

Ecological Harmony in the Perspective of the Qur'an: Ecological Piety as a Solution to the Disaster of Deforestation

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Abstract

Deforestation in Indonesia has reached a critical stage and caused a series of ecological disasters, including flash floods on the island of Sumatra that claimed many lives. This study aims to analyse the concept of ecological harmony from the perspective of the Qur'an and formulate principles of ecological piety as a mitigative solution to the deforestation crisis. The method used is qualitative with a descriptive-analytical approach through library research, reinforced by socio-ecological analysis to connect the interpretation of verses with the reality of environmental damage. Primary data was obtained from a direct study of Tafsir al-Azhar by Hamka and Tafsir al-Misbah by Quraish Shihab, while secondary data was obtained from scientific literature related to ecological crises, deforestation, and ecological verses. The results of the study show that the Qur'an, through QS. Ar-Rum: 41, directly links ecological damage to human actions, while QS. Ar-Rahman: 7-9 emphasises the principle of mizan (balance) as a fundamental structure of nature that must be preserved by humans as caliphs. The interpretation of the scholars describes that hypocrisy does not only mean moral corruption, but also includes tangible ecological damage such as pollution, forest degradation, and climate change. Based on these findings, the study formulated six principles of ecological piety: respect for nature, moral responsibility, cosmic solidarity, ecological compassion, ecological justice, and ecological restoration as an ethical framework relevant to responding to the environmental crisis.

Keywords: Ecological Piety, Deforestation, Ecological Harmonisation

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INTRODUCTION

Indonesian forests are recognised as the lungs of the world, absorbing carbon dioxide and converting it into oxygen that benefits both Indonesians and the global community. This demonstrates that forests are a vital resource in every aspect of human life, including economic, social, cultural and environmental aspects (Widodo, Prasetyo; Sidik, 2018).

Despite their enormous benefits, Indonesia's rich forests have become a source of abuse by certain individuals, giving rise to what is known as an ecological crisis. This ecological crisis, which manifests itself in various forms of environmental degradation, particularly deforestation, has reached an alarming stage in recent decades (Hakim, 2025).

Forest Watch Indonesia (FWI) analysis recorded a loss of 4.50 million hectares of natural forest cover during the period 2009-2013. Furthermore, land cover data for 2020. This is reinforced by the latest data presented by Global Forest Watch (GFW). From 2002 to 2024, Indonesia lost 11 million hectares of primary wet forest, accounting for 34% of the total forest cover loss in the country during the same period. The total area of wet primary forest in Indonesia decreased by 11% during this period (Watch, 2025). This shows that Indonesia is facing a major dilemma regarding forest conservation, with deforestation occurring in several regions of the country.

A number of factors drive deforestation in Indonesia, including forest fires,

unauthorised logging, timber industry operations, and the conversion of forests into agricultural land (especially palm oil plantations). The high rate of forest destruction ultimately has a negative impact on environmental harmony and can cause various natural

disasters, including drought, a decline in oxygen (O₂) quality, landslides, flooding, disruption of the water cycle, and increased greenhouse gas emissions that accelerate global warming (Zailani, 2018).

One of the impacts of the current deforestation is flash floods and landslides that have hit the island of Sumatra, affecting three provinces, namely Aceh, West Sumatra and North Sumatra. According to Abdul Muhari, head of the BNPB Disaster Data, Information and Communication Centre, the number of fatalities in flash floods and landslides in the three provinces of Sumatra, namely Aceh, North Sumatra (Sumut) and West Sumatra (Sumbar), as of Thursday, 4 December 2025, had risen to 836 people and is expected to continue to increase during the search period at the location (CNN, 2025).

The disaster that occurred on the island of Sumatra is a clear example of human negligence in protecting nature, which has led to this deforestation crisis. According to Raja Juli, Minister of Forestry of the Republic of Indonesia (RI), the massive floods that hit Sumatra were not only caused by extreme weather, but also by ecosystem damage (deforestation) in strategic environmental areas. According to him, tropical cyclone Senyar exacerbated the condition of the already damaged water catchment areas and river basins (Tempo, 2025).

