstructing religion-based models of environmental governance. However, without material instruments to support them, such principles risk remaining merely moral discourse. In this regard, Islamic philanthropy (*zakat*, *infaq*, *sadaqah*, and *waqf*) plays a critical role. Azwar (2023) shows that philanthropy holds great potential to support the green economy through investments in education, renewable energy, and community empowerment. Yet, in the practice of *ecopesantren*, philanthropy remains limited to incidental assistance rather than systemic sustainability (Drechsler, Prasojo, et al., 2025; Subaidi et al., 2023; Zahara et al., 2024). For example, in Madiun, philanthropic funds successfully supported green infrastructure, whereas in Magelang and Ponorogo they have not yet been fully integrated into *pesantren* institutional governance. This analysis reveals a gap between the normative potential of philanthropy and its empirical implementation. Therefore, integrating Islamic environmental ethics with philanthropy is not only a conceptual necessity but also a practical strategy to secure the green economic independence of *pesantren*.

Eco-*pesantren* policies in Indonesia emerged as a response to the need to incorporate religious values into environmental education. At the national level, initiatives by the Ministry of Environment and Forestry (KLHK) and the Ministry of Religious Affairs have established a relatively clear policy framework since the pilot program in 2008, formalized in 2018 through guidelines and indicators covering internal *pesantren* policies (energy/water conservation, waste management), integration of Islamic ecological curricula, environmentally friendly daily activities for students, and monitoring–evaluation mechanisms. This framework has the potential to bridge Education for Sustainable Development (ESD) with local religious traditions, providing strong moral and social legitimacy for behavioral change in *pesantren* communities. However, the translation of national policy into local practice has generated considerable variation, reflecting both creativity

and fragmentation. Empirical data from interviews and field reports in Ponorogo and Madiun confirm that local government (DLH) and donor support enable the provision of physical facilities (segregated bins, infiltration wells, biopores, composting units) but do not necessarily ensure long-term sustainability through governance and financing systems.

The literature on faith-based environmentalism highlights that religious legitimacy can strengthen community participation, yet it does not automatically overcome institutional weaknesses. Without systematic mechanisms for coordination, monitoring capacity, and sustainable financing, initiatives tend to stagnate at a temporary “projectization” stage and struggle to achieve scale or long-term impact. Studies in Southeast Asia emphasize that values such as *kehalifan* and *mizān* provide a strong normative basis, but require a governance “engine” to translate norms into indicators, accountability mechanisms, and results-based financing. Theoretically, this aligns with the concept of Islamic Public Value, which demands that public value be measured not only in administrative outputs but also in outcomes that advance *maqāṣid al-shari‘ah* (objectives of Islamic law), such as health, food security, and community welfare.

Field data reveal three distinctive patterns of implementation. First, some *pesantren* in Ponorogo emphasize technical innovations and experimental practices, ranging from plastic segregation and shredding for recycling, compost and maggot-based fertilizer production, to trials of semi-organic agriculture. These illustrate practical capacity and local creativity, but often remain disconnected from the formal curriculum, limiting their long-term pedagogical impact. Second, *pesantren* receiving organized philanthropic support, such as those partnered with LMI in Madiun, tend to establish more complete green infrastructure (sanitation, infiltration wells, green open spaces). However, they still face weaknesses in sustainable financial planning, as donations are typically incidental and lack investment schemes linked to outcome indicators. Third, *pesantren* in Magelang that focus

on internalizing values through religious activities and collective routines excel at fostering collective awareness, but remain constrained in green economic outcomes due to land scale, market access, and management capacity. These findings are consistent with prior studies on *ecopesantren* and ecopedagogy in Indonesia, which emphasize the fragmentation between moral-pedagogical aspects and technical-economic aspects.

The main gaps between policy design and empirical practice of *ecopesantren* in Indonesia involve irregular governance arrangements. A multi-actor collaboration system (government, *pesantren*, academia, and the private sector) has yet to be established to ensure continuity. Moreover, fragmented philanthropic funding often finances inputs rather than sustainable productive investments that generate revenue streams for *pesantren*. Finally, monitoring and evaluation remain weak; although indicators exist, their implementation and results-based incentive mechanisms are sporadic. Literature on zakat/infaq as instruments for achieving the SDGs underscores their significant potential for supporting sustainable development, but effectiveness depends on transparent governance and allocation mechanisms oriented toward outcomes for instance, waste reduction and green income generation rather than consumptive distribution.

