

Towards an Islamic Ecotheology: Indonesian Muslim Organizations in Climate Mitigation and Adaptation Efforts

W kierunku islamskiej ekoteologii: Indonezyjskie organizacje muzułmańskie w wysiłkach na rzecz łagodzenia zmian klimatu i adaptacji

M. Lutfi Mustofa¹, M. Fauzan Zenrif², Ahmad Barizi³

Universitas Islam Negeri Maulana Malik Ibrahim Malang, Indonesia

¹E-mail: mlutfi@psi.uin-malang.ac.id, ORCID 0000-0002-0161-5651

²E-mail: zenrif@syariah.uin-malang.ac.id, ORCID 0000-0001-9901-7563

³E-mail: abarizi_mdr@uin-malang.ac.id, ORCID 0000-0002-3295-7304

Abstract

This article discusses Islamic eco-theology and the role of Indonesian Muslim organizations in dealing with environmental degradation through climate change mitigation and adaptation actions. The focus is on the pattern of involvement of Muslim organizations in integrating Islamic values with ecological challenges. This discussion is important, considering that Indonesia faces many problems of environmental degradation. Religion is seen as having a strategic role in overcoming this issue through Islamic ecotheological values. The research used qualitative methods with case studies of Muslim organizations in Central Java, East Kalimantan, and South Sulawesi. The results showed that Muslim organizations such as NU, Muhammadiyah, MUI, and Pesantren have played an active role in environmental conservation efforts. NU focuses on greening and waste management, Muhammadiyah prioritizes education and development of renewable energy, while Pesantren instills ecological awareness based on religious values. The integration of Islamic teachings in maintaining ecological balance can be seen from the Islamic concept that places humans as caliphs on earth with the task of protecting nature, avoiding waste, and upholding the mandate. Islam also reminds its people that damaging the environment will have consequences in the hereafter. This study confirms that Islamic values are important in supporting environmental sustainability strategies.

Key words: adaptation and mitigation, climate change, Indonesian Muslim organization, Islamic ecotheology, sustainable development

Streszczenie

W tym artykule omówiono islamską eko-teologię i rolę indonezyjskich organizacji muzułmańskich w radzeniu sobie z degradacją środowiska poprzez łagodzenie zmian klimatu i działania adaptacyjne. Skupiono się na schemacie zaangażowania organizacji muzułmańskich w integrację wartości islamskich z wyzwaniami ekologicznymi. Ta dyskusja jest ważna, biorąc pod uwagę, że Indonezja zmaga się z wieloma problemami degradacji środowiska. Religia jest postrzegana jako odgrywająca strategiczną rolę w przewyżnianiu tego problemu poprzez islamskie wartości eko-teologiczne. W badaniu wykorzystano metody jakościowe ze studiami przypadków organizacji muzułmańskich w Centralnej Jawie, Wschodnim Kalimantanie i Południowym Sulawesie. Wyniki pokazały, że organizacje muzułmańskie, takie jak NU, Muhammadiyah, MUI i Pesantren, odegrały aktywną rolę w działaniach na rzecz ochrony środowiska. NU koncentruje się na ekologizacji i gospodarce odpadami, Muhammadiyah stawia na pierwszym miejscu edukację i rozwój energii odnawialnej, podczas gdy Pesantren wpaja świadomość ekologiczną opartą na wartościach religijnych. Integracja nauk islamskich w utrzymaniu równowagi ekologicznej może być widoczna w koncepcji islamskiej, która stawia ludzi jako kalifów na ziemi z zadaniem ochrony przyrody, unikania marnotrawstwa i podtrzymywania mandatu. Islam przypomina również swoim ludziom, że niszczenie środowiska

będzie miało konsekwencje w życiu pozagrobowym. To badanie potwierdza, że wartości islamskie są ważne we wspieraniu strategii zrównoważonego rozwoju środowiska.

