

THE PHENOMENON OF TROPICAL FOREST DEFORESTATION IN INDONESIA AND ITS LEGAL ANALYSIS FROM THE PERSPECTIVE OF HIFZ AL-BIAH'S THEORY

*FENOMENA DEFORESTASI HUTAN TROPIS DI INDONESIA DAN
ANALISIS HUKUMNYA DALAM PERSPEKTIF TEORI HIFZ AL-BIAH*

Harwis¹

¹ *Institut Agama Islam Negeri (IAIN) Ternate, Indonesia*

*harwis@iain-ternate.ac.id

Article Info:

Received February 15, 2024

Revised February 29, 2024

Accepted March 20, 2024

Available online March 28, 2024

ABSTRACT

The high rate of tropical forest deforestation in Indonesia every year will have a negative impact on the sustainability of the environment and social life. The destruction of tropical forests in Indonesia continues to increase and it can be seen that tropical forests in Indonesia continue to decrease every year, this has a negative impact on Indonesia and the world. This research is a literature study using research data that examines the phenomenon of tropical forest deforestation in Indonesia and then analyzes the law using the hifz albiah theoretical approach. This research uses a qualitative approach in analyzing, explaining, describing and revealing research results. The theory of Hifz al-biah (protecting the environment) is one of the development theories carried out by contemporary maqâsidi figures from the five objectives of sharia (maqasid shariah) introduced by classical scholars. Through this theoretical analysis, this research concludes that deforestation of tropical forests that exceeds the required limit (had al-kifayah) is a prohibited action and is contrary to the objectives of sharia (maqasid shariah). This research aims to strengthen and provide support to policy makers to create strict tropical forest management regulations to prevent the rate of tropical forest deforestation in Indonesia. The rules made by policy makers are an extension of religious values and principles.

Keywords: tropical forest; hifz al-biah; deforestation

ABSTRAK

Tingginya laju penggundulan hutan tropis di Indonesia setiap tahunnya akan berdampak negatif terhadap kelestarian lingkungan dan kehidupan sosial. Kerusakan hutan tropis di Indonesia terus meningkat dan terlihat bahwa hutan tropis di Indonesia setiap tahunnya terus berkurang, hal ini memberikan dampak buruk bagi Indonesia dan dunia. Penelitian ini merupakan studi kepustakaan dengan

menggunakan data penelitian yang mengkaji fenomena deforestasi hutan tropis di Indonesia kemudian menganalisis hukumnya dengan pendekatan teori hifz al-biah. Penelitian ini menggunakan pendekatan kualitatif dalam menganalisis, menjelaskan, mendeskripsikan dan mengungkapkan hasil penelitian. Teori Hifz al-biah (menjaga lingkungan hidup) merupakan salah satu teori pengembangan yang dilakukan oleh tokoh maqâsidi kontemporer dari lima tujuan syariah (maqasid syariah) yang diperkenalkan oleh para ulama klasik. Melalui analisis teoritis tersebut, penelitian ini menyimpulkan bahwa penebangan hutan tropis yang melebihi batas yang dipersyaratkan (had al-kifayah) merupakan tindakan yang dilarang dan bertentangan dengan tujuan syariah (maqasid syariah). Penelitian ini bertujuan untuk memperkuat dan memberikan dukungan kepada pengambil kebijakan untuk membuat peraturan pengelolaan hutan tropis yang ketat guna mencegah laju deforestasi hutan tropis di Indonesia. Aturan yang dibuat oleh pengambil kebijakan merupakan perpanjangan tangan dari nilai dan prinsip agama.

Kata-kata Kunci: hutan tropis; hifz al-biah; penggundulan hutan

A. INTRODUCTION

Indonesia, as a country endowed with abundant natural resources, possesses tropical forests that serve as the habitat for various endemic flora and fauna. Unfortunately, the phenomenon of deforestation has emerged as a serious issue within this nation. The deforestation of tropical forests has adverse ecological, economic, and social impacts. These consequences include the loss of biodiversity, climate change, and ecosystem instability. In Indonesia, tropical forests are a primary target for deforestation due to the demand for agricultural and industrial land.

