

## ENVIRONMENTAL EDUCATION FROM THE QUR'ANIC PERSPECTIVE: ECOLOGICAL ANALYSIS OF SURAH AR-RŪM 41 ON THE FLOOD AND LANDSLIDE CRISIS IN SUMATRA

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### Abstrak

Penelitian ini bertujuan menganalisis relevansi, pesan ekologis, konsep pendidikan lingkungan untuk mencegah terjadinya peristiwa banjir dan longsor Sumatera dalam Surah Ar-Rūm ayat 41. Dengan menggunakan metode kualitatif berbasis studi pustaka, penelitian ini mengkaji tafsir klasik dan kontemporer, laporan kebencanaan, serta literatur ilmiah terkait kerusakan lingkungan. Hasil penelitian menunjukkan bahwa konsep *fasad* yang dijelaskan ayat 41 Surah Ar-Rum selaras dengan krisis ekologis saat ini yang dipicu oleh deforestasi, alih fungsi lahan, kerusakan daerah aliran sungai, dan perilaku manusia yang tidak bertanggung jawab. Faktor-faktor ini memperparah risiko bencana dan menjadikannya sebagai bencana antropogenik. Penelitian menyimpulkan bahwa ekoteologi Qur'ani melalui prinsip *tauhid*, *khilafah*, *mizan*, dan *amanah* menjadi landasan penting bagi pendidikan lingkungan serta pembentukan kesadaran etis-spiritual untuk mencegah kerusakan ekologis.

Kata Kunci: Ekoteologi Qur'ani, Surah Ar-Rūm: 41, Pendidikan Lingkungan, Krisis Ekologis, Banjir, Longsor.

### Abstract

This study aims to analyze the relevance, ecological messages, and environmental education concepts to prevent floods and landslides in Sumatra in QS Ar-Rūm verse 41. Using a qualitative approach based on literature study, this study examines classical and contemporary

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interpretations, disaster reports, and scientific literature related to environmental damage. The results of the study indicate that the concept of facade described in the verse is in line with the current ecological crisis triggered by deforestation, land conversion, watershed damage, and irresponsible human behavior. These factors exacerbate disaster risks and make them anthropogenic disasters. The study concludes that Qur'anic ecotheology through the principles of monotheism, caliphate, mizan, and Amanah is an important foundation for environmental education and the formation of ethical-spiritual awareness to prevent ecological damage.

**Keywords:** Qur'anic eco-theology, QS Ar-Rūm:41, environmental education, ecological crisis, floods, landslides.

## INTRODUCTION

The environmental crisis that has plagued various regions in Indonesia in recent decades has shown an increase in the intensity and frequency of natural disasters, particularly floods and landslides. These phenomena can no longer be viewed as purely natural occurrences, but rather increasingly illustrate ecological degradation caused by human activity. Data from the National Disaster Management Agency (BNPB) shows that the majority of floods and landslides are a consequence of watershed damage, deforestation, land conversion, and unsustainable environmental management. This situation indicates that environmental problems are not merely technical or ecological issues, but have become moral, spiritual, and even a matter of human civilization as a whole (Enrico, 2025, [marinews.mahkamahagung.go.id](http://marinews.mahkamahagung.go.id)).

The Qur'an, as a comprehensive guide for human life, pays great attention to the relationship between humans and nature. One particularly relevant verse describing the contemporary ecological crisis is Surah Ar-Rūm, verse 41:

ظَهَرَ الْفَسَادُ فِي الْبَرِّ وَالْبَحْرِ بِمَا كَسَبَتْ أَيْدِي النَّاسِ لِيُذِيقَهُمْ بَعْضَ الَّذِي  
عَمِلُوا لَعَلَّهُمْ يَرْجِعُونَ ٤١

It means: "Corruption has appeared on land and at sea because of what the hands of men have wrought. (Through this) Allah will make them taste a portion of the consequences of their deeds, so that they may return (to the right path)." (QS. Ar-Rum:41)



This verse provides a crucial theological foundation for environmental education, as it directly links destructive human behavior to visible ecological damage. Classical commentators such as Ibn Kathir and al-Tabari, as well as contemporary commentators, agree that the term "*fasc*" in this verse encompasses ecological, social, and moral damage, as well as the destruction of the structure of life caused by human overreach. Thus, this verse serves not only as an ecological warning but also as an ethical and spiritual call to return to behavior that maintains the balance of nature. (Munawir, 2020).

The relevance of this verse is further strengthened when linked to Indonesia's current ecological dynamics. Floods affecting various regions such as North Sumatra, Aceh, and West Sumatra are generally triggered by massive forest clearing, development in water catchment areas, and spatial planning that ignores the region's ecological capacity. Similarly, landslides, which frequently occur in hilly areas, are often rooted in the loss of soil-retaining vegetation, mining exploitation, and environmentally unfriendly agricultural practices. This damage not only ravages the ecological landscape but also threatens human safety, undermines the economy, disrupts social stability, and hinders the sustainability of future generations (Widodo, 2025, rml.id) .

This situation emphasizes that environmental education cannot simply rely on a scientific-conservative approach. An approach that integrates scientific, ethical, and spiritual aspects is needed to build a more comprehensive ecological awareness. In this regard, Qur'anic ecotheology is a relevant and important approach. Through the principles of tauhid (the unity of creation), *khilafah* (human responsibility), *mizan* (balance), and *amanah* (the obligation to protect creation), the Qur'an positions humans as guardians of the balance of nature, not destroyers. These values serve as the ethical foundation for developing ecological character that can prevent or minimize environmental damage (Shilvia et al. 2024: 23) .

