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# Infusing Religious Values for Enhanced Environmental Resilience: A Case Study of Pangalengan, Bandung Regency

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ABSTRACT

The global environmental crisis and ecological degradation at the local level have become serious challenges to the sustainability of human life. In the Pangalengan area of Bandung Regency, pressure on the ecosystem occurs due to deforestation, agricultural land conversion, and declining water quality. In this context, a new approach is needed that combines local values and spiritual dimensions to strengthen environmental resilience. This article aims to explore the role of religion, particularly Islamic values, in fostering ecological awareness and collective community action through a community service model based on a transformative approach and Asset-Based Community Development (ABCD). This study uses a participatory qualitative approach with data collection techniques through participant observation, in-depth interviews, focus group discussions (FGDs), and community reflection. The results of the study indicate that the insertion of religious values—such as the concept of caliph, amar ma'ruf nahi denkar, and prohibition of waste—successfully triggered a transformation in public awareness of environmental issues. Thematic religious studies, mosque greening programs, and youth involvement as environmental cadres have spurred concrete and measurable action. Collaboration between religious leaders, village governments, and religious educational institutions has also resulted in a partnership model based on environmental spirituality. These findings demonstrate that religious values can serve as both an ethical foundation and a practical strategy in community-based environmental policies. The implications of this research underscore the need to integrate spiritual values, public policy, and ecological action to build sustainable environmental resilience at the local level.



## 1. INTRODUCTION

The environmental crisis is one of the most significant challenges to human survival in the 21st century. This issue not only touches the ecological realm but also has broad impacts on the social, economic, and spiritual dimensions of life. The Intergovernmental Panel on Climate Change (2019) report

confirms that climate change triggered by human activities has led to increased global temperatures, melting polar ice caps, and rising sea levels (IPCC, 2019). At the same time, unsustainable practices of deforestation, land exploitation, and the use of fossil fuels are exacerbating the rate of environmental degradation (Brack, 2019). These impacts are not only ecological threats, but also pose a serious threat to human security, particularly in the form of food insecurity, clean water crises, and increasingly frequent natural disasters (Dalby, 2009).

In this global context, Indonesia, a tropical country with rich biodiversity, is one of the region's most vulnerable to climate change. According to data from the Ministry of Environment and Forestry (KLHK), Indonesia is losing more than 1 million hectares of forest per year, largely due to land conversion, illegal logging, and conversion to plantations (Wahyuni & Suranto, 2021). Areas like Pangalengan in Bandung Regency are not immune to these pressures. Once known as a green area with tea plantations and natural water sources, Pangalengan now faces various ecological challenges such as land degradation, deforestation, and seasonal water crises (Marjanto et al., 2013). Illegal land clearing practices, forest encroachment, and economic dependence on monoculture agriculture have accelerated the destruction of local ecosystems.

The impact of environmental damage in Pangalengan is not only visible in the physical-ecological aspects, but also in the social and economic aspects. The landslide in Cibitung Village (2015) and the decrease in water discharge in Situ Aul during the dry season are clear examples of how environmental degradation has become a serious threat to residents' quality of life. From a human security perspective, this condition leads to a multidimensional crisis that threatens food security, public health, and social stability. United Nations Environment Programme (UN Environment, 2019) even emphasized that communities in agrarian areas such as Pangalengan are at high risk of experiencing "ecological poverty" if a sustainable approach is not immediately implemented.

In facing this crisis, scientific approaches and environmental policies certainly play a crucial role. However, various recent studies have shown that a technocratic approach alone is often insufficient to drive sustainable changes in societal behavior. This is where the role of religion becomes highly relevant. Religion functions not only as a belief system but also as a foundation of moral and ethical values that can influence human perspectives and behavior toward nature. Jenkins and Chapple (2011) explain that world religions have great potential in shaping ecological awareness and environmental ethics because their values touch the spiritual and collective dimensions of humanity (Jenkins & Chapple, 2011). In Islam, for example, the concept of the caliph (QS. Al-Baqarah: 30) places humans as caretakers of the earth who are responsible for the sustainability of God's creation (Azra, 2006). Meanwhile, in the Christian tradition, the concept of stewardship is well known, encouraging people to care for God's creation as a form of spiritual devotion.

Several studies in Indonesia have emphasized the role of religion in environmental conservation. Safrilsyah and Fitriani (2014) demonstrated in their study that Islamic values, such as the prohibition on waste and the call to maintain balance, can be instilled through religious education to foster a high level of environmental awareness (Safrilsyah & Fitriani, 2014). Similarly, La Fua (2013) proposed an eco-pesantren model that combines religious curriculum with environmentally friendly practices such as reforestation and waste management (Fua, 2013). Another study by Sururi (2014) also underscored the relevance of Islamic ethics to ecofeminist ethics in promoting harmony between humans and nature, positioning religion as an ethical element in the conservation movement (Sururi, 2014).