Conflicts of interest arising in human relations can be identified as a key triggering factor. The rapidly growing population necessitates residential land, requiring extensive areas for human habitation. These vast expanses of land are readily available within the forests of Indonesia, making the forests victims of competing interests in meeting diverse human needs. Indonesia stands as one of the countries boasting the largest tropical rainforests globally. Despite having the largest tropical rainforests, forest degradation is inevitable. According to data released by the World Bank, the destruction or deforestation of forests reaches figures between 700,000 to 1,200,000 hectares per year. However, the World Bank's data may not fully reflect the actual figures. Greenpeace records that deforestation in Indonesian forests once reached its peak at 3,800,000 hectares per year (Junior, 2022).

Analysis from the National Aeronautics and Space Administration of the United States, NASA, indicates that the Earth's average surface temperature in 2022 is equal to that of the year 2015. This temperature sets the fifth-hottest record and continues the long-term warming trend. The analysis of the Earth's surface tem-

perature throughout 2022 was conducted by scientists from NASA's Goddard Institute for Space Studies (GISS). They noted that the global temperature in 2022 was 1.6 degrees Fahrenheit or 0.89 degrees Celsius above the NASA baseline average for the period 1951-1980. The past nine years have been the warmest on record since modern recording began in 1880. This indicates that the Earth's temperature in 2022 was approximately 2 degrees Fahrenheit or 1.11 degrees Celsius warmer than the late 19th-century average (Pandu, 2023).

According to a study conducted by Muhammad Arif and Zana Zein Hardimanto, one of the causes of deforestation that has environmental degradation impacts is economic performance. Economic performance significantly contributes to negative effects on the environment and nature, such as deforestation, global warming, and environmental degradation. Meanwhile, in the field of health, numerous challenges are faced due to new pressures, such as the emergence of new diseases and an increase in chronic illnesses. Additionally, it has been predicted that the continuous rise in global warming causes the Earth to be enveloped in thick gases that impede the release of heat into the atmosphere, leading to the melting of the polar ice caps, an increase in sea and surface temperatures, as well as increasingly extreme changes in Earth's weather and climate. This could potentially threaten the safety of the planet Earth and human life across various parts of the world (Arif & Hardimanto, 2023).

The findings of another study conducted through qualitative methods on the large-scale deforestation impacts by Wahyuni on global warming in Indonesia state that the level of deforestation in Indonesia remains exceedingly high. Continuous deforestation can contribute to an escalating global warming trend, spreading across various regions in Indonesia and adversely affecting its living organisms. In fact, in the year 2000, Indonesia ranked third among the countries with the highest emissions, with a total of 2,563 MtCO_{2e}. The contributing factors include agricultural conversion, forest fires, timber harvesting, and the use of firewood (Wahyuni & Suranto, 2021).

Therefore, researching the legal status of deforestation in Indonesia is crucial as part of educational, advocacy, and environmental preservation campaigns. These efforts aim to build public awareness through religious leaders, knowledge dissemination through scholars, and advocacy and campaigns targeting policy-makers.

B. METHOD

This study employs a qualitative descriptive approach to analyse, explain, elaborate, and unveil the research findings. Qualitative research is a research method that gathers data through observation or document examination. Descriptive research provides as detailed data as possible about humans, situations, or other phenomena with the primary purpose of clarifying hypotheses, strengthening existing theories, or formulating new theories. The data collection technique used is a literature review by exploring relevant previous studies and research. Similarly, it involves exploring the concept of *Hifz al-biah* from the perspective of *maqasidi* figures who advocate the theory of *maqasid syariah*. The collected data is then analysed using a normative legal approach.

C. RESULT AND DISCUSSION

Tropical Forest Deforestation in Indonesia

The forest area in Indonesia has been decreasing year by year. The rate of deforestation has become a serious problem, not only in Indonesia but also globally. Nevertheless, the government continues to make efforts to address this issue. According to data from the Ministry of Environment and Forestry (KLHK), Indonesia successfully reduced the deforestation rate by 75.03% in the period of 2018-2019, decreasing from 462,460 hectares to 115,460 hectares in the period of 2019-2020 (Nakita & Najicha, 2022).

