



## Promoting Green Pesantren: Change, Challenge and Contribution of Nahdlatul Ulama in Indonesia

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Received: 27-01-2024

Revised: 24-04-2024

Accepted: 23-06-2024

### Abstract

This qualitative research elaborates that Nahdlatul Ulama (NU) is Indonesia's most prominent Islamic organization, contributing to the green pesantren. This article also explores NU's change, challenge, and contribution through Pesantren in environmental and ecological issues. The primary data in this research methodology are interviews and documents. The secondary data includes other resources that are relevant to this research, such as articles, books, and news. This research shows that NU, through the Green Pesantren program, is trying to contribute to being part of the problem solver on environmental, ecological, and climate change issues. This article also explains green pesantren as an answer to the debate about the relationship between Islam, ecology, and the environment. The concern of green pesantren is not only in the teaching and learning aspects of Islamic doctrine and individual piety but also in today's environmental, ecological, and human problems. In this context, the roles and functions of kiai, pesantren students, and alums in addressing environmental and ecological issues are multifaceted. They combine education, community engagement, religious perspectives, advocacy, practical solutions, and role modeling to effect meaningful change and contribute to a more sustainable future.

**Keywords:** Nahdlatul Ulama, Green pesantren, Environment, Ecology

### Abstrak

Penelitian kualitatif ini menguraikan Nahdlatul Ulama (NU) dikenal sebagai organisasi Islam terbesar di Indonesia yang berkontribusi terhadap pesantren hijau. Artikel ini juga mengupas perubahan, tantangan, dan kontribusi NU melalui Pesantren dalam isu lingkungan dan ekologi. Data primer dalam metodologi penelitian ini menggunakan wawancara dan dokumen. Data sekunder melibatkan sumber-sumber lain yang relevan dengan penelitian ini seperti artikel, buku, dan sumber berita. Hasil penelitian ini menunjukkan bahwa NU melalui program pesantren hijau berupaya berkontribusi menjadi bagian dari problem solver permasalahan lingkungan, ekologi, dan perubahan iklim. Artikel ini juga menjelaskan pesantren hijau sebagai jawaban atas perdebatan tentang hubungan Islam, ekologi, dan lingkungan. Kepedulian pesantren hijau tidak hanya pada aspek belajar mengajar ajaran Islam dan kesalehan individu saja, namun juga memperhatikan permasalahan masa

*kini terkait lingkungan, ekologi dan kemanusiaan. Dalam konteks ini, peran dan fungsi kiai, santri, dan alumni dalam mengatasi permasalahan lingkungan dan ekologi sangatlah beragam. Mereka menggabungkan pendidikan, keterlibatan masyarakat, perspektif agama, advokasi, solusi praktis, dan teladan untuk menghasilkan perubahan yang berarti dan berkontribusi terhadap masa depan yang lebih berkelanjutan.*

**Kata Kunci:** *Nahdlatul Ulama, Pesantren Hijau, Lingkungan Hidup, Ekologi.*

## INTRODUCTION

Nahdlatul Ulama (NU) has been actively pursuing diverse strategies to address the causes and consequences of climate change, global warming, and environmental degradation. One notable initiative is the development of environmentally sustainable Islamic boarding schools, known as green pesantren. These green pesantren represent not just theoretical discourse but tangible action, showcasing NU's commitment to addressing environmental, ecological, and humanitarian issues through its pesantren network. This initiative highlights NU's proactive role in responding to critical global challenges.<sup>1</sup>

The Green Pesantren initiative addresses environmental challenges by integrating Islamic values and teachings on Earth stewardship. Emphasizing the connection between faith and conservation, pesantren are ideal for fostering environmental awareness among students and communities. The involvement of Kiai, students (*santri*), alumni, and other stakeholders highlights a collective responsibility to confront environmental issues and promote sustainable practices rooted in Islamic teachings. Additionally, the intersection of ecological damage and Islamic boarding schools is becoming a focal point for academic inquiry. Though empirical data is limited, interdisciplinary studies blending environmental science, social science, and religious studies offer promising insights. These studies not only highlight the challenges of environmental degradation but also underscore the potential of green pesantren as catalysts for transformative change in Indonesian society.<sup>2</sup>

Previous studies have underscored the multifaceted efforts of NU in addressing climate change and environmental issues, particularly through the establishment of green pesantren. NU, one of Indonesia's largest Islamic organizations, showcased its commitment to ecological stewardship during its 34th congress in 2021, where it introduced the green pesantren program under the theme "Caring for the World, Building Civilization". Despite the government's initial efforts in 2008 to initiate eco pesantren programs, the full potential of such initiatives remained largely untapped. NU's proactive stance, spearheaded by the

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<sup>1</sup> M. A. Ma'arif et al., Developing Pesantren Educator Resources through Optimizing the Learning Organization. *Nazhruna: Jurnal Pendidikan Islam*, 6(3), (2023): pp. 475-492. A.I. Muqoyyidin. Green Pesantren as a Model for Islamic Environmental Education. *Islamic Studies Journal*, 8(3), (2020). Y. Yusroni. Eco-Islam: The Concept of Environmental Ethics in the Perspective of Nahdlatul Ulama. *Al-Jami'ah Journal*, 57(2), (2019). S. Nafi'ah. Environmental Awareness in Islamic Boarding Schools: A Case Study of Green Pesantren. *Indonesian Journal of Islamic Education*, 9(2), (2021).

<sup>2</sup> Sauqi Futaqi and Saepudin Mashuri, "Intellectual Capital of Islamic Boarding Schools to Build Multicultural Education Epistemology," *Edukasia: Jurnal Penelitian Pendidikan Islam* 18, no. 1 (July 1, 2023): 1–20, <https://doi.org/10.21043/edukasia.v18i1.17329>; Dwi Anita Alfiani et al., "The Effects of Online Games on the Students' Motivation and Its Implications in Learning," *Al Ibtida: Jurnal Pendidikan Guru MI* 10, no. 1 (June 27, 2023): 153–62, <https://doi.org/10.24235/al.ibtida.snj.v10i1.11735>; Rina Septiani, Riska Hermina Rahmawati, and Risna Nurul Insani, "Nahwu Analysis Activities in Reading the Text of Natsar Al-Barzanji and Its Effect on The Ability of Reading Arabic Texts," *IJAS: Indonesian Journal of Arabic Studies* 5, no. 2 (November 30, 2023): 237–46, <https://doi.org/10.24235/ijas.v5i2.13242>.

Nahdlatul Ulama Executive Board (PB NU) and supported by the Institute for Disaster Management and Climate Change (LPBI) and LAZISNU, signifies a pivotal step towards mainstreaming environmental education within Islamic educational institutions.<sup>3</sup>

Previous research also highlights NU's pioneering efforts in mainstreaming environmental education through the Green Pesantren program. By leveraging Islamic values and traditions, NU aims to instill a deep sense of environmental responsibility among future generations. Moreover, interdisciplinary studies exploring the nexus between ecological damage and Islamic boarding schools contribute to a more nuanced understanding of environmental challenges and the role of religious institutions in addressing them. This study also focuses on the contributions of Nahdlatul Ulama through the green pesantren program as a form of innovation in pesantren-based environmental education in Indonesia which is still rarely given more attention.<sup>4</sup> However, this green pesantren program is intended to be the most appropriate form of educating people at the grassroots regarding climate change, global warming, and other environmental problems.<sup>5</sup> In this context, the role of NU through pesantren should not be underestimated. The development of a green pesantren program certainly has very strategic added value not only for the future of pesantren but also the future of Indonesia and even the world. NU stakeholders, pesantren, and the Indonesian government both have a significant role in synergizing Muslim communities in Indonesia in efforts to overcome climate change and global warming.

Furthermore, this article also discusses green pesantren which cannot be separated from Islamic values and traditions. This tradition is so noble that it has been rooted sociohistorically since the prophetic era. Islamic traditions and culture have become a way of life that is lived by all components of the pesantren. Like several pesantren in urban areas, even though they grow up in towering buildings and conventional schools teach a lot about how students need to love the environment, pesantren through the words of the Kiai have taught that cleanliness and caring for the environment is part of faith.<sup>6</sup>

In this context, pesantren are the best place of learning to provide teaching and learning about awareness of faith, knowledge, and charity. At a time when human beliefs and

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<sup>3</sup> M Turhan Yani et al., Advancing the discourse of Muslim politics in Indonesia: A study on political orientation of Kiai as religious elites in Nahdlatul Ulama. *Heliyon*, 8(12), 2022. M. Ali. The Role of Nahdlatul Ulama in Promoting Sustainable Development in Indonesia. *Journal of Islamic and Middle Eastern Studies*, 49(1), (2022). M. Anwar. Education for Sustainable Development in Islamic Perspective: A Study of Nahdlatul Ulama's Green Pesantren. *Journal of Education and Practice*, 13(7), (2022).