Furthermore, Naldi and Abidin (2023) examined how Islamic Religious Education (PAI) can shape students' mindsets and actions toward the environment. They found that integrating environmental values into the PAI curriculum not only enhances religious understanding but also encourages active participation in conservation activities (Naldi et al., 2023). A similar thing was found by Amri (2020) who stated that the involvement of religious values in learning can foster ecological awareness from an early age (Amri, 2020). From a leadership perspective, Alamsyah (2016) emphasized the importance of morals in building an educational organizational culture that supports environmental preservation (Alamsyah, 2016). Meanwhile, Masduki (2015) links Islamic education with scientific progress, and encourages the development of technology that is in harmony with spiritual values and ecological sustainability (Masduki, 2015).

However, there is ample scope to develop a community service approach that strategically integrates religion to address the environmental crisis. The novelty of this article lies in integrating a religious approach into an environmental resilience framework, using a human security perspective and community-based

participatory methods. This research focuses not only on theoretical religious education but also on developing a participatory mechanism involving religious leaders, mosque youth, Islamic boarding schools (pesantren), and local communities in concrete environmental conservation actions in Pangalengan. The proposed model uses an Asset-Based Community Development (ABCD) approach to identify local potential grounded in community spirituality and to transform it into a key force in sustainable environmental management.

Using this approach, this article aims to explore how religious values, particularly Islamic teachings, can be systematically incorporated into efforts to build environmental resilience in the Pangalengan community. This research also aims to understand the extent to which religion can serve as a catalyst for social change in the context of nature conservation, as well as how collaboration among religious communities, local governments, and educational institutions can yield more effective sustainability policies and practices.

Conceptually, this study positions religion as a source of values and a tool for social transformation capable of bridging the gap between normative teachings and ecological action. In the context of human security, religious involvement is not only crucial for building ecological resilience but also for shaping the social and psychological resilience of communities in the face of increasingly complex environmental pressures. Thus, this article not only contributes to the academic discourse on religion and the environment but also offers a model of community service based on spiritual values that can be replicated in other ecologically vulnerable areas in Indonesia.

## 2. METHOD

This research uses a participatory qualitative approach with the ABCD (Asset-Based Community Development) model developed by Kretzmann and McKnight (1993) and popularized by Mathie and Cunningham (2005). This approach positions communities as subjects of change, possessing social, cultural, and spiritual potential and assets that can be optimized to address ecological challenges (Kretzmann & McKnight, 1993). Rather than focusing on deficiencies or problems (a needs-based approach), ABCD emphasizes existing strengths within the community as the foundation for sustainable development (Mathie & Cunningham, 2005). The ABCD framework is highly relevant to this research because the religious values embedded in the Pangalengan Muslim community constitute a strong social asset and moral capital. Transcendent religious teachings provide an ethical foundation capable of encouraging ecological behavioral change, thus combining this participatory approach with a transformative approach. A transformative approach in qualitative research emphasizes emancipatory processes and social change through the active involvement of the subject (Creswell, 2018). In this context, religion is not merely a matter of normative theology, but a practical force that can transform social structures and society's ecological awareness.

The research was conducted in Pangalengan District, Bandung Regency, West Java, a highland area previously known for conservation and horticultural agriculture, but now facing ecological pressures from land conversion and deforestation. The research subjects consisted of: religious leaders (ustadz, mosque administrators, and religious study leaders), mosque youth (as community leaders), community members (farmers, housewives, Islamic boarding school students, and students), village government officials, and environmental activists. Respondents were purposively selected based on their involvement in religious and environmental activities. In addition, the researchers also involved Islamic boarding school communities and local Islamic missionary institutions with socio-ecological programs. To explore complex social meanings, values, and practices, this study employed multi-instrument qualitative techniques, including: participant observation, in-depth interviews, focus group discussions (FGDs), and collective reflection. Triangulation techniques were applied to enhance data validity by comprehensively comparing the results of interviews, observations, and FGDs. Data were analyzed using thematic analysis, modeled after Braun and Clarke (2006), to identify categories of religious values related to ecological action (Braun & Clarke, 2006).

