

Beyond Dichotomy: Synergy between Islamic Perspectives, Science, and Natural Disaster Mitigation

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Abstract

The phenomenon of natural disasters are often understood theoretically as calamities, trials, destiny, or even punishment, which also shape human patterns or attitudes in responding to them. This study aims to describe the thoughts of a prominent Qur'anic exegesis expert named Quraish Shihab on the integration of Islamic and scientific perspectives in responding to natural disasters. This qualitative study in the form of a literature review uses a descriptive approach and content analysis. Data was obtained through documentation techniques. The results of the study show that Quraish Shihab views the importance of cooperation between Islamic and scientific perspectives in responding to natural disasters. This is because natural disasters as natural laws (*sunnatullah*) can also be analysed through a scientific approach, but still followed by an Islamic theological approach and humanitarian values. This study contributes to the importance of collaborative-informative perspectives between religion and science as a paradigm and disaster mitigation strategy.

Keywords: Islam, Science, Disaster Mitigation, Quraish Shihab

Abstrak

Fenomena bencana alam secara teoritis sering dipahami sebagai musibah, ujian, takdir, bahkan hukuman yang juga membentuk pola atau sikap manusia dalam meresponsnya. Penelitian ini bertujuan untuk mendeskripsikan pemikiran pakar tafsir Qur'an terkemuka bernama Quraish Shihab tentang integrasi perspektif Islam dan sains dalam menyikapi bencana alam. Penelitian kualitatif dalam bentuk kajian pustaka ini menggunakan pendekatan deskriptif dan analisa isi. Data diperoleh melalui teknik dokumentasi. Hasil penelitian menunjukkan Quraish Shihab memandang pentingnya kerjasama perspektif Islam dan sains dalam merespons bencana alam. Hal ini disebabkan bencana alam sebagai hukum alam (sunnatullah) juga dapat dianalisis melalui pendekatan ilmiah, namun tetap diikuti pendekatan teologis Islam, dan nilai kemanusiaan. Penelitian ini berkontribusi pada pentingnya kolaboratif-informatif antara perspektif agama dan sains sebagai paradigma, dan strategi mitigasi bencana.

Kata Kunci: Islam, Sains, Mitigasi Bencana Alam, Quraish Shihab

INTRODUCTION

At the end of 2025, Indonesia, specifically the island of Sumatra, experienced one of the worst natural disasters in recorded history. The massive damage caused by flash floods and landslides that hit North Sumatra, Aceh, and West Sumatra has had a devastating impact on millions of residents since late November. The disasters that struck Sumatra at the end of 2025, including major floods and landslides in North Sumatra, Aceh, and West Sumatra, caused serious damage and numerous casualties. According to a report from the National Disaster Management Agency, extreme rainfall, damage to the ecosystem, and high vulnerability in the region were the main factors that exacerbated the impact of the disaster. This incident shows that disasters are not merely natural phenomena, but are also greatly influenced by human behavior and poorly managed environmental conditions (BNPB, t.t.).

The above disasters have given rise to various interpretations among the Indonesian people. First, natural events such as landslides and major floods do not just happen, but are also triggered by human actions. Second, apart from human factors, disasters can also be considered as tests from God to test the faith of His servants. Third, disasters can serve as a form of punishment for high levels of sinfulness and disobedience. Some also believe that disasters occur because of the many heretical and superstitious practices carried out by the community. In fact, many associate disasters with oppressive government policies. (Kemenag, t.t., hlm. 2025). In line with this statement, Deputy Chairman of the Indonesian Ulema Council, KH Cholil Nafis, told the public that this disaster should be used as a moment of reflection for all Indonesians. He said that from an Islamic perspective, natural disasters that befall a region are not a form of Allah's wrath, but they are not without cause either. *"Of course, if we want to determine whether this is Allah's wrath or not, it is up to us. If this disaster occurred because we committed haram acts or wrongdoings, then perhaps this is a warning from Allah. But if we have been obedient and good and then suffered a disaster, then it is a test for us to earn merit and, of course, a higher level of maqam before Allah SWT"*. (MUI - Majelis Ulama Indonesia - MUI - Majelis Ulama Indonesia, t.t.)