Słowa kluczowe: adaptacja i łagodzenie, zmiana klimatu, Indonezyjskie organizacje muzułmańskie, islamska ekoteologia, zrównoważony rozwój

Introduction

Climate change has become a global issue that is recognized as the biggest challenge of the 21st century, because its impact has touched many aspects, such as the environment, society, and the economy (Dogru et al., 2019; Lanzi et al., 2018; Mosoh et al., 2024). All countries of the world are calling for urgent efforts to mitigate their expanding impacts, including the uncertainty of weather patterns, increased frequency of extreme weather, and threats to the extinction of biodiversity (Brieskorn, 2010; Mosoh et al., 2024; Short & Neckles, 1999; White, 2020). Indonesia, as the world's largest archipelago with a Muslim-majority population, faces serious threats from climate change, including rising sea levels and declining ecosystems (Hapsari et al., 2022; Lumban-Gaol et al., 2024; Mehvar et al., 2018). This situation makes Indonesia an interesting case study to understand the important role of religion in mitigation and adaptation to climate change (Iberdrola, 2024).

Indonesian Muslim organization organizations are increasingly recognized as key players in advancing sustainable development initiatives that align with the United Nations Sustainable Development Goals (SDGs). Their efforts are rooted in Islamic teachings that promote stewardship of the environment and social equity, which resonate deeply with the principles of sustainability. This connection is supported by various scholarly perspectives that highlight the role of religion in fostering sustainable behaviors and community engagement.

Islamic eco-theology is a framework that combines the principles of faith in the holy book (Qur'an and Hadith) with environmental ethics, emphasizing the interconnection between the purpose of the creation of the universe and the moral responsibility of humans as (servants and caliphs of Allah) to prosper the earth (Ali & Agushi, 2024; Bsoul et al., 2022; Koehrsen, 2021; Muhammad et al., 2024; Syihabuddin et al., 2024; Zagonari, 2021). The concept of stewardship, as articulated in both Quran and other religious texts, emphasizes the responsibility of humans to care for the earth. Ayvaz and Sadowski argue that religious text provide a moral framework that encourages sustainable behaviors toward nature, thus reinforcing the idea that faith can drive environmental action (Sadowski & Ayvaz, 2023). Specifically, Qur'anic verses emphasize the importance of maintaining the balance of nature and the prohibition of exploitation of the environment, due to the magnitude of damage that can be caused (Özdemir, 2003). The integration of faith principles with climate change mitigation actions and strategies allows the application of a holistic approach to environmental sustainability (Khalid et al., 2019). An approach to the environment that prioritizes the spirit of devotion, balance, and justice (Hayat et al., 2023) and is guided by *eco-maqasid*, namely: Promoting environmental sustainability to save humans from the effects of climate change (*hifz al-nafs*); Encouraging mitigation and adaptation strategies to maintain economic prosperity (*hifz al-mal*); Supporting cultural and religious preservation with a sustainable approach (*hifz al-nasl*); Viewing environmental preservation as a religious obligation (*hifz al-din*); And encouraging religious leaders to conduct environmental education and provide ethical guidance to their communities (*hifz al-aql*) (Haris et al., 2024).

Various studies on the principles of Islamic eco-theology have been conducted in the global context (Foltz, R. C., Denny, F. M., & Aziz, 2003; Gade, 2019; Hayat et al., 2023; Jalamneh et al., 2024; Tariq & Hamidullah, 2024; Vogt & Slater, 2023; Yazid, Y M, 2008), but their application in the Indonesian context is still very limited. On the other hand, several studies on the local context have also been conducted (Maksum et al., 2023; Maslani et al., 2023; Monk & Priatna, 2022; Rakhmat, 2022). However, the important role of Muslim organizations involved in environmental campaigns and mitigation and adaptation actions is still considered more symbolic than substantive (Abadi et al., 2022; Afriani et al., 2023; Denise Arizabal et al., 2023; Latif et al., 2023; Mangunjaya & Praharawati, 2019; Mufid, 2020). In addition, most of these studies have not included an analysis of the integration of Islamic values with government policy strategies in climate change mitigation and adaptation.