## 3. RESULTS AND DISCUSSION

### Environmental Theology and Ecological Resilience

Environmental theology positions nature as an integral part of God's creation, possessing intrinsic value, not simply an object of human exploitation. In Islamic tradition, humans are elevated to the role of caliphs on earth (QS. Al-Baqarah: 30), who carries the mandate to maintain the balance of nature and not cause damage

(fasad) (Permatasari, 2009). This perspective emphasizes the dimension of ecological responsibility rooted in spiritual values. In the Christian tradition, the concept of stewardship positions humans as stewards of God's creation. According to Smith and Scales (2013), this teaching emphasizes the moral obligation to manage the earth with love and responsibility (J. C. H. Smith & Scales, 2013). This principle is reinforced by Palmer & Finlay (2003) who show that Christian teachings contain strong values of conservation and ecological responsibility (Palmer & Finlay, 2003).

Meanwhile, Hinduism, through the principle of ahimsa (non-violence), teaches harmony between humans and all living creatures. Violence against nature is seen as a violation of spiritual ethics. Upreti (2023) shows that in many Hindu communities in India, the principle of ahimsa is embodied through water conservation and sustainable agricultural practices. Buddhism also emphasizes the concept of interdependence (pratityasamutpada), where all creatures and elements of nature are interdependent, so that damage to one aspect will impact the entire ecological system (Upreti, 2023). Environmental theology is not just a theoretical framework, but also a spiritual foundation for social transformation toward sustainability. Jenkins (2013) states that religion provides a powerful moral narrative for addressing the global ecological crisis. Environmental theology can encourage a paradigm shift from anthropocentrism to faith-based ecocentrism (Jenkins, 2013).

Environmental ethics is a branch of moral philosophy that explores the relationship between humans and nature from the perspective of values and responsibilities. From this perspective, the environment is viewed not only as a resource for human use but also as an entity with intrinsic value (Hourdequin, 2024). The two main approaches in this discourse are anthropocentrism and ecocentrism. The anthropocentric approach views the value of the environment as determined by its benefits to humans. In contrast, the ecocentric approach recognizes the intrinsic value of all components of the ecosystem, including non-human living things and non-living elements (Bourban, 2022). In the context of the global crisis, this debate is relevant in framing solutions to the challenges of climate change, biodiversity loss, and ecological vulnerability. An ecocentric environmental ethic can broaden policy horizons by prioritizing the rights of nature and intergenerational sustainability.

Furthermore, environmental ethics is closely related to the concept of human security, namely a human security paradigm that encompasses ecological, food, health, and social dimensions. Buhaug and von Uexkull (2021) emphasize that environmental degradation contributes to famine, forced migration, and resource conflicts (Buhaug & Von Uexkull, 2021). Roy (2024) adds that this approach is particularly important for the context of the Global South, where poor communities are most vulnerable to the impacts of climate disasters (Roy et al., 2024). In a local context like Pangalengan, forest and land degradation threaten food security, water availability, and community economic stability. A human security perspective offers a holistic framework that places humans at the center of protection while encouraging participatory adaptation strategies. This approach involves empowering communities to take concrete actions to protect ecosystems, such as rehabilitating critical land, managing waste, and utilizing renewable energy. The integration of religious values into these activities can provide additional motivation for communities to actively participate (Zhanbayev et al., 2023). Environmental ethics offers a comprehensive framework for understanding and addressing environmental problems. By combining moral principles, religious values, and scientific knowledge, environmental ethics helps build collective awareness of the importance of preserving the earth as our shared home (Peppoloni & Di Capua, 2022). In the context of sustainable development, the application of environmental ethics becomes increasingly relevant to ensure that we can meet current needs without compromising the future.

## Religion and Ecological Awareness

Religion has normative and social power capable of shaping collective consciousness and encouraging behavioral transformation. Sururi (2014), in her study of Islamic ethics and ecofeminism, shows that Islamic teachings reject excessive exploitation of nature and promote the principle of ecological justice. Values such as israf (waste), fasad (destruction), and taharah (cleanliness) have high ecological relevance (Sururi, 2014). La Fua (2013) Developing the concept of eco-pesantren as a model of religious education based on environmental conservation. In this model, pesantren integrate greening practices, waste management, and organic farming into the religious curriculum. This program demonstrates how ecological awareness can grow from a spiritual and community base (La Fua, 2013). Recent studies by Alfiyanto et al. (2024) emphasized the importance of mosque-based programs and environmental outreach in changing community behavior. For

example, mosque greening activities or river cleanup initiatives not only have an ecological impact but also strengthen social solidarity (Alfiyanto et al., 2024). Mohamed (2012) shows that religious communities in various countries have adopted environmental approaches in their sermons, rituals, and internal policies of religious organizations (Mohamed, 2012). Thus, religion is not merely a passive source of ethics but also a concrete mobilizing force in conservation. In an effort to build environmental resilience, environmental theology also encourages active community participation in nature conservation. Religion's role as an agent of social change can be seen in its ability to mobilize communities in activities that support environmental sustainability (Maton, 2008). Study from Mokhtar et al. (2015) demonstrates that faith-based participation can create stronger socio-ecological change than purely secular approaches. One of the main strengths of environmental theology is its ability to integrate spiritual values with everyday life practices (Mokhtar et al., 2015).

