

From *Fasād* to *Mīzān*: A Qur'anic Eco-Theological Framework for Non-Structural Flood Mitigation in Kendari City

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ABSTRACT

Urban flooding is a multidimensional problem shaped by rainfall, drainage capacity, land-use change, environmental governance, and human behavior. This study aims to construct a Qur'anic eco-theological framework for non-structural flood mitigation in Kendari City by examining the relationship between the concepts of *fasād* and *mīzān*. This qualitative library research employs thematic Qur'anic interpretation (*tafsīr mawḍū'ī*) and descriptive-interpretive content analysis. Primary sources include the Qur'an and selected exegetical works by Ibn Kathīr, al-Ṭabarī, al-Qurṭubī, and Hamka, while secondary sources comprise scholarly publications, regulations, institutional documents, and secondary data on flood mitigation in Kendari City. The analysis focuses on Qur'an 30:41 and 7:56 to examine *fasād*, and Qur'an 55:7–9 to explore *mīzān*, before contextualizing their meanings within the literature on urban flood mitigation. The findings conceptualize *fasād* as an ethical-diagnostic category for evaluating human actions that damage environmental functions, while *mīzān* serves as a reconstructive principle emphasizing balance, proportionality, justice, and sustainability. Their integration produces a conceptual sequence linking the recognition of environmental damage, ecological awareness, ethical responsibility, and mitigation-oriented action. In the context of Kendari City, this framework provides an ethical basis for ecological education, waste management, water conservation, catchment protection, and watershed rehabilitation, alongside technically appropriate flood-control measures. The study contributes a conceptual framework for integrating Qur'anic environmental ethics into non-structural flood mitigation. However, its practical effectiveness and influence on community awareness and behavior require further empirical investigation.

1. INTRODUCTION

Climate change has intensified the risks faced by urban areas, with human-induced global warming influencing extreme weather and climate events (IPCC, 2023). Urban flooding, however, cannot be explained by rainfall alone. It also involves land-use change, drainage capacity, watershed conditions, settlement patterns, and environmental governance. Flood mitigation therefore requires complementary technical, institutional, and socio-ethical approaches. (Gade, 2024). Kendari City, Southeast Sulawesi, faces these challenges despite the implementation of structural and non-structural flood mitigation measures in the Wanggu Watershed, including drainage improvements, retention facilities, risk mapping, public awareness campaigns, and emergency preparedness (Directorate General of Water Resources, 2021; Wahid, 2023). Kendari City Regulation No. 12 of 2014 on Cleanliness and Aesthetics also establishes responsibilities for maintaining environmental cleanliness and waterways (Kendari City Government, 2014). Nevertheless, flooding continues to affect urban communities. According to a report by Radio Republik Indonesia (RRI, 2026), an update published on May 13, 2026, recorded 1,339 homes and 5,445 people affected across 16

neighborhoods. These impacts highlight the continuing need to integrate technical mitigation with environmental responsibility and public participation, without assuming that community behavior alone determines flood risk. Previous studies have addressed flood mitigation and Islamic environmental ethics from different perspectives. Wahid (2023) examined structural and non-structural flood mitigation in Kendari City, including regulatory measures, risk assessment, environmental campaigns, and community preparedness. In Islamic environmental studies, Husna and Sarjan (2024) discussed human responsibility as *khalifah* in environmental protection, while Rasyid, Bakir, and Munawir (2025) explored the concepts of order and balance in *mīzān* through Hamka's *Tafsir Al-Azhar*. Ruswanda (2025) examined Nasaruddin Umar's eco-theology in relation to ecological education and policy, and Baiquni (2026) connected Islamic eco-theology with critical education and ecological justice in the context of extractive industries in Southeast Sulawesi. Other studies have discussed environmental diplomacy, Islamic legal responsibility, and the principles of *khalifah*, *mīzān*, *amanah*, and conservation (Firdaus & Wandira, 2022; Zulaikha, 2014; Azzahra & Maysithoh, 2024).

Although these studies provide important foundations, the relationship between Qur'anic interpretations of *fasād* and *mīzān* and the ethical dimensions of non-structural urban flood mitigation in Kendari City requires further conceptual integration. This study addresses that gap by developing an eco-theological framework that connects the ethical recognition of environmental damage with responsibility and principles of balance. Methodologically, it distinguishes between the empirical explanation of flooding, which relies on hydrological, environmental, and disaster-management research, and the normative contribution of the Qur'an and its exegesis, which provides an ethical framework for evaluating human responsibility toward the environment. Accordingly, this study aims to analyze the concepts of *fasād* and *mīzān* in Qur'anic exegesis, explain their relationship within an eco-theological framework, and contextualize their relevance to non-structural flood mitigation in Kendari City. It positions *fasād* as a diagnostic-ethical category for examining human actions that damage environmental functions and *mīzān* as a reconstructive principle oriented toward balance, proportionality, justice, and sustainability. The resulting framework is intended to inform ecological education, environmental responsibility, and mitigation-oriented practices (Esraz-Ul-Zannat et al., 2024). Rather than claiming to demonstrate community participation or intervention effectiveness empirically, this study offers a conceptual foundation for further research and practical application.

