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The Role of Islamic Law in Addressing Global Warming: Perspectives from Indonesia and Global Contexts

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Abstract
This study examines the role of Islamic law in addressing global warming, focusing on case studies from Indonesia and Western contexts. As emphasized by Indian scholar Mukherjee A, climate change has emerged as an escalating global threat driven primarily by human actions such as excessive fossil fuel consumption, deforestation for industrialization and urbanization, and rapid population growth. These activities accelerate global warming and permanently disrupt ecosystems, leading to significant human suffering. Within Islamic jurisprudence, the principle of *Fiqh al-Bī'ah* (Islamic environmental jurisprudence) provides both a moral and legal foundation for maintaining ecological balance. Classical Muslim scholars emphasize stewardship (*khilāfah*) and accountability (*mas'ūliyyah*) as ethical imperatives guiding human responsibility toward nature. In the contemporary context, Islamic law extends these principles through *maqāṣid al-sharī'ah*, particularly the preservation of life (*ḥifẓ al-nafs*) and nature (*ḥifẓ al-bi'ah*), which demand sustainable and responsible engagement with the environment. This research employs a Systematic Literature Review (SLR) alongside an analysis of classical Islamic works, examining 578 scholarly papers to ensure comprehensive coverage. The Miles and Huberman framework, comprising data reduction, data display, and conclusion drawing, was applied to guide the data analysis. The findings reveal that Islamic law offers both normative and practical mechanisms for mitigating climate change: (1) strengthening *Fiqh al-Bī'ah* as a legal-ethical response, (2) promoting ecological citizenship within Society 5.0, (3) enforcing robust environmental regulations and local capacity building, and (4) integrating technological innovation with sustainable practices. The study concludes that Islamic law provides a holistic ethical and legal foundation for environmental stewardship, harmonizing traditional jurisprudence with modern sustainability initiatives to address global warming both globally and locally.

Keywords: Islamic Law, Global Warming, Western, Indonesia

I. Introduction

In recent decades, global warming has become a major concern among scientists worldwide. Rising temperatures, melting glaciers, and extreme weather events have caused widespread ecological and health impacts.[1] Forests, coral reefs, and wetlands are increasingly at risk, posing a threat to both biodiversity and human livelihoods.[2] In response, various international and religious institutions have addressed the issue. The Organization of Islamic Cooperation (OIC), for instance, issued the Islamic Declaration on Climate Change (2015), encouraging nations to reduce greenhouse gas emissions and adopt sustainable practices.[3] Within this framework, Islamic teachings on stewardship (*khilāfah*) and balance (*mīzān*) play a crucial role in shaping Muslim environmental ethics. Recent studies also suggest that *fiqh al-bī'ah* (Islamic environmental jurisprudence) can foster environmental justice and motivate eco-friendly behavior among Muslim communities. The Indonesian experience, where fatwas address ecological responsibility, offers a practical model of how Islamic law contributes to climate action.

Climate change has become an escalating global threat that is increasingly difficult to ignore. Its primary causes are human activities, such as excessive fossil fuel use, deforestation for industrialization and urbanization, and rapid population growth.[4] The perspectives of Muslim scholars in Western contexts on global warming reflect a blend of religious teachings and scientific explanations. They emphasize the importance of cultural and religious-based approaches to addressing climate change and the need for further research to understand and implement effective mitigation strategies within Muslim communities.[5] There is a diversity of interpretations regarding climate change among Muslim communities. Some Muslims link climate change to sin and the damage humans have inflicted on the Earth, while others focus more on scientific explanations.[6] Religious leaders play a significant role in raising awareness and driving action on climate

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[1] O P Agboola, S D Zakka, and S A Olatunji, "Experts Profiling on a Healthier Built Environment: Lowering the Threat of Climate Change," *International Journal of Human Capital in Urban Management* 9, no. 1 (2024): 47 – 60.

[2] Wenhuan Xu et al., "Common Drivers Shaping Niche Distribution and Climate Change Responses of One Hundred Tree Species," *Journal of Environmental Management* 370 (2024).

[3] Newton Kahumbi Maina, "Crop Diseases, Pests and Food Insecurity in Africa: An Islamic Perspective," *Sustainable Development Goals Series* Part F2819 (2024): 167 – 179.

