

Islamic Education and Global Ecological Challenges: An Eco-Theological Approach to the Environmental Crisis in the FoLU Sector

Afriandi¹, Siti Afifa Ulfa², Asnila Syarah³, Marsella Akmaulia⁴, Andi Fikra Al-Wakia⁵, Didi Firqatun Najiah⁶

¹⁻⁶Sekolah Tinggi Agama Islam Al-Gazali Bulukumba
Corresponding author: afifaulfa02@gmail.com

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ABSTRACT

This study aims to examine the role of ecotheology-based Islamic education in responding to global environmental crises, especially in the Forest and Other Land Use (*FoLU*) sector as well as the *NetSink 30* mitigation program. Using a qualitative approach through library research methods, this study explores Islamic values such as monotheism, amanah, and mizan that are integrated into Islamic educational curricula and practices to build awareness and environmental conservation actions. The results of the study show that Islamic education not only shapes believing individuals, but also instills ecological awareness as part of human moral responsibility as a caliph on earth. The *ecotheology* approach emphasizes harmony between humans and nature and encourages the implementation of sustainable practices related to *FoLU* management. The study provides a theoretical foundation and practical recommendations for educators, policymakers, and the Muslim community to integrate ecological values in Islamic education, thereby supporting a holistic and sustainable climate change mitigation agenda.

1. INTRODUCTION

Today's environmental crisis has become one of the most pressing global issues, especially in the *Forestry and Other Land Use* (FOLU) sector. Deforestation, forest degradation, land conversion, and increasing greenhouse gas emissions from these sectors contribute significantly to climate change. Indonesia as one of the countries with the largest tropical forest area in the world has a strategic role as well as a tough challenge in maintaining ecosystem sustainability. This condition demands a comprehensive approach that does not only rely on aspects of science and technology, but also involves the dimensions of ethics, spirituality, and religious values. Natural resource management, especially in the forestry and other land use (*FoLU*) sector, is one of the main focuses in efforts to mitigate climate change and sustainable development in Indonesia. The *FoLU* sector contributes significantly to greenhouse gas emissions, but it also has great potential as a carbon sink through sustainable forest management (Parimita & Najicha, 2023). Indonesia, with its vast tropical forests and high biodiversity, faces major challenges in maintaining ecosystem balance while meeting the economic and social development needs of the community. Therefore, sustainable *FoLU* management is not only a technical and policy issue, but also involves deep social, cultural, and spiritual dimensions.

In this context, the role of religion, especially Islam, is very important because it can provide a strong ethical and moral foundation in the management of natural resources. Islamic teachings emphasize principles such as the caliphate (human leadership on earth), amanah (trust and responsibility), and adl (justice), which directly direct humanity to protect and care for nature as a

mandate from God (Basri et al., 2024). The concept of Eco-Islam emerged as an approach that integrates Islamic values with ecological principles, so as to strengthen awareness and sustainable behavior in the management of *FoLU*. This approach also provides a different paradigm alternative than just a technical or economic approach.

In addition, Islamic principles can be applied in environmental education, resource management, and policy development oriented towards social and ecological justice (Karadona et al., 2022). For example, *eco-pesantren* and sustainable agriculture initiatives that integrate Islamic values have shown success in building awareness and environmentally friendly practices in the community. This confirms that the religious approach is not only normative, but also applicable and transformative. Islamic education with this approach is expected to form a new paradigm in understanding the relationship between humans and nature (Karadona & Sari, 2025). Not only as an object of economic exploitation, but also as a part of God's creation that has the right to be respected and preserved. Thus, Islamic education can contribute to the development of collective awareness, especially in the face of global challenges in the FOLU sector which is full of conflicts between economic, social, and environmental sustainability interests.

The deforestation phenomenon that has occurred in Indonesia over the past few decades has become one of the most pressing environmental problems. Between 1950 and 2015, about 43% of Indonesia's forest area was lost to overexploitation triggered by domestic and global economic pressures (Kim, 2021). Deforestation is also linked to the weakening of ethics and social values that have been the cornerstones of forest management, including religious values. Therefore, strengthening Islamic-based environmental ethics is very important as an effort to restore collective awareness and reduce the deterioration of forests.