The religion-based environmental approach, according to Bagir (2015) and Pratisti et al. (2024) has the potential to increase public awareness and participation in environmental issues (Amri, 2014; Attfield, 2023; Khalid et al., 2019; Victor Ogunkan & Victor, 2010; Wersal, 1995; Yazid, Y M, 2008). Grassroots movements, including those from Muslim organizations, utilize the religion they practice to encourage environmental practices, indicating their potential to increase public awareness and participation in environmental issues through contextual imagination and conceptual hybridization in local communities (Amri, 2014; Aoki, 2016; Tural & Turan, 2024). By integrating ecological values into community-based mitigation and adaptation programs, Muslim organizations in Indonesia, can become more culturally and spiritually relevant innovative approaches (Hidayati & Kurniawan, 2022; Jannah, 2023; Maslani et al., 2023). This kind of research needs to be done because it can complement the lack of academic debate linking Islamic eco-theology with climate change mitigation and adaptation actions in Indonesia. Some of the literacies above show a growing interest in environmental theology in the Islamic world, but their practical implementation in certain contexts in Indonesia has not been given much attention.

Therefore, by utilizing qualitative methods and case study approaches, this article aims to explore and analyze how mainstream Muslim organizations in Indonesia apply Islamic ecology frameworks in climate change mitigation and adaptation efforts. This study also aims to identify challenges and opportunities in blending Islamic values with environmental action and offers recommendations to improve the effectiveness of the sustainability of the role of Muslim organizations in this field. This method and approach were chosen because it explores the interrelationship between Islamic ecotheological values and environmental mitigation and adaptation strategies carried out by mainstream Muslim organizations in Indonesia. This research was conducted for six months from January to June 2024 in Central Java, East Kalimantan, and South Sulawesi. Population selection is carried out purposively based on criteria as a mainstream Muslim organization, that has a track record of climate change mitigation and adaptation actions, data accessibility, and a variety of environmental programs and activities. From the population sampling process, Nahdlatul Ulama (NU), Muhammadiyah, and environmental-based *pesantren* institutions in Java and Kalimantan were obtained. The snowball sampling process is also carried out to involve gamma figures, program managers, and the community involved in environmental activities. This research was conducted through three stages. First, exploration of the literature to identify relevant Islamic eco-theological frameworks; Second, primary data collection through interview techniques and field observations; Third, managing and analyzing data thematically by using a content analysis approach to identify two research focuses: (1) patterns of organizational involvement in climate change mitigation and adaptation actions and (2) integration of Islamic values with the challenges and opportunities faced.

Thus, the results of this study provide two dimensions of benefits at once, theoretical and practical. Theoretically, this study contributes to the development of a more applicable Islamic eco-theological framework. Practically, the results of this study can provide guidance for policymakers, Muslim organizations, and the wider community in designing more inclusive and value-based climate change mitigation and adaptation strategies. Given Indonesia's strategic position as the largest Muslim country, the findings of this study also have global relevance.

1. Patterns of Involvement of Muslim Organizations in Climate Change Mitigation and Adaptation

The number of Indonesian Muslims who have reached 245,973,915 people or around 87.08% of the total population has the potential to be one of the forces in fighting and controlling climate change (Majeri Mangunjaya & Elizabeth McKay, 2012; Mangunjaya & Praharawati, 2019). This potential includes the ability of mainstream Muslim organizations to reach their widespread communities in 38 provinces through social media (NU online), Friday pulpit, dhikr assemblies, tariqa associations, and ethical teachings through traditional Islamic boarding schools (Afandi, 2023; Niam, 2007). Various environmental protection initiatives and climate solutions from various Islamic organizations and Muslims in general have been started for a long time (Bagir, 2015; Tural & Turan, 2024). However, these good initiatives are not yet seen as one of the main potentials that Indonesia has, and many of these initiatives are not yet known by the wider community (Anabarja & Safril Mubah, 2021; Koehrsen, 2021; Majeri Mangunjaya & Elizabeth McKay, 2012). Among the mainstream Muslim organizations in Indonesia that play an important role in climate change mitigation and adaptation actions are Nahdlatul Ulama, Muhammadiyah, the Indonesian Ulema Council (MUI), and traditional Islamic boarding schools.