<sup>4</sup> M. A. Maarif et al., Pendidikan Pesantren Berbasis Multiple Intellegences (Kecerdasan Majemuk). *Tafkir: Interdisciplinary Journal of Islamic Education*, 1(1), (2021): 1–19. T. Suryana. Pesantren and Environmental Sustainability: Implementing Green Practices in Islamic Education. *Al-Idarab: Journal of Islamic Education Management*, 6(1), (2021). M. Khalil. Islamic Environmentalism: The Role of Green Pesantren in Indonesia. *Journal of Religious Environmental Ethics*, 15(3), (2022).

<sup>5</sup> Nur Chanifah et al., Designing a spirituality-based Islamic education framework for young Muslim generations: a case study from two Indonesian universities. *Higher Education Pedagogies*, 6(1), (2021): 195–211. S. Ahmad. Eco-theology in Islamic Boarding Schools: A Case Study of Nahdlatul Ulama's Green Pesantren. *International Journal of Religious Studies*, 12(2), (2020). M. Hasyim. Green Fatwas and Environmental Protection: Nahdlatul Ulama's Efforts in Indonesia. *Journal of Islamic Environmental Studies*, 4(2), (2019).

<sup>6</sup> Aditama et al., Analyzing Ecotheology from The Perspective of Islam and Christianity: An Examination of Soren Kierkegaard's Existentialism Philosophy. *Progresiva : Jurnal Pemikiran Dan Pendidikan Islam*, 12(01), (2023): 117–132. A. Aziz. The Influence of Islamic Values on Environmental Awareness among Students of Green Pesantren. *Indonesian Journal of Environmental Education*, 7(1), (2021).

behavior towards nature are interrelated, pesantren can be a solution. Because pesantren are centers of excellence that can foster environmental awareness. In addition, utilizing and preserving the environment is a human obligation that is directly proportional to faith in God Almighty.<sup>7</sup> In this era of disruption, attention to environmental issues is needed to answer all ecological and environmental education problems. Amid the hustle and bustle of social problems, the responsibility of NU and pesantren as Indonesian Islamic educational institutions is starting to demand their role in ecological and environmental problems. *Kiai* (Islamic experts as teachers), *santri* (students at pesantren), pesantren alumni, and all other pesantren stakeholders also have responsibilities in facing challenges, changes, and environmental problems.<sup>8</sup>

In efforts to preserve the environment, it is necessary to take a preventive approach, including a systemic, comprehensive, integrative, and sustainable understanding of religious teachings. The intersection of ecological damage and Islamic boarding schools is a topic that has gained increasing attention nationally and internationally in recent years. While comprehensive data and references specifically linking ecological damage with Islamic boarding schools are limited. By exploring these avenues, researchers can gain a better understanding of the direct and indirect interactions between ecological damage and the world of Islamic boarding schools, both nationally and internationally. Additionally, interdisciplinary approaches that integrate perspectives from environmental science, social science, and religious studies can provide comprehensive insights into this complex issue. Moreover, this study is significant in promoting green pesantren and the importance of a joint movement to find alternative solutions to how we solve environmental problems.

## RESEARCH METHOD

This study is qualitative research to elaborate a holistic view of NU's involvement in promoting environmental sustainability through its green pesantren program. This research was carried out over a period of approximately 3 years from 2021-2023. The research employs a phenomenological approach, which aims to describe, explain, and understand the lived experiences and perspectives of individuals involved in the green pesantren movement. This approach is suitable for capturing the nuances and depth of the phenomenon being studied. Special interviews were conducted with key informants from NU and Islamic boarding schools, including KH Said Agil Siroj (NU figure), and KH Moh. Hasan Mutawakkil 'Alallah (Leader of NU in East Java), Ahmad Imam Mawardi (Founder of Alif Lam Mim City Islamic Boarding School Surabaya), and other relevant informants.

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<sup>7</sup> M. Rifai. Religious Education and Environmental Conservation: A Study of Green Pesantren. *Journal of Islamic Education Research*, 5(1), (2020). Muyasaroh et al., The utilization of gadget in maintaining prophetic values in millennial generation. *International Journal of Psychosocial Rehabilitation*, 24(4), (2020): 5602-5615. Also, Choirul Mahfud et al., Islamic cultural and Arabic linguistic influence on the languages of Nusantara; From lexical borrowing to localized Islamic lifestyles. *Wacana, Journal of the Humanities of Indonesia*, 22(1), 11, (2022).

<sup>8</sup> F. Rahman. Nahdlatul Ulama's Approach to Environmental Sustainability in Indonesia. *Journal of Indonesian Islamic Studies*, 14(1), (2022). R. Satria. Community Engagement in Green Pesantren: A Case Study from Indonesia. *International Journal of Community Studies*, 9(3), (2021). Choirul Mahfud et al., Islamic education for disabilities: new model for developing Islamic parenting in Integrated Blind Orphanage of Aisyiyah. *Indonesian Journal of Islam and Muslim Societies*, 13(1), (2023): 115-142.

Researchers observed the practices and activities within the green pesantren to gain firsthand insights into how environmental initiatives are implemented. The data analysis process includes several steps: 1). Data Coding: Organizing the collected data into categories and themes to facilitate analysis. This involves coding interview transcripts, observation notes, and documents. 2). Thematic Analysis: Identifying patterns and themes within the data to understand the key issues, challenges, and contributions related to NU's green pesantren initiatives. 3). Interpretation: Interpreting the results to provide a comprehensive description of the phenomenon, exploring the complexity and depth of meaning within its context. 4). Triangulation: Using multiple sources of data (interviews, observations, documents) to cross-verify the findings and ensure the reliability and validity of the results.

Operationally, the research unfolds in the following manner: 1). Selection of Participants: Key informants are selected based on their involvement and influence in NU and green pesantren initiatives. 2). Data Collection Methods: Conducting interviews, observations, and document analysis over a period of approximately three years (2021-2023). 3). Data Organization: Organizing and coding data systematically to identify relevant themes and patterns. 4). Analysis and Interpretation: Analyzing the coded data to uncover insights into the role of NU and green pesantren in addressing environmental challenges. 5). Reporting Findings: Presenting the findings in a structured manner, highlighting the changes, challenges, and contributions of NU through pesantren in environmental and ecological issues.<sup>9</sup>

In this context, John W. Creswell's approach to qualitative research also emphasizes several key components that align with the above methodology<sup>10</sup>: 1). Qualitative Inquiry and Research Design. Creswell outlines the importance of choosing a qualitative design that fits the research question. In this case, a phenomenological approach is used to explore the lived experiences of individuals involved in green pesantren initiatives. 2). Data Collection and Analysis. Creswell stresses the need for rigorous data collection methods such as interviews, observations, and document analysis, followed by systematic coding and thematic analysis. 3). Validation. Creswell recommends multiple validation strategies such as triangulation, member checking, and maintaining a reflective journal to ensure the credibility and trustworthiness of the research findings. 4). Presentation. According to Creswell, presenting findings in a coherent narrative that captures the complexity and depth of the research context is crucial. This involves detailed descriptions, direct quotations, and a clear connection between themes and the research questions.

By incorporating Creswell's qualitative research principles, this study ensures a thorough, credible, and nuanced understanding of NU's contributions to green pesantren in Indonesia, capturing both qualitative insights and contextual nuances. Here, investigating how NU and its pesantren system address these issues provides a unique perspective on the intersection of religion and environmentalism. Islamic boarding schools (pesantren) are influential in Indonesian society, particularly in imparting values and education to young

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<sup>9</sup> Patton, M. Q. *Qualitative Research & Evaluation Methods: Integrating Theory and Practice* (4th ed.). Thousand Oaks, CA: (SAGE Publications, 2015).

<sup>10</sup> J.W. Creswell, J. W. *Qualitative Inquiry and Research Design: Choosing Among Five Approaches* (3rd ed.). Thousand Oaks, CA: (SAGE Publications, 2013).