### Religious Education and Local Wisdom

Religious education plays a strategic role in shaping the ecological understanding and behavior of the younger generation. When spiritual values about the environment are integrated into formal and non-formal curricula, a faith-based ecological awareness is formed. In this context, religious education not only transmits doctrine but also shapes character and concrete actions for conservation. Sumbulah (2022) In his research at Islamic boarding schools, he showed that the integration of environmental teachings in interpretation and fiqh lessons was able to increase the ecological empathy of students (Sumbulah et al., 2022). Yasir et al. (2022) emphasized that the synergy between religious knowledge and environmental science is crucial in shaping sustainability insights. Faith-based education can reach the roots of behavior, not just cognitive aspects (Yasir et al., 2022). On the other hand, local wisdom developed in agrarian communities like Pangalengan embodies time-tested principles of sustainability. For example, the nyabutan (crop rotation) system and the prohibition on harvesting forest products outside the harvest season are examples of culturally based ecological regulations. Mungmachon (2012) shows that local wisdom like this is in line with the principles of sustainability and can be strengthened by religious teachings (Mungmachon, 2012).

Religion and local wisdom should not be viewed as separate entities. Instead, they can synergize to create ecological awareness deeply rooted in community identity. Kholis & Mufidah (2020) exemplify the collaboration between churches and indigenous communities in forest conservation in Kalimantan. With this approach, environmental preservation is not solely the responsibility of the government or NGOs, but becomes part of the community's daily religious and cultural expression (Kholis & Mufidah, 2020). This concept of local wisdom and religion is also very relevant in the modern context, where environmental challenges are increasingly pressing (Effendi et al., 2020). By combining sustainable local knowledge with deep religious values, we can create more effective and integrated solutions to environmental problems (Pranata et al., 2021). Therefore, it is important to recognize the role of religion in supporting sustainable local wisdom practices, as well as encouraging communities to maintain local traditions that are not only useful for preserving nature, but also for strengthening identity and togetherness within the community (Mungmachon, 2012).

### Identification of Environmental Problems in Pangalengan

Pangalengan is a highland area in Bandung Regency with extraordinary ecological richness and agricultural potential. Its strategic location, coupled with mountainous topography, makes it suitable for horticultural cultivation, dairy farming, and ecotourism development. However, over the past two decades, uncontrolled economic growth and weak environmental governance have caused serious ecological pressures in the region. Based on field observations and interviews, three prominent and interrelated environmental issues are identified in this area: first, deforestation, second, agricultural land conversion, and third, the seasonal clean water crisis. The first problem is deforestation, the most fundamental issue in Pangalengan. Land clearing for commercial vegetable farming, such as potatoes, cabbage, and carrots, is often carried out without regard for soil and water conservation principles. Furthermore, the practice of encroaching on protected forests for coffee plantation expansion also exacerbates the destruction of vegetation cover. This deforestation has a direct impact on biodiversity loss, increased landslide frequency, and reduced soil absorption capacity for rainwater.

According to Austin (2019), Deforestation in Indonesia is generally driven by agricultural expansion, land conversion, and weak law enforcement in protected areas. In the context of West Java, a similar phenomenon occurs due to increasing pressure on agricultural land and mountain forests to meet the needs of horticultural and tourism markets. Pangalengan, as part of the southern Bandung highlands, is

experiencing forest cover degradation due to land clearing for highland vegetable gardens and tourist settlements (Austin et al., 2019). In their study focusing on national deforestation patterns, Austin (2019) showed that regions such as Java, Sumatra, and Kalimantan experienced significant loss of primary and secondary forest cover between 2001 and 2016, with large contributions from small-scale agriculture and local industries. Although specific figures for Bandung Regency were not mentioned in the study, the spatial approach and land cover maps used illustrate that the highland region with rapid economic growth is one of the centers of vegetation cover loss (Austin et al., 2019).

This condition is reinforced by Miettinen (2011), who revealed that in the period 2000 to 2010, mountainous areas in Java experienced large-scale conversion of forests into cultivated and residential areas, making local ecosystems very vulnerable to erosion, loss of biodiversity, and seasonal drought (Miettinen et al., 2011). Margono's research (2014) also shows that West Java in general experienced significant forest loss after 2000, especially in mountainous and conservation areas, due to pressure from local economic needs (Margono et al., 2014). Apart from ecological aspects, deforestation in this area is also related to land ownership conflicts and weak law enforcement against violations of protected areas (Ribot et al., 2008). The second pressing issue is the conversion of agricultural land into residential areas and tourist villas. As land values increase, many farmers are selling their rice fields and fields to developers to convert them into rental homes, villas, or private gardens. This conversion is occurring on a massive scale and is not accompanied by strict zoning policies and oversight from village and district authorities.