Based on this urgency, this study aims to identify the ecological message contained in Surah Ar-Rūm verse 41, then reveal how this verse is relevant to the flood and landslide events in Sumatra, Indonesia, then analyze the concept of environmental education in Surah Ar-Rūm verse 41 in preventing the occurrence of floods and landslides in Sumatra, Indonesia.

The results of this analysis are expected to strengthen the understanding that solutions to the environmental crisis depend not only on technology and policy but also on a paradigm shift, morality, and spirituality in human relations with nature. Therefore, this research seeks to contribute through a holistic approach that integrates religious values



with modern environmental science in an effort to build sustainable ecological awareness.

## LITERATURE REVIEW

Existing literature demonstrates a growing scholarly concern regarding the relationship between religious values, environmental ethics, and ecological crises, particularly within Islamic contexts. Numerous studies have explored how environmental degradation—such as floods, landslides, deforestation, and watershed damage—is closely linked to human behavior and governance failures rather than purely natural causes (Mohamad & Ismail, 2023; Rahman et al., 2024; Shaleh & Islam, 2024). Within Islamic studies, scholars increasingly employ Qur’anic interpretations to explain ecological imbalance as a moral and spiritual crisis rooted in human negligence (Sofyan et al., 2024; Yusuf & Marjuni, 2022; Muhammad et al., 2024). The literature generally converges on three to four major tendencies. First, many studies conceptualize environmental crises through Qur’anic ecotheology, emphasizing concepts such as *fasād*, *mīzān*, and *khalifah* as theological explanations for ecological damage (Johnderose et al., 2024; Ismail & Sukron, 2025; Abdul Quddus, 2017). Second, a substantial body of research frames environmental education as a value-based approach that integrates religious ethics with sustainability discourse (Hutagalung, 2024; Zulaika et al., 2025; Hadi Yasin et al., 2025). Third, several empirical studies analyze ecological disasters using socio-environmental and anthropogenic frameworks, highlighting deforestation, land conversion, and poor environmental governance as primary drivers (Arifuddin et al., 2023; Gulzar et al., 2021; Mohidem & Hashim, 2023). Lastly, some works emphasize disaster mitigation and ecological awareness through educational and community-based interventions (Ali & Agushi, 2024; Acim et al., 2023). However, while these studies have significantly advanced understanding of religion–environment relations, their analytical depth, contextual specificity, and pedagogical integration remain uneven across regions and disciplines (Sayem, 2021; Zuhdi et al., 2024).

The first dominant research pattern focuses on Qur’anic ecotheology as a conceptual framework for understanding environmental degradation. Studies within this stream primarily adopt thematic and interpretative approaches, analyzing Qur’anic verses related to nature, balance, and human responsibility (Johnderose et al., 2024; Sofyan et al., 2024; Ismail & Sukron, 2025). Scholars commonly interpret *fasād fī al-barr wa al-baḥr* (QS Ar-Rūm: 41) as a comprehensive ecological concept that encompasses physical environmental damage, moral decay, and social disorder (Yusuf & Marjuni, 2022; Abdul Quddus, 2017; Arifuddin et al., 2023).



Methodologically, these studies rely on qualitative textual analysis of classical and contemporary tafsir, such as Ibn Kathīr, al-Ṭabarī, and modern exegetes, to contextualize ecological crises within theological narratives (Johnderose et al., 2024; Hutagalung, 2024; Muhammad et al., 2024). The focus is largely normative, emphasizing ethical accountability and divine warning rather than empirical environmental data (Shaleh & Islam, 2024; Gulzar et al., 2021; Mohidem & Hashim, 2023). Conceptually, this pattern highlights tawhīd, khalīfah, amānah, and mīzān as foundational principles guiding sustainable human-nature relations (Zulaika et al., 2025; Ali & Agushi, 2024; Acim et al., 2023). While this approach successfully establishes a strong theological basis for environmental ethics, it often remains abstract and insufficiently connected to specific ecological phenomena or localized disaster contexts, limiting its practical applicability in environmental education and disaster mitigation strategies (Sayem, 2021; Zuhdi et al., 2024; Hadi Yasin et al., 2025).

The second research tendency emphasizes environmental education as a transformative tool grounded in religious and ethical values. Studies in this category typically examine how Islamic teachings can be integrated into formal and non-formal education to foster ecological awareness and responsible behavior. Thematically, these works focus on curriculum development, moral education, character building, and community engagement (Hajar, 2024; Taisir, et. al, 2024; Thohri, 2024). Methodologically, researchers employ qualitative literature reviews, case studies, and conceptual analyses, with some incorporating policy and curriculum evaluations (Serly, et.al., 2025; Amrullah, et.al., 2025; Lutfauziah, et.al., 2023). The core assumption is that environmental problems stem not only from technical failures but also from low ecological literacy and ethical disengagement. Consequently, Qur'anic values are positioned as pedagogical resources to internalize sustainability principles (Codyre, 2025; Begum, at.al. 2021). However, many studies remain prescriptive, offering normative recommendations without empirically examining the effectiveness of such educational models in disaster-prone regions (Taisir, et.al., 2024; Uddin, et.al., 2025; Ibrahim, et.al., 2024). Moreover, environmental education is often discussed in general terms, without explicitly linking specific Qur'anic concepts—such as fasād or mīzān—to concrete ecological disasters like floods and landslides (Thohri, 2024; Amrullah, et.al., 2025; Lutfauziah, et.al., 2023). This results in a gap between theological ideals and real-world ecological challenges, particularly in vulnerable regions such as Sumatra (Amrullah, et.al., 2025; Pandey, 2025; Begum, at.al. 2021).