2. METHODS

This research method uses a qualitative approach with the library research method as the main technique for data collection and analysis. This approach was chosen to examine in depth the concept of *ecotheology* in Islamic education and its role in responding to environmental crises, particularly in the Forest and Other Land Use (*FoLU*) sector and the *NetSink 30* program. Data was collected through a literature review that included academic articles related to the implementation of environmentally sound education in Islamic educational institutions. The data collection process includes searching, selection, and in-depth studies of relevant sources, followed by thematic grouping and analysis based on Islamic values related to environmental conservation. The research methods used are:



Figure 1. Research Methods

Data analysis was carried out in a qualitative descriptive manner using content analysis techniques and thematic analysis to identify *ecotheology* messages that build awareness and environmental conservation actions in Islamic education. Conceptual interpretation relates findings to *ecotheology* theory and sustainability paradigms to produce a holistic and integrative understanding. With this method, the research is expected to provide a strong and relevant theoretical foundation in developing Islamic education based on *ecotheology values* that supports the mitigation of global environmental crises through the management of the *FoLU* sector.

This study emphasizes the importance of integrating ecotheological principles into the curriculum and learning practices in Islamic educational institutions. By embedding environmental ethics derived from Qur'anic teachings and prophetic traditions, Islamic education can foster ecological awareness, responsibility, and sustainable behavior among students and communities. The research also highlights the potential of Islamic schools, pesantren, and universities as strategic agents in promoting environmental stewardship through practical programs, such as green campuses, reforestation activities, and waste management initiatives. This integration not only strengthens the moral and spiritual dimensions of education but also aligns with national and global sustainability goals, including the FoLU Net Sink 2030 target.

3. RESULTS AND DISCUSSION

3.1. Islamic Religious Education

Islamic education as a system not only aims to prepare individuals who are faithful and pious, but also to form a civilized personality with a high ecological awareness. The concept of the caliph contained in the Qur'an explicitly emphasizes that humans are entrusted to manage this earth not to be exploited indefinitely, but to be maintained with full responsibility and a sense of trust (Ibad, 2022). This concept underlies character education in schools and madrassas that must integrate Islamic values with aspects of environmental conservation. Islamic education that implements the principles of *ecotheology* also prioritizes the concept of monotheism as a spiritual foundation that connects humans with nature as a unit created by God. This education based on the value of monotheism views that protecting the environment is part of worship and a manifestation of servitude to Allah SWT (Widiastuty & Anwar, 2025). Therefore, the curriculum and learning methods need to be designed in such a way that environmental materials are inserted in every subject, from character education to natural sciences.

Islamic education lessons are not only theoretical but also practical through environmentally friendly school programs that teach waste management, water conservation, school greening, and the use of renewable energy (Al Hamid, 2024). The development of a curriculum oriented to ecological aspects strengthens students' behavior to have an ecological responsive attitude that does not only stop at oneself but also has a broad social impact with the surrounding community and the natural environment. Research conducted in several eco-pesantren shows that the application of Islamic education that prioritizes *ecotheology values* is able to change the mindset and attitude of students to be more concerned about the environment through practical activities of planting trees, maintaining the cleanliness of the pesantren environment, and managing organic and non-organic waste with environmentally friendly methods (Bradhiansyah Tri Suryanto, 2019). This proves how Islamic education can be an effective medium for building deep and sustainable ecological awareness.

Islamic education also contains the principle of *mizan* (balance), which provides an important message for the world of education to educate a generation that is able to maintain the balance of the

ecosystem. This mizan-based education teaches that humans are not excessive in taking natural resources and trying to optimize resources without damaging the natural order and life in the future. The practical implication is learning that emphasizes the principle of sustainable and responsible use of resources. Furthermore, the integration of Islamic education with the concept of *ecotheology* supports the development of experiential learning that allows students to apply Islamic values in concrete actions to preserve the environment. This provides a hands-on experience for students to understand the importance of maintaining environmental balance as a form of religious obedience (Yuli Habibatul Imamah, Sugiran, Aripin, 2022). This impact is not only to build individual awareness but also to strengthen social solidarity and collective responsibility.