The above understanding actually has an important spiritual role, but it often diverts attention from the scientific understanding of causes, risks, and mitigation measures. In situations like this, many people still view this phenomenon through a religious lens, such as considering it a test or punishment. On the other hand, explanations from a scientific perspective about the causes of disasters, including ecological and disaster factors, have not been fully used as a reference in shaping community behavior and actions. This indicates a fundamental problem, namely the lack of integration between religious understanding and scientific knowledge, which makes the response unbalanced and insufficiently supportive of disaster mitigation efforts. (Aksa, 2020a).

Regarding the paradigm and attitude in responding to natural disasters, one of Indonesia's Muslim intellectuals, Quraish Shihab, presents an important idea about the attitude of religious people towards natural disasters through a balance between faith and reason, as well as the relevance of understanding the verses of kauniyah. This study aims to

describe Quraish Shihab's thinking on the integration of Islam and science in responding to natural disasters. This study will outline three main objectives, namely, first, to describe how the community reacted to the 2025 Sumatra disaster from the perspectives of Islam and science. Second, to examine Quraish Shihab's thoughts on *sunnatullah*, faith-reason, and ayat kauniyah as a framework of understanding, and third, to formulate a form of integration of religion and science literacy that is relevant to improving community preparedness in facing disasters.

Various previous studies discussing natural disasters from the perspective of M. Quraish Shihab have emphasized the importance of logical theological understanding, especially in viewing disasters as part of *sunnatullah* and the impact of human relations with the environment. This is similar to previous research by Khafidhoh, which discusses the theology of disasters from the perspective of M. Quraish Shihab.(Khafidhoh, 2013). Previous studies generally emphasized the theological and normative aspects related to disasters, without clearly linking these ideas to scientific understanding and community responses in the context of modern disasters. Therefore, there is a gap in research as there has been no study that specifically explores the integration of Islam and science from Quraish Shihab's perspective (Arifah et al., 2024a) .

This research is important because Quraish Shihab's thinking provides an interpretation method that not only enhances spiritual awareness but also opens opportunities for knowledge in understanding natural phenomena and current life.(Arifah dkk., 2024b). Therefore, this research is significant because the integration of Islam and science literacy can provide the community with a deeper understanding of disasters, both as spiritual phenomena and as natural events that follow the laws of cause and effect. The integrative approach suggested by Quraish Shihab produces a more balanced understanding between Islamic religious values and scientific demands, thereby increasing awareness of mitigation, preparedness, and responsibility in facing disasters.(Jauhari dkk., 2024a)

RESEARCH METHODS

This study applies a qualitative approach in the form of *library research*. This approach was chosen based on the focus of the study, which includes exploring ideas, theories, and interpretations in Islamic religious texts and literature on natural disasters. Data analysis was conducted using content analysis and interpretive analysis methods. Content analysis was used to identify the main themes in Quraish Shihab's works, particularly regarding *sunnatullah*, iman-akal, and *ayat kauniyah*. On the other hand, interpretive analysis was used to explore the meaning and significance of these concepts in relation to science literacy and public response in the context of natural disasters.

The main sources of data in this study include various scientific literature that examines Quraish Shihab's thoughts on the relationship between faith, reason, *sunnatullah*, and understanding of natural phenomena. On the other hand, additional data sources include reports on natural disasters that occurred in 2025, articles and writings

documenting public reactions to disasters, and scientific literature related to disaster science and science literacy.

RESULTS AND DISCUSSION

Natural Disasters in the Perspective of Qur'an and Science

The Qur'an is a source of Islamic thought and spirituality that forms the basis and source of motivation for Muslims' views on spiritual knowledge, as well as various other types of knowledge, so that all types of knowledge can be integrated. However, the Qur'an is not a book about science, but it conveys scientific principles that are always linked to metaphysical and spiritual knowledge.(Barbour, 1998) The Qur'an's call to "read in the name of your Lord" appears in about 300 verses. This instruction has been interpreted to mean that the pursuit of knowledge, including science, must be rooted in a foundation of knowledge about the reality of God. Islam provides organic legitimacy to science in relation to knowledge about God and the spiritual world. Therefore, science in Islam has a religious and spiritual nature.(Agustian & Isnaeni, 2025)

Some people believe that disasters only occur because of God's will. However, in reality, sunnatullah occurs when humans forget their role as stewards of the earth. Natural disasters are the result of a combination of natural processes (such as volcanic eruptions, earthquakes, and landslides) and human actions. Human inability to deal with disasters, caused by poor emergency management, results in financial and structural losses, and can even lead to loss of life.(Sun dkk., 2018). Therefore, the Qur'an is not only a guide for human life, but also offers the best solutions to the problems faced by humans. This is very important because the opinions and responses of the community regarding natural disasters are not fully in line with what is stated in the Qur'an. Regarding natural disasters, one of the verses in the Qur'an shows that disasters can also be caused by human actions.