The leaders of these Muslim organizations come to their communities through various initiatives, such as bridging collaboration with governments and NGOs, mobilizing and educating the community, and integrating Islamic values and principles with tackling climate change (Afandi, 2023; Patoni, 2023). In addition, with high social capital, religious leaders can increase the attention and participation of the local community, as well as act as a filter and determine what information is considered relevant for their community (Huxley, 2018; Koehrsen, 2021). Among the mainstream Muslim organizations in Indonesia that play an important role in climate change mitigation and adaptation actions are Nahdlatul Ulama, Muhammadiyah, the Indonesian Ulema Council (MUI), and traditional Islamic boarding schools.

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A study conducted by Hafidhoh on 'the approach of two Islamic community organizations between NU and Muhammadiyah in climate change adaptation and mitigation' said that the two organizations used six types of approaches in efforts to adapt and mitigate climate change in Indonesia (Afifah, 2024). The six approaches include religious approaches, educational approaches, science and technology approaches, economic approaches, inter-faith approaches, and women's empowerment approaches. In addition, NU and Muhammadiyah religious organizations also mobilize their roles through fatwa institutions, and educational institutions to matters of community

awareness and empowerment as well as state policy control and advocacy. Generating education for awareness is a pivotal strategy in empowering communities to adopt sustainable practices. This approach fosters a culture of environmental stewardship that extends beyond immediate actions, as individuals become more informed and engaged in sustainability issues. Many researchers indicate that educational institutions play a crucial role in promoting sustainability awareness among students, which can subsequently influence their behaviors and attitudes towards environmental issues. For instance, Alsaati et al., emphasize the necessity for universities and other stakeholders to implement sustainability literacy programs and activities that encourage sustainability behavior both on and off-campus (Alsaati et al., 2020). Similarly, Hasibuan and Judjianto highlight the positive correlation between education and consumer awareness, which ultimately leads to sustainable consumption behaviors (Hasibuan & Judjianto, 2023).

Moreover, the integration of sustainability perspective into educational curricula has been shown to enhance students' competencies in addressing complex sustainability challenges. Wolff and Ehrstrom discuss how interdisciplinary approaches in higher education can cultivate social sustainability and leadership skills among students, thereby preparing them to contribute to sustainable practices in their communities (Wolff & Ehrström, 2020). This educational framework not only raises awareness but also inspires innovative solutions and grassroots movements, as individuals equipped with knowledge and skills are more likely to collaborate across traditional boundaries (Risopoulos-Pichler et al., 2020).

The collective effort stemming from enhanced sustainability education can lead to the development of scalable models that address local challenges while contributing to global sustainability goals. For instance, Miguel et al. argue that universities are strategic agents in the transformation towards sustainability, particularly through the implementation of programs that develop key professional skills for sustainability (Peña Miguel et al., 2020). Additionally, Gani et al. emphasize the importance of partnerships among educational institutions, NGOs, and government agencies in promoting sustainability and conservation practices, which can further amplify local efforts into broader initiatives (A Gani et al., 2019).

Thus, fostering a culture of environmental stewardship through education not only empowers individuals but also ensures a more resilient and equitable future for all. As noted by Tural and Turan, purposeful educational activities can effectively transform awareness into actionable behaviors, thereby supporting the establishment of sustainable societies (Tural & Turan, 2024). By prioritizing education for sustainable development, communities can cultivate a collective consciousness that drives meaningful change in the fight against climate change.