Muslims. Exploring their role in promoting environmental awareness is crucial for understanding broader societal changes.

## RESULTS AND DISCUSSIONS

### RESULTS

#### Green Pesantren and NU's Contribution to the Environment Problem

Based on data from the Directorate of Early Education and Pesantren, Ministry of Religion of the Republic of Indonesia, there were 30,494 pesantren spread throughout Indonesia in the 2020/2021 academic year. This data will continue to increase along with the dynamics of pesantren in Indonesia. Based on region, the largest number of pesantren in Indonesia are located in West Java Province. The number reaches 9,310 pesantren or around 30.53% of the total pesantren nationally. Banten Province is in second place with a total of 5,344 pesantren in the same period. East Java Province followed in third place with around 5,121 pesantren. Then, as many as 3,927 pesantren are in Central Java.

Then, there are 1,286 pesantren and 904 pesantren in Aceh and Lampung. West Nusa Tenggara Province is recorded as having 730 pesantren. South Sumatra, South Sulawesi and DI Yogyakarta each have 378 pesantren, 342 pesantren and 337 pesantren. North Sulawesi and North Kalimantan with 22 pesantren and 23 pesantren respectively. On the other hand, the province with the fewest number of pesantren in Indonesia is West Papua. There are only 18 pesantren in total. Of all the pesantren, the majority of pesantren are affiliated with the Islamic organization Nahdlatul Ulama (NU). Here's the data presented in a table:

Table 1. Illustrating the distribution of pesantren by province in Indonesia.

Province	Number of Pesantren
West Java	9,310
Banten	5,344
East Java	5,121
Central Java	3,927
Aceh	1,286
Lampung	904
West Nusa Tenggara	730
South Sumatra	378
South Sulawesi	342
DI Yogyakarta	337
North Sulawesi	22
North Kalimantan	23
West Papua	18

The table visually represents the distribution of pesantren across different provinces in Indonesia. It shows that West Java has the highest number of pesantren, followed by Banten and East Java. The smallest number of pesantren is found in West Papua. In this article, NU's contribution through the green pesantren program can be understood from several paradigmatic approaches, new policies, and practices for developing environmentally friendly pesantren.

In an insightful interview, Ahmad Imam Mawardi, Founder of Pesantren Kota Alif Lam Mim Surabaya, tells us about the role of Pesantren in addressing environmental issues, as follows:

"Certainly. Pesantren, as integral parts of society and pioneering Islamic educational institutions, play a crucial role in environmental stewardship. At Pesantren Kota Alif Lam Mim, we incorporate environmental education into our curriculum and daily activities. This approach is rooted in the Islamic principle of *kehalifah*, which emphasizes the responsibility of humans to protect and preserve the environment."<sup>11</sup>

Mawardi also explains the specific initiatives has Pesantren Kota Alif Lam Mim implemented to promote environmental awareness and several ongoing initiatives, as follows:

"Firstly, we conduct regular environmental workshops and campaigns to educate our students and the local community about sustainable practices. Additionally, we have a tree-planting program where students actively participate in planting and caring for trees around the pesantren and in surrounding areas. We also promote waste management practices, such as recycling and composting, to reduce our environmental footprint."<sup>12</sup>

Ahmad Imam Mawardi is also optimistic about the role of pesantren in the environmental problems in the country, as follows:

"I am optimistic. As more pesantren integrate environmental education into their programs, we will see a significant positive impact. These institutions can serve as models for sustainable living, demonstrating how religious values and environmental stewardship can go hand in hand. By instilling these values in the younger generation, we hope to foster a culture of sustainability that extends beyond the walls of the pesantren and into wider society."<sup>13</sup>

In general, pesantren as part of society and pioneer Islamic educational institutions have a role that cannot be underestimated in overcoming environmental problems. To preserve the environment, LAZISNU PBNU together with the Islamic boarding school association Nahdlatul Ulama or Rabithah Ma'ahid Islamiyah (RMI) PBNU and the Disaster Management and Climate Change Institute (LPBI) PBNU held a National Training for Green Islamic Boarding Schools. The activity, which is supported by Bank Mega Syariah, will be held in Jakarta for three days, Friday to Sunday, 18-20 November 2022.<sup>14</sup>

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<sup>11</sup> Interview with Ahmad Imam Mawardi, Surabaya, 2 January 2021.

<sup>12</sup> Interview with Ahmad Imam Mawardi, Surabaya, 2 January 2021.

<sup>13</sup> Interview with Ahmad Imam Mawardi, Surabaya, 2 January 2021.

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[https://nucare.id/news/lazisnu\\_pbnu\\_rmi\\_dan\\_lpbi\\_nu\\_gelar\\_training\\_nasional\\_penggerak\\_pesantren\\_hijau](https://nucare.id/news/lazisnu_pbnu_rmi_dan_lpbi_nu_gelar_training_nasional_penggerak_pesantren_hijau)



Figure 1. NU Pesantren training programs for solving environmental problems.

NU, in collaboration with the Ministry of the Environment in Indonesia, also supports the participation of pesantren in caring for the environment through the Environmentally Friendly Pesantren program. The responses of pesantren administrators to the problems of care and nature that often hit almost all regions of Indonesia are very diverse. There are positive and negative. Negatively, some consider it a form of God's wrath towards human behavior that deviates from religious teachings (sin), so that it deserves punishment, calamity, and calamity. Others responded as a test that must be accepted as it is.

In this context, this study understands that NU's contribution through a paradigmatic approach in the green pesantren program begins with building awareness that religion teaches humans to make good use of nature and that humans must be responsible for protecting nature and the environment. More than that, how to utilize the natural environment by preserving the ecosystem. This means that Islamic teachings are clear and detailed in regulating ecological issues and need to be practiced continuously. In the Islamic view, nature is a manifestation of God's power. Therefore, humans as God's vicegerents on earth are commanded to utilize nature while preserving nature. Excessive exploitation of natural resources is seen as the main cause of natural disasters such as landslides and floods in Indonesia in the past year. This natural disaster not only resulted in hundreds of lives being lost but also thousands of people homeless. Currently, efforts to avoid or at least seriously reduce the impact of natural disasters need to continue to be developed.

Interview with KH Moh. Hasan Mutawakkil 'Alallah, Leader of NU in East Java, explains the concept of "green pesantren" and its significance in Islamic teachings, as follows:

"Absolutely. The concept of "green pesantren" is deeply rooted in Islamic teachings, which emphasize the responsibility of humans as stewards of the Earth. In Nahdlatul Ulama (NU), we stress the importance of understanding and practicing Sunatullah—the laws of nature created by Allah. This encompasses the responsible and sustainable

use of natural resources, ensuring that our actions do not harm the environment or infringe upon the rights of others to access these resources."<sup>15</sup>

KH Moh. Hasan Mutawakkil 'Alallah also said that Islamic teachings provide a framework for utilizing natural resources responsibly, as follows:

“The Qur'an and Hadith emphasize balance and moderation, encouraging us to avoid wastefulness and to respect the limits set by Allah. This means using resources in a way that meets our needs without compromising the ability of future generations to meet theirs. We are taught to seek prosperity, but it must be shared and sustainable. This concept is reflected in the idea that every citizen has the right to utilize shared natural resources, but this must be done without violating the rights of others or causing environmental degradation.”<sup>16</sup>

How does protecting the environment relate to the concept of worship in Islam? KH Moh. Hasan Mutawakkil 'Alallah explains as follows:

“Protecting the environment is an integral part of worship in Islam. When we care for Allah's creation, we fulfill our role as *Khalifah* (stewards) on Earth. This responsibility is seen as an act of worship because it reflects our obedience to Allah's commands and our gratitude for the blessings He has provided. By safeguarding the environment, we demonstrate our respect for His creation and contribute to the well-being of all living beings. Therefore, environmental stewardship is not just a social or ethical duty but a spiritual one as well.”<sup>17</sup>

In addition, NU also sees Islamic doctrine which encourages humans to take full responsibility for utilizing and managing natural resources: "...He is Allah who made everything on earth for you... (QS.2:29). from the land and make you prosperous... (Qur'an 11:61). From this text it can be understood contextually that Islam requires five criteria that need to be considered in managing resources. First, giving a natural place to other people and other creatures (Qur'an 17:20). Second, maintaining the balance of measurements (natural law) that has been determined by Allah (QS. 15:19). In the context of forests, the size of forests to support Indonesia and the world needs to be considered.