Practices in other countries suggest several solution pathways relevant to the Indonesian context. First, pentahelix and collaborative governance frameworks could be applied here, though they have not been fully implemented (Ansell et al., 2020; Ansell & Gash, 2008; Emerson et al., 2012; Kirk Emerson and Tina Nabatchi, 2015). Such frameworks explicitly delineate the roles of each actor and the distribution of authority (Lee & Ospina, 2022; Mukhlis & Perdana, 2022; Ran & Qi, 2018), for instance, the role of DLH/MORA as standard-setters and facilitators; universities as research and monitoring partners; zakat/philanthropic organizations as social investors tied to performance indicators; private actors as off-takers of green products; and

communities/media as agents of learning and scaling. Second, transforming philanthropic financing into result-linked funding (tranche funding based on environmental-economic achievements) could convert seed capital into working capital for *pesantren* green enterprises such as cooperatives, waste banks, and composting units. Third, integrating Islamic ecological curricula systematically by linking *fiqh al-bi'ah* (Islamic environmental jurisprudence) with field practice and green entrepreneurship modules would ensure that technical activities become part of formal learning processes. These recommendations have already been noted in local research and case studies of successful green *pesantren*.

In summary, while the national policy design for *ecopesantren* provides a promising foundation, field practices remain fragmented and vulnerable to project cycles. To transform the initiative into a sustainable institution capable of driving green economic independence, reconciliation between norms and practices is essential. Strengthening collaborative governance, redesigning philanthropic mechanisms into results-based financing, and institutionalizing ecopedagogy that links religious morality with economic capacity are key. Only by combining the legitimacy of Islamic values with pragmatic institutional instruments can *ecopesantren* evolve from a symbolic “green label” into a durable engine of socio-ecological transformation. Beyond its practical contributions, this research also expands the horizon of public value theory, which has long been dominated by secular and technocratic paradigms. By positioning *ecopesantren* as a site where public value is constructed through Islamic environmental ethics and supported by productive philanthropy, this study demonstrates that religion can serve not only as a source of normative legitimacy but also as an institutional instrument for public value creation. This integration challenges the deliberative-objectivist dichotomy that constrains public value discourse and offers a more inclusive framework: public value emerges not only from rational consensus or objective indicators but also from spirituality, morality, and ecological commitment of

communities. Thus, this research makes an important contribution to extending public value theory toward models more relevant to Muslim societies and global sustainability challenges

4.2 4.3. Eco-Pesantren as a Transformative Learning Ecosystem for Sustainability and Character Development

The findings demonstrate that the stagnation of eco-pesantren implementation should not be interpreted merely as a governance problem but, more fundamentally, as a challenge in transforming environmental programmes into meaningful educational processes. Although previous studies have predominantly evaluated eco-pesantren through the perspectives of environmental governance, public policy, and Islamic Public Value (Drechsler, Chafik, et al., 2025; Ongaro & Tantardini, 2024a, 2024b), the present findings reveal that the sustainability of eco-pesantren ultimately depends on its capacity to function as a learning ecosystem. Environmental initiatives such as waste management, organic farming, water conservation, and green infrastructure create valuable learning opportunities only when they are systematically integrated into curriculum, experiential learning, reflective practice, and competency development. From the perspective of Education for Sustainable Development (ESD), sustainability is achieved not through institutional compliance alone but through educational processes that cultivate learners' knowledge, skills, values, and behaviours necessary for addressing environmental challenges. Therefore, reconstructing eco-pesantren requires shifting the analytical focus from organizational performance toward sustainability learning that connects Islamic environmental ethics with authentic educational experiences.