NU and Muhammadiyah have a significant role in climate change adaptation and mitigation efforts. This statement is in line with the views of Hefner and Koehrsen which highlight the importance of community organizations in driving environmental action (Afifah, 2024). Second, this organization not only complements each other in carrying out various environmental programs but also plays an active role in supporting the government in facing the challenges of climate change. In addition, their role reinforces the message that religion has an important contribution to preserving nature (Gosling & Smart, 2013).

The involvement of Muslim organizations in climate change mitigation and adaptation actions shows variations in patterns that depend on the capacity of each organization. NU, Muhammadiyah, and environmental-based *pesantren* institutions have diverse approaches in implementing their programs. NU focuses more on strengthening the capacity of local communities through greening and community-based waste management activities (Alim, 2024; Huda, 2023). On the other hand, Muhammadiyah organizations prioritize environmental education and renewable energy development in rural areas. Environmental-based *pesantren* institutions play an important role in building ecological awareness through a religion-based educational approach (Anabarja & Safril Mubah, 2021; Maslani et al., 2023).

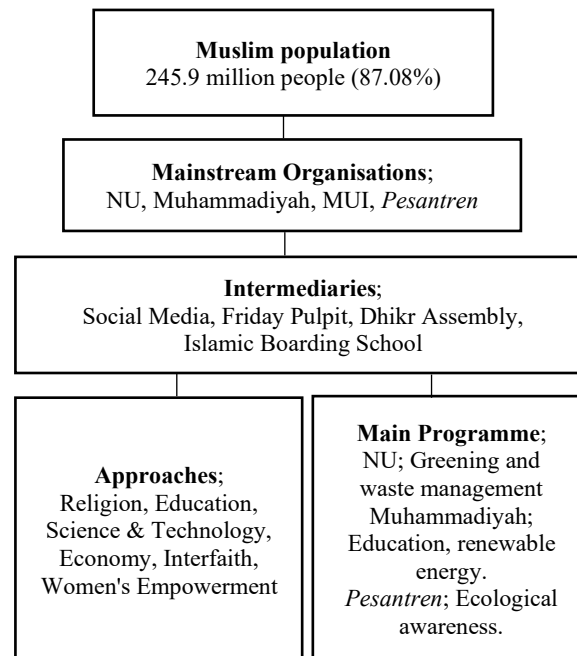
This engagement is not only symbolic but has resulted in real impact at the local level. For example, in East Kalimantan, greening programs initiated by environmental-based *pesantren* have succeeded in increasing vegetation cover on critical land. In South Sulawesi, an environmental education campaign by Muhammadiyah raised public awareness about the importance of using renewable energy.

Thus, the Green Daulat movement reinforces the concept of Islamic eco-theology that places humans as caliphs on earth with the responsibility of preserving nature. As explained by Özdemir (2003), Islamic eco-theology emphasizes the importance of maintaining ecosystem balance as a form of worship. The implementation of these values is clearly seen in programs run by NU, Muhammadiyah, and environmental-based *pesantren*. In addition, this study supports the view that community-based approaches are very effective in dealing with climate change challenges, as stated by Smith et al. (2024).

Strengthening the capacity of Muslim organizations through training related to climate change mitigation and adaptation, as well as developing networks with other stakeholders such as the government and the private sector. In addition, the integration of environmental issues into the religious education curriculum needs to continue to be encouraged to build ecological awareness early on. Another follow-up is to expand the scope of existing programs by adopting more advanced environmentally friendly technologies, such as digital-based waste management systems.

This finding is in line with previous research which shows that religious organizations have a strategic role in community mobilization for social and environmental purposes. A previous study by Rahman (2020), also found that faith-based community involvement can increase the effectiveness of environmental programs at the local level. However, this study provides additional perspective by highlighting the role of Islamic ecotheological values as the main motivation for Muslim organizations in climate change mitigation and adaptation actions (Abadi et al., 2022).