The deforestation crisis currently facing Indonesia is a clear manifestation of the imbalance in the relationship between humans and nature, as indicated in the Qur'an. The conversion of forests into monoculture agricultural land, illegal logging, and the expansion of settlements have contributed significantly to the loss of global forest cover. From an Islamic perspective, the modern ecological crisis is rooted in a spiritual crisis, namely the loss of modern humans' understanding of the sacred meaning of nature. Islam views nature as having intrinsic and extrinsic value, which must be respected and preserved, not merely as a resource that can be exploited without limits (Zailani, 2018).

With regard to the problems occurring in nature today, Indonesian society needs to introduce a new principle called ecological piety. Ecological piety is an awareness of the environment that refrains from causing damage, pollution and poisoning, and solidarity with future generations regarding the use of natural resources (J. La, 2014). Based on this explanation, ecological piety means protecting, improving, managing and utilising the environment as best as possible for the sustainability of human life and the surrounding environment based on the guidance described in the Qur'an.

Therefore, this study seeks to explore what is referred to as ecological harmony in the perspective of the Qur'an and the application of ecological piety principles as a solution to mitigate deforestation in Indonesia with an integrative approach that combines thematic interpretation of ecological verses with ecological piety principles. This study aims to develop a conceptual framework that can bridge the gap between Islamic religious values and contemporary environmental management practices. Thus, this study enriches the study of Islamic ecotheology while providing a normative basis for the development of sustainable natural resources in accordance with the Qur'an.

RESEARCH METHODS

This study utilises a qualitative method with a descriptive-analytical approach, utilising library research as its primary strategy (Muhtadin et al., 2024). The focus of the study is directed towards exploring ecological harmony in the Qur'an and the application of ecological piety principles as a response to the issue of deforestation. In addition, this study also adopts a socio-ecological framework that connects the interpretation of Qur'anic verses with contemporary socio-ecological realities, particularly issues of environmental degradation such as deforestation, its impacts, and human responsibility towards the earth.

Primary data sources were obtained through direct examination of Hamka's Tafsir al-Azhar and Quraish Shihab's Tafsir al-Misbah. Secondary data was collected through literature studies covering various supporting literature, such as other tafsir books, scientific books, journal articles, and relevant research documents. Using content analysis combined with a socio-ecological perspective, this study seeks to produce a more in-depth and comprehensive study of the concept of ecological harmony in the Qur'an and the application of the principle of ecological piety as a response to the issue of deforestation.

RESULTS AND DISCUSSION

Deforestation is one of the most pressing environmental issues facing the world today. This term refers to the permanent loss of forest cover due to human activities or natural processes, which then changes the ecological function of the area (Wahyuni & Suranto, 2021). This phenomenon does not only describe the felling of trees, but also includes the degradation of forest quality, which causes a decline in the ecosystem's ability to maintain its balance. Various factors trigger deforestation, such as agricultural and plantation expansion, excessive timber exploitation, infrastructure development, and uncontrolled forest burning practices. Researchers will elaborate further in the initial discussion of this article.

Deforestation in Reality

Deforestation is a process of forest loss or clearing carried out deliberately by humans on a large scale. Activities that cause deforestation include massive tree felling, conversion of forests into agricultural and residential areas, and various heavy activities in the industrial and mining sectors. Deforestation is not a blessing, but rather the reason for the destruction of habitats for various types of flora and fauna, serious disruption to the water cycle, declining air quality, and threats to the global climate balance (Febryanti, Wa Ode Ika, Sri Adiningsi, 2023).