The third pattern of research adopts an anthropogenic and governance-oriented perspective on environmental disasters. Scholars in this stream analyze floods, landslides, and ecological degradation as outcomes of human-induced activities, including deforestation, land conversion, mining exploitation, and weak environmental governance (Khan., et al. 2023; Aksha., et al. 2020; Ismeti., et.al, 2023). These studies frequently employ interdisciplinary approaches, combining environmental science, disaster studies, and socio-political analysis (Khan., et al. 2023; Codyre, 2025; Samuel, 2024). Methodologically, they rely on secondary data, disaster reports, spatial analysis, and policy reviews (Peduzzi, 2019; Lahsen, & Ribot, 2021; Ismeti., et.al, 2023). While these studies offer strong empirical insights into the structural causes of ecological disasters, they often treat environmental crises as purely technical or administrative problems (Aksha,et al. 2020; Samuel, 2024; Kumar., et al. 2020). Ethical, spiritual, and cultural dimensions are rarely integrated into the analysis. As a result, proposed solutions tend to focus on regulatory reform, infrastructure development, and technological intervention, overlooking the role of moral values and religious worldviews in shaping human behavior. This secular orientation limits their capacity to address deeper motivational and cultural factors influencing environmental exploitation, especially in societies where religious values play a central role in everyday life and decision-making (Lahsen., & Ribot, 2021; Pandey, 2025; Ibrahim., et.al, 2024)

Despite the richness of existing literature, several critical gaps remain evident. First, Qur'anic ecotheological studies often overlook the empirical realities of specific ecological disasters, resulting in a disconnect between theological interpretation and environmental practice (Karman et al., 2023; Affandi et al., 2022; Arifuddin et al., 2023). Second, environmental education research frequently neglects the integration of concrete disaster contexts, such as floods and landslides, into Qur'anic-based pedagogical frameworks (Masturin et al., 2022; Rohmatulloh et al., 2023; Intania & Masri, 2023). Third, anthropogenic disaster studies tend to marginalize religious and ethical dimensions, treating environmental degradation as value-neutral phenomena (Peduzzi, 2019; Hayat et al., 2023; Muhammad et al., 2024). Collectively, these research tendencies “forget” or underemphasize the potential of Qur'anic ecological concepts to function as both analytical tools and practical educational frameworks for disaster prevention (Muharningsih et al., 2024; Bsoul et al., 2022; Shaleh & Islam, 2024). Moreover, few studies explicitly connect QS Ar-Rūm: 41 to localized ecological crises in Indonesia, particularly Sumatra, where environmental degradation and disaster frequency are increasing (Arifuddin et al., 2023;



Rahman et al., 2024; Intania & Masri, 2023). This gap indicates a lack of holistic approaches that integrate theology, environmental education, and empirical disaster analysis within a single coherent framework.

In response to these limitations, this study proposes a new research direction that integrates Qur'anic ecotheology, environmental education, and localized ecological disaster analysis. By focusing on QS Ar-Rūm: 41, this research positions the concept of *fasād* as a bridge between theological interpretation and contemporary ecological realities (Arifuddin et al., 2023; Muhriningsih et al., 2024). Unlike previous studies, it contextualizes Qur'anic principles within the specific environmental crises of floods and landslides in Sumatra. The study adopts an integrative perspective that combines textual analysis of Qur'anic exegesis with disaster data and environmental reports (Karman et al., 2023; Masturin et al., 2022). This approach allows environmental education to be framed not merely as moral instruction but as a practical strategy for disaster prevention and ecological restoration (Rohmatulloh et al., 2023; Hayat et al., 2023). By emphasizing ethical-spiritual awareness alongside scientific understanding, this research contributes a holistic model of Qur'an-based environmental education that addresses both the root causes and consequences of ecological degradation. Such a framework offers a novel contribution to Islamic environmental studies and provides a culturally relevant pathway for sustainable disaster mitigation in vulnerable regions.

## RESEARCH METHODS

This study uses a qualitative method based on library *research*, namely research that relies on searching, reading, and analyzing written sources relevant to the theme of environmental education and the ecotheology of the Qur'an. The primary data were obtained from classical and contemporary tafsir books such as *Tafsir Ibn Kaṣṣīr*, *Tafsir al - Ṭabarī*, *Tafsir al - Misbah*, as well as scientific literature in the form of recent journal articles discussing Islamic ecology, environmental education, and ecological disaster studies in Indonesia. In addition, supporting data were also collected through official reports from the National Disaster Management Agency (BNPB), credible online media publications, and documents related to floods and landslides in various regions of Indonesia. All these sources were selected based on their relevance, currency, and the author's authority in their field.

The collected data were analyzed using content analysis by *examining* the ecological messages in QS. *Ar-Rūm* verse 41, then critically linked to the ecological conditions of Indonesia, especially the flood and landslide phenomena in Sumatra. The analysis was carried out in three steps: (1) data reduction, namely selecting parts of the literature that are relevant to the



concepts of *facade*, *khilafah*, *mizan*, and *a amanah*; (2) data presentation, namely compiling the findings within the Qur'anic ecotheological framework; and (3) drawing conclusions, namely formulating the relevance of Qur'anic values to environmental education and ecological disaster mitigation. With this method, the research is expected to be able to produce a comprehensive theoretical understanding of the relationship between modern ecological damage and the moral-spiritual messages of the Qur'an.

## RESULTS AND DISCUSSION

### 1. Results

Based on data collection through literature studies, as well as documentation, information on disasters that occurred in Sumatra in 2024-2025, this study shows that the current ecological crisis in Indonesia has a direct relationship with the description of *the facade* in Surah Ar- Rūm verse 41. Floods and landslides in the last few months, especially in November and December 2025 in various regions such as South Aceh, Central Aceh, East Aceh, Southeast Aceh, Tapanuli, Mandiling Natal, Langkat, Medan, Agam, Padang and several other areas again experienced major floods triggered by high and extreme rainfall triggered by atmospheric dynamics, resulting in the emergence of Tropical Cyclone Senyar.