[4] Anirban Mukherjee et al., *Climate Change Risk Perception, Adaptation and Mitigation Strategy: An Extension Outlook in Mountain Himalaya*, *Conservation Agriculture: An Approach to Combat Climate Change in Indian Himalaya*, 2016.

[5] Jens Koehrsen, "Muslims and Climate Change: How Islam, Muslim Organizations, and Religious Leaders Influence Climate Change Perceptions and Mitigation Activities," *Wiley Interdisciplinary Reviews: Climate Change* 12, no. 3 (2021). Maina, "Crop Diseases, Pests and Food Insecurity in Africa: An Islamic Perspective"; Umar Adam Musa, Zainal Abidin bin Sanusi, and Hassan bin Suleiman, "Causes of Climate Change: A Neglected Dimension," *Intellectual Discourse* 32, no. 1 (2024): 265 – 290.

[6] Koehrsen, "Muslims and Climate Change: How Islam, Muslim Organizations, and Religious Leaders Influence Climate Change Perceptions and Mitigation Activities."

change. They can utilize Islamic teachings to encourage Muslims to take pro-environmental actions.[7] The Indonesian Ulema Council (*Majelis Ulama Indonesia, MUI*), through Fatwa No. 86/2024 regarding global climate change control, highlights that global climate change constitutes a serious threat requiring collaborative and active engagement from all segments of the global community. The fatwa frames humanity as the *khalīfah* (steward) of the Earth, entrusted with a moral and spiritual duty to protect and sustain creation, a principle that resonates with the Quranic concept of *rahmatan lil-'ālamīn* (mercy to all creation).[8] The climate crisis is not only triggered by environmental factors but is also closely related to economic, social, political, and cultural systems, values, and ethics. Therefore, according to MUI, strengthening these values through law enforcement and changes in the socio-political system is key to creating sustainable solutions. The Government of Indonesia has also taken an active role in addressing global warming through a series of national policies and programs aimed at reducing greenhouse gas emissions. A key initiative is Indonesia's nationally determined contribution (NDC) under the Paris Agreement, which commits the country to cutting emissions by 29% through domestic efforts and up to 41% with international assistance by 2030.

The role of Islamic law in addressing global warming offers a unique perspective that combines environmental stewardship with ethical principles grounded in religious teachings. In Indonesia, where Islam is the predominant faith, Islamic law, or fiqh, has been increasingly interpreted as a tool for promoting sustainable development and mitigating climate change. Islamic principles such as *tawḥīd* (the oneness of God) emphasize the interconnectedness of all creation, urging humans to act as stewards *(khalīfah*) of the Earth and to ensure its preservation for future generations. This approach differs from Western legal systems, which generally emphasize regulatory enforcement and market-based mechanisms over moral or spiritual responsibility.

Western legal systems and Islamic law conceptualize environmental protection from fundamentally divergent perspectives. The former typically relies on a framework of regulatory enforcement and market-based mechanisms, prioritizing compliance and economic efficiency as the primary drivers of conservation. In contrast, Islamic law frames environmental protection as a deeper ethical and theological obligation, where humans act as stewards of God's creation and are divinely accountable for their actions. This distinction means that while Western environmental regulations often seek to internalize external environmental costs through economic incentives, Islamic principles emphasize a moral and spiritual duty to care for the Earth, rooted in a sense of trust and

[7] Maryamossadat Torabi and Seyed Masoud Noori, "Religious Leaders and the Environmental Crisis Using Knowledge and Social Influence to Counteract Climate Change," *Ecumenical Review* 71, no. 3 (2019): 344 – 355.

[8] Muhamad Said Ramadhan Al-Buthi, *Fiqh As-Siroh an-Nabawiyyah* (Dar Al-Fikr Al-Mu'ashir, 1991).

divine responsibility. As a result, the motivation for environmental stewardship in the two systems stems from markedly different philosophical foundations.