2. METHODS

This study employs a qualitative approach through descriptive-interpretive library research. It uses thematic Qur'anic exegesis (*tafsīr mawḍū'ī*) to examine the concepts of environmental degradation, ecological balance, and human responsibility toward the environment. The primary verses are Qur'an 30:41 and 7:56, which provide the principal textual basis for analyzing *fasād*, and Qur'an 55:7–9, which provides the basis for examining *mīzān*. Supporting verses are considered when they clarify the relationship between humans, nature, and moral responsibility. The Qur'anic text is interpreted as a source of ethical and theological principles, not as a technical explanation of hydrological processes. Literature was selected purposively according to its relevance to the research objectives and its contribution to Qur'anic interpretation, Islamic eco-theology, environmental ethics, and flood mitigation. Primary sources consisted of the Qur'an and four exegetical works: *Tafsīr al-Qur'ān al-'Azīm* by Ibn Kathīr, *Jāmi' al-Bayān* by al-Ṭabarī, *Al-Jāmi' li Ahkām al-Qur'ān* by al-Qurṭubī, and *Tafsīr Al-Azhar* by Hamka. These works were selected to support a comparative examination of the meanings and ethical implications of the relevant verses. Secondary sources included journal articles, academic books, regulations, institutional reports, and scientific

publications concerning eco-theology, environmental ethics, climate change, flood mitigation, and environmental conditions in Kendari City. Sources were included when they met at least one of the following criteria: (1) directly discussed the selected Qur'anic verses or the concepts of *fasād* and *mīzān*; (2) provided a relevant theoretical or ethical discussion of human responsibility toward the environment; or (3) presented documented information on flood risk, environmental conditions, or mitigation policies relevant to Kendari City. Priority was given to scholarly publications, official regulations, and reports from government institutions or other identifiable institutional sources. News reports were included only when they provided recent contextual information explicitly attributed to the Regional Disaster Management Agency (*Badan Penanggulangan Bencana Daerah*, BPBD) or another relevant authority.

Sources were excluded when their relevance to the research questions could not be established, when their claims lacked identifiable supporting evidence, or when they presented unsupported opinions as established findings. Publications that discussed flood mitigation without a clear connection to the study's conceptual or geographical focus were not used as substantive evidence. These criteria were intended to maintain the relevance and traceability of the literature rather than to produce a quantitative or systematic-review assessment of all available publications. Data were collected through documentation. The research and analysis proceeded through five steps. First, the research problem and analytical focus were established by identifying the relationship between environmental damage, ecological balance, human responsibility, and non-structural flood mitigation in Kendari City. This step guided the selection of relevant Qur'anic verses and literature. Second, the primary Qur'anic passages were identified and grouped thematically. Qur'an 30:41 and 7:56 were examined in relation to *fasād*, while Qur'an 55:7–9 was examined in relation to *mīzān*. Supporting verses were considered where necessary to clarify related ethical concepts. The selected passages were then studied through the four exegetical works to identify each commentator's explanation of the verses, the meanings attributed to key concepts, and their implications for human conduct and environmental responsibility. Third, the interpretations were compared to identify convergences, differences, and recurring themes. The analysis focused on the textual context, explanations of relevant terms, ethical implications, and the relationship between human actions and environmental order. The resulting interpretive notes were organized into preliminary analytical categories, including environmental damage, human responsibility, balance, justice, proportionality, and ecological sustainability. These categories were derived from the selected verses and exegetical discussions rather than imposed as empirical measurements. Fourth, the interpretive findings were synthesized into three connected dimensions of the proposed eco-theological framework: the diagnostic dimension, which uses *fasād* to examine environmental damage and ethically problematic human actions; the normative dimension, which uses *mīzān* to articulate principles of balance, justice, and proportionality; and the practical dimension, which considers how these principles may inform non-structural flood mitigation. The practical dimension was developed by comparing the interpretive findings with relevant academic literature, regulations, institutional documents, and secondary information about flood mitigation in Kendari City. This step established conceptual connections between Qur'anic environmental ethics and mitigation practices without treating those connections as evidence of demonstrated effectiveness.