Deforestation is a complex phenomenon that is generally triggered by a combination of human activities and natural disturbances. In Indonesia, deforestation is largely caused by forest fires, which occur due to both natural factors and human actions, particularly illegal land clearing, which causes rapid and widespread forest destruction. In addition, the clearing of land for plantations—especially oil palm—is a major driver of forest cover loss as global demand for palm oil increases. The practice of logging, both illegal and unsustainable legal logging for industries such as pulp and paper, also accelerates the rate of deforestation. Other contributing factors include small-scale agriculture and forest encroachment by communities, transmigration programmes that encourage the clearing of forest areas for new settlements and agriculture, and mining and oil and gas drilling activities that require the clearing of forest land. Infrastructure development such as roads and dams also contributes to forest fragmentation and loss. Furthermore, deforestation is exacerbated by structural factors such as weak forest governance, poor law enforcement, corruption in the political and economic systems, and economic pressures and global market demand for forest-based commodities (Hakim, 2025).

Deforestation has significant multidimensional impacts on the environment, society and the economy. The loss of forests as natural habitats leads to a decline in biodiversity, increases the risk of flora and fauna extinction, and disrupts the balance of ecosystems. In terms of climate, deforestation reduces the ability of forests to absorb carbon dioxide and produce oxygen, thereby exacerbating the greenhouse effect and contributing to extreme climate change. Damage to vegetation cover also increases the vulnerability of soil to erosion and landslides, which ultimately increases the risk of flash floods and infrastructure damage. In addition, the disruption of forest hydrological functions results in a decrease in rainwater absorption, which triggers droughts in the dry season and floods in the rainy season. The socio-economic impacts are no less serious, as the loss of forests as a source of livelihood can trigger poverty, food insecurity, and social conflict due to competition for increasingly limited resources. Furthermore, deforestation has consequences for the erosion of indigenous peoples' knowledge and culture, including cultural practices and local knowledge related to natural resource management, as well as the loss of valuable medicinal resources for medical and alternative health development (Jainuddin, 2023).

Efforts to tackle deforestation require a collaborative and integrated approach involving the government, communities, the private sector, and other civil society actors. Key strategies include implementing sustainable forest management through responsible and environmentally friendly practices, as well as strengthening law enforcement against illegal logging and unauthorised land clearing. Forest rehabilitation through reforestation and afforestation is an important step in restoring the ecological functions of degraded forest areas. In addition, the optimisation of existing land use for agriculture and plantations needs

to be improved in order to curb expansion into new forest areas. These efforts must be accompanied by education and awareness-raising among the community regarding the importance of ecological piety, namely attitudes and behaviours that are responsible towards the environment, which are based not only on scientific knowledge but also on moral and spiritual values, including the guidance of the Qur'an and Hadith, as an ethical foundation for preserving nature.

Ecological Harmony in the Perspective of the Qur'an

The word disaster etymologically comes from ancient Greek, namely 'dus' which means bad, and 'aster' which means star. This term refers to an astronomical phenomenon that has negative connotations. The appearance of certain stars on the horizon is believed to be a sign that something bad will happen to human life (Agus Indiyanto & Arqom Kuswanjono, 2012).

As for calamities (using the word *musibah*) in the Qur'an, they are mentioned ten times. QS. al-Baqarah: 156, Ali 'Imran: 165, An-Nisa: 62, 72, QS. Al-Ma'idah: 106, At-Taubah: 50; Al-Qashash: 47, As -Syura: 30, Al-Hadid: 22, At-Taghabun: 11. According to al-Raghib al-Ashfahani, the original meaning of the word *mushibah* is *al-ramyah*, which is then used to mean danger, misfortune, or disaster and calamity. al-Qurthubi said that *mushibah* is anything that hurts and befalls people (believers), or anything that is dangerous and troublesome to humans, even if it is small.²⁸ *Musibah* (disaster) in the Qur'an has various meanings, not only in terms of loss of property, but also in relation to the morality and spirituality of a person or a particular community.

Environmental damage is part of the disaster in question. Environmental damage is seen as a global threat because it affects all aspects of human life, from the loss of forests as the lungs of the world, water pollution that makes rivers unusable, to marine pollution that damages marine ecosystems, all of which have a serious impact on human health and survival (Ramly, 2007).