This research, based on sources from the Scopus database, utilizes the Systematic Literature Review (SLR) method with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) approach, aimed at exploring and analyzing relevant literature to understand the role of Islamic law in mitigating climate change. The SLR method, combined with PRISMA, will help structure a systematic and transparent literature search to identify, evaluate, and filter studies related to the application of *fiqh al-bi'ah* (Islamic environmental law) in addressing global warming, as well as compare the perspectives of Western scientists and Muslim scholars on environmental solutions. By applying the PRISMA procedure, this research will categorize existing findings on the role of Islamic law in sustainable development, including the implementation of *fiqh al-bi'ah* principles in Society 5.0, as well as the challenges and opportunities in integrating modern technology with traditional values for climate change mitigation.

II. Global Warming and Climate Change: Between Western Scientific and Religious Frameworks

The concept of global warming has evolved significantly over time, reflecting shifts in scientific understanding, public perception, and political discourse. The conversation on global warming began in 1896, when a chemist predicted that doubling atmospheric CO2 would lead to an increase in global temperatures.[9] This early hypothesis laid the groundwork for future research, and throughout the 19th and early 20th centuries, the idea that climate is not constant gained acceptance, supported by evidence of past ice ages and advancements in computer modeling.[10] Initially, climate experts were skeptical of global warming theories, but accumulating evidence gradually convinced the scientific community of the likelihood of human-induced warming.[11] Despite a broad consensus, debates persist within the scientific community regarding the extent and causes of global warming. Some scientists argue that current climate models are insufficiently verified, which has led to skepticism about future projections.[12] The public's understanding of global warming has been influenced by media representation and public relations efforts,

[9] Spencer Weart, "Global Warming: How Skepticism Became Denial," *Bulletin of the Atomic Scientists* 67, no. 1 (2011): 41 – 50.

[10] J Donald Hughes, "Climate Change: A History of Environmental Knowledge," *Capitalism, Nature, Socialism* 21, no. 3 (2010): 75 – 80.

[11] Weart, "Global Warming: How Skepticism Became Denial."

[12] Andrea Candela, "Climate Sciences and Scientific Method between Science Communication and Sociology of Knowledge; [Scienze Del Clima e Metodo Scientifico Tra Comunicazione Della Scienza e Sociologia Della Conoscenza]," *Epistemologia* 33, no. 2 (2010): 235 – 256; M L Khandekar, T S Murty, and P Chittibabu, "The Global Warming Debate: A Review of the State of Science," *Pure and Applied Geophysics* 162, no. 8–9 (2005): 1557 – 1586.

which have often led to polarized views.[13] The media tends to focus on extreme weather events and future climate projections, sometimes oversimplifying the complex nature of climate change.[14] Political and industrial interests have also historically guided public opinion away from the scientific consensus, with some groups actively denying the scientific evidence of global warming.[15]

In understanding how societies respond to climate change, education plays a critical role in shaping public perception and scientific awareness. Within Western scientific discourse, educators are encouraged to distinguish between rational skepticism and denialism when teaching about global warming. Developing scientific literacy and intellectual skepticism in students is crucial for understanding the complexities of climate science. Additionally, using debate as an educational tool helps students engage with the scientific, political, and social dimensions of global warming, thereby promoting a more informed and balanced understanding of environmental issues. This educational approach also contrasts with Islamic perspectives, which integrate moral and theological reasoning alongside scientific inquiry in promoting environmental and ecological awareness.[16] The basic science of the greenhouse effect, where greenhouse gases trap heat in the atmosphere, is well understood.[17] However, a detailed understanding relies on complex climate models integrating various climatic factors. There are still substantial uncertainties regarding the feedback mechanisms within the climate system, which affect the overall magnitude of climate change.[18] The scientific discourse on global warming is multifaceted, involving historical developments, evolving scientific consensus, socio-political influences, and educational strategies. While there is a strong consensus on the human impact on climate change, ongoing debates and uncertainties highlight the complexity of the issue.

Religious perspectives on global warming and climate change are diverse and multifaceted, reflecting a range of beliefs, practices, and responses across different faith traditions. Some religious adherents view climate change as a divine, immutable law that should not be defied (theocentric), while others see it as a result of human actions

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[13] Weart, "Global Warming: How Skepticism Became Denial"; Tom G K Bryce and Stephen P Day, "Scepticism and Doubt in Science and Science Education: The Complexity of Global Warming as a Socio-Scientific Issue," *Cultural Studies of Science Education* 9, no. 3 (2014): 599 – 632.

[14] Khandekar, Murty, and Chittibabu, "The Global Warming Debate: A Review of the State of Science."