Fifth, the resulting framework was reviewed for consistency with the selected Qur'anic passages, the exegetical sources, and the contextual literature. Claims were checked against their respective sources, and normative interpretations were distinguished from empirical descriptions of flooding and mitigation. Where contextual sources provided information attributed to government authorities, the attribution was retained rather than presenting the information as an independently verified field finding. The credibility of the analysis was supported through source triangulation, comparison among the selected exegetical works, and cross-checking contextual claims against

relevant academic and institutional publications. The distinction between interpretive conclusions and empirical information was maintained throughout the analysis. As this study is based on library research, it does not measure public awareness, observe community participation directly, or test the effectiveness of specific mitigation interventions. Its outcome is a conceptual eco-theological framework intended to inform further empirical research and context-sensitive applications in flood mitigation.

3. RESULTS AND DISCUSSION

3.1 Flooding in Kendari City and the Need to Strengthen Nonstructural Mitigation Measures

The findings indicate that Kendari City is not in a state of no intervention. The flood control system in the Wanggu Watershed has been designed from upstream to downstream, while the local government and community have implemented various forms of structural and non-structural mitigation measures (Directorate General of Water Resources, 2021; Wahid, 2023). This finding is important because it prevents overly simplistic conclusions that flooding occurs solely due to a lack of infrastructure. Within the framework of disaster risk, infrastructure is just one component among land use planning, watershed conditions, environmental behavior, preparedness, and institutional capacity. Wahid (2023) found that structural mitigation measures in Kendari include river levees, retention ponds, drainage improvements, water level monitoring, hazard zone signage, evacuation routes, and building adaptations. Non-structural mitigation includes regulations, risk assessments, mapping, research, emergency response teams, public advisories, river and drainage cleanup, public awareness campaigns, and training. This means that the novelty of this research lies not in adding to the list of mitigation activities, but in providing an ethical foundation that can strengthen the internalization and sustainability of the community's eco-friendly behaviors. The urgency of this is evident from the scale of the May 2026 flood's impact. An update from the Regional Disaster Management Agency (BPBD), published by RRI, recorded 1,339 homes and 5,445 people affected across 16 neighborhoods (RRI, 2026). This data is not used to establish a single cause-and-effect relationship between community behavior and the flood. Rather, the data serves as an empirical context illustrating that urban resilience requires a multi-layered approach. Technical approaches address flow mechanisms and infrastructure capacity, while socio-ethical approaches relate to habits, compliance with regulations, environmental stewardship, and collective participation (Nugraheni et al., 2022; Zhou et al., 2024). Kendari City Regulation No. 12 of 2014 provides a common ground between the regulatory and ethical dimensions, as it mandates the obligation to maintain cleanliness and waterways in the vicinity of buildings (Kendari City Government, 2014). From a mitigation perspective, this regulation demonstrates that residents' behavior is an integral part of urban environmental governance. However, legal norms are external in nature; eco-theology can complement them by internalizing the moral and religious reasons why environmental conservation must be practiced consistently.

3.2 *Fasād* as a diagnostic-ethical category

QS. Ar-Rūm [30]: 41 is one of the key texts because it links the emergence of *fasād* to human actions. In classical exegesis, *fasād* is not limited to "ecological damage" as understood in contemporary environmental science. Ibn Kathīr associates this verse with sin and the resulting consequences of corruption in life, while al-Ṭabarī places it within the context of human actions and the consequences they experience (Ibn Kathīr, 2016; al-Ṭabarī, 2001). Therefore, equating *fasād* directly with modern floods would be anachronistic. What can be drawn from a methodological perspective is the ethical structure of the verse: human actions have consequences, and humans are called upon to realign their orientation. "*Corruption has appeared on land and sea because of what people's hands have wrought... so that they may return.*" (QS. Ar-Rūm [30]: 41). QS. Al-A'raf [7]:

56 reinforces this structure through the prohibition against causing corruption on earth after *islāḥ* has taken place. Al-Qurṭubī interprets the prohibition against *ifsād* in a broad sense, such that the principle can be contextualized to apply to actions that undermine the common good and the order of life (al-Qurṭubī, 1964). Contemporary literature also indicates that the concept of *fasād* encompasses a broader moral spectrum than merely ecological issues; therefore, its use in this article is limited to an evaluative category for actions that have been empirically proven to damage environmental functions (Himawan et al., 2025).