Furthermore, forest protection has become a global issue concerning the functions of forests that can threaten human safety worldwide. Forest clearance is now frequently carried out for various purposes, including providing livelihoods for communities, business opportunities for entrepreneurs, and contributing to the country's foreign exchange. In the early days of the New Order government, efforts were made to improve the economic conditions by utilizing timber from the forestry sector as one of the sources of foreign exchange for the country. This step was considered an initial move in maximizing the use of forests as a significant contributor to the country's foreign exchange. Deforestation is the loss of forest land, a complex issue that is challenging to address. Therefore, it requires knowledge and strong collaboration among various elements capable of mobilizing communities to engage in reducing activities or supporting programs deemed effective in solving the shared challenges faced.

Many news reports highlight disasters affecting communities due to our own actions in neglecting environmental sustainability. Natural disasters such as flash floods, droughts, crop failures, and forest fires frequently occur. The level of forest destruction also has extensive impacts on the agriculture of communities, protected forest areas, and the existence of flora and fauna throughout Indonesia. (Nakita & Najicha, 2022) The National Disaster Mitigation Agency (BNPB) even recorded that in the early days of 2021, within a span of 21 days, there were 185 disasters, with 127 of them being floods. Numerous factors underlie the frequent occurrences of floods in Indonesia, with human activities being the most significant contributing factor (Australia, 2021).

While Indonesia has a legal foundation related to environmental damage prevention instruments, which also regulates various types of permits related to the environment, such as the Environmental Impact Analysis. If legal regulations are already in place, their implementation is equally important. Proper implementation of environmental permits will impact the preservation of environmental sustainability. The government, as a policymaker, bears the responsibility in addressing these conditions. Moreover, preserving nature and meeting the environmental needs of the Indonesian people are constitutional mandates that must be fulfilled by the government. This is articulated in Law Number 39 of 1999 concerning Human Rights in Chapter III Article 9, paragraph (1): "Every person has the right to live, to defend their life and to improve their standard of living." (2) Every person has the right to live peacefully, safely, in peace, happiness, and prosperity, both physically and mentally. (3) Every person has the right to a good and healthy environment (Riyadi & Anggara, 2022).

In Indonesia, one dilemma-causing factor of deforestation is the palm oil industry. It's a dilemma because, on one hand, palm oil plantations have contributed to the economic development of Indonesia. However, from an international perspective, palm oil purchasing countries penalize its unsustainable aspects due to environmental impacts. Various policies have been issued in response to these impacts, both tariff and non-tariff in nature, such as sustainable palm oil certification schemes, which are believed to improve the conditions of deforestation (Permatasari, 2022).

Mining operations, much like palm oil plantations, stand as one of the primary factors causing deforestation in Indonesia. Although mining activities have provided a significant boost to economic growth in the last decade, their impacts are highly complex.

According to official data from the East Kalimantan Provincial Government, in 2018, the mining/extraction and oil and gas processing sector dominated the economic structure of the province, reaching 46.35%. Mining in Indonesia is focused on the utilization of various mineral resources, including silver, copper, coal, and natural gas. In 2020, East Kalimantan Province itself produced a substantial amount, such as 187.8 million tons of coal, 14,381.23 thousand barrels of crude oil, and 156,294.54 thousand MMBTU (Million British Thermal Units) of natural gas. These figures reflect a substantial contribution, especially in coal production, accounting for 27% of Indonesia's total coal production that year, reaching 562.5 million tons. Generally, mining activities are conducted through open-pit systems, significantly impacting forest land cover in East Kalimantan and causing high levels of deforestation in the region (Ramadhany, 2023).

Therefore, it can be concluded that deforestation in Indonesian forests is fundamentally caused by the Provincial Government's lack of serious implementation of the mining permit moratorium, which should have been applied by considering environmental sustainability and the inconsistency in enforcing existing policies.