[15] Weart, "Global Warming: How Skepticism Became Denial."

[16] Nurhayati et al., "Exploring Online Preschool Programs in Children ' s Academic Preparation for Elementary School : A Case Study in Indonesia Exploring Online Preschool Programs in Children ' s Academic Preparation for Elementary School : A Case Study in Indonesia," *Cogent Education* 11, no. 1 (2024).

[17] John Houghton, "Global Warming," *Reports on Progress in Physics* 68, no. 6 (2005): 1343 – 1403.

[18] Hans-Martin Füssel, "An Updated Assessment of the Risks from Climate Change Based on Research Published since the IPCC Fourth Assessment Report," *Climatic Change* 97, no. 3 (2009): 469 – 482.

exploiting nature (anthropocentric).[19] Leaders from major religions, including Judaism, Christianity, and Islam, have publicly advocated for action to mitigate climate change, with notable figures such as Pope Francis and Patriarch Bartholomew emphasizing faith-based rationales for environmental action.[20] In addition, the Organization of Islamic Cooperation (OIC) has issued the "Islamic Declaration on Climate Change," which calls for the phasing out of greenhouse gas emissions and promotes sustainable agriculture.[21] Religions can also contribute to climate action through ethical principles and practical guidance on sustainable lifestyles, viewing the Earth and its life forms as having intrinsic value, which motivates care for the environment through love and respect rather than mere utility.[22] For instance, Protestant ethics emphasize the importance of caring for future generations and support climate policies such as those of the European Union, fostering a sense of individual responsibility for environmental issues.[23] Despite these contributions, religious responses to climate change can be inconsistent, with some groups not fully embracing scientific understandings of the issue or prioritizing it as a primary concern.[24] Religious environmentalism also faces internal tensions and ambivalences, which can hinder effective action.[25]

Building on the global discussion of religion and environmental ethics, regional patterns show distinct variations in how faith traditions engage with ecological issues. For instance, in Latin America, diverse religious actors advocate for social justice and environmental protection, whereas in Mauritius, religious beliefs and ecological behaviors do not always align.[26] Furthermore, religious traditions, such as Muslim spirituality, play a significant role in environmental education, emphasizing stewardship and ecological responsibility. Overall, religious perspectives on global warming and climate change offer

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[19] Lestari Agusalim and Muhamad Karim, "How Religiosity Affect Climate Change? A Cross-Country Analysis," *International Journal of Energy Economics and Policy* 14, no. 1 (2024): 150 – 164.

[20] Jame Schaefer, "Motivated for Action and Collaboration: The Abrahamic Religions and Climate Change," *Geosciences (Switzerland)* 6, no. 3 (2016).

[21] Maina, "Crop Diseases, Pests and Food Insecurity in Africa: An Islamic Perspective."

[22] Jakob Wolf and Mickey Gjerris, "A Religious Perspective on Climate Change," *Studia Theologica - Nordic Journal of Theology* 63, no. 2 (2009): 119 – 139.

[23] Sylwia Mrozowska and Marcin Hintz, "Religion and Climate Policy in the European Union," *European Journal of Science and Theology* 16, no. 5 (2020): 143 – 156.

[24] Bron Taylor, "Religion to the Rescue (?) In an Age of Climate Disruption," *Journal for the Study of Religion, Nature and Culture* 9, no. 1 (2015): 7 – 18; Jens Koehrsen, Julia Blanc, and Fabian Huber, *Religious Environmental Activism: Emerging Conflicts and Tensions in Earth Stewardship*, *Religious Environmental Activism: Emerging Conflicts and Tensions in Earth Stewardship*, 2022.

[25] Koehrsen, Blanc, and Huber, *Religious Environmental Activism: Emerging Conflicts and Tensions in Earth Stewardship*.