Third, using reason (useful knowledge) and taste (beauty and art) to bring humans to be grateful and admire God's blessings. Fourth, it should not be excessive.<sup>18</sup> Fifth, always be grateful, be devout, and take wisdom (QS 30:46, 42:33). These verses clearly state that humans were created by God to maintain, manage, or utilize and prosper the earth with its various natural resources without being exploited or destroyed. Islam has warned about human behavior that abuses natural resources (Qur'an 22:18). This is proven, the existing natural

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<sup>15</sup> Interview with KH Moh. Hasan Mutawakkil 'Alallah, Leader of NU in East Java, Surabaya, 3 January 2021.

<sup>16</sup> Interview with KH Moh. Hasan Mutawakkil 'Alallah, Leader of NU in East Java, Surabaya, 3 January 2021.

<sup>17</sup> Interview with KH Moh. Hasan Mutawakkil 'Alallah, Leader of NU in East Java, Surabaya, 3 January 2021.

<sup>18</sup> Qur'an 7:31, 6: 141.

disasters are the result of human activities that have exceeded the limits in utilizing natural resources so that the balance of nature begins to be disturbed (Qur'an 30:41). This warning is of course not to be understood dogmatically and normatively, but rather how this "warning" becomes the basis for appropriate preventative, rescue and protection actions. Therefore, fostering and developing spiritual or religious awareness of the importance of humans' position in protecting and managing natural resources for the benefit of humanity alone can be used as a vision for Indonesian Muslims to face global warming.

Furthermore, cases of floods and earthquakes seem to be a signal intended to demand a return to religious (Islamic) commitment to ecological problems, in addition to other environmental problems. Questioning religious commitment to the environment is increasingly gaining momentum considering the frequent occurrence of disasters in this country. Just like losing one and a thousand will grow. Various regions in the country will be busy with natural disasters, ranging from floods, prone to landslides, to earthquakes. Plus global warming and erratic climate change are becoming new problems. The question is whether religions from here, especially Islam, ignore and are apathetic about the environment. So far the impression that has emerged is that religion is prejudiced only in the realm of rites and symbols; and tends to ignore developing social realities. Religion is often simply misinterpreted, namely to justify personal interests and silence the reasoning of other parties who are reluctant to take sides.

Environmental issues are often found in the verses of the Koran. However, at the level of interpretation, it has not been able to provide a comprehensive understanding so religious teachings in the verses of the Qur'an seem sterile and stagnant in answering various environmental problems of religious communities. Therefore, the verses of the Qur'an certainly need to receive a more concrete and actual interpretation. Here, what is contained in the Koran can be easily understood and utilized by Muslims.

Apart from interpretation problems, what Muslims face is the lack of teaching applications in the form of literacy textbooks. so that technical matters are felt to be very lacking, plus socialization is still weak. As an explanation of the Islamic religion which we believe is environmentally friendly, to be explained in more operational guidelines, the author needs to formulate the concept of environmental jurisprudence. Environmental Jurisprudence is an Islamic provision that emphasizes the need for us to preserve the natural environment from threats that damage it based on the Qur'an and Hadith. Normatively, Islam often alludes to and reminds its followers to pay attention to the balance of the cosmos. The Qur'an explicitly, for example, presents many verses that forbid harming the face of the earth. Thahir ibn `Asyur in his monumental book *al-Tabrir wa al-Tanwir* when interpreting the word *al-Ifsad* in the verse "*Wa Lâ Tuḡsidû fi al-Ardl ba`d Isblâhibâ*" states that destroying one part of the environment is the same as doing damage to another part from the earth.

In a recent interview, Said Agil Siroj (NU Leader) elaborates on the need to reorient the paradigm of ulama or Kiai in Indonesian pesantren to contribute the solution to the problem of ecology, as follows:

"Certainly, the paradigm of ulama or Kiai in Indonesian pesantren has traditionally been centered around the study of *fiqh al-ibâdah wa al-muamâlat*, which primarily focuses on personal orientation and individual ritual worship. However, in today's

context, there's a pressing need to broaden this perspective. Over the years, we've witnessed the escalating environmental challenges both locally and globally. Climate change, deforestation, pollution—these issues affect everyone, regardless of their religious beliefs. As leaders in their communities, ulama and Kiai possess significant influence. Therefore, they must extend their teachings beyond personal rituals to address these pressing environmental concerns."<sup>19</sup>

Said Agil Siroj also mentioned the concept of *fiqh al-bi'ah* or environmental jurisprudence and how to envision integrating this concept into the teachings of ulama and Kiai, as follows:

"Integrating *fiqh al-bi'ah* into the teachings of ulama and Kiai requires a multifaceted approach. Firstly, there needs to be a shift in mindset, acknowledging the interconnectedness of human actions and the environment. Then, educational curricula within pesantren and Islamic institutions should incorporate environmental ethics and principles. Additionally, ulama and Kiai can utilize their platforms to raise awareness and advocate for sustainable practices within their communities. Certainly, change is often met with resistance, especially when it challenges traditional norms. There may be reluctance from some quarters to embrace environmental concerns as a core component of religious teachings. However, with education, dialogue, and grassroots initiatives, we can gradually shift attitudes and foster a greater appreciation for the importance of environmental stewardship within Islamic teachings."<sup>20</sup>

Abdul Mu'ti (Pesantren Analyst) discussed the apparent apathy of religious scholars and leaders towards environmental issues, particularly global warming and climate change, as follows:

"Certainly. One of the primary reasons for this apathy is a narrow understanding of religious obligations among some religious scholars and leaders. In many cases, global warming and environmental concerns are seen as secular matters, separate from religious teachings. There's a dichotomy where religious duties are often confined to worship rituals, while issues like global warming are perceived as worldly concerns. This limited perspective hinders the integration of environmental stewardship into religious discourse and practice."<sup>21</sup>

Abdul Mu'ti also mentioned the need to integrate pro-environmental global warming jurisprudence into religious teachings, particularly within pesantren education, as follows:

"Integrating environmental jurisprudence into religious education is essential for several reasons. Firstly, it helps bridge the perceived gap between religious obligations and worldly concerns by highlighting the interconnectedness between human actions and environmental consequences. Secondly, it provides a moral and ethical framework for addressing environmental issues, emphasizing the responsibility of individuals and communities to safeguard the planet. Thirdly, by incorporating environmental stewardship principles into pesantren curricula, we can cultivate a generation of environmentally conscious Muslims who understand their role in preserving the Earth for future generations. In this context, religious institutions, including pesantren, have

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<sup>19</sup> Interview with KH Said Agil Siroj, Surabaya, 1 January 2021.

<sup>20</sup> Interview with KH Said Agil Siroj, Surabaya, 1 January 2021.

<sup>21</sup> Interview with Abdul Mu'ti, Surabaya, 2 May 2023.

a unique opportunity to influence attitudes and behaviors towards the environment. By integrating environmental education into their curriculum and promoting sustainable practices within their communities, pesantren can play a pivotal role in raising awareness about climate change and fostering a culture of environmental stewardship. Additionally, religious leaders and scholars associated with pesantren can serve as advocates for environmental action, leveraging their influence to mobilize support for policies and initiatives that address climate change."<sup>22</sup>

Ulil Abshar Abdalla (Intellectual of NU in Indonesia) elaborates on theology and its relation to human responsibility for phenomena like global warming, as follows:

"Certainly, theology, at its core, emphasizes the concept of human free will and the accompanying responsibility for our actions. When we observe phenomena like global warming, it's essential to recognize that they are not arbitrary occurrences or acts of divine punishment. Instead, they are often the consequences of human actions, particularly those that exploit nature and disregard environmental sustainability."<sup>23</sup>

Ulil Abshar Abdalla also explains how can theology inform and guide efforts to address environmental challenges like global warming, as follows:

"Theological principles can provide a moral framework for addressing environmental challenges by emphasizing the interconnectedness of humanity and the natural world. It encourages us to view environmental stewardship as a collective responsibility and to prioritize the well-being of both present and future generations. By integrating theological insights into our approach to environmental issues, we can cultivate a deeper sense of reverence for the Earth and motivate meaningful action towards sustainability and conservation."<sup>24</sup>

This is actually by what is implied in the Qur'an, that damage on land and at sea is caused by human actions. As a result of his actions, a disaster came so that humans felt some of their actions and deeds so that they returned to the right path (Al-Qur'an, 30:41). It is clear that the phenomenon of global warming and climate change is caused by none other than ourselves as humans.