In Q.S. Ar-Rum verse 41, Allah Subhanahu wa Ta'ala says, which means: *Corruption has appeared on land and sea because of what the hands of humans have done. (Through this) Allah makes them taste some of the consequences of their deeds so that they may return (to the right path).* This verse states that Allah wants to remind humans that the disasters that occur on land and sea are the result of human actions. This shows that disasters are not Allah's will, such as punishing, testing, or warning humanity. There is much evidence to show that humans are the cause of these disasters, for example, through excessive deforestation and damage to the oceans due to the exploitation of marine resources to satisfy humanity's immediate needs. This is also not accompanied by efforts to maintain the balance of nature so that existing ecosystems continue to function properly. (Hakim, n.d.)

Furthermore, analysis indicates that the factors causing disasters are not limited to extreme weather. Environmental damage, such as the reduction of forested areas upstream, changes in land use for agriculture, mining, and residential development without mitigation measures, also exacerbates the effects of flooding. (Barbour, 1997) With the reduced ability of the soil to absorb water and the increased rate of surface water flow,

heavy rains quickly transform into disasters for residents in the downstream areas. (Sains, n.d., p. 2025).

Furthermore, forests naturally have a great capacity to retain rainwater. Even under ideal conditions, up to one-third of water can be retained in the canopy, and more than half seeps into the ground before reaching the surface. When forest cover is reduced, the entire volume of water moves simultaneously towards rivers and accelerates flooding. From a scientific perspective, these floods are caused by a combination of weather and environmental factors, accompanied by very heavy rainfall as a result of extreme weather patterns and environmental damage upstream that reduces nature's ability to absorb and retain runoff water. (*"Science and Religion,"* 2025) Hydrologists reveal that the destruction of hydrological functions in the upper reaches of rivers caused by massive deforestation, changes in land use, and poor management of river basins has exacerbated the impact of heavy rainfall, transforming it into a major disaster rather than just a normal weather event. (*Ahli Hidrologi UGM, t.t.*)

The Dialectic between Islam, Science, and Natural Disasters in the Thought of Quraish Shihab

However, to understand the Qur'an, interpretations from scholars are needed so that these explanations can be applied in everyday life. One well-known interpretation of this was expressed by M. Quraish Shihab. He applied a contextual approach, linking the teachings of the Qur'an to the current situation, thus making this interpretation relevant to addressing the challenges of the times, including the environmental issues facing the world. In addition, he emphasizes the importance of maintaining balance (*mizan*) and moderation (*wasatiyyah*) in human relations with nature, while reminding us of the great responsibility given by Allah to humans as caliphs on earth. Quraish Shihab emphasized that any action that disrupts this balance, such as the excessive exploitation of natural resources, is a violation of Allah's commandments. In addition to balance, Quraish Shihab also emphasized the importance of moderation in his views on the environment. He explained that Islam teaches the principle of moderation in every aspect of life, including the use and management of natural resources. (Andalan et al., 2025)

In M. Quraish Shihab's view, religion and science are understood not as two separate fields, but as two aspects that interact with each other to understand reality and human life as a whole. In the context of scientific interpretation (*tafsîr ilmi*), Shihab considers the verses of the Qur'an related to natural phenomena and science as a means not only to understand scientific facts, but also to derive moral and spiritual lessons from them. He argues that the Qur'an can serve as an ethical foundation that provides guidance in the use of science, so that science not only creates material progress but also preserves human and moral values. (Supriadi, 2017). On various occasions, Shihab often explained that progress in science that is not balanced with moral values can provide significant benefits but also cause destruction, both physically, socially, and spiritually. Therefore, deep thinking about the values that must be integrated through religious understanding is necessary. According to Shihab's view, the integration of religion and scientific knowledge

in understanding disasters indicates that events such as major floods cannot be overcome solely with scientific information and technical mitigation measures, but must also be understood in the context of religious values that provide an ethical basis for recovery, prevention, and human responsibility towards the environment and towards others. (Aprison, 2017).

Quraish Shihab's view of the relationship between religion and science can be seen from three main ideas that form the basis of integration, namely *sunnatullah*, the balance between faith and reason, and *kauniyah verses*. Further explanation is as follows.