Then it is made worse by the increasingly damaged environmental conditions, where deforestation continues to occur, especially the clearing of land for plantations and mining, causing the loss of vegetation that supports the soil and weakening the soil's ability to absorb water, so there is... a combination of natural factors and human actions in it (Nugroho, 2025) .

Field data shows that many flooded areas are located in areas that were previously natural forests or water catchment areas. For example, in Aceh Province, as of 2020, there were still around 59 floodplains. % of its total area, or approximately 3.37 million hectares, is natural forest. However, a summary of data from the Aceh Statistics Agency (BPS) and various environmental agencies shows that over the three decades between 1990 and 2020, the province lost more than 700,000 hectares of forest area.

This condition indicates that although Aceh still has quite extensive forest cover, the reduction is relatively high, so that it has a direct impact on increasing the region's vulnerability to flooding disasters. (Nugroho, 2025) . This condition emphasizes that the current ecological damage is a man-made crisis that is exacerbating the impact of global climate change, so that the disasters that occur can no longer be viewed as merely natural phenomena, but as a form of *anthropogenic disaster* that is in line with the warning in the verse.



In addition to physical environmental damage, observations indicate that low public ecological awareness remains a serious issue amidst the current surge in disasters. In several areas affected by the recent floods in North Sumatra, for example, practices such as dumping waste into rivers and unauthorized land conversion were still prevalent before the disaster. These practices exacerbate river sedimentation and impede water flow, increasing the severity of flooding (Firman and Nauli, 2020) .

This phenomenon suggests that the public generally has not yet internalized the connection between everyday actions and the disaster risk they face. Even when major flooding occurred again in late 2025, many residents were shocked, even though environmental indicators showed continued damage. This finding aligns with previous findings showing low public understanding of the impact of land cover changes on flooding potential, indicating that the problem is not merely technical, but also a matter of low ecological literacy and awareness.

Furthermore, the study of the interpretation of Surah Ar - Rūm verse 41 which is connected to the context of the current ecological disaster shows that the message of the Qur'an is very relevant to the ongoing reality. The phrase *ḡahara al-fasad fī al-barr wa al-baḡr* covers massive ecological damage that can be observed in the form of floods, landslides, forest fires, river pollution, and land degradation which are now major problems in Indonesia. Fakhruddin al-Razi views “damage” (*al-fasad*) as a direct result of human actions including environmental damage , such as the destruction of green areas, seawater pollution, damage to water sources, and ecosystem degradation (Hakim, L., 2022) .

Tafsīr Ibn Kaṣīr and al- Ṭabarī explain that the damage occurred due to human violation of Allah 's mandate as the steward of the earth (Moge et al., 2025). When this verse is read in the context of the current ecological disaster, it is seen that humans are not only part of the environment, but also the main determinant of the emergence of disasters. In other words, the disaster that befell Indonesian society today is a real illustration of the moral warning given by the Qur'an; that environmental damage is a consequence of human destructive behavior.

The relationship between the verse and current conditions emphasizes that solutions to overcome disasters do not only require structural and technical efforts, but also a change in the spiritual paradigm and ecological ethics of society. Overall, the picture of ecological damage in Sumatra shows that the disasters that occurred were the result of human failure to uphold the mandate as caliphs on earth.

Forest destruction, river sedimentation, and low environmental awareness indicate that Quranic ecological values have not been



internalized in people's behavior. Therefore, future environmental restoration efforts require not only technical interventions but also character development and ecological ethics based on the spiritual values of the Quran, so that natural balance can be restored and disaster risks minimized.

## 2. Discussion

### Relevance of Surah Ar-Rūm: 41 on the Ecological Crisis in Sumatra, Indonesia

Contents in Surah Ar-Rum, verse 41 of the Qur'an, it is explained that the damage occurring on land and sea is a direct consequence of human actions that damage nature and its ecological systems. This verse emphasizes that this ecological imbalance does not arise naturally, but is the result of human actions that disrupt environmental order. This ecological damage, as emphasized in the verse, will return to humans as a consequence of their destructive behavior. Therefore, humans are encouraged to recognize this error, make changes, and return to behavior that maintains natural harmony. (Matsna & Riyan, 2023).

The keyword *facade* in this verse describes various forms of visible ecological damage and disharmony (*ḡahara*) as a result of human actions (*bim ā kasabat aydin-n ā s*). The ecological message of this verse emphasizes that the emergence of environmental damage aims to remind humans to be aware, repent, and improve their behavior (*la'allahum yarji' ū n*). Thus, this verse contains an ecotheological call to restore ecological balance through moral, spiritual, and behavioral changes in humans towards nature.

The current ecological conditions of Sumatra strongly reflect the message of this verse. Flash floods, landslides, biodiversity loss, and even the clean water crisis are all manifestations of the ecological *facade*. For example, watershed damage in North Sumatra due to deforestation accelerates surface runoff and reduces the capacity of infiltration areas. This aligns with the concept of balance (*mizan*) in the Quran; when humans disrupt this balance, the impact returns to them. (Alfadhli, 2025).