[26] Robert Albro and Evan Berry, *Church, Cosmovision and the Environment: Religion and Social Conflict in Contemporary Latin America*, *Church, Cosmovision and the Environment: Religion and Social Conflict in Contemporary Latin America*, 2018; Vencatesen Ponin, *Religion and the Environment: An Exploration of the Connections among the Hindu and Christian Community in the Republic of Mauritius*, *Sustainability and the Humanities*, 2018.

ethical, spiritual, and practical contributions to environmental action, although internal and external challenges can affect the consistency and effectiveness of these efforts.[27] However, religious environmentalism faces challenges, including tensions and conflicts within and between religious groups regarding climate actions and beliefs. These divisions can hinder effective engagement in climate action. The role of religious leaders is crucial, as they help frame climate issues within moral and ethical contexts, which can potentially foster greater public involvement and policy support. The impact of religion on climate change perceptions also varies regionally and culturally; for instance, in Africa, Islamic teachings are being used to promote food security and climate resilience in line with the Sustainable Development Goals. Religious perspectives on global warming are diverse and evolving, reflecting a complex blend of beliefs and actions. While some religious groups make meaningful contributions to climate action, others remain skeptical or inactive.

III. Global Warming Through the Lens of Global Scientists' Studies

The systematic literature review (SLR) on the keywords "global warming" and "climate change" aims to identify, analyze, and summarize the key findings from existing research in this field. The process begins with the planning phase, establishing inclusion and exclusion criteria to select relevant literature.[28] Next, a literature search using predefined keywords is conducted through various academic databases, such as Scopus. Following this, a selection process is done by filtering articles based on their relevance, methodological quality, and contribution to the discussed topic. The results of this review show a broad consensus among scientists regarding the human impact on climate change [29], mainly through greenhouse gas emissions.[30] However, despite general agreement, uncertainties remain regarding long-term predictions and specific regional impacts.

Additionally, the review identifies differences in proposed mitigation and adaptation approaches, whether from technological, policy, or socio-economic perspectives, highlighting the complexity of climate change issues that require cross-disciplinary and cross-sector collaboration. This review is based on 578 confirmed papers, which demonstrate a diversity of methodologies and complementary findings while also

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[27] Benaouda Bensaid, "An Overview of Muslim Spiritual Eco-Education," *Journal of Dharma* 48, no. 4 (2023): 465 – 494.

[28] R Fayette, "A Systematic Literature Review of Qualitative Research Methods for Eliciting the Views of Young People with ASD about Their Educational Experiences," *European Journal of Special Needs Education* 33, no. 3 (2018): 349–365.

[29] Eileen Claussen, Vicki Arroyo Cochran, and Debra P Davis, *Climate Change: Science, Strategies, and Solutions: Pew Center on Global Climate Change*, *Climate Change: Science, Strategies, and Solutions: Pew Center on Global Climate Change*, 2022.

[30] Valeriy A Yakovlev and Gavril A Belyaev, "Global Climate Change, Its Consequences and Ways to Solve the Problem," in *E3S Web of Conferences*, vol. 390, 2023.

pointing out the need for further research to clarify some of the uncertainties and challenges in addressing climate change effectively. The SLR procedure concludes by synthesizing the findings, summarizing the selected research, and providing an overview of the development and future direction of climate change research. The trend of research developments related to this issue can be seen in Graph one below:

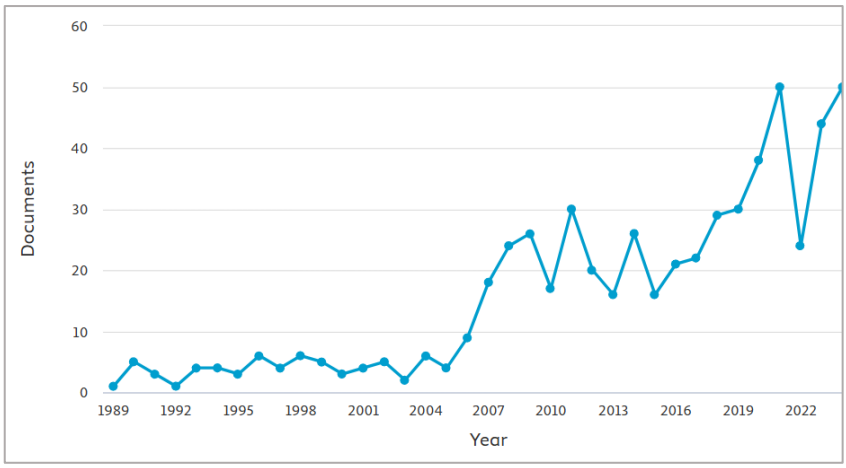

Figure 1. Graph of global warming research (source: Scopus)