First, *sunnatullah*. The essence of calamity is *sunnatullah* in testing every human being and is a hidden blessing from Allah SWT. Calamities do not occur except according to Allah's *qadla* and *qadar*. The occurrence of calamities is a result of mistakes made by humans themselves (in the form of transgressions or sins, and not following the *sunnah* of Allah SWT that applies in nature). The second reason is that it is a test from Allah to raise the status of some of His servants if they are patient. Quraish Shihab explains that the universe operates according to *sunnatullah*, which are the constant and unchanging laws of Allah. Natural events, such as disasters, occur through cause-and-effect relationships that can be studied and explained through a scientific approach. Thus, efforts to understand disasters through a scientific approach do not contradict religious principles, but are in line with the Qur'an's acknowledgment of order in nature. From this perspective, disasters are not only viewed from a theological aspect but also as natural events that have logical explanations. (Jauhari et al., 2024b).

Second, the balance between faith and reason. The importance of the balance between faith and reason, two concepts that are often considered separate, actually complement each other and interact dynamically. Faith, as the spiritual and emotional center, guides humans towards moral and spiritual values, while reason, as the center of rationality, enables humans to implement these values in real life. The balance between the two is crucial in achieving true happiness and living a meaningful life. Imbalance can cause internal disharmony and hinder personal development. (Pramita et al., 2025).

According to Quraish Shihab, faith and reason must go hand in hand. Faith provides guidance on values and spirituality, while reason serves to understand reality and take concrete action. Humans should not be passive on the grounds of destiny, but must strive to use reason and knowledge. In the context of disasters, an understanding that is only emotional and religious, such as considering disasters solely as a form of punishment, can obscure human responsibility to make prevention and preparation efforts. Therefore, religious understanding needs to be combined with scientific knowledge so that the community's reaction is more balanced and constructive. (Furqan & Hikmawan, 2021).

Third, *Kauniyah verses*. The Quran commands or encourages humans to pay attention to and study the universe to obtain benefits and conveniences for their lives, as well as to lead them to an awareness of the Oneness and Omnipotence of Allah SWT. According to Quraish Shihab, calamity actually encompasses everything that happens, both positive and negative, both blessings and disasters. However, the word is popularly used to mean disaster. This differs from other exegetes who interpret calamity to mean negative

things or disasters. Quraish Shihab reminds us that the Qur'an is not limited to discussions of worship and belief, but also invites humanity to see and study the verses of *kauniyah*, namely the signs of Allah that exist in the universe. This invitation shows that analyzing natural phenomena with a scientific approach is part of the practice of faith. Therefore, spirituality and scientific knowledge are interrelated and mutually supportive in understanding various phenomena in nature, including disasters. (Jauhari dkk., 2024b).

Based on the explanation of the concept of *sunnatullah*, the balance between faith and reason, and the interpretation of *kauniyah* verses, it can be concluded that Quraish Shihab's view highlights the importance of integrating religion and scientific knowledge in understanding natural disasters. Disasters are not only considered metaphysical events that are understood through religious feelings, but also as natural events that operate according to the laws of Allah and can be analyzed through a scientific approach. By combining faith as a spiritual foundation and reason as a rational tool, understanding of disasters becomes more balanced, encouraging an active, reflective, and responsible attitude in facing and reducing the impact of natural disasters.

Integration of Islamic Perspectives, and Science: The Foundation of Natural Disaster Mitigation

Social reality shows that views on natural disasters within society are not uniform, as some communities or individuals view them only as unavoidable natural phenomena, while others view them as the result of human actions that damage the environment. There are even those who give moral and spiritual interpretations of the meaning of these events. These differences in narrative reflect a problem of meaning, namely that the same disaster is understood in different ways depending on the framework of thought, values, and life experiences of the social group concerned. (Aksa, 2020b) In addition, the lack of balance in the level of scientific understanding among the community has an impact on how they understand the causes of disasters and the preventive measures that should be taken. Several sources on disasters reveal that a lack of knowledge about risks and natural causes affects preparedness, which is not yet optimal, causing the community to tend to be negligent or unprepared when facing disasters. In this case, there is an imbalance in the community's perspective on religious assessment and scientific understanding (The Importance of Improving Community Disaster Literacy, n.d.)

The above explanation shows that our understanding of disasters is not limited to what happens empirically but is also related to how the community and public discourse interpret them, as well as the values associated with their understanding of these events. This meaning serves as a conceptual link that allows for a deeper reading through the perspective of Quraish Shihab, who observes disasters not only from the aspect of their physical causes, but also from religious, moral, and knowledge dimensions that integrate faith and reason. (Okyere et al., 2024).