According to research by Tongato & Nuryantono (2016) from the IPB repository, West Java Province experienced significant conversion of rice fields between 2011 and 2014. This panel data study found that factors such as the development of minimarkets, hotels/lodgings, settlements, and local economic growth significantly drove the conversion rate of agricultural land to non-agricultural use (Tongato & Nuryantono, 2016). Data from the West Java Province Community and Village Empowerment Service (2024) shows an increasing number of villages experiencing changes in land use status from agricultural to non-agricultural since 2019. This indicates a continuing trend that requires strategic attention at both the local and provincial levels (Dinas Pemberdayaan Masyarakat dan Desa Provinsi Jawa Barat, 2024).

The ecological impacts of agricultural land conversion are also very serious. This can lead to decreased land productivity, which impacts local food security, habitat fragmentation, and hydrological disruption due to the loss of vegetation and soil structure. The loss of buffer vegetation increases surface water flow, exacerbates the potential for flooding during the rainy season, and accelerates the degradation of remaining agricultural land. Agricultural land conversion also has significant socio-cultural impacts. According to Sitorus (2011), this conversion not only changes the physical landscape but also disrupts the village social system, altering settlement patterns, shifting the economic structure of farming families, and reducing the cultural values inherent in traditional agricultural practices. Land, previously viewed as part of ancestral heritage and the center of agrarian life, has now become a mere market commodity, no longer managed collectively and sustainably (Sitorus et al., 2011).

Overall, agricultural land conversion in Pangalengan is not only a spatial and ecological issue, but also a multidimensional crisis involving food systems, local culture, and spatial justice. Therefore, a cross-sectoral approach involving village governments, local communities, and religious institutions is needed to formulate strategies for sustainable land protection in agriculture. An approach grounded in religious values and local wisdom can be an important alternative for fostering ecological awareness while strengthening ethical commitment to preserving living space.

The third problem is the clean water crisis. The clean water crisis is also an acute issue in several villages in Pangalengan. Communities' reliance on natural springs and shallow wells has become unstable due to climate change and the destruction of water catchment areas. Water discharge tends to decrease drastically during the dry season, while water quality also declines due to pollution from household and agricultural waste.

According to a report by Jabar Ekspres (2023), the water level in Situ Cileunca has dropped sharply, directly affecting the clean water supply for surrounding residents. Decreased rainfall, rising temperatures, and damage to supporting vegetation in the catchment area are the primary causes of the lake's receding watershed (Agustiyanto, 2023). A similar sentiment was expressed by the Sinar Pagi Juara newspaper (2023), which noted that Situ Cileunca is becoming shallower due to the reduction of natural vegetation cover

around the upstream area and the increase in uncontrolled land clearing. This phenomenon reinforces the direct link between deforestation and the water crisis in mountainous areas (Nurjaman, 2023).

Several academics from the Bandung Institute of Technology (ITB) have also highlighted this crisis. In a report by Tirta Raharja (2018), a geology expert from ITB explained that degradation of water catchment areas is a major factor causing drought in southern Bandung, including Pangalengan (Humas Perumda Air Minum Tirta Raharja, 2018). This condition is in line with the findings of UNEP (2019) in Global Environment Outlook 6, which states that damage to tropical forest areas will cause disruption to the local hydrological cycle, shorten the water retention period, and increase vulnerability to seasonal drought (UN Environment, 2019). The World Resources Institute (WRI, 2020) report also places Indonesia in the medium to high category for the risk of future water scarcity, especially in densely populated and economically active highland areas such as South Bandung (Aqueduct Water Risk Atlas, 2020).

To respond to this situation, the ITB Geology team built a Village Drinking Water Treatment Plant (PAMDes) in the Pangalengan area, as a form of community-based solution to the clean water problem (Permana, 2020). Such interventions are crucial for strengthening environmental resilience and serving as a form of adaptation to the impacts of climate change. Furthermore, socio-religious approaches and ecological education are needed to collectively raise community awareness of protecting water catchment areas through reforestation and sustainable land management.

Environmental issues in Pangalengan are not isolated phenomena, but rather part of a systemic ecological crisis caused by the interaction of economic growth, population pressure, weak natural resource governance, and the degradation of local conservation values. Addressing these challenges requires a holistic approach involving all actors, including religious institutions, in awareness-raising, policy advocacy, and collective action based on local spiritual and cultural values.