The displayed graph, as shown in Figure 1, shows the trend of global warming research publications from 1960 to 2021. Overall, there has been a steady increase in the number of studies addressing climate change over this period. The rise became particularly sharp after the 1990s, following international initiatives such as the Rio Earth Summit (1992) and the Kyoto Protocol (1997), which stimulated scientific interest and funding in environmental studies. Between 2010 and 2020, the number of research outputs increased exponentially, reflecting a growing global awareness and collaboration in climate science. Although a slight fluctuation is observed in 2020—possibly due to the COVID-19 pandemic—the overall trend suggests a strong and sustained expansion of scholarly attention to global warming issues worldwide. This highlights the increasing recognition of climate change as one of the most pressing global research priorities.

The bibliometric map displayed in Figure 2 (the figure is shown below this paragraph), generated through VOSviewer software analysis, illustrates the current research trends related to global warming and climate change being discussed by global scientists, with several interconnected key themes. The keyword "effect" is central to this research, reflecting a major focus on various climate change impacts of concern, such as on health, future scenario predictions, and adaptation strategies. Another prominent cluster is the "climate" theme, highlighting issues such as land use change, climate change impacts, and synergistic effects that exacerbate environmental outcomes. Additionally, research on

"global warming" largely discusses species distribution, ecosystem impacts, and other indirect effects. There are also supporting themes that emphasize mitigation performance, global climate change, and its effects on the agricultural sector. In our view, this visualization reflects a multidisciplinary approach focused on the impacts, adaptation, and mitigation of climate change to address the complex global challenges ahead.

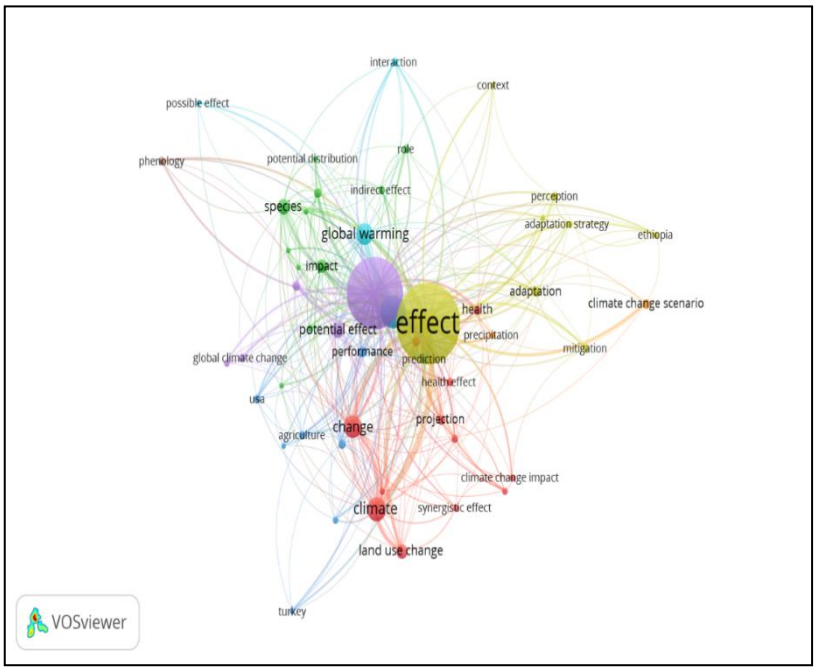

Figure 2. Global Warming research trends by global scientists. Generated by VOSViewer

The other analysis we conducted on the research journal database indicates that global warming has a significant impact on human life. The destructive effects can be seen in the table below:

Category	Impact	Description
Environment	Sea-Level Rise	Global warming causes ocean thermal expansion and glacier melting, leading to flooding, coastal areas' destruction, and millions' displacement. [31]
	Biodiversity Loss	Changes in temperature and precipitation patterns accelerate species loss, alter

[31] Joshua H Ho, *The Arctic Meltdown and Its Implication for Ports and Shipping in Asia*, *Arctic Security in an Age of Climate Change*, 2011; R K Pachauri, "Climate Change," *New Scientist* 187, no. 2517 (2005): 39.