From a philosophical perspective, this transformation also strengthens the role of character education as the central outcome of sustainability learning. Islamic environmental ethics, embodied in the principles of *khalifah*, *mizān*, *amanah*, and *ihsān*, provides not only theological guidance for environmental

conservation but also a moral framework for developing students' character. Participation in activities such as organic agriculture, waste recycling, environmental restoration, and community service enables students to internalize responsibility, discipline, cooperation, empathy, environmental stewardship, and social justice through direct experience rather than abstract instruction. This finding extends the discourse on Islamic Public Value by demonstrating that public value in Islamic educational institutions is generated through the cultivation of ecological character and sustainability competencies among learners. Accordingly, this study proposes that eco-pesantren should be repositioned as a transformative sustainability learning ecosystem, where Islamic environmental ethics, Islamic philanthropy, and experiential learning converge to foster environmentally responsible citizens while contributing to the broader goals of Education for Sustainable Development and holistic character formation.

The study of *ekopesantren* in Indonesia reveals a tension between the normative power of Islamic teachings and the stagnation often observed in their practical implementation. Conceptually, *ekopesantren* emerges from the conviction that humans, as *khalifah* (stewards), have a duty to safeguard the balance of nature. As highlighted by Drechsler dan Prasojo (2025) *ekopesantren* is not only a religious educational institution but also an agent of nature conservation. It is positioned as an ecocentric space that rejects the modern anthropocentric paradigm by connecting *ayat qauliyah* (revelation) with *ayat kauniyah* (nature) in everyday practice (Alhammadi, 2024; Azwar, 2023a; Drechsler, Chafik, et al., 2025; Ongaro & Ho, 2025; Subaidi et al., 2023; Zahara et al., 2024). Nevertheless, although *ekopesantren* contributes significantly to fostering ecological awareness, existing studies also show that it has yet to develop into an integrated model of green economic governance. In other words, its current role remains largely moral and social rather than functioning as a systematic institution supporting green economic self-reliance.

From a global literature perspective, this problem aligns with critiques of modern paradigms in

environmental governance theory. Ongaro & Tantardin (2024) argue that public value theory, which has dominated public governance discourse for the past three decades, neglects the role of religion. Within the deliberative framework, public value is understood as the outcome of social deliberation (Binada, 2023; Shafritz & Hyde, 2009), while in the objectivist framework it is seen as an objective and measurable condition (Djalante et al., 2011; OECD, 2020; Shafritz & Hyde, 2009; Zarychta et al., 2020). Yet both approaches almost entirely exclude religion as a source of public value. In Muslim societies, however, Islamic principles such as *rahmatan lil-'alamin* (mercy to all creation), ecological justice, and intergenerational responsibility clearly shape collective orientations of what is considered valuable. The absence of religion in public value theory thus reflects a significant theoretical void. In this light, *ekopesantren*, as an arena where religious values are enacted through conservation practices and economic empowerment, can be regarded as a living laboratory for the production of public value.

This critique is reinforced in the literature on critical environmental studies. Keskitalo (2023), Ongaro & Tantardini (2024) emphasize that modern environmental paradigms rooted in anthropocentrism and technocratic secularism tend to fail in creating moral bonds between humans and nature. Approaches based on regulations, market instruments, or technical incentives may shape behavior in the short term, but they remain insufficient to nurture enduring ecological awareness (Dörre, 2024; Luetz & Nunn, 2023a; A. M. Rizvi, 2010). Without an ethical and spiritual foundation, environmental policies often remain at the administrative level (Boiral et al., 2015; Liu & Lo, 2019; Organ, 2018). *Ekopesantren* offers an alternative by integrating Islamic spirituality with daily ecological practices, such as integrated waste management in Ponorogo, organic farming in Magelang, or the use of renewable energy in Madiun. These models demonstrate that spirituality can serve as a social energy reinforcing sustainability. However, as Bloomfield (2019) notes, without institutional

structures and clear financing systems, faith-based initiatives risk being confined to local wisdom, making them difficult to replicate nationally.