This distinction yields an epistemological principle: empirical data determine the form and mechanisms of damage, while *fasād* provides the ethical framework for assessing human responsibility for such damage. For example, an increase in impervious surfaces can increase runoff and the required drainage capacity; such technical relationships must be supported by hydrological studies, not merely by verses. A study by Yudianto and Roy (2009) shows that land-use changes toward impervious areas increase runoff volume and that a combination of retention ponds and infiltration wells can be part of a sustainable drainage system. Once these mechanisms are scientifically understood, the *fasād* framework can be used to evaluate decisions or behaviors that disregard environmental carrying capacity. Thus, *fasād* in this study serves a diagnostic rather than a deterministic function. It helps raise questions about how humans use space, treat rivers, manage waste, preserve infiltration areas, and build cities. This position is also consistent with Husna and Sarjan (2024), who emphasize the responsibility of stewardship and the importance of ecological awareness in relation to QS. Al-A‘rāf [7]: 56.

3.3 *Mīzān* as a reconstructive principle

If the *fasād* serves to diagnose destructive relationships, the ecological paradigm requires a concept that guides the state to be realized. QS. Ar-Raḥmān [55]: 7–9 introduces the *mīzān* in the context of the creation of the heavens, the prohibition against overstepping boundaries, and the command to uphold justice. Literally, *mīzān* means “scales,” but the context of the verses allows for an interpretation centered on order, proportionality, and justice. “*And He has raised the heavens and established the mīzān, so that you may not transgress the limits of that mīzān.*” (QS. Ar-Raḥmān [55]: 7–8). Hamka interprets “*mīzān*” by emphasizing the order of creation and the prohibition against overstepping boundaries. This interpretation is further developed by Rasyid, Bakir, and Munawir (2025), who found that “*mīzān*” in the Tafsir Al-Azhar conveys the meanings of order and balance and establishes an understanding of human responsibility in preserving the sustainability of nature. These findings support the positioning of *mīzān* as a reconstructive principle, but this article expands its function by linking it directly to the process of transforming consciousness into mitigation actions. Al-Qurṭubī situates *mīzān* primarily within the framework of justice and the prohibition against shortchanging the scales (al-Qurṭubī, 1964). Therefore, caution is warranted when the term is expanded to mean “ecosystem balance.” This ecological expansion constitutes an ethical contextualization, not a claim that classical exegetes formulated modern ecosystem theory. Normatively, *mīzān* can guide humans toward proportional use of nature: development is permitted, but it should not eliminate the ecological functions that sustain life. From this, the conceptual relationship between *fasād* and *mīzān* becomes apparent. *Fasād* identifies relationships that result in corruption; *mīzān* provides a corrective orientation. Between the two lie awareness and responsibility. This model can be formulated as *fasād*, recognition, responsibility, *mīzān*, ecological action. Its analytical novelty lies not in the terms “*fasād*” or “*mīzān*” separately, but in their function as two stages of ethical transformation in the context of urban flood mitigation.

3.4 Ecotheology as a Mechanism for the Transformation of Ecological Consciousness

Ecotheology connects beliefs about God with humanity’s place in the world and the value of nature. Madina (2021) demonstrates that ecological theology can provide moral legitimacy for the

integration of sustainability values into daily religious practices. In the context of Indonesian Islam, Ruswanda (2025) found that Nasaruddin Umar's eco-theology emphasizes love as the foundation of the human-nature relationship, critiques the dominant theological paradigm, and interprets environmental conservation as a concrete form of worship. These findings are relevant because they demonstrate a pathway from theological ideas to education, policy, and social action. However, the relationship between religion and ecological behavior should not be assumed to be automatic. Knowing verses about the environment does not necessarily mean that a person will change their behavior. Therefore, this article distinguishes three layers of awareness. First, cognitive awareness, which involves understanding the relationship between human actions and environmental conditions. Second, ethical-spiritual awareness, which involves viewing environmental stewardship as a moral and religious responsibility. Third, practical awareness—the ability to translate knowledge and values into behavior and collective action. Eco-theology has mitigative relevance when these three layers are interconnected. (Gade, 2024). This framework expands upon Baiquni's (2026) findings, which position eco-theology and critical education as the foundation for ecological justice awareness amid extractive industries. In the context of urban flooding, the objects of transformation differ: they include not only the relationship between society and the extractive industry but also everyday practices, the management of rainwater, waste, infiltration areas, rivers, and participation in environmental policy. Thus, ecotheology functions as a bridge between Qur'anic norms and ecological habitus, rather than as a substitute for disaster science.