Furthermore, the integration of religion and science in this study is seen as the result of critical reflection arising from an analysis of the understanding of disasters from the perspective of the Qur'an and science within the framework of Quraish Shihab's

interpretation. In this context, integration is not considered a basic assumption but rather a logical consequence of the limitations of a singular approach to understanding disasters. The fact is that science-based explanations alone are not sufficient to capture the full meaning, while religious interpretations that do not involve scientific knowledge risk being trapped in theological simplifications. Given that approaches that focus on only one side, whether science or religion, often result in a superficial understanding of disasters. Science, although excellent at explaining natural cause-and-effect relationships and ways to overcome problems, frequently overlooks the ethical and spiritual aspects that influence human perspectives on disasters. Conversely, a religious approach that is not connected to scientific knowledge can result in a pessimistic attitude and neglect of responsibility towards the environment. (Sheikhi et al., 2021) In this context, Quraish Shihab's view provides a different and dialogical perspective, seeing disasters as part of sunnatullah that can be understood with reason and also contemplated through faith.

Ultimately, the integration of religion and scientific understanding in this paper affirms a framework for analyzing natural disasters more comprehensively and proportionally. This integration provides an understanding of disasters that not only answers the "how" and "why" from a scientific point of view, but also the "what for" and "how humans should behave" from an ethical and spiritual perspective. (Ha, 2025) The scientific contribution of this study lies in presenting a unified perspective on disasters, connecting faith and logic, and creating opportunities for rational, reflective, and transformative interpretations in dealing with current disaster situations.

CONCLUSION

The main point of this study is that Quraish Shihab's view natural disasters as complex phenomena that require an integrative approach between Islamic perspectives and science. Through this perspective, Quraish Shihab emphasizes the importance of a paradigm and attitude of natural disaster mitigation that refers to a dialogical foundation between Islamic religious, scientific, and humanitarian perspectives.

This study confirms that the synergy between religious and scientific perspectives can provide an epistemological framework that promotes a holistic, rational, and humanistic paradigm and attitude toward natural disaster mitigation. The limitations of this study are still at the theoretical level, and it has not identified the obstacles and challenges in implementing Quraish Shihab's integrative paradigm in the context of specific natural disaster cases. Therefore, further research is needed to study these cases.

REFERENCES

- Agustian, A. A., & Isnaeni, A. (2025). Human Habits and Calamities According to the Interpretation of M. Quraish Shihab (Thematic Tafsir Study of Tafsir Al-Misbah). *Journal for Islamic Studies*, 8(2).
- Ahli Hidrologi UGM: Banjir Aceh-Sumatra Akumulasi Dosa Ekologis di Hulu DAS. (t.t.). NU Online. Diambil 22 Desember 2025, dari <https://svr.nu.or.id/nasional/ahli-hidrologi-ugm-banjir-aceh-sumatra-akumulasi-dosa-ekologis-di-hulu-das-9w879>