The study above illustrates that pesantren and Muslims in Indonesia are very concerned about ecological and environmental issues. However, at the operational level, there are still several paradigmatic obstacles, some of which are dichotomous in looking at environmental problems. Apart from that, religious ambiguity has a responsibility to maintain its sustainability.<sup>25</sup> For some parties, statements like this still appear. Optimizing the role of pesantren as centers of Islamic education in contemporary Indonesia needs to continue to be carried out to support concern and love for the environment for a better world. Furthermore, to understand the phenomenon of climate change and global warming in the world which has

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<sup>22</sup> Interview with Abdul Mu'ti, Surabaya, 2 May 2023.

<sup>23</sup> Interview with Ulil Abshar Abdalla, Surabaya, 3 May 2022.

<sup>24</sup> Interview with Ulil Abshar Abdalla, Surabaya, 3 May 2022.

<sup>25</sup> Endang Turmudi, *Struggling for the Umma: Changing Leadership Roles of Kiai in Jombang, East Java* (Canberra: ANU Press, 2006). Choirul Mahfud, Ummu Salamah, Mohamad Yusuf Ahmad Hasyim, Zalik Nuryana, Muhammad Arif Fadhillah Lubis, Contribution of the Indonesian Islamic Chinese Association (PITI) in Facilitating Islamic Law Practices in East Java, *Al-Ibkam: Jurnal Hukum dan Pranata Sosial*, 19 (1), 2024: 1-25.

a local impact in Indonesia, we also need to understand the destructive impact of climate change as has been published in several media and scientific studies which show that if this problem is not handled seriously.<sup>26</sup>

In Mafâtih al-Ghayb's interpretation, this verse shows a guarantee of the necessity of fulfilling the five pillars which are the universal goals of the *Shari'a (al-kulliyat al-khams)*. The opinions of the two figures do not conflict. Ibn `Ashur described the verse in a specific context; the basis of the postulate of awareness of the urgency of environmental jurisprudence, while al-Razi entered the universal realm as an effort to build an affirmative proposition for *maqashid al-syari'ah* which will undoubtedly guarantee that ecological buildings can run in balance. The existence of normative-theological guarantees regarding environmental concerns should be able to produce environmentally friendly fiqh products; not only contains *fiqh al-`ibadat wa al-mu`âmalat*. As a study, environmental jurisprudence is still relatively new and marginalized. It could be that the mainstream paradigm has led and cornered it and considered it inferior to caste when compared with the study of *fiqh al-`ibadat wal-mu`âmalat*. This assumption can be proven when we open a pile of classical jurisprudence literature, the dominant ones being the two studies above.

Paying attention to the above traditions, NU, through green pesantren which have been based on Islamic teachings since the beginning and until now, has emphasized and reaffirmed its commitment to environmental care. The spirit of these two traditions seems to encourage every Muslim to never stop carrying out forestry (*tasyjîr*) and reforestation (*takbîdîr*) efforts. The hope is that the natural environment will always be well maintained. The balance of relations between humans, God, and nature is maintained.<sup>27</sup>

Interview with Ahmad Imam Mawardi, Founder of Pesantren Kota Alif Lam Mim Surabaya, elaborates on the roles and contributions of NU through the green Pesantren program in addressing environmental issues, as follows:

"Certainly. The green pesantren program initiated by Nahdlatul Ulama (NU) plays a vital role in environmental education and addressing ecological problems in Indonesia. There are four main roles and contributions that we emphasize: assessment, teaching and learning, da'wah, and ecological literacy. Firstly, the role of assessment involves evaluating the current state of the environment within and around the pesantren. This includes monitoring pollution levels, waste management practices, and the overall ecological footprint of the institution. By understanding these factors, we can identify areas for improvement and implement effective strategies to reduce our environmental impact. This assessment is crucial for developing a baseline from which we can measure progress. Secondly, teaching and learning are fundamental to the Green Pesantren initiative. We integrate environmental education into our curriculum to raise awareness among students about ecological issues and sustainable practices. This includes lessons on conservation, renewable energy, and sustainable agriculture.

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<sup>26</sup> John B. Foster, *Ecology against Capitalism* (New York: Monthly Review Press, 2002).

<sup>27</sup> A. Mustofa. Environmental Education in Nahdlatul Ulama's Pesantren. *Journal of Educational Development*, 8(2), (2019). Budi, A. Sustainable Practices in Islamic Boarding Schools: The Green Pesantren Initiative. *Journal of Environmental Management*, 12(4), (2020). Didik Supriyanto, and Arif Efendi. Reaktualisasi Karakter Peserta Didik melalui Pendidikan Islam. *MODELING: Jurnal Program Studi PGMI* 8, no. 2 (September 30, 2021): 281-291.

By embedding these topics into both formal and informal education, we aim to cultivate an environmentally conscious generation that understands the importance of protecting our natural resources. Thirdly, Da'wah, or Islamic preaching, plays a critical role in spreading the message of environmental stewardship. Through sermons, discussions, and community outreach, we emphasize the Islamic principles of caring for the Earth. This includes highlighting teachings from the Qur'an and Hadith that advocate for the responsible use of resources and the protection of the environment. By framing environmental responsibility as a religious duty, we can inspire broader community engagement and commitment to sustainable practices. Fourthly, ecological literacy is about equipping individuals with the knowledge and skills needed to make informed decisions regarding the environment. In our pesantren, we promote ecological literacy through hands-on activities such as gardening, waste management projects, and nature conservation efforts. These practical experiences help students understand the complexities of ecological systems and the impact of human activities on the environment. By fostering a deep connection with nature, we hope to instill a lifelong commitment to environmental stewardship."<sup>28</sup>

In this context, we believe that the central role of pesantren is being able to inspire Indonesian Muslims to anticipate, mitigate, and overcome environmental impacts and problems. Several pesantren in Indonesia have become typical eco-pesantren or are developing in that direction, namely: Daarul Muttaqien Pesantren, Parung; Darul Uluum Pesantren, Bogor; Daarun Najah Pesantren, Jakarta; Ma'had Al Zaytun, Indramayu; Daarut Tauhid Pesantren, Bandung; Nurul Hakim Pesantren and several other Pesantren in Indonesia continue to demonstrate correct understanding and practice by carrying out environmental management.

There is good news about green pesantren regarding support for 611 pesantren in Indonesia towards environmentally friendly pesantren. There are also efforts to establish 50 plant nursery centers, distribute 5 million tree seedlings to 611 Pesantren, and plant more than 600,000 seedlings on 300 hectares of waqf land. Not only that, the latest good news also came from Pasirdatar Village, Kadudampit District, Sukabumi Regency. In this area, 6,000 new trees were planted. It is hoped that the tree will be able to re-green the area which was previously open land.

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<sup>28</sup> Interview with Ahmad Imam Mawardi, Surabaya, 2 January 2021.



Figure 2. Students of Pesantren show of hydroponic activities.

Head of the Sukabumi Regency Environmental Service, Abdul Kodir, explained that the thousands of trees planted were aid from the private sector. According to Kodir, the planting of thousands of trees was entitled 'Green pesantren'. In other words, planting is carried out by involving pesantren and assisted by private parties who care about environmental problems. Kodir said, planting these trees helps the greening movement carried out by the Sukabumi Regency Government. Especially in reducing the number of critical lands in the Sukabumi area. Of the 6,000 trees, not all of them are wood trees. However, there are 1,000 fruit trees planted around the residential area. This tree-planting movement involves students at schools and madrasas. They were deliberately involved in introducing a love of the environment from an early age.

The success of realizing a green pesantren based on good and ideal environmental management is of course not only marked by physical achievements. However, there are also non-physical things that need to be considered together. This can be understood from the desire to change the attitudes and mindset of all *Pesantren* stakeholders towards the surrounding environment. NU, through the green pesantren movement, includes carrying out jihad to care for and love the environment. Therefore, a culture of love for the environment can certainly be part of a lifelong education process. Recently, Rabithah Ma'ahid Islamiyah (RMI) Sumenep Nahdlatul Ulama Branch Management or *Pengurus Cabang Nahdlatul Ulama* (PCNU) held Halaqah Eko Pesantren. The activity, which was centered at the Al-In'am Gapura Islamic Boarding School, Sumenep, carried the theme 'Revitalizing the Islamic Boarding School Education Model with Environmental Insight', on Thursday (27/10/2022).<sup>29</sup>

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<sup>29</sup> See at <https://pcnusumenep.or.id/blog/2022/10/28/halaqah-ekopesantren-isu-lingkungan-jadi-atensi-rmi-nu-sumenep/>



Figure 3. NU Madura East Java supports the program of Green Pesantren.