To better understand how environmental damage in Sumatra is directly related to the ecological crisis described in *Surah Ar-Rum* verse 41, a theoretical framework is needed that can explain the relationship between the basic concepts of the Qur'an and the ecological reality on the ground. The verse emphasizes that land and sea damage arises from human actions, in various forms, such as drought, the extinction of crops, the destruction of flora and fauna, the loss of land/sea products as a result of human sin, injustice, and greed. (Ibn Kašīr, 2019) . In This demonstrates a violation of divine values, the balance of nature, and the moral responsibility that God has established. Therefore, an analysis of Quranic ecotheology is crucial for



mapping how theological principles such as monotheism, caliphate, and trust should guide human behavior in managing nature.

This framework then flows into the concept of *mizan* as the basis for ecological balance, which has implications for the birth of Islamic environmental ethics and sustainable ecological practices. This entire line of thought is summarized in the Qur'anic theology and its relevance to the disaster in Sumatra, thus providing a more systematic and comprehensive direction for understanding.

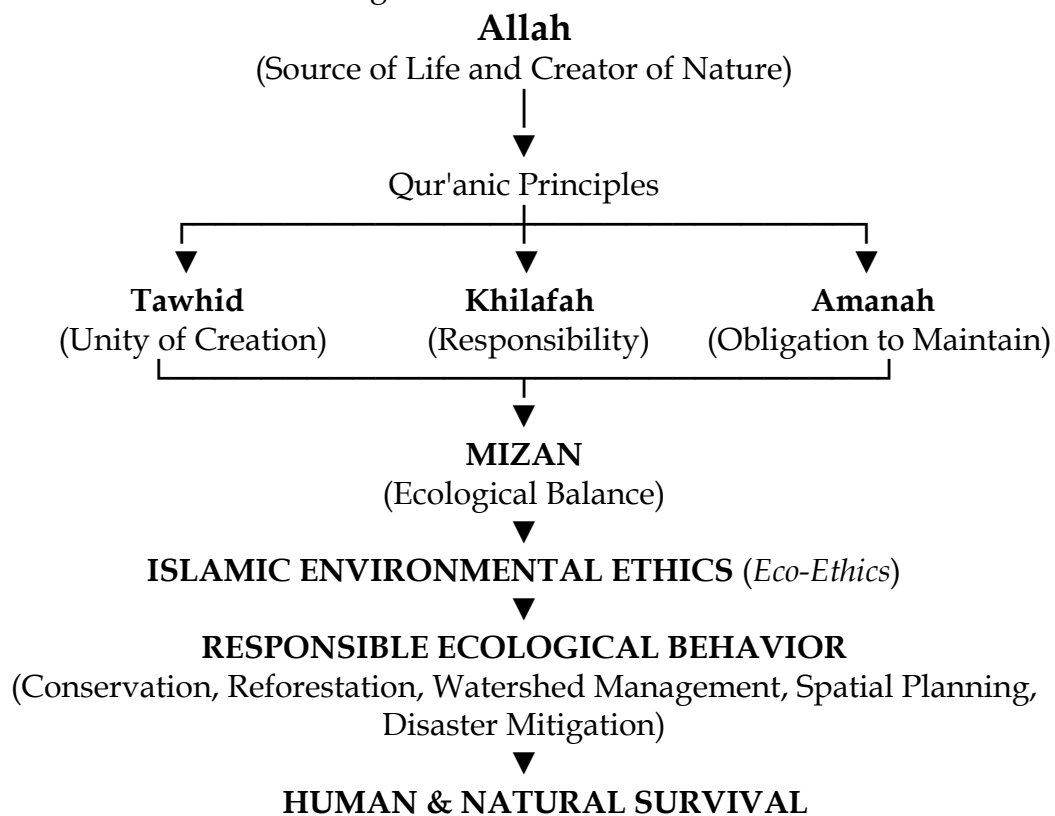


Figure 1:  
 The Ecological Chart of the Qur'an and its Relevance to Disasters in Sumatra.

The diagram explains the ecotheological mindset in Islam, starting with God as the source of life, then descending to Qur'anic principles, and finally manifesting in human ecological behavior that culminates in the sustainability of nature and humanity. This sequence demonstrates that Islam has a comprehensive and integrated ecological framework. When these principles are implemented, humans can maintain the balance of nature and avoid disasters. However, when this ecotheological structure is ignored, environmental damage occurs, as warned in Surah Ar-Rum: 41:



*“Corruption has appeared on land and at sea because of what the hands of men have done .”* This verse describes a situation that is very relevant to the current disaster situation in Sumatra.

### **God as the Source of Life and Creator of Nature**

The chart begins with the belief that all of nature is God's creation and operates according to a system He has established. This awareness is important because it guides humans to view nature not as an object of exploitation, but as a trust that must be safeguarded. The connection to the current disaster is... The destruction of natural forests, mining exploitation, and large-scale land clearing in Sumatra reflect a loss of spiritual awareness that nature is a gift from God. These destructive actions align with the warning of Surah Ar-Rūm: 41 about the emergence of damage due to human actions.

### **Qur'anic Principles as the Basis for Ecological Ethics**

The chart shows three main principles, namely:

#### **a. *Tawhid* (Unity of Creation)**

*Tawhid* teaches that all of nature is part of a unified system of God's creation. Damage to one component will affect the others. The relevance of deforestation Currently, in North Sumatra, Aceh, and West Sumatra, the hydrological balance is being disrupted. As a result, heavy rainfall that should be absorbed by the forests instead flows directly into the water, causing massive flooding. Environmental damage is not simply seen as an ecological violation, but as a form of disloyalty to the principle of God's oneness. Destroying nature contradicts the divine order that God has established. Therefore, preserving nature is a concrete manifestation of God's oneness, a form of monotheism manifested through daily actions and behavior, not merely words or inner convictions. (Karimullah, 2024).