This issue requires collective human awareness to restore the Earth's ecosystem to its natural balance, especially since human behaviour is also a cause of disasters, making the definition of disaster increasingly complex, encompassing natural disasters, global health, and poverty rooted in human actions. In fact, nature was created by God with a system that is harmonious for life, but it is humans who have destroyed it, causing imbalance. When nature adjusts to this destruction, what humans refer to as a "disaster" occurs because the adjustment process causes physical and psychological harm to humans (Shihab, 2003).

The ecological crisis is a disaster caused by the prolonged exploitation of natural resources. And disasters can occur as a result of a very acute ecological crisis. In fact, damage to nature is in stark contrast to the teachings of Islam. As one of the heavenly religions, Islam has a major role to play in preventing and overcoming this crisis (Surendra, 2011). In the Qur'an, Surah Al-Rum (30) (Al-Qur'an Kemenag, 2025) explains as follows:

ظَهَرَ الْفَسَادُ فِي الْبَرِّ وَالْبَحْرِ بِمَا كَسَبَتْ أَيْدِي النَّاسِ لِيُذِيقَهُمْ بَعْضَ الَّذِي عَمَلُوا لَعَلَّهُمْ يَرْجِعُونَ ﴿٤١﴾

Meaning: Corruption has appeared on land and sea because of what people's hands have wrought, so that Allah may make them taste some of the consequences of their deeds, so that they may return (to the right path).

The interpretation of the above verse in classical exegesis tends to be uniform. For example, Ibn Kathir, in *Tafsir Ibn Kathir*, and Abu Bakr al-Jazairi, in *Aisir al-Tafasir*, (Al-Jazairi, 1997) when interpreting the above verse, both state that what is meant by corruption (*fasad*) is *shirk*, murder, immorality, and all violations against Allah. This is because, at that time, environmental damage as we know it today did not exist, so *fasad* was interpreted as solely social and spiritual corruption.

Then, in the *Al-Munir tafsir*, Sheikh Wahbah Al-Zuhaili explains Surah ar-Rum verse 41 by emphasising the cause-and-effect relationship between human actions and environmental damage. This interpretation explains that destruction (*fasad*) has appeared in various places in nature, marked by various phenomena such as reduced agricultural yields, increased mortality, minimal rainfall, drought, famine, and barren land (Al-Zuhaili, 2013).

This interpretation emphasises that all of this destruction is a direct result of human transgressions, disobedience, and sins. The forms of transgression mentioned include

disbelief, injustice, violation of things that must be respected, opposition to the true religion, loss of awareness of Allah's supervision, and violation of the rights of others, including the unlawful consumption of wealth. Allah inflicts various calamities as retribution for some of humanity's deeds in the hope that they will become aware, repent, and realise their mistakes and transgressions, then abandon them.

In Tafsir Al-Azhar, Buya Hamka interprets this verse with a focus on the relationship between human behaviour and environmental damage. He emphasises that humans were sent to earth as Allah's caliphs, who should be *mushlih* (bringers of improvement and beauty). However, when human hearts are corrupted and their intentions are evil, the impact is seen in the destruction of the land and sea (Amrullah, 1982).

Buya Hamka offered an interesting perspective that technological progress and physical development are not always signs of true progress if the human spirit is increasingly distant from God. He gave concrete examples of air pollution from factories and motor vehicles, as well as seawater pollution caused by oil spills and chemical factory waste, which resulted in the death of fish (Amrullah, 1982).

This interpretation also highlights that not all human actions are bad; only "half" of them are destructive, as mentioned in the verse. Technological progress can be both beneficial and harmful, depending on how it is used. Finally, Buya Hamka interprets the call "to return" as an invitation to introspection, to improve one's relationship with God, and not to think only of personal gain at the expense of the environment and the common good. As a contemporary scholar, Quraish Shihab in Tafsir al-Misbah interprets *fasad* as natural destruction that will cause suffering to humans. In one of his phenomenal works, Tafsir al-Misbah, it is explained that destruction is the result of sins and transgressions committed by humans, causing disturbances to the balance on land and at sea (Shihab, 2003).