This is because pesantren is a strategic place to transfer values as well as transfer knowledge based on experience and practice in everyday life. This is where the central position and role of pesantren in solving environmental problems is always anticipated for the future of the earth. Apart from that, environmental problems such as floods, climate change, tsunamis, and global warming are not only of concern to the world community but are also a matter of fear regarding their impact on the Islamic world, including pesantren in Indonesia.

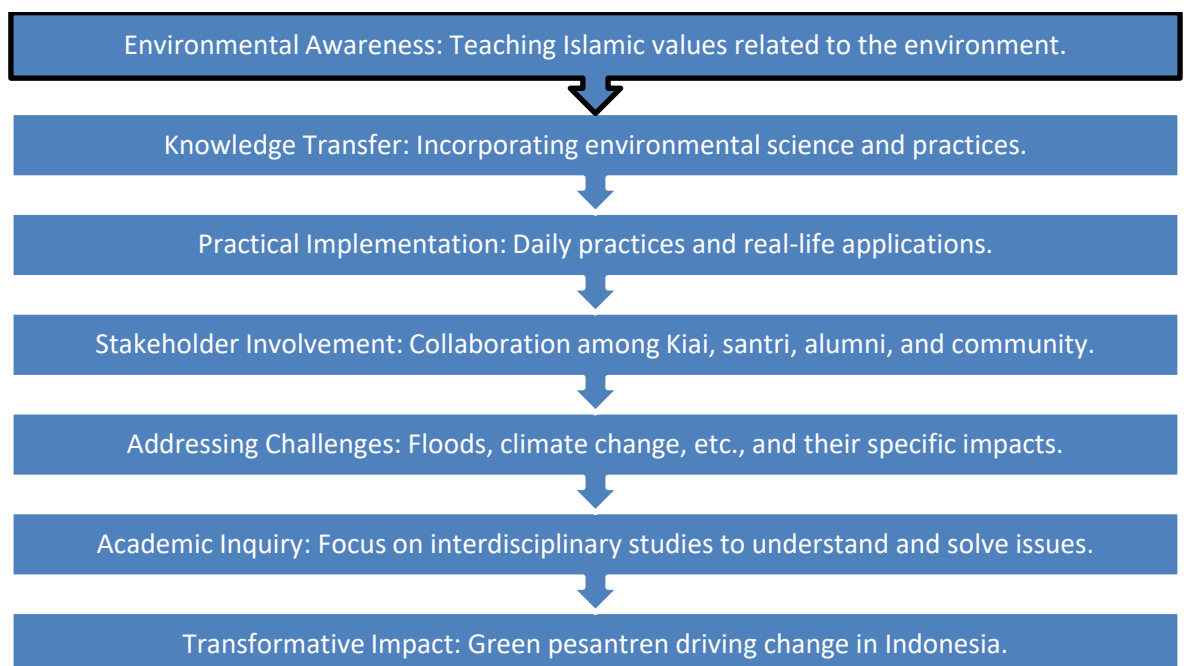


Figure 4. Illustrating the role of Pesantren in environmental stewardship.

Here's an explanation of each step in the figure: First, Environmental Awareness. This initial step involves educating students and the community about Islamic teachings related to environmental stewardship. It emphasizes the religious duty to protect and preserve the Earth. The significance is raising awareness is crucial for cultivating a mindset that values environmental conservation and understands the ethical responsibility rooted in faith.

Second, knowledge transfer. This step focuses on incorporating environmental science and sustainable practices into the curriculum and daily routines of the pesantren. By combining religious teachings with scientific knowledge, pesantren can offer a comprehensive education that equips students with the necessary tools and understanding to address environmental issues effectively.

Third, practical implementation. This involves putting the learned principles into practice through everyday activities and initiatives within the pesantren. Examples include recycling programs, energy-saving measures, and sustainable agriculture. Practical application reinforces theoretical knowledge and demonstrates the feasibility and impact of sustainable practices, making environmental stewardship a tangible part of daily life.

Fourth, stakeholder involvement. This step highlights the collaboration among various stakeholders, including Kiai (religious leaders), students (santri), alumni, and the broader community. Engaging all relevant parties ensures a collective effort and shared responsibility, enhancing the effectiveness and reach of environmental initiatives.

Fifth, addressing Challenges. This step involves recognizing and tackling specific environmental challenges such as floods, climate change, and global warming, and understanding their impacts on the local and global Islamic community. Addressing these challenges head-on helps develop practical solutions and prepares the pesantren community to respond to environmental crises effectively.

Sixth, academic inquiry. This involves interdisciplinary research that combines environmental science, social science, and religious studies to deepen the understanding of the complex dynamics between environmental issues and pesantren. Academic inquiry provides evidence-based insights and innovative approaches, informing better practices and policies for environmental stewardship.

Seventh, transformative impact. The final step reflects the broader societal change driven by the Green Pesantren initiative, promoting sustainability and environmental responsibility within the larger Indonesian society. By leading by example, pesantren can inspire widespread adoption of sustainable practices, contributing to significant positive change on a national and potentially global scale.

Overall, the flowchart illustrates a comprehensive and integrated approach where pesantren act as pivotal institutions in promoting environmental stewardship, grounded in Islamic values and practical action.

## DISCUSSION

Nahdlatul Ulama (NU) and pesantren are something that is related and bound to each other. NU Pesantren is the oldest religious educational institution in Indonesia which focuses on transforming the values and traditions of Islamic education to respond to the challenges and changes of the times.<sup>30</sup> NU leaders realize that there are several challenges in responding to ecological and environmental problems, both internal and external.<sup>31</sup> In general, this paper finds the ideas and practices of green pesantren in the NU community which face several challenges of dichotomous paradigms and sustainable implementation strategies in looking at ecological and environmental problems.<sup>32</sup>

The fact of environmental damage that needs to be addressed is an effort to build awareness based on theology and ecological wisdom which is often referred to as eco-theology. This concept essentially places environmental issues as part of religion. This is intended to see a more pro-ecological and environmental religious message. In this context, pesantren are expected to provide a better understanding of ecological literacy.

Nasaruddin Umar in the book "Rethinking Pesantren", invites us to review the vital elan of pesantren<sup>33</sup>. According to Umar, pesantren and the environment have an interrelated relationship with each other. Pesantren in Indonesia from day to day also pays serious attention to ecological and environmental issues. The same thing but with a different perspective was also discussed by Nurcholish Madjid who explained that the relationship between pesantren and environmental problems has been around for a very long time. Pesantren as traditional Islamic educational institutions still exist today.<sup>34</sup> However, its contribution in overcoming various environmental problems needs to continue to be considered and supported by all parties.

Nurcholish realizes that as time goes by, the problems that pesantren must face and answer are also becoming more complex and difficult. For example, pesantren environments tend not to pay attention to environmental aspects. This situation is exacerbated by the lifestyle of students who tend not to prioritize health factors. Not surprisingly, the students were ridiculed as "scurvy students". Seeing this reality, said Cak Nur, there is no other way but

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<sup>30</sup> M. Nasir, The Impact of Green Pesantren on Environmental Awareness. *Journal of Environmental and Islamic Studies*, 7(1), (2022). Choirul Mahfud, "Chinese Muslim Community Development in Contemporary Indonesia: Experiences of Piti in East Java." *Studia Islamika* 25, no. 3, (2018): 471–502. Zakiyuddin Baidhawiy, The Role of Faith-Based Organization in Coping with Disaster Management and Mitigation: Muhammadiyah's Experience, *Journal of Indonesian Islam*, vol. 9, no. 2, (2015): 167-194.

<sup>31</sup> A. Fauzi, Green Pesantren: Nahdlatul Ulama's Response to Environmental Challenges. *Journal of Islamic Education and Sustainability*, 3(4), (2021). Rahmawati et al, "Chinese Ways of Being Good Muslim: From the Cheng Hoo Mosque to Islamic Education and Media Literacy." *Indonesian Journal of Islam and Muslim Societies* 8, no. 2, (2018): 225–52. Choirul Mahfud, The role of cheng ho mosque: The new silk road, Indonesia-China relations in islamic cultural identity. *Journal of Indonesian Islam*, 8(1), (2014): 23-38.