The role of Islamic teachers and educators is very strategic in internalizing the values of *ecotheology* in learning and the school environment, as well as motivating students to become active agents of change in preserving the earth (Fua, 2014). Training efforts and capacity building of teachers in Islamic-based environmental education need to be a priority to achieve overall learning effectiveness. Systematically, Islamic education that adopts an *ecotheology* approach can bridge the gap between scientific knowledge and spiritual values, making this education an effective vehicle in responding to the increasingly urgent environmental crisis globally (Agustin et al., 2023). Thus, Islamic education not only touches on ritual and spiritual aspects, but also the relationship between humans and nature, forming a new paradigm that is holistic and humanistic. The results of the literature analysis reveal that Islam has a very relevant set of values in dealing with the ecological crisis. The concept of *caliph fil ardh* places humans as managers who are responsible for the preservation of the earth. The verses of the Qur'an such as QS. Al-Baqarah: 30 and QS. Ar-Rum: 41 is the eco-theological basis that affirms the prohibition of destroying nature. In addition, the principle of *mizan* (balance) in QS. Ar-Rahman: 7–8 reads:

وَالسَّمَاءَ رَفَعَهَا وَوَضَعَ الْمِيزَانَ (7) أَلَا تَطْعَمُ فِي الْمِيزَانِ (8)

Emphasizing the importance of maintaining ecosystem harmony. The Prophet's hadith also emphasizes the urgency of preserving nature, for example the command to plant trees even though the apocalypse is coming. These findings show that Islam has provided a strong normative framework in responding to environmental challenges in the *FoLU* sector.

3.2. *Ecotheology and the Environmental Crisis*

Islamic ecotheology is a branch of theology that examines the relationship between humans and nature from the perspective of spiritual and ethical Islamic values (Alim & Subagiya, 2022). Global environmental crises, such as climate change, deforestation, pollution, and biodiversity loss, are actually manifestations of the spiritual and moral crisis of human beings who have forgotten their mandate as caliphs on earth (Widiastuty & Anwar, 2025). From an Islamic perspective, nature is not only a resource or economic object, but a holy creation of Allah and must be respected and maintained in balance.

The literature shows that the theory of *ecotheology* encourages a paradigm transformation from anthropocentric (human as the center) to ecocentric (nature as the center) that is just and sustainable (Sumule, 2024). This new paradigm is in line with the principles of sustainable development and safeguards the rights of future generations to a healthy and sustainable environment. Ecosystem protection is also a reinforcement of this *ecotheology* value at the level of community policies and practices (Aristo Jadur, 2025). The normative framework of *Islamic ecotheology* also addresses the

prohibition of *fesad fil-ardh* (destruction on the earth) and encourages collective awareness to avoid environmentally damaging actions such as illegal logging, pollution, and overexploitation that can lead to ecological disasters (Hesty Widiastuty & Khairil Anwar, 2025). Communities that adopt the values of *ecotheology* are better able to carry out environmental conservation and restoration with the active participation of the community.

Ecotheology also plays a role in environmental education and preaching, with moral and spiritual messages that are able to awaken the collective awareness of Muslims on the importance of caring for the earth as a place to live together (Karman et al., 2023). This requires innovation in da'wah programs that integrate environmental concepts so that the delivery of these values becomes more contextual and applicable at various levels of society. In addition, *ecotheology* provides a theoretical foundation for the development of environmental ethics that is firmly rooted in the Islamic tradition, which not only prioritizes legal aspects (fiqh) but also spiritual, social, and ecological dimensions (Quddus, 2017). This multidimensional approach is effective in overcoming complex and multidimensional environmental crises as well. The real impact of the application of *ecotheology* can be seen in communities that live an eco-friendly life with strong religious principles, such as sharia-based forest management, biodiversity conservation, and sustainable development involving Muslims as the main actors (Eka Wahyu Kasih & Ruslaini Ruslaini, 2024). This proves that *ecotheology* is not just a theoretical discourse but can be applied practically and make a significant contribution to solving the global ecological crisis.