3.5 Contextualization of the *fasād–mīzān* model for flood mitigation in Kendari City

Table 1. Operationalization of the *Fasād–Mīzān* Paradigm

Stage	Functions	Key Questions	Mitigation implications
<i>Fasād</i>	Diagnostic-Ethical	What actions exacerbate the damage or vulnerability?	Identify behaviors and governance practices that undermine environmental functions
Awareness	Cognitive-reflective	How do human actions relate to risk?	Literacy on floods, the environment, waste, water, and watersheds
Responsibility	Ethical-Spiritual	Who is responsible within their respective capacities?	Division of roles among citizens, communities, the government, and institutions
<i>Mīzān</i>	Reconstructive	What proportional conditions need to be restored?	Balance between development, infiltration, runoff, vegetation, and open space
Environmental action	Practice	How are values translated into action?	Waste management, water conservation, watershed rehabilitation, participation

At the household level, the *fasād–mīzān* paradigm can be implemented through waste management, drainage maintenance, reduction of unnecessary impervious surfaces, rainwater harvesting, and infiltration facilities when technical conditions permit. These practices align with the obligations regarding cleanliness and environmental maintenance outlined in Kendari City Regulation No. 12 of 2014 (Kendari City Government, 2014). At this level, “*mīzān*” does not refer to an abstract “balance,” but rather to the proportionality between the need for built space and the maintenance of water functions and the environment. At the community level, mosques, schools, religious organizations, youth groups, and neighborhood communities can serve as hubs for ecological education. The relevance of religious institutions is reinforced by Ruswanda's (2025) finding that contemporary eco-theology in Indonesia has shifted toward the realm of education and institutional programs. Community-based ecological education can connect religious messages with concrete activities such as environmental cleanup, drainage maintenance, vegetation planting, water conservation, and flood preparedness. At the governance level, public awareness must not be used

as an excuse to shift government responsibilities onto citizens. The government retains authority over land-use planning, drainage, watershed management, control infrastructure, early warning systems, regulatory enforcement, and the protection of vulnerable groups. The principle of *mīzān*, in fact, demands a proportional distribution of responsibilities according to capacity and authority. Therefore, this model is collaborative, not individualistic. (Al Amin et al., 2024; Manes et al., 2024)

One technical approach that can be incorporated into a water conservation framework is controlling runoff at its source. Yudianto and Roy (2009) demonstrated that a combination of retention ponds and infiltration wells can reduce runoff in densely populated areas under specific design conditions. These findings support the importance of infiltration and retention but do not justify the claim that infiltration wells or “zero runoff” are always suitable for every location. Their implementation in Kendari requires an assessment of geology, soil permeability, the water table, design rainfall, building density, and local technical design specifications. At the watershed scale, the principle of *mīzān* is relevant as an ethical framework for the rehabilitation and protection of hydrological functions. Kendari’s flood control system itself has employed an upstream–downstream approach in the Wanggu Watershed (Directorate General of Water Resources, 2021). Therefore, the public’s ecological awareness should not stop at keeping the gutters in front of their homes clean, but should evolve into an understanding that the city’s ecological safety is linked to the river system, infiltration areas, vegetation, and land use within the unified watershed. A synthesis of the research findings yields the following model: *fasād* (diagnosis of damage), ecological awareness (recognition), eco-theological responsibility, *mīzān* (orientation toward balance and justice), ecological action, non-structural mitigation, urban ecological resilience. This model avoids two forms of reductionism simultaneously. Technocratic reductionism assumes that flooding can be resolved solely through infrastructure, while theological reductionism assumes that moral change can replace the need for hydrology, spatial planning, and infrastructure. The paradigm proposed here, however, positions science, policy, infrastructure, and religious ethics as complementary layers. (Esraz-Ul-Zannat et al., 2024)

4. CONCLUSION

The theoretical contribution of this study is the conceptual integration of *fasād* and *mīzān* into a Qur’anic eco-theological framework for non-structural flood mitigation. *Fasād* functions as a diagnostic-ethical category for evaluating environmental damage, while *mīzān* provides a normative orientation toward balance, proportionality, justice, and sustainability. Their relationship is formulated as a sequence of ecological awareness, responsibility, and mitigation-oriented action. Practically, this framework can inform ecological education, waste management, drainage maintenance, water conservation, recharge-area protection, and watershed rehabilitation in Kendari City. It complements, rather than replaces, hydrological assessment, infrastructure, environmental regulations, and land-use planning. However, because this study relies on literature and secondary data, the framework’s influence on ecological awareness, community participation, and mitigation effectiveness remains untested. Future empirical research should assess its applicability in flood-prone areas of Kendari City.

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