***Hifz al-Biah* and Tropical Forest Deforestation**

Every text (*nas*) essentially comprises four elements that cooperate to capture its content. The four elements in question are: Meaning, Law, Micro Objectives (*Maqâshid Juz'i* also known as *'illat*), and Macro Objectives (*Maqasid 'am*). Muslim thinkers should pay attention to this ethical code in the process of reading a legal text. The authentic reading process is one that operates under the umbrella of *maqashid shariah*, both micro and macro. *Hifz al-biah* is one of the macro objectives of the Quran and Hadith.

Yusuf al-Qaradhawi asserts that preserving the sustainability of nature and the environment is one way to realize the primary goals of Islamic law (*maqasid syariah*). This is because humans cannot be separated from their environment, which simultaneously serves as their place of life. Preserving the existence and well-being of the environment aligns with safeguarding human well-being. Al-Qarḍāwī refers to this concept as *hifdh al-bī'ah* and *riayah al-biah*. The connection between the environment and the five necessities (*daruriyat al-khams*) is very close, as these five fundamental principles cannot be achieved perfectly without considering the protection of the environment (*hifz al-bī'ah*) (Al-Qaradhawi, 2001).

In the application of Islamic environmental preservation (*hifz al-biah*), Yusuf al-Qaradhwai follows the opinion of Al-Syatibi, stating that safeguarding the basic interests (*daruriyat al-khams*) can be achieved through two approaches. First, by taking actions that can bring about benefits (*min jalb al-wujud*), and second, by preventing actions that can cause harm and danger (*min jalb al-'adam*) (Al-Syatibi, 2003).

Based on this concept, Yusuf al-Qaradhwai divides the implementation of *hifdh al-bī'ah* into two approaches. First, through *ṭarīq wujūdy* (active measures), and second, through *ṭarīq salbi* (passive or preventive measures). (Al-Qaradhwai, 2001). What is emphasized most is that the teachings of Islam, according to the theory of *hifz al-biah*, involve moral and ethical principles as the basis for perspectives and actions in preserving the environment or ecology (Riyadi & Anggara, 2022).

The concept of *Hifz al-biah* can be linked to the five necessities (*al-kulliyat al-khams*) that must be preserved in the religion.

First, *Hifz al-biah* is part of preserving the religion (*hifz al-din*). In Yusuf al-Qaradhwai's view, good environmental preservation is closely related to good religious practices. Actions that harm nature and the environment fundamentally contradict the spirit of religious observance and constitute a violation of Allah's command to humanity to do good to the creatures around them. Furthermore, arbitrary actions towards nature, pollution, and environmental destruction also contradict the principles of justice and *aliḥsān* commanded by Allah in Surah an-Nahl 90. Not only that, but human arrogance towards the environment also violates the principle of *khalīfah* that Allah has entrusted to humans on this earth. Despite humans walking on the earth, the earth is not their absolute possession. Humans are entrusted by Allah to manage and prosper the earth. In reality, the owner and ruler of the earth is Allah SWT. Therefore, in efforts to regulate and care for the earth, humans must submit to Allah's commands and decrees (Al-Qaradhwai, 2001).

Second, *Hifz al-biah* is also part of preserving the soul (*hifz al-nafs*). *Hifz al-nafs* is safeguarding human life, safety, and health. According to Yusuf al-Qaradhwai, killing the soul can be done in two ways: direct killing and indirect or gradual killing. The second type of killing may not directly cause death. However, over time, if consistently done, it will lead to the loss of life, similar to consuming alcohol (*khamr*) and smoking, which doctors unanimously agree on their dangers. Environmental destruction that can lead to natural

disasters in the future also falls into this category (Al-Qaradhawi, 2001).

Third: *Hifz al-biah* is also part of preserving reason (*hifz al-'aql*). According to Yusuf al-Qaradhawi, the general understanding of *hifz al-biah* emphasizes the need for someone to maintain the overall condition of humans, including the outward (physical) and inward (intellectual) aspects. It is a mistake to only focus on the physical well-being of humans without considering their mental state. For example, the prohibition of consuming alcoholic beverages (*khamr*) is not limited to the act of drinking alone but also encompasses agricultural management aimed at producing *khamr* or other plants that will be used for substances that can intoxicate and harm reason. Therefore, the importance of *hifdh al-bī'ah* becomes very apparent as it contributes to the maintenance of mental health (*hifdh al-'aql*) in the future (Al-Qaradhawi, 2001).