The integration of Islamic philanthropy presents a potential solution to this stagnation. Studi Azwar (2023) highlights the potential of *zakat*, *infaq*, and *waqf* to support renewable energy programs, environmental education, and community economic empowerment. Islamic philanthropy can be transformed from mere social charity into an instrument of green investment, sustaining long-term financing. For instance, productive *zakat* could be allocated to support pesantren-based organic farming, or *waqf* could be utilized to build clean energy infrastructure. This perspective challenges the notion that religion operates solely at a normative level. By leveraging philanthropy, *ekopesantren* can bridge Islamic ethical values with institutional mechanisms for sustainability. Field data, however, reveal fragmentation and uneven implementation. In Madiun, philanthropic support from Islamic organizations such as LMI has facilitated eco-friendly facilities, yet the implementation remains input-oriented and incidental. Outcome-based financing mechanisms have not yet been established, making long-term ecological impacts difficult to measure. In Ponorogo, technical creativity is more prominent (for example, the use of maggots for organic waste management and the development of semi-organic rice) yet such practices lack strong financial governance. Meanwhile, in Magelang, *ekopesantren* initiatives tend to be confined to physical greening and cleanliness programs, without deeper integration into curricula or institutional structures. These findings resonate with the ISEAS (2020) report, which observes that Islamic eco-initiatives in Indonesia largely manifest as grassroots movements rather than as national governance models.

These findings suggest that the principal limitation of eco-pesantren lies not in the absence of Islamic environmental values or community commitment, but in the limited transformation of those values into a coherent sustainability

learning system. The empirical variations observed across Magelang, Madiun, and Ponorogo indicate that environmental initiatives remain predominantly activity-oriented, with learning outcomes depending largely on institutional leadership, local innovation, and external support rather than on systematically designed educational processes. Consequently, environmental practices such as organic farming, waste management, renewable energy, and philanthropic collaboration have yet to be fully integrated into curriculum, classroom pedagogy, experiential learning, and competency assessment. From the perspective of Education for Sustainable Development (ESD), this fragmentation illustrates that sustainability cannot be institutionalized solely through environmental programmes or governance arrangements; instead, it requires learning environments that enable students to construct knowledge, develop critical thinking, engage in authentic environmental problem-solving, and internalize sustainability values through continuous participation and reflection. Eco-pesantren therefore possesses the potential to evolve beyond a faith-based environmental initiative into a transformative learning ecosystem capable of producing environmentally literate and socially responsible learners.

From a philosophical perspective, the integration of Islamic environmental ethics and Islamic philanthropy also expands the role of character education within sustainability learning. The principles of *khalifah*, *mīzān*, *amānah*, *rahmatan lil-'alamin*, and *ihsān* should not merely function as normative doctrines supporting environmental governance, but as pedagogical values that shape students' environmental character through authentic learning experiences. Participation in conservation projects, organic agriculture, waste recycling, philanthropic initiatives, and community environmental service enables students to cultivate responsibility, integrity, empathy, cooperation, discipline, and intergenerational stewardship as integral dimensions of their learning process. In this respect, eco-pesantren contributes not only to environmental awareness but also to the holistic

development of learners by integrating cognitive, affective, spiritual, and behavioural dimensions of education. Theoretically, this study extends the discourse on Islamic environmental education by proposing that the effectiveness of eco-pesantren should be evaluated not only through governance performance or ecological outcomes but also through its capacity to foster sustainability competencies and environmental character. This repositioning offers a new conceptual foundation for developing a Sustainable Learning Model that integrates Islamic environmental ethics, Islamic philanthropy, experiential learning, and character education within the framework of Education for Sustainable Development, thereby contributing to both Islamic educational scholarship and the broader international discourse on sustainability learning.

This comparison highlights three layers of challenges requiring reconstruction. First, at the normative level, *ekopesantren* must emphasize Islamic ethics not only symbolically but as the foundation of collective behavior. Second, at the instrumental level, Islamic philanthropy should be redirected toward productive schemes that guarantee green economic sustainability. Third, at the structural level, public value theory and environmental governance frameworks must provide a means of linking religious values with practical instruments in replicable systems. *Ekopesantren* stands at the intersection of these three dimensions. It not only fills the theoretical void in public value but also challenges the secularism of modern public governance, which often marginalizes religion. Research in Indonesia remains limited in developing this integrative conceptual framework. Most *ekopesantren* studies are descriptive or single-case explorations. Subaidi (2023) underscores the role of *ekopesantren* in conservation, but without addressing green economic governance. Husamah (2025) shows that Islamic research on sustainability remains dominated by generic themes of *sustainability* without deepening integration with Islamic principles. By contrast, global scholarship Drechsler, Chafik (2025), Ongaro & Ho (2025), Ongaro & Tantardini (2024), and Keskitalo (2023) has increasingly

called for religion to be embedded in public administration theory and for human–nature relations to be reconstructed beyond anthropocentric paradigms. *Ekopesantren* may respond to both concerns, linking religion with governance and offering an ecocentric foundation rooted in spirituality.