### The Potential of Religious Values as a Source of Ecological Resilience

In the Pangalengan Muslim community, religious values such as khalifa (trust), amar ma'ruf nahi munkar (enjoining good and forbidding evil), and taharah (enjoining good and forbidding evil) have been intensively integrated into Friday sermons and regular religious studies. Themes such as "maintaining Allah's trust on earth" have become a primary focus, encouraging congregants to plant trees around the mosque, reduce plastic use, and conserve water sources as part of their worship. These practices align with the eco-mosque initiative initiated by the Indonesian Ulema Council (MUI) and the Indonesian Mosque Council (DKM) since 2017. This program prioritizes the principles of water management, energy efficiency, and waste reduction in mosques, as evidenced by research by Hidayat (2023), which states that the implementation of water-saving faucets, LED lights, and environmental education are transformative initial steps in building ecological awareness among congregants (Hidayat et al., 2023).

Furthermore, religious leaders in Pangalengan act as strategic agents of change. They not only convey religious values in sermons but also lead concrete actions such as mosque greening programs, waste management, and environmental education. This aligns with the concept of an "ethical motor" in environmental theology, where religion is not merely a moral doctrine but also a catalyst for socio-ecological change. This expansion is also supported by concrete examples of practices such as the use of ablution water containers, energy-efficient LEDs, and water recycling in eco-mosques, which have been proven to reduce water consumption by up to 36% and energy use by up to 23% (Hidayat et al., 2023). This initiative demonstrates how religious values can be translated into sustainable structural action in society.

The role of religious leaders in Pangalengan is not only symbolic but also transformative. As figures with high credibility, they are able to influence social behavior through a contextual and systematic approach to preaching. Smith (2014) shows that preachers and religious teachers in Indonesia play a crucial role in shaping public attitudes toward ecological issues. When a religious figure speaks about environmental conservation, the congregation tends to respond with concrete actions (J. D. Smith et al., 2024). In Pangalengan, a concrete example is the formation of a mosque management team that prioritizes greening programs, waste management, and environmentally friendly campaigns. For example, the Al-Huda Mosque initiated the "Plant Trees for Charity" movement, encouraging congregants to plant trees as an act of charity and worship, as well as to help protect local water sources. This initiative demonstrates that religious leaders act as "cultural brokers," translating religious values into collective action.

Furthermore, research by Abdul, Manzoor, & Abbasi (2024) confirmed that green mosques in Indonesia are able to involve more than 70% of their congregations in environmental programs such as

tree planting, rainwater harvesting, and environmental education. The study, based on survey data from several mosques, highlighted that this success is inseparable from the role of religious leaders who provide sharia legitimacy and collective motivation (Abdul et al., 2024). In addition, mosques such as Az Zikra in Sentul and Al Furqan in Aceh, Aini (2024) shows how green architectural design and community participation are built on the initiative of mosque leaders, making houses of worship a center for ecological advocacy (Aini et al., 2024). The combination of moral preaching, direct example, and inclusive community structures proves that religious figures can be ethical drivers in religion-based ecological movements, as explained (Jenkins, 2013).

In Islamic religious tradition, mosques are no longer simply places of worship, but have evolved into centers of ecological education and action. The concept of environmental theology, introduced by Jenkins (2013) and Palmer (2003), as "religion as an ethical motor," has found concrete application through programs such as Tree Planting as Worship and the "Green Mosque" festival (Jenkins, 2013) (Palmer & Finlay, 2003). On the ground, the mosque implements conservation principles such as reforestation, waste management, and energy and water efficiency. This model resembles practices at several green mosques in Malaysia, such as the Selayang Baru Mosque and mosques in Kuala Lumpur, which incorporate LED lighting, rainwater harvesting systems, hydroponic gardens, and waste recycling as part of community worship (Yamin, 2021).

Furthermore, Haris, Widodo, and Tantri's (2024) study of ecomaqāṣid emphasizes the philosophical basis for religiously based ecological action. They interpret the values of hifz al-nafs (protecting the soul), hifz al-māl (protecting the mind), and hifz al-'aql (protecting the intellect) as a normative framework for maintaining sustainability and combating climate change (Haris et al., 2024). This approach also aligns with the goal of eco-mosques, as initiated by the Indonesian Ulema Council (MUI) in 2017: to provide a theological understanding that preserving water, energy, and land is not only an environmentally friendly practice, but also a religious mandate. For example, the Azzikra Mosque in Sentul and the Istiqlal Mosque have become pioneers of eco-mosques in Indonesia, using solar panels and water recycling systems to demonstrate that ecological sustainability can be implemented with religious principles and with the congregation as the primary driving force (Teller, 2020).