<sup>32</sup> Karel A. Steenbrink, *Pesantren, Madrasah, Sekolah: Pendidikan Islam dalam Kurun Modern* (Jakarta: LP3ES, 1974). I. Wardana, The Role of Nahdlatul Ulama in Promoting Environmental Ethics. *Journal of Islamic Environmental Studies*, 6(3), (2021). N. Jannah, Integrating Environmental Education in Pesantren Curriculum: A Study of Green Pesantren. *Journal of Islamic Education and Environmental Ethics*, 5(2), (2019).

<sup>33</sup> Nassarudin Umar, *Re-Thinking Pesantren* (Jakarta: Elex Media Komputindo, 2014), 12-28. M. Syafii, Environmental Stewardship in Islamic Education: The Case of Green Pesantren. *Journal of Islamic Studies*, 11(2), (2022). N. Amalia. The Role of Green Pesantren in Environmental Conservation in Indonesia. *Journal of Environmental and Religious Studies*, 5(1), (2020).

<sup>34</sup> Nurcholish Madjid, *Bilik-Bilik Pesantren; Sebuah Potret Perjalanan* (Jakarta: Paramadina, 1992), 8-11.

for pesantren to try to make changes to catch up. Pesantren leaders are required to race against time. According to Cak Nur, currently, the most important agenda for pesantren is how to restore the content of the moral messages they bring to the people of this century so that they remain relevant and attractive.

Zaenal Abidin Bagir from Gadjah Mada University Yogyakarta also sees the importance of the relationship and role of religious institutions in responding to environmental problems, including pesantren as Islamic educational institutions in Indonesia. Bagir seems optimistic about the relationship between religion, science, and ethics in realizing an ideal ecological and environmental system.<sup>35</sup> Fachruddin Mangunjaya also explained that pesantren has a real contribution in redesigning the function of pesantren to be more environmentally conscious. Fachruddin also appreciated the pesantren initiative which has taken great pains to design the ideal pesantren system in Indonesia so far. Zubaidi elaborated on the concept of green pesantren in Indonesia through community service and empowerment programs by the values of pesantren education in Indonesia.

A Haedari intends to provide anticipatory solutions related to the challenges faced by pesantren, as well as showing opportunities and solutions that need to be implemented. According to Haedari, theologically, for example, theological views that are opposite to *Jabariah*, or theology that emphasizes human free will (*Qodariah*), are more relevant for explaining phenomena such as global warming.<sup>36</sup> Relevance is not limited to a fair and reasonable explanation in placing human nature (theodicy) about nature or the environment and on the other hand with the disaster itself. *Qodariah* theology is also relevant because it can prevent humans from social mythologies which usually spread and ultimately give rise to error and darkness in the human mind.

The ecological problem is that the environment characterized by global warming has a very serious impact on the survival and livelihood of the world community, including the pesantren. Therefore, all parties need to carry out mitigation efforts continuously and gradually. Experts, scholars, religions, governments, and all stakeholders must work together to prepare an early warning system, to predict possible natural phenomena and their long-term impacts. Apart from the commitment from the government, efforts to develop adaptation strategies must also involve the community and religious leaders, especially the pesantren in Indonesia.<sup>37</sup> One of them is by increasing public awareness through various

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<sup>35</sup> Zaenal Abidin Bagir, *Ilmu, Etika, dan Agama: Menyibak Tabir Alam, Manusia, dan Etika* (Yogyakarta: CRCs-UGM, 2006), 7-9. A. Setiawan. Promoting Environmental Awareness through Islamic Education: The Case of Green Pesantren. *Journal of Islamic Environmental Management*, 6(2), (2021). S. Kusnadi. Sustainable Development Goals and Islamic Boarding Schools: The Green Pesantren Experience. *Journal of Development and Sustainability*, 4(3), (2019).

<sup>36</sup> A. Haedari, *Masa Depan Pesantren Dalam Tantangan Modernitas dan Tantangan Kompleksitas Global* (Jakarta: IRD Press, 2014), 17-39. R. Yuliana. Environmental Conservation and Islamic Education: Insights from Green Pesantren. *Journal of Environmental and Islamic Education*, 8(1), (2020).

<sup>37</sup> Öğretim Üyesi Eid Abdulaziz, "Verse Rhetoric in the Name of Allah in the Qur'an: An Example of the Perpetrator," *IJAS: Indonesian Journal of Arabic Studies* 5, no. 2 (November 20, 2023): 175–90, <https://doi.org/10.24235/ijas.v5i2.15047>; Muhammad Shaleh Assingily, "Living Qur'an as a Model of Islamic Basic Education in the Industrial Era 4.0," *Al Ibtida: Jurnal Pendidikan Guru MI* 6, no. 1 (June 30, 2019): 19–36, <https://doi.org/10.24235/al.ibtida.snj.v6i1.3876>; Nadlifah Nadlifah et al., "Habituation of Disciplinary Character Traits in Early Childhood: A Case Study from RA Arif Rahman Hakim Yogyakarta," *Golden Age: Jurnal Ilmiah Tumbuh Kembang Anak Usia Dini* 8, no. 2 (June 30, 2023): 69–78, <https://doi.org/10.14421/jga.2023.82-02>.

forms of outreach, including establishing environmental programs as part of the pesantren education curriculum in Indonesia. Therefore, the existence of green pesantren is very necessary so that they can serve as a way of life in anticipating negative environmental impacts which often harm us.

The concept of green pesantren through various environment-based learning approaches can be practiced together starting from oneself. Namely by trying to change our lifestyle in simple ways such as saving electricity, making infiltration wells, saving energy by selectively using electronic equipment, reducing the use of private cars, reducing the use of plastic packaging, sorting and managing household waste, and planting trees in the yard. and many other things. Without starting from ourselves, our society and nation will not change and ultimately all humans on Earth will not change.<sup>38</sup> Doing things well is a very significant habit in pesantren.

Another consequence of global warming is the influence of agricultural products, the disappearance of glaciers, and the extinction of various types of animals. Another impact is that floods will occur everywhere and the strength of hurricanes will increase and destroy coastal areas. Earthquakes also occur frequently.<sup>39</sup> In this context, environmental destruction is carried out because of pressure from bad economic conditions. Another term for environmental damage is pragmatic factors. In an emergency, the environment is more important or the stomach is more important. For example, farming communities that have a very limited environment, automatically make maximum use of the limited land. If they live in mountainous areas, the protected forests that surround them can certainly be used up for agricultural land. River banks cannot be planted with seasonal crops, they tend to plant land along river banks, and there are many other examples. Apart from economic factors, it is also thought to be due to religious and moral factors. Religion as a noble teacher can be a savior for the environment if it is understood well and practiced correctly, but on the contrary, it will damage the environment when religion is understood carelessly. This view also emerged and became an initial reflection to initiate a formula that could be adopted by other Muslims in preparing action and taking steps to reduce the global environmental crisis.

Foltz stated that although the Gulf Arab states are generally the wealthiest they are often considered "developing countries". However, environmental conditions in the Gulf region are highly visible and severe. "Development" emerged as a double-edged sword. Foltz gave an example, the damage to the ecosystem in Kuwait due to Iraq's control, and the war that followed in 1991 is a clear example of how much environmental damage can be caused by humans.<sup>40</sup> Of course, Iraq, as one of the Muslim countries that previously had a relatively organized environment, has experienced severe damage due to war and American aggression against the country. Like other parts of the Islamic world, Indonesia certainly faces similar environmental problems. This country, for example, in the last decade has been hit by various

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<sup>38</sup> Harun M. Husein, *Lingkungan Hidup Masalah, Pengelolaan dan Penegakan Hukumnya* (Jakarta: Bumi Aksara, 1997). A. Hakim. Green Pesantren: Integrating Islamic Values and Environmental Education. *Journal of Religious and Environmental Studies*, 9(4), (2021).

<sup>39</sup> Carl Boggs, *Ecology and Revolution: Global Crisis and the Political Challenge* (New York: Palgrave Macmillan, 2012).