		ecosystems, and shift species distribution, risking extinction. [32]
	Environmental Degradation	Increased CO2 emissions from industrialization accelerate pollution and environmental damage; renewable energy can mitigate the effects.[33]
Weather and Climate	Extreme Weather Events	Increased frequency and intensity of cyclones, floods, and warm winters cause significant damage to human habitats and infrastructure.[34]
Agriculture and Food	Agricultural Impacts	Altered agricultural patterns due to climate change reduce crop yields and threaten food security, driven by higher temperatures and water shortages.[35]
Health	Health Risks	Higher incidence of climate-sensitive diseases like leishmaniasis due to changing disease vector distribution (e.g., mosquitoes).[36]
Economy	Economic Ramifications	Climate change mitigation and adaptation incur significant costs, including infrastructure damage, healthcare expenses, and agricultural losses.[37]
Social and Political	Political and Social Challenges	Global warming debates are politicized, affecting policy-making and requiring consensus between scientists and policymakers.[38]

[32] Ho, *The Arctic Meltdown and Its Implication for Ports and Shipping in Asia*; Claussen, Cochran, and Davis, *Clim. Chang. Sci. Strateg. Solut. Pew Cent. Glob. Clim. Chang.*; Yakovlev and Belyaev, "Global Climate Change, Its Consequences and Ways to Solve the Problem."

[33] Yuanyuan Hao, "Effect of Economic Indicators, Renewable Energy Consumption and Human Development on Climate Change: An Empirical Analysis Based on Panel Data of Selected Countries," *Frontiers in Energy Research* 10 (2022).

[34] Ho, *The Arctic Meltdown and Its Implication for Ports and Shipping in Asia*; Michael J Economides, "Icing on the Top of Warming Furore," *Offshore Engineer* 33, no. 5 (2008): 90; Beniamin Stoica-Fuchs, "Assessing the Vulnerability of Transport Network to Flood Hazard Using GIS Analysis. Case Study along Orient-East Med TEN-T Corridor, on Timiș-Cerna Valley, Romania," *Present Environment and Sustainable Development* 15, no. 2 (2021): 145 – 160.

[35] Ho, *The Arctic Meltdown and Its Implication for Ports and Shipping in Asia*; Claussen, Cochran, and Davis, *Clim. Chang. Sci. Strateg. Solut. Pew Cent. Glob. Clim. Chang.*

[36] Ho, *The Arctic Meltdown and Its Implication for Ports and Shipping in Asia*; Claussen, Cochran, and Davis, *Clim. Chang. Sci. Strateg. Solut. Pew Cent. Glob. Clim. Chang.*; Bilel Chalghaf et al., "Ecological Niche Modeling Predicting the Potential Distribution of Leishmania Vectors in the Mediterranean Basin: Impact of Climate Change," *Parasites and Vectors* 11, no. 1 (2018).

[37] Ho, *The Arctic Meltdown and Its Implication for Ports and Shipping in Asia*; Claussen, Cochran, and Davis, *Clim. Chang. Sci. Strateg. Solut. Pew Cent. Glob. Clim. Chang.*

[38] Nick Basta, "There's No Escaping Greenhouse Gas Control," *Chemical Processing* 67, no. 10 (2004): 66; Miodrag M Mesarović, "Global Warming and Other Climate Change Phenomena on the Geological Time Scale," *Thermal Science* 23 (2019): S1435 – S1455.

Migration	Human Displacement	Rising sea levels and extreme weather events force migrations, creating social and economic challenges, especially in coastal and deltaic regions.[39]

Table 1. Impact of Global Warming in the Lens of Western Scientists' Studies
Source: authors

From the perspective of global scientists, strategic efforts and mitigation solutions for global warming emphasize reducing greenhouse gas emissions through a sustainable energy transition, such as adopting renewable energy (solar, wind, and hydro) and improving energy efficiency in the industrial and transportation sectors.[40] The development of carbon capture and storage (CCS) technology is one scientific solution to reduce CO_2 emissions directly from the atmosphere.[41] Additionally, natural carbon absorption is key to nature-based approaches like forest restoration, reforestation, and preserving marine ecosystems (such as seagrass beds and mangroves). At the policy level, global agreements like the Paris Agreement encourage countries to set ambitious emission targets and adopt appropriate adaptation measures, including investments in climate-resilient infrastructure and protecting vulnerable communities. Scientists also emphasize the importance of international collaboration, further research, and public education to raise awareness and accelerate collective mitigation action. These strategic efforts can be formulated in the figure 3 below:

[39] Ho, *The Arctic Meltdown and Its Implication for Ports and Shipping in Asia*.
[40] Hao, "Effect of Economic Indicators, Renewable Energy Consumption and Human Development on Climate Change: An Empirical Analysis Based on Panel Data of Selected Countries."
[41] Yakovlev and Belyaev, "Global Climate Change, Its Consequences and Ways to Solve the Problem."