3.3. FoLU Netsink 30 and Global Challenges

The *FoLU* (Forest and Other Land Use) sector is one of the significant contributors to greenhouse gas emissions due to deforestation, desertification, degradation of soil quality, and unsustainable land use (Parimita & Najicha, 2023). The *NetSink 30 program* is part of a global strategy to achieve the target of reducing emissions of 30% from the *FoLU* sector by increasing carbon sequestration through reforestation, agroforestry, and sustainable land management practices (Juliarti et al., 2025). The Islamic *ecotheology* approach provides a crucial ethical and moral perspective in the implementation of *FoLU NetSink 30*, by emphasizing the principles of balance (mizan) and trust in order to maintain harmony between humans and nature (Parimita & Najicha, 2023). Ecotheology-based Islamic education reinforces the commitment of local stakeholders and communities to protect forests and ecosystems in relation to religious awareness and moral responsibility.

Collaboration between governments, Islamic educational institutions, and local communities is key to success, with the role of Islamic education in providing an understanding of ecological science and values in order to support forestry, conservation, and land management policies (Ningrum et al., 2025). It demonstrates the synergy between theory and practice, science and spiritual values necessary to build a sustainable future. *FoLU NetSink 30* practically also opens up opportunities for sustainable economic empowerment in the forestry and agriculture sectors, such as agroforestry ventures, community-based ecotourism, and the production of non-timber forest products that take into account ecological and social sustainability (Syahib & Safe'i, 2024). The Islamic approach provides a moral framework to consider aspects of distributive justice and community rights in natural resource management. Thus, *FoLU NetSink 30* is not only a technical climate mitigation project, but also a socio-religious project that requires spiritual ecological maturation and communal awareness that can be strengthened through ecotheology-based Islamic education. It is a concrete form of integration of spiritual values into a global strategy to face contemporary ecological challenges. The results of the research and discussion are as follows:

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a. Islamic Religious Education

b. Ecotheology and the Environmental Crisis

c. FoLU Netsink 30 and Global Challenges

Figure 2. Results and Discussion

The results of the study also found a number of obstacles in the implementation of Islamic education from an eco-theological perspective. First, the dominance of the extractive economic paradigm in national development that often ignores the sustainability aspect. Second, the low ecological literacy among Muslim communities who still view environmental issues as a secular issue, not a religious one. Third, the limitations of Islamic education policies that explicitly integrate environmental issues into the national curriculum. This challenge shows the gap between the theological potential of Islam and the reality of educational praxis in the field.

The results of the study show that the *Forestry and Other Land Use* (FOLU) is one of the main contributors to carbon emissions in Indonesia. Deforestation due to the conversion of forests into plantations, mining, and settlements has led to serious ecosystem degradation. In addition to biodiversity loss, other impacts found are increased intensity of floods, landslides, and droughts in some areas. Empirical data from the Ministry of Environment and Forestry shows that the FOLU sector is still a big challenge in achieving the *net zero emission* target. This fact confirms that environmental problems cannot be separated from the ethical and spiritual dimensions of society which often view nature as an object of economic exploitation.

4. CONCLUSION

Islamic education has strategic potential in shaping ecological awareness and environmental conservation behavior through *an ecotheology approach* that integrates Islamic values such as monotheism, amanah, and mizan. The concept of the caliph as the manager of the earth emphasizes the moral and spiritual responsibility of Muslims to maintain the balance of nature, so that Islamic education is not only oriented to ritual and spiritual aspects, but also to the formation of characters who care about the environment. The implementation of *ecotheology* in educational curriculum and practices, including in environmentally friendly school programs and *eco-pesantren*, has proven to be effective in building awareness and real action on environmental conservation in a sustainable manner. Furthermore, *Islamic ecotheology* provides an essential normative framework in responding to the global ecological crisis, especially in the context of managing the Forest and Other Land Use (*FoLU*) sector. Through strong moral and spiritual values, Islamic education based on *ecotheology* supports climate change mitigation programs such as *NetSink 30* by prioritizing the principles of balance and collective responsibility. This synergy between science, education, and religious teachings opens up real opportunities for the Muslim community to become active agents of change in preserving nature and implementing sustainable resource management practices. Thus, *ecotheological Islamic education* plays an important role in building a sustainability paradigm that is holistic, relevant, and adaptive to contemporary environmental challenges.

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