#### **b. *Caliphate* (Human Responsibility)**

As creatures who have been given the role of caliph on earth, humans bear the responsibility to care for and maintain environmental sustainability. Humans are not only prohibited from damaging the environment, but are also required to be active in restoring the damage that has occurred. (Jannah et al., 2025). Disaster context: Land conversion without environmental impact assessment, riverbank development, and illegal mining activities demonstrate the neglect of the caliphate's role. When this responsibility is abandoned, ecological disasters emerge as a consequence.



### c. **Amanah (Obligation to Protect Nature)**

The concept of "*amanah*" provides a strong moral foundation for humans to be responsible in managing nature. Ecological *amanah* implies that every human action towards the environment falls within the scope of full responsibility, for which we will one day be held accountable before God. Natural resources are not the absolute property of humans, but rather a trust from God that must be preserved and utilized wisely. (Hanif & Azzaki, 2025). Current social reality The fact that people are still found throwing rubbish into rivers, clearing land without permits, and weak government supervision shows that ecological mandates are not yet understood and practiced properly.

### **Mizan (Ecological Balance)**

The concept of *mizan* emphasizes that God created nature in perfect balance, and humans are forbidden to harm it. The goal is to achieve a balance between fulfilling human needs and maintaining environmental sustainability (Lukmanul, 2025). This relates to the current disaster, namely the severely disrupted ecological balance in Sumatra. A concrete example:

- a) Loss of forest cover makes hillsides unstable → causing landslides.
- b) Rivers experience high sedimentation due to erosion → causing flash floods.
- c) Conversion of forests into oil palm plantations reduces the soil's absorption capacity → flooding occurs more frequently.

As a result of the disruption of *the mizan*, the major disaster that has now struck is clear evidence of the imbalance in the ecosystem. This condition indicates that *the mizan* has been disturbed, and Surah Ar-Rūm: 41 illustrates the consequences of this imbalance.

### **Islamic Environmental Ethics (Eco-Ethics)**

When the principles of monotheism, caliphate, trustworthiness, and balance are internalized, an Islamic environmental ethic will be formed (Haider, 2025). This ethic teaches against damaging nature, prohibiting excessive exploitation, repairing damage, and sustainably managing resources. Its relevance to the current context, Forest encroachment, illegal mining, and poor watershed management demonstrate that society and the government have not yet internalized *eco-ethics*. This reinforces the message of Surah Ar-Rūm: 41 that the damage occurred due to unethical human actions.

### **Responsible Ecological Behavior**

The chart illustrates that if environmental ethics are implemented, then correct ecological behavior will emerge, such as forest conservation,



reforestation, watershed management (DAS), spatial planning according to environmental carrying capacity, and disaster mitigation based on ecological data. Its (Bahtiar et al., 2025). relevance to conditions in Sumatra is that Current disasters demonstrate this lack of ecological behavior. Reforestation and watershed rehabilitation often do not keep pace with the rate of forest destruction. Spatial planning also largely ignores ecological aspects, leaving these areas vulnerable to flooding and landslides when heavy rain falls.

### **Human and Natural Survival**

The final stage of the previous diagram shows that the goal of all Quranic ecotheological principles is to maintain the sustainability of human life and nature. However, what is currently happening in Sumatra is the opposite: thousands of residents have been displaced by floods, infrastructure has been severely damaged, livelihoods have been lost, wildlife habitats have been threatened, and watershed ecosystems have been critically endangered. This demonstrates that when humans abandon Quranic principles of ecology, the sustainability of both human life and nature is threatened. This damage is clear evidence of Allah's words in Surah Ar-Rūm: 41 about the destructive impact of human activities.

The Qur'anic ecotheology chart shows the logical flow that when humans practice the principles of monotheism, caliphate, trustworthiness, and balance, ecological behavior will emerge that preserves nature. However, human failure to implement these principles will result in damage such as floods and landslides in Sumatra. This is the true meaning of Surah Ar-Rum: 41 in the context of current disasters , that disasters are not just natural phenomena, but a direct result of human negligence in maintaining the trust of the earth (Ratna Dewi, 2025) .

This chart essentially shows that ecological disasters such as floods and landslides in Sumatra are not merely technical issues, but rather the result of humanity's moral, spiritual, and ecological failure to adhere to the principles taught by the Quran. If the principles of monotheism, caliphate, trustworthiness, and balance of authority are implemented, the ecological behavior of society and the government can change, thus preventing future environmental crises.

### **Ecological Message in Surah Ar-Rūm verse 41**

#### **Environmental Damage is a Direct Result of Human Activities**

The word *facade* in Surah Ar-Rūm: 41 is understood by the commentators as a form of damage that arises as a result of human actions ( *bimā kasabat aydī al-nās* ) not only moral, but also includes physical damage such as the loss of the balance of nature (Ibn Kathir, 2019) . As has happened in Sumatra (Riau, West Sumatra, North Sumatra, and Aceh), massive



deforestation has reduced water absorption capacity, exacerbating floods and landslides. Land conversion without regard for environmental carrying capacity has increased hydrological vulnerability. Thus, humans have a direct impact on ecosystem stability; every exploitative action on forests, land, rivers, and seas creates disaster risks that ultimately impact humans.

### **Disturbances to the balance of the ecosystem will cause disasters.**

Al-Ṭabarī interprets *ḡahara al-fasād fī al-barr wa al-baḥr* as the disruption of the order of nature which then gives rise to various forms of misery. (Al-Ṭabarī, 2001). This interpretation aligns with the thinking of (Nasr, 2014) who emphasized that humanity has disrupted *the cosmic balance* through industrialization and unlimited exploitation, while maintaining environmental balance (water, soil, and forests) is an ecological and spiritual obligation. When this balance is disrupted, the Earth's systems react in the form of natural disasters. However, in Sumatra, when vegetation in watersheds (DAS) is unbalanced or reduced, rainwater flows more quickly across the surface, potentially triggering flash floods. Furthermore, forest loss causes the soil to lose its strength, making hilly areas such as West Sumatra, Southeast Aceh, Karo, and other regions more susceptible to landslides.