Therefore, based on the perspective of the Qur'an as explained in the interpretation, it is emphasised that disasters are not merely natural phenomena that occur independently, but are closely related to human moral, spiritual, and social behaviour. The Qur'an uses the term *musibah* to describe various forms of hardship and destruction, including those arising from human violations of the divine order. Verses such as QS. Ar-Rum: 41 indicate that destruction on land and sea is a direct result of what "human hands have wrought," signifying a cause-and-effect relationship between human actions and the disruption of the ecological balance. The interpretations of scholars, both classical and contemporary, show the development of the meaning of *fasad* from merely moral and spiritual damage to tangible ecological damage, such as declining agricultural yields, drought, pollution, and various forms of environmental degradation that we witness today.

Thus, the ecological concept in the Qur'an places humans as caliphs who are entrusted with caring for the earth, not destroying it. When humans ignore the values of monotheism, justice, and manners in treating nature, nature will "adjust" in ways that cause disasters for humans themselves. Tafsir al-Munir, Tafsir al-Azhar, and Tafsir al-Misbah agree that ecological disasters occur because of human violations of God's rules and ecological boundaries, serving as a warning for humans to return to the right path through *islah* (improvement) and ecological awareness. The Qur'an not only gives warnings, but also offers an ethical framework to prevent environmental crises by maintaining balance, not being excessive, not destroying the earth after Allah has repaired it, and making development in line with the values of piety. By understanding these ecological messages, humans are expected to be able to build a harmonious relationship with nature as part of their obedience to Allah SWT.

The harmony between nature and human life is known as "Mizan," which means balance. The concept of *mizan* (balance) in the Qur'an is a fundamental principle that governs the universe, human life, and the relationship between the two. Balance or *mizan* is one of the main principles in Islamic teachings. The word *mizan* in Arabic means "scales" or "balance", but in the context of the Qur'an, its meaning is much broader. *Mizan* refers to the order, justice, and harmony that Allah SWT has established in His creation and serves as an ethical guide for humans in regulating their lives. (Filmizan et al., 2024) One explanation of the concept of *mizan* is found in Q.S. Ar-Rahman verses 7-9 as follows:

وَالسَّمَاءَ رَفَعَهَا وَوَضَعَ الْمِيزَانَ () أَلَّا تَطْغَوْا فِي الْمِيزَانِ () وَأَقِيمُوا الْوَزْنَ بِالْقِسْطِ وَلَا تُخْسِرُوا الْمِيزَانَ

Meaning: "And He raised the heavens and established balance. So that you may not destroy that balance. And uphold that balance with justice and do not diminish that balance." (QS: Al-Rahman Verses 7-9)

The phrase in the verse above, according to Hamka, emphasises that the balance of nature is a manifestation of the greatness of Allah SWT, which must be maintained through justice and simplicity. He links environmental damage to the anthropocentric attitude of humans who exploit nature without considering its sustainability. Hamka's interpretation is relevant to contemporary challenges, where the exploitation of natural resources often disregards the principle of sustainability. The phrase "uphold the scales with justice" commands humans to avoid ecological and economic inequality and to preserve nature properly (Amrullah, 1982).

Hamka also explains that mizan (balance) is a symbol of the orderliness of the universe, that the entire universe was created with meticulous balance, from the rotation of the earth, the alternation of day and night, to the structure of atoms. Everything is subject to the law of balance (sunnatullah). Mizan in this context refers to the harmony and balance between the elements of nature, such as the role of mountains in maintaining the stability of the earth, the role of rain in supporting plant growth, and interrelated life cycles. According to Hamka, the above verse teaches humans about the importance of maintaining the balance of nature.

Justice (al-'adl) mentioned in verse 9 is not limited to actions between humans, but also includes how humans should interact with their natural surroundings. This is the responsibility of humans to maintain and preserve the balance that Allah has established in nature to maintain the welfare of life together. Humans, as khalifah, must maintain this balance. If humans destroy this balance, for example through excessive exploitation of nature, pollution, or illegal logging, then damage (fasād) will occur on earth. This is contrary to the mandate of humans as caliphs. Therefore, ecological ethics are needed for humans. Ecological ethics dictate that humans must not exceed their limits in managing the earth. Nature is not merely an inanimate object, but a creation of Allah that has value and purpose (Amrullah, 1982).