Chart 1. The involvement of the Indonesian Seasonal Organization in Climate Change, own elaboration



Through the chart above, it can be understood that Muslim organizations in climate change show several patterns involving the potential of Muslims reaching 245.9 million people in Indonesia, with the main channels through social media, Friday pulpit, dhikr assembly, and *pesantren*. Large organizations such as NU, Muhammadiyah, MUI, and *pesantren* play an active role in this movement with diverse approaches, ranging from religion, education, science and technology, economics, interfaith, to women's empowerment. The main programs carried out include greening and waste management by NU, renewable energy education by Muhammadiyah, and increasing ecological awareness in *pesantren*. The real impact of these programs is seen in East Kalimantan through greening and in South Sulawesi with renewable energy education. For further strengthening, the recommendations proposed include the integration of environmental issues into the curriculum, the adoption of environmentally friendly technologies, and the expansion of program coverage.

2. Integration of Islamic Values as a Strategy to Respond to Challenges and Opportunities

Questioning the idea reveals that mainstream Muslim organizations such as Nahdlatul Ulama (NU), Muhammadiyah, and several environmental-based *pesantren* have run various models of climate change mitigation and adaptation programs by integrating Islamic values (Brockopp, 2012; Denise Arizabal et al., 2023; Ibadulloh & Mutaqin, 2022). These programs include activities such as greening, community-based waste management, environmental awareness campaigns at mosques, and sharia-based environmental management training (Buchori et al., 2022; Haryati, 2022).

The implementation of Islamic-based environmental programs has shown significant progress, particularly through the efforts organizations such as NU and Muhammadiyah. In Central Java, NU has reported the planting of over 10,000 trees in the past five years (Alim, 2024), emphasizing the role of local communities in reforestation efforts. Such initiatives not only contribute to carbon sequestration but also enhance biodiversity and provide livelihood benefits, aligning with the principles outlined by Sacco et al (Di Sacco et al., 2021). The involvement of local communities is crucial, as they possess indigenous knowledge than can optimize the outcomes of reforestation projects, ensuring that these interventions yield effective long-term benefits for both the environment and the people. Similarly, Muhammadiyah's initiatives in South Sulawesi has successfully established waste banks with the active participation of 200 households. This community-driven approach to waste management reflect the growing recognition of the important of local engagement in environmental sustainability efforts. The integration of Islamic teachings into these programs fosters a sense of responsibility among community members, encouraging

them to actively participate in waste management and environmental conservation (Kasanah et al., 2023). The concept of green *pesantren*, as discussed by Kasanah et al. (2023), further illustrates how *pesantren* can play a pivotal role in promoting environmental sustainability through educational programs and community involvement. In East Kalimantan environmental-based *pesantren* have taken significant strides in forest conservation by maintaining a 50-hectare area managed by students (Setiawan et al., 2022). This initiative not only serves as a practical application of environmental education but also contribute to the preservation of biodiversity and the enhancement of ecosystem services. The agroforestry practices observed in these *pesantren* align with the findings from studies that highlight the benefits of tree diversity and carbon storage in agroforestry systems (Manaye et al., 2021; Wiryonno et al., 2023). By engaging students in hands-on conservation efforts, these institutions are fostering a new generation of environmentally conscious individuals who are equipped to address the challenges of climate change and environmental degradation.