### **Disasters are a Warning to Improve Environmental Governance**

The final verse, "*la'allahum yarjī'ūn*," is interpreted by commentators as an invitation to return to proper behavior in managing nature. The damage is presented not as punishment, but as a moral warning for humans to improve their behavior. (Shihab, 2018) Floods and landslides are not just natural phenomena, but *an ethical call* for humans to return to ecological practices that are fair, sustainable, and in accordance with nature's nature. This verse demands restorative and systemic ecological actions, such as local species-based reforestation, protected *forest areas*, disaster risk-based spatial planning, monitoring of land conversion, and public education about ecological behavior.

### **The Concept of Environmental Education in Surah Ar-Rūm verse 41 to Prevent Floods and Landslides in Sumatra**

Surah Ar-Rum, verse 41, emphasizes that ecological damage occurring on land and at sea is a direct result of human actions. This verse serves as the theological foundation for environmental education in Islam, where humans are positioned as *khalifah fil-ardh* (vicegerents) responsible for maintaining the balance and sustainability of nature. In the context of Sumatra, this verse is highly relevant to the increasing number of floods and landslides caused by deforestation, encroachment, watershed degradation, and environmentally unresponsive development patterns.



environmental- based education in Surah Ar-Rūm: 41 encourages the realization of three main awarenesses, namely theological awareness, ecological awareness, and ethical-practical awareness. *First*, theological awareness is built through the instilling of the understanding that environmental damage is a form of *facade* that not only causes ecological disasters, but also reflects a violation of God's mandate. (Karimullah, 2024). According to Al-Ṭabarī, this verse emphasizes that physical damage on earth occurs due to human moral deviation, and disasters serve as a warning for them to return to the right path. This awareness is important for building the religious attitude of the Sumatran people to view environmental preservation as part of worship ('*ibādah 'amaliyah*).

*Second*, ecological awareness is built through a rational understanding of the relationship between human behavior and environmental damage. The interpretation of the Quran explains that *the fasaad* in this verse includes the loss of ecosystem balance due to human actions. In the case of Sumatra, the loss of forest cover in the Bukit Barisan region, the exploitation of peatlands in Riau and Jambi, and the conversion of forests in West Sumatra to oil palm plantations have led to reduced water absorption capacity, increased river sedimentation, and weakened soil structure, which increases the risk of landslides. Quran-based environmental education encourages people to understand this causal relationship so they can assess the long-term impacts of each act of exploitation.

*Third*, ethical-practical awareness leads to concrete actions to reduce damage. From Al-Maraghi's perspective, this verse commands humans to repair damage that has occurred and prevent new damage through environmentally conscious actions. Implementation in Sumatra can be done through community-based disaster mitigation education, replanting upstream watershed areas, preserving mangroves to prevent abrasion, implementing *zero burning* in land management, and cultivating the value of *hifdzul bi'ah* (environmental stewardship) in formal and non-formal education curricula. These efforts reflect the embodiment of the value of *islah* (repair) as opposed to *facade*.

Thus, Surah Ar-Rūm verse 41 provides a strong conceptual foundation for the formation of ecological character in society through education. This verse teaches that disasters such as floods and landslides are not simply natural phenomena, but the consequences of human actions that exceed the limits of ecological balance. Therefore, environmental education from the perspective of the Qur'an emphasizes not only the aspect of knowledge, but also the formation of spiritual attitudes, morals, and ecological habits that can prevent repeated damage in the future. In the context of Sumatra, the implementation of environmental education based



on Qur'anic values is a strategic step to reduce disaster risks and create a society that is more responsible for environmental sustainability.