### Transformation of Community Environmental Awareness and Action

In thematic environmental studies held by religious leaders in Pangalengan, religious narratives were designed to be the primary trigger for significant changes in community behavior. Concepts such as "planting trees as an act of worship" and the principle of prohibiting waste (isrāf) became the main framework in sermons and lectures, so that the congregation not only understood the spiritual aspects but also felt called to real action. This moral-spiritual approach aligns with the thinking of Gottlieb (2007), who emphasized that reformulating religious teachings through an ecological lens, where protecting the environment is a concrete manifestation of carrying out God's mandate, can mobilize faith-based social movements. The implementation of this concept is seen in various forms of concrete actions: planting trees in mosque areas, using water sparingly for ablutions, and campaigns to reduce the use of plastic and single-use waste. This success demonstrates that when religious teachings are contextualized with ecological issues, the congregation is morally and spiritually called to preserve nature as part of their responsibility to the Creator (Gottlieb, 2007).

Furthermore, this approach is supported by Islamic knowledge regarding tawhid as the principle of unity and balance between humans and the environment, a concept that has been academically explored by Foltz (2003), who asserts that classical and modern Islamic thought provides an ethical framework for environmental stewardship (Foltz et al., 2003). This is reflected in concrete actions in Pangalengan, where thematic religious studies are complemented by practical field sessions, such as tree planting on critical slopes or river cleanups. This affirmative approach makes the congregation feel part of a community that has already made real changes, fostering a sense of ecological ownership and a shared spiritual experience.

In Pangalengan, mosque youth are spearheading a faith-based ecological transformation, combining direct action on the ground with digital communication strategies. Through thematic environmental religious studies, they have formed environmental cadre groups that regularly plant trees on critical slopes, clean rivers and mosques, and conduct door-to-door waste reduction campaigns. One recurring initiative is "Green Friday," a combined religious study and field action that has successfully attracted hundreds of young volunteers and congregants.

These young people actively utilize digital platforms like Instagram and WhatsApp to disseminate ecological preaching materials, activity posters, and conservation tips that are easy to implement at home. This approach aligns with the findings of Meidina & Rahmawati (2023), who revealed that digital activism by Muslim groups, including the younger generation, relies on hashtag campaigns and community networks to mobilize concrete action (Meidina & Rahmawati, 2023). In addition, a report by Nilan & Wibawanto (2020) via The Conversation emphasized that the spirit of Muslim youth as caliphs is triggered by their religious awareness to become catalysts for high socio-ecological participation; they feel a spiritual urge to protect nature, which is then manifested through actions such as cleaning rivers and greening cities (Nilan & Wibawanto, 2020).

This digital implementation and ecological preaching have yielded tangible results: several villages around Pangalengan reported a 30% reduction in plastic use after a series of thematic religious studies and intensive digital campaigns over a quarter. This indicates that religious values packaged in the form of actions and supported by digital campaigns can create significant behavioral changes, a concrete example of what is called connective action or collective action facilitated by digital technology, as also observed in the context of the air pollution campaign in Jakarta by (Ahmad & Setyawati, 2024).

### Collaboration between Government, Community, and Religious Institutions

Cross-sector coordination is a crucial foundation for the success of faith-based environmental programs in Pangalengan. One flagship initiative, the Pangalengan Green Mosque Forum, brings together religious leaders, village officials, the Environmental Agency, and mosque youth cadres. This forum designed a Village Medium-Term Development Plan (RPJMDes) that included actions such as peri-urban zone greening, plastic waste reduction campaigns, and integrated rainwater management. This approach closely resembles the faith-based environmental governance described by Palmer (2003), in which collective development structures derive moral legitimacy from religious narratives and strong social support (Palmer & Finlay, 2003).

Institutional support strengthens this framework. The Bandung Regency Environmental Agency provides SDG-based training, soil conservation techniques, and tree seedlings for mosque reforestation. Meanwhile, Islamic boarding schools (pesantren) and madrasahs (Islamic schools) in Pangalengan integrate environmental education into their curricula, starting from an early age. A concrete example of this kind of collaboration can be found in a forest conservation project in West Sumatra, where Islamic boarding schools collaborate with the government and research institutions to manage community forest areas based on classical Islamic principles such as hima and himas.

This collaborative approach creates a community-based conservation model whose legitimacy is supported by local religious and customary norms. One study, "Practise what you preach: a faith-based approach to conservation in Indonesia" (2013), showed that when religious values, such as the obligation to safeguard natural resources, are linked to local ecosystem management strategies, the result is increased ecological understanding and active community involvement in monitoring and protecting environmental resources such as rivers and green areas (Mckay et al., 2013). This collaborative approach demonstrates that when religion, government, community and educational institutions work together framed within a faith narrative and supported by environmental program policies, it can have real long-term impact and sustainability.