The involvement of scholars and religious leaders in promoting environmental awareness within Muslim communities is very influential, as their teachings often provide a strong moral foundation for ecological stewardship. Islamic teachings emphasize the importance of preserving nature, which is deeply rooted in the Quran and the Hadith (Huxley, 2018; Sadowski, 2023). For instance, the concept of *Khalifa* (stewardship) in Islam underscores humanity's responsibility to care for the earth, aligning with contemporary environmental ethics and practices (Heba Hasan, 2022). This moral framework encourages individuals to adopt sustainable practices and fosters a sense of accountability towards environmental conservation (Bsoul et al., 2022; Hidayat, 2023; Shahida, 2023). Moreover, faith-based programs that actively engage communities can significantly enhance social responsibility regarding environmental issues. Such programs often incorporate local wisdom and Islamic teachings, which resonate with community members and promote collective action towards environmental sustainability (Herdiansyah & Rizki, 2021). For example, ecological da'wah strategies, which integrate Islamic teachings with environmental conservation efforts, have proven effective in mobilizing community participation in places like Ambon City (Hakis et al., 2024). Additionally, educational initiatives that blend religious values with environmental education can cultivate a deeper understanding of ecological issues among students and community members alike, thereby reinforcing the importance of environmental stewardship as a communal responsibility (Karim, 2022). Furthermore, integrating religious values into conservation education has been shown to enhance individual commitment to environmental protection, as religious teachings often carry significant weight in shaping ethical behavior (Maknun et al., 2024). This integration not only fosters a sense of duty towards the environment but also strengthens community bonds through shared values and collective action (Bsoul et al., 2022; Laki, 2023).

The integration of Islamic values in environmental action makes a significant contribution in increasing public awareness and participation (Mufid, 2023). Islamic values such as *khalifah*, *amanah*, and *mizan* (balance) become a strong ethical foundation for the Muslim community in preserving nature (Haris et al., 2024). NU and Muhammadiyah as large organizations with extensive networks, are able to reach various levels of society and provide concrete examples in faith-based environmental actions. Their involvement not only enhances their reputation but also fosters collaboration across various sectors, leading to innovative solutions for pressing social environmental challenges. The intersection of Islamic values and sustainable development is particularly significant in Indonesia, where a large Muslim population can mobilize collective action towards climate resilience and sustainability. The most research indicates that Muslim organizations are increasingly influential in shaping climate change perceptions and mitigation activities. Koehrsen highlights that these organizations engage with diverse actors, including other faith-based groups, to advocate for climate justice on international platforms such as the United Nations Framework Convention on Climate Change (Koehrsen, 2021). This collaborative approach is essential for addressing the multifaceted nature of climate change, which requires a unified response from various sectors of society. Moreover, the integration of Islamic principles into sustainable development practices can enhance the effectiveness of these initiatives. Al-Jayyousi et al. Emphasize that sustainable development from an Islamic perspective promotes moderation and responsible living, which aligns with the goals of the SDGs (Al-Jayyousi et al., 2022).

The main challenge facing these organizations is the limited resources, both financial and human. In addition, complicated bureaucracy in establishing cooperation with the government and private sector is also an obstacle in developing wider environmental programs (Sayer et al., 2021). In this context, their strategic role in realising the concept of Zakat, or almsgiving, is particularly relevant as it can be leveraged to fund sustainable development projects, thus creating a direct link between religious obligation and environmental management (Al-Jayyousi et al., 2022). This financial mechanism can support initiatives aimed at climate adaptation and reliance, particularly in vulnerable communities. Nevertheless, the support of religious leaders and the local community is a major driving factor in the success of this program. On the other hand, opportunities that can be exploited include increasing global awareness of climate change issues and the opening of cross-sectoral collaboration spaces. Support from the international community, both in the form of funding and training, can strengthen the capacity of Muslim organizations in carrying out environmental programs.

The role of Indonesian Muslim organizations is further underscored by their capacity to influence public perceptions and behaviors regarding climate change. For instance, *kiai*, *ulama*, *imam* (religious leaders) in Indonesia are recognized as credible voices in the community, and their advocacy can significantly shift attitudes towards climate

action (Adiputri, 2023). By addressing misconceptions and promoting scientific understanding of climate change, these religious leaders can mobilize their communities to engage in sustainable practices, thereby contributing to national and global climate goals.