Therefore, it can be concluded that using the concept of mizan in verses 7-9 of Al-Rahman provides an understanding of the importance of maintaining the balance of nature and carrying out the responsibility as a caliph who is responsible for environmental preservation. This indicates that environmental preservation is part of the principle of justice taught by Islam and is an obligation for humans to demonstrate ecological piety as chosen beings on earth.

Ecological Piety as a Solution and Implementation

In terms of language, piety comes from the word "pious" which begins with "ke" and ends with "an" which means a state related to piety. The word pious comes from Arabic which means good. Doing good deeds means working with good deeds (Wahab, 2015). Meanwhile, the term "ecological" comes from the root word "ecology," which is derived from the Greek words "oikos," meaning home or dwelling, and "logos," meaning science or study (Z. Abidin, 2017). According to the term, ecology is the science of connecting the lives of all members of the earth's household, both between living creatures and their surroundings and inanimate objects (A. Z. Abidin & Muhammad, 2020).

The word ecological itself is an adjective that describes something related to ecology. In other words, ecology is the science of the environment or the habitat of living things. This term refers to matters related to the balance and sustainability of the natural environment. For example, when someone talks about ecological policy, they are referring to policies that take into account their impact on the environment (Wikaldi, 2025).

In this case, ecological piety is an awareness of the environment that demands not to cause damage, pollution, or poisoning, and solidarity with future generations regarding the use of natural resources. Ecological piety is part of social piety as a form of environmental protection. According to Muhib Abdul Wahab, the essence of ecological piety is related to protecting, preserving, managing, improving and optimally utilising the environment with the aim of human welfare and harmony with nature, bringing a sense of comfort in worship

and efforts to create a better future (Bahari, 2022).

Based on the above explanation, ecological piety refers to the preservation, improvement, management, and utilisation of the environment in the best possible way for the sustainability of human life and the surrounding nature. At the same time, it can provide comfort in performing worship and realising a better future. With the presence of ecological piety, a Muslim is expected to have kindness and harmony towards the environment around them, and to make environmental issues inherent in their personality, because humans will also be affected if they do not behave piously towards it.

There are several principles that must be fulfilled in order to foster human ecological awareness in interacting with the environment. The following are principles that can serve as guidelines and guidance for building ecological piety for humans in interacting with nature, namely (Bahari, 2022):

1. 1. Respect for Nature

The principle of respect for nature is the ethical foundation of the relationship between humans and nature, as emphasised in the prophetic mission as rahmatan lil 'alamin (QS. Al-Anbiyā': 107). This verse is not merely a slogan, but a moral mandate to treat nature as an entity worthy of respect, not merely an object of exploitation. In Qur'anic ecology, all creatures, both living and non-living, occupy a position as "members of the cosmic community" that have intrinsic value. Therefore, respect for nature is actually respect for the life system that supports human existence itself (Noviatul, Latifah, Oding Supriadi, 2023). Just as social communities demand cohesion and mutual respect among members, ecological communities also demand similar ethics that ensure the integrity and sustainability of all species.

2. The Principle of Moral Responsibility for Nature

The position of humans as caliphs (QS. al-Baqarah: 30) affirms that humans are not only given authority, but also an ethical burden to preserve, protect, and ensure the sustainability of the earth. This responsibility is not solely anthropocentric, because every created entity has a purpose and function that is not always oriented towards human interests. Ecological righteousness demands an awareness that destroying nature means destroying God's creation and betraying the mandate of stewardship (Mangka et al., 2022). Therefore, ecological responsibility directly links human morality with ecological stability.