Fourth: *Hifz al-biah* is also part of preserving offspring (*hifz al-nasl*). One of the macro objectives of Sharia is to preserve offspring. Because that is how human civilization from generation to generation will continue to exist. Environmental destruction threatens the lives of future generations. What happens, is happening, or will happen is connected to each other, and what will come is a consequence of the present, and the present is a consequence of the past (Al-Qaradhawi, 2001).

Fifth: *Hifz al-biah* is also part of preserving wealth (*hifz al-mal*). Yusuf al-Qaradhawi asserts that the concept of *al-mal* is not only limited to gold, silver, and other valuable items, as some might think. The meaning of *al-mal* (wealth) is very broad. Anything that has value for humans and can guarantee survival is considered wealth. Therefore, the earth that is walked upon is wealth. Trees, livestock, water, living space, grass, rivers, and other elements related to the environment are all considered wealth with a very broad meaning (Al-Qaradhawi, 2001).

Considering this, it can be said that *Hifz al-biah* automatically becomes an absolute means to realize the five objectives that Sharia aims to achieve. In essence, the five objectives that Sharia aims for cannot be achieved without the preservation of the environment that is maintained and preserved. Therefore, it can be said that those who deforest the forest in various ways are violating the Quran and Hadith.

Hifz al-biah becomes a macro objective of religious texts that has become a necessity to implement. Preserving the environment is the collective duty of the entire human community (*fard kifayah*).

Therefore, deforestation actions are also actions that can be collective sins. If someone engages in deforestation, and others remain silent, those who remain silent can also be considered sinful.

The Ethics of Interacting with Nature from the Perspective of *Hifz al-Biah's* Theory

The jurists (*Fuqaha*) have not explicitly formulated principles regarding environmental conservation. However, throughout the historical development of Islamic jurisprudence (*fiqh*), intrinsic elements of environmental preservation can be observed in chapters related to purification (*taharah*), sanctuary (*hima*), revitalization of wastelands (*ihya al-mawat*), removal of harm from pathways (*izalatul 'aza 'an al-turuqat*), and others (Fajr, 2021).

Islam emphasizes the balance between humans and nature, emphasizing the need to maintain this harmony to prevent damage. In this context, the role of humans as stewards on Earth becomes extremely urgent to manage the Earth wisely. In line with this principle, steps toward forest restoration, especially for damaged forests, can be achieved through the movement of forest rehabilitation or reforestation.

According to Yusuf al-Qaradawi, considering the guidance found in Hadith and the Quran, three basic ethical principles can be identified in interacting with the environment. First is courtesy towards the environment (*al-ihsan bi al-biah*). Courtesy towards the environment includes treating fellow humans, animals, plants, and inanimate objects with kindness. Second is the ethics of preserving the environment from harm (*al-muhafazah 'ala al-biah min al-itlaq*). Islam, as a compassionate religion, explicitly prohibits all forms of violence and destruction of the environment. Perpetrators of such destructive actions are threatened with severe punishment in the afterlife by Allah. Such wrongdoings must be prevented and rectified using one's hands, tongue, and heart. Third is maintaining environmental cleanliness (*al-taharatu wa al-nazafah*). One of Islam's teachings that considers environmental sustainability is the emphasis on cleanliness. Public health is closely related to environmental cleanliness. Poorly maintained environments can lead to the growth of bacteria and fungi, causing various diseases. Public awareness is crucial in building a healthy and clean life. From the perspective of Islamic teachings, cleanliness is not only for health but also as a means of worship and getting closer to Allah. Indeed, cleanliness is considered an obligation that must be fulfilled by every follower of Islam (Al-Qaradawi, 2001).