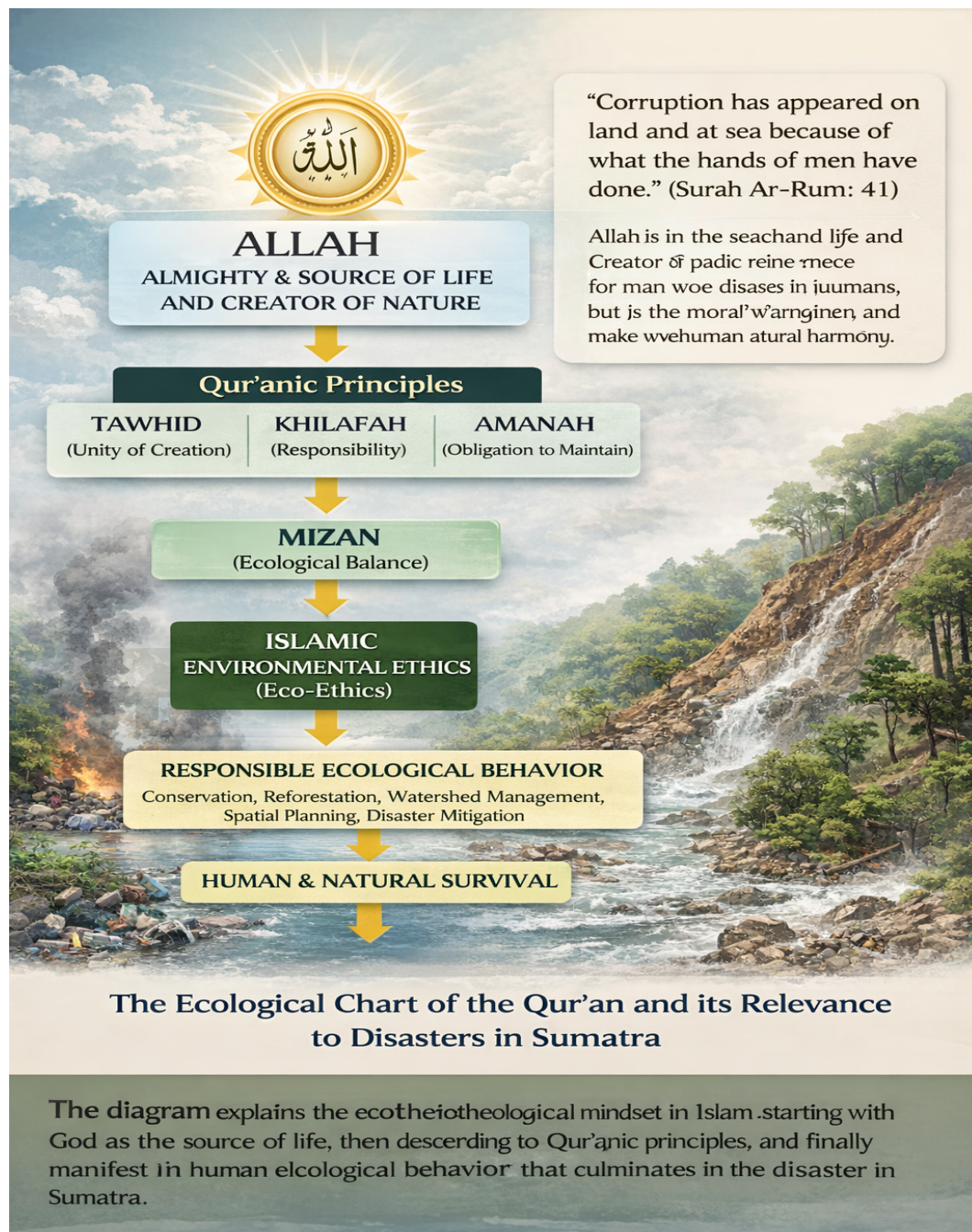
Implementation of the concept of environmental education in perspective Surah Ar-Rūm verse 41 can be realized through educational institutions, the role of mosques, religious study groups, religious figures, revitalization of local wisdom, and community empowerment programs.

Educational institutions, from schools to universities, play a strategic role in internalizing the Qur'anic values regarding the environment. The curriculum can incorporate Qur'anic ecology material into Islamic Religious Education, Science, Social Studies, and Geography subjects through extracurricular activities such as tree planting, river patrols, and the Adiwiyata school program. Furthermore, the development of an "Islamic Environmental Ethics" module that integrates the interpretation of Surah Ar-Rum verse 41 can enrich students' understanding that preserving nature is part of practicing monotheism and their responsibility as caliphs on earth. (Al - Hamid, 2024) .

The role of mosques, religious study groups, and religious leaders is also significant in building ecological awareness in the community. Through sermons, religious outreach, and religious studies, religious leaders can explain the link between deforestation, land degradation, and the intensity of disasters as forms of *falsehood* prohibited by the Quran. In this way, spiritual values and ecological ethics can be more easily accepted by the community because they are conveyed through moral authorities they trust. (Abdul, S., Zainab, M., & Rashid, 2025) .

In addition to religious approaches, revitalizing local wisdom is also crucial. Sumatra has ecological traditions such as the "*rimbo melarang*" (*forest prohibition*), agroforestry practices, spring conservation, and customary laws that prohibit deforestation. These practices are not only forms of conservation but also social mechanisms for maintaining environmental sustainability. The ecological values within local wisdom substantially align with Quranic principles of maintaining balance (*mizan*) and avoiding damage (Yasir, Yohanes, and Chelsy, 2022) . At the community empowerment program level, Communities need to be equipped with the skills to identify vulnerable areas, understand risk maps, and implement reforestation in critical areas such as the slopes of Bukit Barisan. Education about the dangers of land conversion, household waste, and waste disposal into rivers will strengthen collective awareness. The formation of Quranic-based environmental volunteer groups can also be a driving force for behavioral change in communities toward greater concern for environmental sustainability.





## CONCLUSION

The environmental crisis occurring in various regions of Indonesia, particularly in Sumatra, is not simply a natural disaster, but a direct consequence of human activities that damage ecosystems. Increasing data on floods and landslides indicates that deforestation, watershed damage, land conversion, and poor environmental governance have accelerated



ecological degradation. This reality aligns with the Quran's warning in Surah Ar-Rum, verse 41, that damage on land and sea arises from human actions.

The research results show that the current ecological *façade*, such as flooding, landslides, river sedimentation, loss of vegetation, and increased disaster risk, is clear evidence of the ecological imbalance caused by human behavior. The interpretation study confirms that this verse not only describes physical damage but also conveys a moral and spiritual message urging humans to return to behavior that maintains natural harmony.

Using a Qur'anic ecotheology approach, this study found that the principles of *tawhid*, *khilafah*, *amanah*, and *mizan* provide a strong theological foundation for environmental education. These four principles form an Islamic environmental ethic that guides humans to be just towards nature, avoid overexploitation, and restore it when damage occurs. However, field findings indicate that these ecological values have not been internalized in the behavior of society and policymakers, resulting in widespread environmental damage and increasing disaster frequency.

based on Qur'anic values. Surah Ar-Rum, verse 41, is highly relevant for building a holistic ecological awareness in society, combining scientific, moral, spiritual, and practical aspects. This integration is expected to foster responsible ecological behavior, thereby restoring the balance of nature and maintaining the sustainability of human life and the environment.

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