- Aksa, F. I. (2020a). Islamic perspectives in disaster: An alternative to changing fatalistic attitudes. *Jàmbá: Journal of Disaster Risk Studies*, 12(1), 4.
- Aksa, F. I. (2020b). Islamic perspectives in disaster: An alternative to changing fatalistic attitudes. *Jàmbá: Journal of Disaster Risk Studies*, 12(1), 942. <https://doi.org/10.4102/jamba.v12i1.942>
- Andalan, S., Admizal, I., Suriyadi, S., & Zakiar, Z. (2025). Environmental Values in Tafsir Al-Misbah According to the Perspective of Quraish Shihab. *Journal of Education: Conference Series*, 6(2), 571–576. <https://doi.org/10.35329/jp.v6i2.5856>
- Aprison, W. (2017). M. Quraish Shihab's View on the Position of the Qur'an in the Development of Knowledge. *MADANIA: JOURNAL OF ISLAMIC STUDIES*, 21(2), 181. <https://doi.org/10.29300/madania.v21i2.602>
- Arifah, N. H., N, A. M., & Nurbaiti, N. (2024a). The Relationship Between Religion and Philosophy in Tafsîr Al-Mishbâh by M. Quraish Shihab. *Journal of Global Innovation*, 2(11), 1884–1894. <https://doi.org/10.58344/jig.v2i11.221>
- Arifah, N. H., N, A. M., & Nurbaiti, N. (2024b). The Relationship Between Religion and Philosophy in Tafsîr Al-Mishbâh by M. Quraish Shihab. *Journal of Global Innovation*, 2(11), 1884–1894. <https://doi.org/10.58344/jig.v2i11.221>
- Barbour, I. G. (1997). *Religion and science: Historical and contemporary issues* (1st HarperCollins rev. ed.). HarperSanFrancisco.
- Barbour, I. G. (1998). *Religion and Science* (Rev Ed edition). SCM Press.
- BNPB, P. (t.t.). *National Disaster Management Agency*. BNPB. Retrieved December 21, 2025, from <https://bnpb.go.id/>
- Furqan, F., & Hikmawan, A. (2021). Reason and Revelation According to Harun Nasution and Quraish Shihab and its Relevance to Islam Education. *Al-Misbah (Jurnal Islamic Studies)*, 9(1), 17–30. <https://doi.org/10.26555/al-misbah.v9i1.3890>
- Ha, K.-M. (2025). Including Faith Communities in Disaster Recovery Phase via Religious Diversity: Qualitative Descriptive Analysis. *Millah: Journal of Religious Studies*, 105–136. <https://doi.org/10.20885/millah.vol24.iss1.art4>
- Hakim, A. (t.t.). *MAKNA BENCANA MENURUT AL-QUR'AN* :
- Jauhari, S. A., As'adah, R., & Rahman, H. Y. (2024a). Qouliyah-Kauniyah Verse Relation (Integration of the Qur'an with Science in the Discourse of Interpretation). *Proceeding International Conference on Islam, Law, and Society (INCOILS)*, 3. <https://doi.org/10.70062/incoils.v3i1.137>
- Jauhari, S. A., As'adah, R., & Rahman, H. Y. (2024b). Qouliyah-Kauniyah Verse Relation (Integration of the Qur'an with Science in the Discourse of Interpretation). *Proceeding International Conference on Islam, Law, and Society (INCOILS)*, 3. <https://doi.org/10.70062/incoils.v3i1.137>
- Ministry of Religion. (t.t.). *Year-end muhasabah, taking the wisdom of the coming of natural disasters*. Ministry of Religion of North Sumatra. Retrieved December 13, 2025, from <https://sumut.kemenag.go.id/beranda/single-post/muhasabah-akhir-tahun-mengambil-hikmah-datangnya-musibah-bencana-alam>
- Khafidhoh, K. (2013). Disaster Theology in the Perspective of M. Quraish Shihab. *ESSENCE: Journal of Ushuluddin Sciences*, 14(1), 37–60. <https://doi.org/10.14421/esensia.v14i1.749>

- MUI - Indonesian Ulema Council—MUI - Indonesian Ulema Council. (t.t.). Retrieved December 13, 2025, from <https://mui.or.id/baca/berita/bencana-sumatera-waketum-mui-musibah-jadi-muhasabah-dan-korban-termasuk-syahid>
- PRamita, A. W., Ramadhani, U., Siregar, S. H., Wira, Y., Lubis, C. N., & Lubis, R. (2025). The concept of al-Qalb and al-Aql. *Journal of Islamic and Social Religious Studies*, 2(3), 506–512.
- Science, S. P. (t.t.). *Major Floods in Sumatra 2025: Causes, Impacts & Important Lessons*. S-3 Science Education. Retrieved December 21, 2025, from <https://s3pendsains.fmipa.unesa.ac.id/post/banjir-besar-di-sumatra-2025-penyebab-dampak-pelajaran-penting>
- Sheikhi, R. A., Seyedin, H., Qanizadeh, G., & Jahangiri, K. (2021). Role of Religious Institutions in Disaster Risk Management: A Systematic Review. *Disaster Medicine and Public Health Preparedness*, 15(2), 239–254. <https://doi.org/10.1017/dmp.2019.145>
- Sun, L., Deng, Y., & Qi, W. (2018). Two impact pathways from religious belief to public disaster response: Findings from a literature review. *International Journal of Disaster Risk Reduction*, 27, 588–595. <https://doi.org/10.1016/j.ijdrr.2017.10.004>
- Supriadi, A. (2017). Integrating Qur'an and Science: Epistemology of Tafsir Ilmi in Indonesia. *Refleksi: Jurnal Kajian Agama Dan Filsafat*, 16(2), 149–186. <https://doi.org/10.15408/ref.v16i2.10191>