Empirical practice also demonstrates the tension between potential and limitations. Interviews with *ekopesantren* managers in Magelang indicate that the Ministry of Environment and Forestry's *ekopesantren* program, launched in 2018, has not fully addressed institutional dimensions. Evaluations remain focused on physical facilities, such as waste management and renewable energy availability, rather than on integrating ethics and curricula. Similarly, in Magelang, *ekopesantren* tends to be implemented as an “additional program” rather than as a critical educational paradigm. This reinforces the notion that stagnation arises not only from resource constraints but also from the absence of a conceptual model bridging values, instruments, and governance. Therefore, the urgency of reconstructing *ekopesantren* cannot be postponed. Reconstruction must focus on three aspects: (1) strengthening the normative foundation through the internalization of Islamic ethics into pesantren curricula, (2) developing productive philanthropy as a green financing mechanism, and (3) reinforcing governance through *pentabelix* partnerships (government, pesantren, philanthropy, academia, and communities). Within this framework, *ekopesantren* can transcend its moral and social roles to become a systematic model of green governance.

Theoretically, this integration also contributes significantly to academic development. To date, public value theory has been constrained by debates between deliberative and objectivist frameworks (Ongaro & Tantardini, 2024d; Shafritz & Hyde, 2009; Subaidi et al., 2023), both of which neglect religious dimensions. *Ekopesantren* can expand this horizon by showing how public value is shaped by religious ethics, supported by philanthropy, and materialized in sustainable governance of public spaces. In this sense, *ekopesantren* is not only a solution to

environmental policy stagnation in Indonesia but also an opportunity to reconstruct global public value theory. Ultimately, the stagnation of *ekopesantren* implementation is not a sign of failure but rather an opportunity for reconstruction. It exposes the weaknesses of secular governance paradigms while revealing theoretical gaps in public value discourse. By integrating Islamic environmental ethics, productive philanthropy, and sustainable governance, *ekopesantren* can move from a moral movement to an institutional model. Amid global ecological crises, *ekopesantren* is relevant not only to Indonesia but also as an alternative paradigm for the world: a green governance model that is not only technocratic but also spiritual, inclusive, and grounded in ecological justice.

Within theoretical discourse, the urgency of reconstruction is equally important. Over the past three decades, public value has become a central paradigm in public administration (Dörre, 2024; Drechsler, Prasojo, et al., 2025; Ongaro & Tantardini, 2024a), yet this framework remains largely secular. Public value is framed either as the outcome of social deliberation (Cassegård, 2014; Jurgen Habermas, 2008) or as objectively measurable conditions (Kahane et al., 2013; Molla & Nolan, 2020), while religion as a source of public value is overlooked. In Muslim societies, however, values such as *rahmatan lil-'alamin*, ecological justice, and intergenerational responsibility play a crucial role in shaping collective orientations. By positioning *ekopesantren* as an arena integrating religion, conservation, and green economy, reconstruction can contribute to expanding the horizons of global public administration theory. On the other hand, critical literature such as *Rethinking Nature Relations* highlights the shortcomings of modern environmental governance paradigms, which remain overly technocratic and anthropocentric (Keskitalo, 2023). Policies based on market instruments or regulations may be necessary, but they fail to foster moral and emotional bonds between humans and nature. *Ekopesantren* has the potential to transcend these limitations because Islamic spirituality provides the social energy to drive sustainable ecological behavior. To avoid

remaining symbolic, however, reconstruction must connect ethical values with practical instruments such as productive *zakat*, green *waqf*, and ecology-based curricula.