<sup>40</sup> Richard C. Foltz, *Environmentalism in the Muslim World* (New York: Nova Science Publisher, 2005), 18-33.

environmental disasters.<sup>41</sup> This occurs because of extraordinary damage and changes to the ecosystem due to unfriendly treatment of natural resources which have long been the basis of economic income. Deforestation and harvesting of natural products are carried out by residents in unhealthy ways, even violating ethical norms for use: for example, illegally encroaching on wood in protected forests, and fishing using anesthetics or poisons and bombs, which will be destructive in the end.

Today, environmental issues and problems still require the attention of all parties amidst the hustle and bustle of local and global social, and economic-political problems. The role and contribution of pesantren are currently being awaited. Green pesantren breakthroughs in assessment, commitment, and contribution to environmental issues with the main aims and objectives of measuring awareness and commitment in their responsibilities towards the surrounding natural environment. Indicators for this assessment system include statistics on campus greenness, waste management, energy, and climate change, water use, transportation, and environmentally friendly education. From this kind of research-based evaluative agenda for environmental care, there are several aims, objectives, and benefits that can be understood together.<sup>42</sup> First, environmental issues are part of the pesantren's responsibility. All elements can take part as environmental observers. In this case, pesantren leaders and stakeholders are not only committed to making pesantren a place to learn about the Islamic religion.<sup>43</sup> But how can all elements of pesantren implement an environmentally loving lifestyle in everyday life, as is being campaigned for in green pesantren promoted by NU?

Second, creating a culture of sustainable environmental care. This means that green pesantren continue to be encouraged to carry out environmental management systematically and sustainably. In this case, it is a reflection of the involvement of all parties within the pesantren environment so that they always pay attention to aspects of health and the surrounding environment. Third, encourage pesantren management policies that are oriented towards good environmental management. This can be understood from efforts to save water, paper, and electricity. There is also reforestation to achieve the ideal proportion of Green Open Space. More than that, the shape of the buildings/buildings is designed not only to be green, but more environmentally friendly. The cleanliness and comfort of the environment are also maintained, thereby creating a pollution-free pesantren.

All of these conditions seem to require a long, never-ending process. As is understood, environmental problems cannot be separated from human intervention anywhere

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<sup>41</sup> A. Hakim. Green Pesantren: Integrating Islamic Values and Environmental Education. *Journal of Religious and Environmental Studies*, 9(4), (2021). Rika Astari, Saifuddin Zuhri Qudsy, Muhammad Irfan Faturrahman, Choirul Mahfud, and Mochlasin Mochlasin, 'The Controversy over the Hadith on Martyrs in the Context of COVID-19 Corpse Handling', *The International Journal of Religion and Spirituality in Society*, 14.4 (2024), 157–79. <https://doi.org/10.18848/2154-8633/CGP/v14i04/157-179>.

<sup>42</sup> Fella Lahmar, 'Islamic Education: An Islamic 'Wisdom-Based Cultural Environment' in a Western Context,' *Religions* 11, no. 8 (August 2020): 409, <https://doi.org/10.3390/rel11080409>; Ujang Sahid et al., 'Management of Student Characteristics Through Extracurricular Activities in The School Environment Based on Islamic Boarding Schools,' *Munaddhomah: Jurnal Manajemen Pendidikan Islam* 2, no. 2 (October 31, 2021): 116–25, <https://doi.org/10.31538/munaddhomah.v2i2.97>.

<sup>43</sup> Rusdianan Rauf, Hengki Wijaya, and Ezra Tari, 'Entrepreneurship Education Based on Environmental Insight: Opportunities and Challenges in the New Normal Era,' ed. Muhammad Mughal, *Cogent Arts & Humanities* 8, no. 1 (January 1, 2021): 1945756, <https://doi.org/10.1080/23311983.2021.1945756>.

and at any time. We can all start from ourselves, starting with the intention and determination to unite and seize our respective roles. Then, accompanied by effort, care, and involvement of all elements of the pesantren in a culture of sustainable environmental care as another key to success. The success of achieving a green pesantren based on good and ideal environmental management is of course not only marked by physical achievements alone. However, there are also non-physical things that need to be considered together. This can be understood from the willingness to change the attitude and mindset of all elements of the pesantren towards the surrounding environment.<sup>44</sup> Therefore, the cultural movement of love for the environment can certainly be part of a lifelong education process. Because pesantren are strategic places for transferring values as well as transferring knowledge based on experience and practice in everyday life. This is where the central position and role of pesantren in solving environmental problems is always anticipated for the future of this earth.

The Green Pesantren program in Indonesia embodies a multifaceted approach aimed at addressing environmental challenges while fostering a culture of sustainability within religious educational institutions. At its core, this initiative recognizes the inherent responsibility of pesantren to serve as stewards of the environment.<sup>45</sup> Beyond mere academic pursuits, all stakeholders, including students, pesantren leaders, and other community members, are called upon to embrace an environmentally conscious lifestyle as an integral part of their daily routines. This necessitates a collective commitment to embodying principles of environmental stewardship in both thought and action, thereby instilling a deep-seated love and respect for the natural world.

Central to the success of the Green Pesantren program is the cultivation of a culture of sustainable environmental care. Through systematic and ongoing environmental management practices, pesantren communities are encouraged to prioritize health and environmental considerations in all aspects of their operations. This entails active participation from all members of the community, ensuring that environmental sustainability remains a guiding principle in decision-making processes and day-to-day activities. By fostering a sense of collective responsibility towards the environment, pesantren can serve as models of sustainable living and inspire broader societal change.

Furthermore, the Green Pesantren program advocates for the implementation of policies and practices that prioritize environmental management and conservation. From resource conservation efforts such as water and electricity usage reduction to initiatives aimed at enhancing green spaces and eco-friendly infrastructure, pesantren are encouraged to adopt environmentally conscious approaches in all facets of their operations. By integrating environmental considerations into policy formulation and infrastructure development, pesantren can pave the way for a more sustainable future, demonstrating the feasibility and efficacy of environmentally friendly practices in religious educational settings. Through collective intention, concerted effort, and widespread engagement, the Green Pesantren

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<sup>44</sup> Lia Pratiwi et al., "The Effect of Independence Education in Islamic Boarding School on the Development of Emotional Intelligence of Elementary School Students," *Al Ibtida: Jurnal Pendidikan Guru MI* 7, no. 1 (June 7, 2020): 85–99, <https://doi.org/10.24235/al.ibtida.snj.v7i1.5147>; Lala Bumela, "Designing 21st Century Language Learning Scenario in Indonesia: A Perspective from Computer-Assisted Language Learning," *IJAS: Indonesian Journal of Arabic Studies* 2, no. 1 (May 5, 2020): 1–30, <https://doi.org/10.24235/ijas.v2i1.6106>.

<sup>45</sup> Herman Khaeron, *Islam, Manusia dan Lingkungan hidup* (Bandung: Nuansa Cendikia, 2014), 9-15.

program underscores the pivotal role of religious institutions in driving positive environmental change and fostering a culture of sustainability for future generations.

## CONCLUSION

The research underscores the pivotal role of religious institutions, particularly pesantren, in tackling environmental challenges and promoting sustainability in Indonesia. It emphasizes integrating environmental stewardship principles into religious education, specifically within pesantren curricula, to nurture environmentally conscious Muslims. By bridging the gap between religious obligations and ecological concerns, pesantren can cultivate moral and ethical frameworks that stress individual and collective responsibility for protecting the planet. Additionally, the study highlights the importance of a comprehensive approach involving students, pesantren leaders, and the broader community in adopting an environmentally conscious lifestyle as an integral part of daily routines. Through systematic environmental management practices and prioritizing policies, pesantren can lead by example, inspiring broader societal change and fostering positive ecological outcomes for future generations.

While this research offers valuable insights into the pivotal role of pesantren and religious institutions in addressing environmental challenges and fostering sustainability in Indonesia, it is essential to recognize its limitations: The study's scope may have needed to narrow, primarily focusing on NU pesantren and potentially overlooking contributions from other religious educational institutions in this field. Obtaining comprehensive data on the extent and effectiveness of environmental initiatives within pesantren communities may have posed challenges. Biases in participant selection and data interpretation could have influenced the findings, casting doubt on their applicability to the broader pesantren landscape. While the study underscores the importance of integrating environmental principles into religious education, it may have yet to delve deeply into the specific pedagogical strategies or implementation barriers within pesantren curricula. Therefore, future research should adopt a more inclusive approach, embracing diverse perspectives and methodologies to provide a nuanced understanding of how religion, education, and environmental sustainability intersect in Indonesia.

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