3. Cosmic Solidarity

The awareness that humans are an integral part of the web of life gives rise to a sense of solidarity with all creatures. Cosmic solidarity means feeling an existential connection and mutual dependence between humans, animals, plants, and abiotic elements. Islam also requires us as humans to protect and preserve nature for the welfare of humankind (Meyresta et al., 2022). Cosmic solidarity encourages humans to understand that ecological damage is a shared threat, while ecological preservation is a shared benefit.

4. The Principle of Love and Care for Nature (Caring for Nature)

Ecological love is an ethical expression of cosmic solidarity. The Qur'an affirms that every creature is a community like humans (QS. al-An'am: 38), which means that they have the right to live, thrive, and not be harmed. Ecological concern demands concrete action: caring for, protecting, and restoring ecosystems without discrimination. This principle rejects the paradigm of excessive exploitation and shifts humanity's orientation from "ruler" to "guardian" who is empathetic towards all of creation. (Ayatullah, 2024)

5. The Principle of Ecological Justice (Ecological Justice)

Ecological justice asserts that environmental damage not only harms nature, but also triggers social injustice for current and future generations. From a Qur'anic perspective, injustice (zulm) includes actions that cause systemic damage to the earth (QS. ar-Rūm: 41). This principle demands the fair distribution of natural resources, prevents monopolistic exploitation, and ensures that ecological decisions in legal terms do not burden vulnerable groups (Mufti, 2025). Ecological justice shifts ecological piety from the realm of personal morality to the realm of structural and public policy.

6. Principles of Ecological Restoration and Reconstruction (Ecological Restoration)

The context of the global climate crisis demands the principle of ecological righteousness that is not only oriented towards prevention, but also restoration. The Qur'an commands humans to repair damage (ishlah) after damage (fasad) has occurred (QS. al-A'rāf: 56). This principle calls for active initiatives such as forest rehabilitation, wetland restoration, biodiversity restoration, and environmentally friendly infrastructure (Meyresta et al., 2022). Ecological restoration is no longer a moral choice, but a spiritual obligation to restore the earth to a state of balance in accordance with sunnatullah.

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

This article asserts that deforestation and various ecological disasters that have befallen Indonesia, including major flooding in Sumatra, are clear evidence of the disruption of the relationship between humans and nature and the neglect of divine principles regarding ecological balance. From the perspective of the Qur'an, disasters such as flash floods are not merely natural phenomena, but rather a direct consequence of human actions, as stated in QS. Ar-Rum: 41 regarding the destruction of land and sea caused by human actions. Massive deforestation in Sumatra, which destroys natural buffers, the loss of forest cover, and the disruption of the water system are forms of violation of the mizan "natural balance" described in QS. Ar-Rahman: 7–9 as a cosmic order that must be maintained by humans as caliphs. When humans exceed their limits and exploit forests excessively, nature's response in the form of disasters such as floods is not only an ecological collapse, but also a moral warning for humans to return to the ethics of true balance.

Ecological piety is a key concept in responding to these ecological challenges, including flood mitigation in Sumatra. Principles such as respect for nature, moral responsibility as caliphs, cosmic solidarity, ecological compassion, ecological justice, and environmental restoration provide an ethical foundation for communities and governments to manage natural resources sustainably. This study emphasises that development and environmental management cannot be separated from religious values, as ecological sustainability requires harmony between spiritual, social, and environmental aspects. Thus, the application of ecological piety is not only a normative solution but also a practical one in tackling deforestation and preventing ecological disasters such as recurring floods in Sumatra.

RECOMMENDATIONS

Further research is recommended to develop a more operational model of ecological piety in the context of flood mitigation and forest management in Sumatra, deepen empirical studies based on local communities to observe sustainable practices at the grassroots level, and integrate an interdisciplinary approach between theology, ecology, public policy, and forestry science. In addition, a critical analysis of existing environmental policies is needed through the perspective of Qur'anic values such as mizan, amanah, and the role of khalifah, as well as the development of measurable indicators of ecological piety to monitor environmental sustainability. Comparative studies between regions or countries are also important to enrich insights and strengthen the conceptual foundations and practices of religious value-based environmental management.

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