Reconstruction is also essential to address economic sustainability challenges. Recent studies, such as Azwar (2023), stress that Islamic philanthropy holds immense potential for supporting renewable energy, environmental education, and economic empowerment. Yet in practice, this potential remains underutilized and unsystematic. In Madiun, philanthropic support is still input-oriented, while Ponorogo showcases technical creativity without accompanying standards of financial governance. This fragmentation indicates the need for green financing models based on productive philanthropy that can ensure the continuity of *ekopesantren* programs. Furthermore, reconstructing *ekopesantren* holds global relevance. Indonesia, as the world's most populous Muslim country, has significant opportunities to introduce an alternative paradigm that integrates religious values, environmental ethics, and green economy into the international sustainability discourse. By establishing *ekopesantren* as a governance model rooted in spirituality, reconstruction not only addresses empirical stagnation and academic gaps at the national level but also contributes conceptual innovation to the world. This demonstrates that *ekopesantren* can serve as a bridge between religious norms and modern institutional mechanisms, enriching global discussions on public governance, ecological justice, and sustainable development.

This study demonstrates that the principal challenge facing eco-pesantren in Indonesia is not the absence of environmental policies or Islamic ecological values, but the limited transformation of these values into an integrated sustainability learning system. Although national policies have established a normative foundation for environmentally oriented pesantren, implementation remains fragmented and largely confined to technical activities such as waste management, greening programmes, renewable energy initiatives, and organic farming. These activities have yet to be systematically connected

with curriculum development, experiential learning, character education, and sustainability competency assessment. Consequently, eco-pesantren has not fully realized its potential as a transformative educational institution capable of preparing students to address contemporary environmental challenges. This finding confirms that strengthening eco-pesantren requires a shift from viewing sustainability as an institutional programme toward understanding it as a continuous learning process in which Islamic environmental ethics are internalized through authentic educational experiences.

The principal novelty of this study lies in the development of a Sustainable Learning Model for Eco-Pesantren that integrates Islamic environmental ethics, Islamic philanthropy, experiential learning, and Education for Sustainable Development (ESD) within a single conceptual framework. Unlike previous studies that predominantly examined eco-pesantren through the perspectives of environmental movements, governance, conservation, or Islamic philanthropy independently, this research demonstrates that these dimensions become educationally meaningful only when they operate as interconnected components of a sustainability learning ecosystem. The model therefore repositions Islamic philanthropy from a charitable financing mechanism into an educational resource that supports experiential learning, community engagement, and environmental innovation, while simultaneously transforming Islamic environmental ethics from a normative doctrine into a pedagogical foundation for sustainability education.

From a theoretical perspective, this study contributes to the advancement of sustainability education by extending the discourse of Education for Sustainable Development into the context of Islamic educational institutions. It argues that sustainability learning should integrate cognitive, affective, behavioural, and spiritual dimensions rather than emphasizing environmental knowledge or institutional compliance alone. By positioning the Islamic principles of *khalifah*, *mizān*, *amanah*, *ihsān*, and *maqāṣid al-sharī'ah* as educational values, this study

broadens existing scholarship on Islamic environmental education and demonstrates that religious ethics can function as an epistemological foundation for developing sustainability competencies and environmental literacy. Furthermore, the findings enrich discussions on faith-based sustainability education by illustrating how Islamic educational philosophy complements the principles of Education for Sustainable Development through value-based, experiential, and community-centred learning.

Empirically, this study provides evidence from eco-pesantren in Magelang, Madiun, and Ponorogo, revealing that institutional diversity represents not merely differences in programme implementation but diverse learning practices that can be synthesized into a transferable educational model. The findings show that organic farming, waste management, renewable energy initiatives, environmental conservation, and philanthropic partnerships possess significant educational value when systematically integrated into curriculum, learning activities, and student assessment. Such integration enables eco-pesantren to contribute not only to environmental conservation but also to the development of environmental literacy, sustainability competencies, green entrepreneurial capacity, and ecological character among students.