In Indonesia, one of the scholars who has made significant contributions to ecological jurisprudence is KH. Ali Yafie. He formulated social jurisprudence, which he considers to be a method (*manhaj*) that must be developed by Muslim intellectuals to provide therapy for social control, which is currently constrained by the wrapping of jurisprudential packaging hiding behind authority. Thus, the role of social jurisprudence can act as a counterbalance to such power by emphasizing the sociological aspects of society, ultimately aiming to improve the welfare of the community. Jurisprudence is no longer to be used as a foundation to protect the hegemony of ruling powers (Arwani, 2020).

The Legal Analysis of Tropical Rainforest Deforestation from the Perspective of *Hifz al-Biah*'s Theory

Observing this, the concept of *hifz al-biah* can be said to indicate that deforestation of tropical rainforests is not in line with the objectives of Islamic law and is assuredly inconsistent with the purpose of creating humans on Earth as stewards (an extension of hands on Earth in preserving nature). The inconsistency between the concept of *hifz al-biah* and deforestation of tropical rainforests can be described as follows in the table:

Five Objectives of Sharia (Al-Kulliyat al-Khams)	Hifz al-din (Preserving religion)	<i>Hifz al-nafs</i> (Preserving life)	Hifz al-aql (Preserving intellect)	Hifz al-nasl (Preserving progeny)	Hifz al-mal (Preserving wealth)
<i>Hifz al-biah</i> (Preserving the Environment as a Means of Preserving the Five Objectives of Sharia)	Preserving the five objectives of Sharia cannot be achieved without preserving the environment (<i>hifz al-biah</i>)				
Three Ethics of Interacting with the Environ-	First: Being friendly to the environment; Second: Preserving the environment from damage; and Third: Maintaining environmental cleanliness				

ment from the Per- spective of the Theory of Hifz al- Biah	
Defor- estation of Tropical Rainforests	Deforestation of tropical rainforests is inconsistent with the ethics of interacting with the environment. Therefore, deforestation of tropical rainforests, which damages the environment, means damaging the five objectives of Sharia.
Legal Analysis of Deforesta- tion of Tropical Rainforests from the Perspec- tive of the Theory of Hifz al-Biah	Anything contradicting the objectives of Sharia should not be done. Therefore, the act of deforestation is considered prohibited (haram) according to Sharia

The inconsistency between deforestation and Maqashid Sharia can be observed through the relevance of the environment to Maqashid Sharia.

Firstly, the Relevance of *hifz al-din* (Preserving religion) to the environment: *Hifz* Din, or preserving religion, is closely related to the environment. Religion provides guidance for humans to live in balance and harmony with the surrounding nature.

Secondly, the Relevance of *hifz al-nafs* (Preserving life) to the environment: Preserving the environment is highly connected to safeguarding human life, as environmental damage and depletion of natural resources can jeopardize the survival of humans and other living beings.

Thirdly, the Relevance of *hifz al-nasl* (Preserving progeny) to the environment: Safeguarding lineage is synonymous with preserving future generations, ensuring their safety by taking care of the environment. Neglecting the environment can impact the sustainability of future generations.

Fourthly, the Relevance of *hifz al-‘aql* (Preserving intellect) to the environment: Humans are created by Allah as the most special beings, endowed with the ability to think. This capacity allows humans to distinguish between right and wrong, as well as between

good and bad. However, if someone with intellect engages in harmful or prohibited activities, it can be said that their thinking is corrupted. Therefore, someone harming the environment needs to improve their thinking.

Fifthly, the Relevance of *hifz al-mal* (Preserving wealth) to the environment: Wealth is not only related to money and gold but encompasses all assets in the country. If the environment and nature are damaged, it will impact the sustainability of wealth accumulation. Damaging the environment under the pretext of seeking wealth is fundamentally wrong, as it is equivalent to closing one hole and digging a new one (Uluum, 2023).

D. CONCLUSION

This research concludes that the act of deforestation in tropical forests in Indonesia is highly alarming and will have adverse impacts on the sustainability of life for creatures, not only in Indonesia but also globally. The theory of *hifz al-biah* is a theory of preserving the environment, which serves as a means to achieve the goals of Sharia. The act of deforestation in tropical forests in Indonesia from the perspective of the *hifz al-biah* theory is considered forbidden and contrary to the goals of Sharia (*Maqasid Sharia*). Therefore, the government needs to formulate strict regulations to prevent the occurrence of more extensive deforestation.