Additionally, the democratic attributes of Islamic regimes in Southeast Asia, including Indonesia, facilitate the reinforcement of sustainable development efforts. Susanti et al. Argue that democratic governance can enhance the implementation of SDGs by promoting transparency and accountability in environmental policies (Susanti et al., 2023). This governance framework allows for greater participation of civil society, including Muslim organizations, in decision-making processes related to climate action and sustainable development.

Through the existing challenges, it is necessary to follow up such as strengthening human resources capacity by conducting continuous training for environmental program managers both in *pesantren* and communities. It is also important to develop a curriculum that is in line with the Islamic ecotheology learning module that can be used in madrasahs and *pesantren*. Finally, it is no less important to collaborate cross-sectorally, such as collaboration between Muslim organizations and the government to build and support sustainable environmental programs (Jannah, 2023).

The recommendations generated from this study include the need to strengthen the capacity of Islamic-based environmental program managers, develop Islamic ecotheology education modules, and increase cross-sectoral cooperation. With these measures, the integration of Islamic values in environmental action can be more effective and have a broad impact, not only in Indonesia but also in other Muslim countries. This study confirms that religious values can be a strong driver in facing the challenges of climate change. Through a community-based approach and collaboration, Muslim organizations are able to make a real contribution in creating sustainable welfare for the community.

Thus, Indonesian Muslim organizations are uniquely positioned to drive sustainable development initiatives that align with the SDGs. Their ability to mobilize communities, integrate Islamic values into sustainability practices, and influence public perceptions makes them vital players in the global climate change discourse. By fostering collaboration across sectors and leveraging religious principles, these organizations can contribute significantly to creating equitable and sustainable solutions to the pressing challenges posed by climate change.

Conclusion

This study confirms that Islamic ecotheology has great potential as an ethical and spiritual basis in supporting various environmental conservation efforts. In Islam, humans are positioned as caliphs on earth with the responsibility to preserve nature. This concept provides a strong moral foundation for every Muslim individual to be actively involved in the environmental conservation movement. The involvement of Muslim organizations in Indonesia in environmental issues is not only a form of social responsibility, but also a concrete manifestation of the practice of Islamic teachings that place the environment as an important part of religious life.

Muslim organizations such as Nahdlatul Ulama (NU), Muhammadiyah, the Indonesian Ulema Council (MUI), and *pesantren* have a strategic role in promoting ecotheological values to the community. NU, for example, is active in greening and waste management activities, while Muhammadiyah focuses on renewable energy education and development. On the other hand, *pesantren* play a role in building ecological awareness among students through religion-based education. All these efforts indicate an effective integration between Islamic teachings and the environmental conservation movement.

This study recommends the need for closer collaboration between Muslim organizations and related parties, such as governments, non-governmental organizations, as well as local communities, to strengthen environmental-based programs. This is important so that mitigation and adaptation efforts to climate change can take place sustainably. In addition, public education on the importance of maintaining an environment based on Islamic teachings needs to be intensified to create positive and sustainable behavioral changes.

Thus, the integration of Islamic values in the environmental conservation movement not only provides spiritual-based solutions, but also becomes an effective strategy in dealing with environmental challenges in Indonesia. This effort is expected to strengthen the community's collective awareness of the importance of caring for the earth as a trust from God. This awareness and concrete action based on Islamic ecotheology will make a significant contribution in realizing environmental sustainability in the future.

This study has several limitations. First, the geographical coverage of the research is limited to three regions, namely Central Java, East Kalimantan, and South Sulawesi, so the results may not fully represent national conditions. Second, the limited time of the research for six months caused some aspects to not be explored in depth, such as long-term impact analysis of the program. Third, limited access to organizational financial data also limits the analysis related to the cost-effectiveness of the program run. Therefore, more extensive and in-depth follow-up research is needed to complement these findings.

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