Finally, this study argues that the future of eco-pesantren should be understood primarily as a transformative sustainability learning ecosystem rather than merely as an environmental governance initiative. Through the integration of Islamic environmental ethics, Islamic philanthropy, character education, and experiential sustainability learning, eco-pesantren offers an alternative educational paradigm that connects faith, ecological responsibility, and community empowerment within a unified learning process. Beyond its relevance for Indonesia, this model contributes to international discussions on faith-based sustainability education, demonstrating that religious educational institutions can become strategic actors in achieving the objectives of Education for Sustainable Development while

simultaneously cultivating learners who are environmentally literate, morally responsible, socially engaged, and committed to sustainable futures.

5. Conclusion

This study demonstrates that the sustainability of eco-pesantren depends not merely on environmental policies or institutional programmes but on the capacity of Islamic educational institutions to transform Islamic environmental ethics into meaningful sustainability learning experiences. Despite a strong normative foundation provided by national policies and Islamic teachings, eco-pesantren implementation in Indonesia remains fragmented, with environmental initiatives insufficiently integrated into curriculum, pedagogy, experiential learning, assessment, and competency development. Addressing this gap, the study proposes a Sustainable Learning Model that integrates Islamic environmental ethics, Islamic philanthropy, Education for Sustainable Development (ESD), experiential learning, character education, and community engagement within a unified pedagogical framework. The model repositions Islamic philanthropy from a financing mechanism to an educational resource that supports authentic learning, environmental innovation, and green entrepreneurship, while Islamic environmental ethics serves as the philosophical foundation for cultivating environmental literacy, sustainability competencies, ecological character, responsible citizenship, and lifelong sustainability learning. Theoretically, this study extends the ESD literature by demonstrating how faith-based educational institutions can integrate spiritual, ethical, cognitive, affective, and behavioural dimensions into sustainability education, thereby reconceptualizing eco-pesantren as a transformative sustainability learning ecosystem rather than an environmental programme. Empirically, the findings provide practical guidance for curriculum developers, educators, institutional leaders, and policymakers seeking to strengthen sustainability learning through integrated educational practices, while future research should validate the proposed model

across diverse Islamic educational contexts using mixed-methods and longitudinal approaches to assess its long-term impact on sustainability competencies and character development.

6. 5.1. Limitations and Directions for Future Research

This study has several limitations that should be considered when interpreting its findings. First, the research was conducted as a qualitative multiple-case study involving three eco-pesantren in Indonesia. Although this design enabled an in-depth exploration of sustainability learning within different institutional contexts, the findings cannot be generalized to all Islamic educational institutions because eco-pesantren vary considerably in terms of organizational capacity, leadership, socio-cultural settings, and access to environmental and philanthropic resources. Second, the study focused primarily on developing a conceptual and pedagogical model through Soft Systems Methodology (SSM). Consequently, it did not empirically measure changes in students' sustainability competencies, environmental literacy, or character development using quantitative or longitudinal approaches. Third, Islamic philanthropy was examined mainly from the perspective of its potential contribution to sustainability learning. The effectiveness of different philanthropic financing mechanisms, such as productive *waqf*, *zakat*, and *infaq*, in sustaining long-term educational innovation was not evaluated empirically. Furthermore, this study was undertaken within the Indonesian pesantren context, where religious traditions, institutional governance, and community engagement possess distinctive characteristics that may differ from those of other faith-based educational institutions.

These limitations provide several directions for future research. Future studies should validate the proposed Sustainable Learning Model through mixed-methods or longitudinal designs to examine its effectiveness in improving sustainability competencies, environmental

literacy, ecological character, and pro-environmental behaviour among students. Comparative studies involving eco-pesantren, Islamic schools, and other faith-based educational institutions across different countries would also provide valuable insights into the transferability and contextual adaptation of the model. Further research is encouraged to investigate the role of curriculum design, teacher professional development, digital learning, and competency-based assessment in strengthening Education for Sustainable Development within Islamic education. In addition, future studies should explore innovative models of Islamic philanthropic financing, including green *waqf*, productive *zakat*, and social impact investment, as sustainable mechanisms for supporting experiential learning, environmental entrepreneurship, and institutional transformation. By extending the analysis beyond environmental programmes toward integrated sustainability learning ecosystems, future research can further refine the proposed framework and strengthen the contribution of faith-based education to Education for Sustainable Development and character education in diverse educational contexts.

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