E. REFERENCES

- Al-Qaradhwai, Y. (2001). *Ri'ayah al-Biah fi al-Syariah al-Islam*. Dar al-Syuruq.
- Al-Syatibi, A. I. (2003). *Al-Muwafaqat fi Ushul al-Syari'ah* (Vol II). Dar al-Taufiqiyyah.
- Arif, M., & Hardimanto, Z. Z. (2023). Kinerja Ekonomi Dan Dampaknya Terhadap Degradasi Lingkungan Hidup Di Indonesia. *Jurnal Litbang Sukowati: Media Penelitian Dan Pengembangan*, 7(1), 44–55. <https://doi.org/10.32630/sukowati.v7i1.338>
- Arwani, M. K. (2020). *Menguatkan Konsep Fikih Sosial dalam Dinamika Interaksi Manusia Perspektif K . H Muhammad Ali Yafie 3 . Analysis or Discussion*. 1(1), 25–35. <https://doi.org/https://doi.org/10.57255/hakamain.v1i1.40>
- Australia, A. (2021). *Marak Bencana di Awal 2021, Inikah Dampak Kerusakan Lingkungan?* <https://www.liputan6.com/global/read/4464451/marak->

- bencana-di-awal-2021-inikah-dampak-kerusakan-lingkungan
Fajr, A. S. M. (2021). *Fikih Ekologi; Etika Pemanfaatan Lingkungan di Lereng Gunung Kelud* (Cet. I). Budi Utama.
- Junior, G. R. (2022). DEFORESTASI VS REBOISASI HUTAN DI INDONESIA (Dalam Terang Ensiklik Laudato Si'). *Fides et Ratio*, 7(1), 1–13.
<https://doi.org/https://doi.org/10.47025/fer.v7i1.74>
- Nakita, C., & Najicha, F. U. (2022). Pengaruh Deforestasi dan Upaya Menjaga Kelestarian Hutan di Indonesia. *Ius Civile: Refleksi Penegakan Hukum Dan Keadilan*, 6(1), 92.
<https://doi.org/10.35308/jic.v6i1.4656>
- Pandu, P. (2023). Analisis NASA: Suhu Bumi Tahun 2022 Capai Rekor Terpanas Kelima. *Kompas*.
<https://www.kompas.id/baca/humaniora/2023/01/16/analisis-nasa-suhu-bumi-tahun-2022-capai-rekor-terpanas-kelima>
- Permatasari, A. (2022). Penerapan Prinsip Keberlanjutan: Strategi Negara Menurunkan Emisi Karbon? *Uti Possidetis: Journal of International Law*, 3(3), 345–375.
<https://doi.org/10.22437/up.v3i3.18836>
- Ramadhany, N. (2023). Laju Deforestasi Hutan Akibat Aktivitas Pertambangan di Provinsi Kalimantan Timur. *Jurnal Rekayasa Hijau*, 7(1), 10–19. <https://doi.org/10.26760/jrh.v7i1.10-19>
- Riyadi, F., & Anggara, F. R. (2022). Perlindungan dan pengelolaan lingkungan hidup oleh pemerintah daerah kudus perspektif fiqh bi'ah. *Yudisia : Jurnal Pemikiran Hukum Dan Hukum Islam*, 13, 19–38.
<https://doi.org/http://dx.doi.org/10.21043/yudisia.v13i1.14290>
- Uluum, A. T. (2023). Fikih Ekologi: Menjaga Kelestarian Lingkungan Alam dengan Pendekatan Teori Maqhasidus Syariah. *Indonesian Proceeding*. <https://prosiding.uit-lirboyo.ac.id/index.php/psh/article/view/298>
- Wahyuni, H., & Suranto, S. (2021). Dampak Deforestasi Hutan Skala Besar terhadap Pemanasan Global di Indonesia. *JIIIP: Jurnal Ilmiah Ilmu Pemerintahan*, 6(1), 148–162.
<https://doi.org/10.14710/jiip.v6i1.10083>