### Challenges and Solutions

Although faith-based environmental initiatives in Pangalengan have shown significant progress, there are several fundamental obstacles that need to be addressed to ensure their sustainability, including the following;

1. Ecological literacy is limited among religious leaders and religious teachers; many preachers and religious teachers in Pangalengan still convey environmental messages based on normative spiritual literacy without scientific data support. Farida (2017) emphasized the need to improve scientific and environmental literacy through project-based learning designs that integrate Islamic values in an ecological context, as this has been shown to increase ecological understanding and active engagement of participants in religious study groups (Farida et al., 2017).
2. Dependence on external funding: initiatives like the "Green Mosque" forum rely heavily on external financial aid donations for greening logistics, cleaning supplies, and educational materials. This reveals the program's limited sustainability; whenever funds stagnate, activities cease. This funding model needs

to shift to internal models such as environmental zakat (alms) and ecological waqf (green waqf), as analyzed in Sadali's (2024) study on Islamic green finance (Sadali, 2023).

3. Cultural resistance and the paradox of modernity: despite environmental messages delivered by religious figures, some people still view ecological issues as a technocratic domain. This is consistent with Nilan & Wibawanto's (2020) observation that some people separate spirituality for the afterlife from worldly improvement, and do not view the environment as part of a religious mandate (Nilan & Wibawanto, 2020). In fact, the eco-maqaṣid paradigm explained by Haris (2024) explicitly combines the aspects of hifz al-aql, hifz al-nafs, and hifz al-amal as a form of faith and a form of real worship to maintain the ecological system (Haris et al., 2024).
4. Limited policies and structural support. Although the Pangalengan Village Medium-Term Development Plan (RPJMDes) has included the issue of green mosques, there has been no alignment at the district or provincial level that systematically incorporates the religious dimension into environmental strategies. The case of peat conservation in West Sumatra confirms that involving religious leaders through a moral approach has yielded significant results (concentrated peat ecosystems), but this success is limited because it is not supported by provincial regulations or adequate government resources (Praharawati et al., 2021).

The challenges that occur in ecological problems in Pangalengan are not the end, these can still be fixed appropriately and quickly, some solutions that can be done are described in the table below:

Table 1. Challenges and Solutions to Pangalengan's ecological problems.

| No. | Challenge | Description | Strategic Solutions |
|---|---|---|---|
| 1 | Limited Ecological Literacy | The narrative of preaching is still normative moral in nature; there is minimal understanding of environmental science. | Project-based ecological literacy training for religious teachers and religious teachers |
| 2 | Funding Depends on Donations | Green mosque and conservation programs still rely on external assistance | Development of a green zakat model and*green waqf*for self-funding |
| 3 | Cultural Resistance and the Afterlife-Worldly Dichotomy | Some residents do not see the environment as part of religious teachings. | Concept integration*eco-maqāṣid* and contextual interpretation in the sermon |
| 4 | Weak Structural Support | There are no district/provincial regulations that incorporate religious values into environmental policies. | Advocacy for inclusive policies through the RPJMD based on environmental spirituality |

The integration of religious values into ecological resilience development in Pangalengan has demonstrated a dual effect: fostering social resilience, triggering ecological behavioral changes, and enabling cross-sector partnerships. However, the sustainability of this initiative requires capacity building, sustainable funding, and strengthening of structural religious-ecological policies.

## 4. CONCLUSION

This research confirms that religious values have strong potential in building community ecological awareness and resilience. In Pangalengan, Islamic teachings such as the caliphate, amar ma'ruf nahi munkar, and anti-israf have been internalized through thematic religious studies, sermons, and concrete actions such as tree planting and waste management by the mosque community. Religious leaders and mosque youth play a crucial role as agents of change through a contextual, ecological da'wah approach. However, several key challenges continue to hamper the movement's effectiveness. Ecological literacy among religious leaders remains limited, program funding is heavily dependent on external aid, some communities still view environmental issues as outside religious teachings, and policy support is not evenly distributed across districts or provinces.

To address these challenges, several strategic recommendations are needed: the integration of religious values into village policies through environmentally based RPJMDes and eco-spiritual Village Regulations. Also, religious-based environmental education in Islamic boarding schools and madrasas, including training for

teachers and religious teachers. Finally, strengthening multi-sector collaboration, involving government agencies, religious leaders, and communities through cross-sector forums such as the Green Mosque Coalition. The Pangalengan model demonstrates that religion is not only a source of morality but also a foundation for collective action for environmental sustainability. With adequate policy support and ecological literacy, such initiatives can be replicated in other regions as part of a locally-driven sustainable development strategy.

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