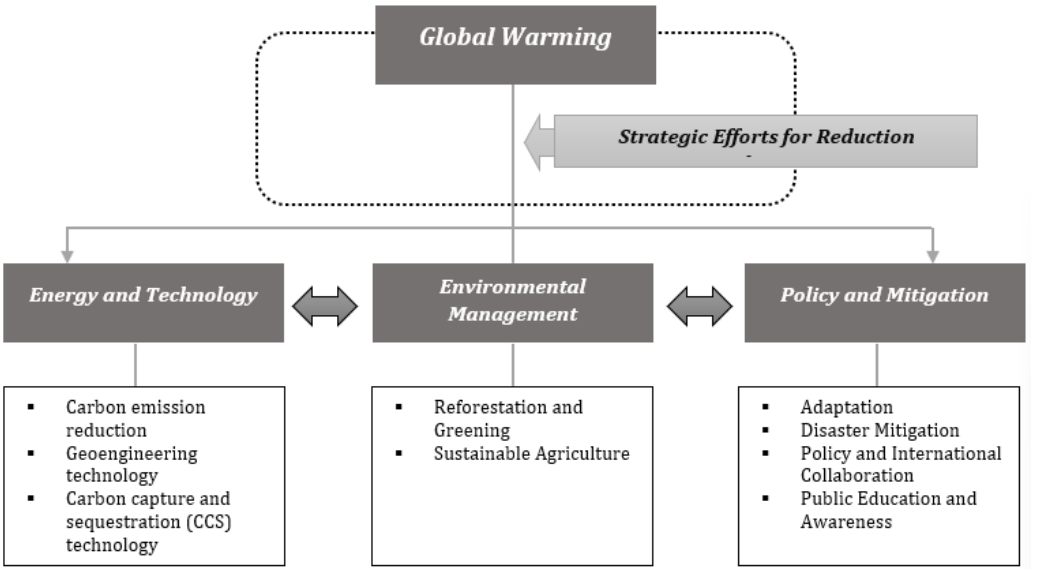

Figure 3. Diagram of the Development of Strategy and Policy to Anticipate Global Warming

IV. Environmental Conservation in the Perspective of Contemporary Muslim Intellectuals

Sheikh Ali Jum'ah, the former Grand Mufti of Egypt and Senior Scholar of Al-Azhar, believes that Islam offers a comprehensive perspective on interacting with environmental issues.[42] This perspective encompasses concepts of faith, Islamic law (*fiqh*), and ethics that encourage humans to actively and responsibly maintain environmental balance. Cooperation and collaboration in preventing environmental degradation become a collective responsibility.[43] Efforts to improve and utilize the environment in accordance with Allah's will are part of the trust that He has given to humans as stewards of the Earth.[44] A Muslim understands that the universe, including everything within it—such as plants, animals, and humans—constantly glorifies Allah SWT. As Allah SWT says: "And there is nothing but that it glorifies Him with praise" (QS. Al-Isra: 44). Furthermore, the sky, stars, and trees also prostrate to Allah SWT (QS. Ar-Rahman: 6). This is affirmed by Ali Jum'ah in his work :

[42] Alī Jum'ah, *Al-Biatu Wa Al-Hifadz 'Alaihā Min Mandzurī Al-Islāmi* (Kairo: Syirkah Al-Wabil Ash-Shayyib, 2009).

[43] Sofiyyu ar-Rahman Al-Mubarokfuri, *Al-Misbāh Al-Munīr Fi Tahdzīb Tafsir Ibnu Katsīr* (Riyād: Dār as-Salām, 2000); Muhammad Rashid Ridhā, *Tafsīr Al-Manār* (Al-Haiah Al-Mishriyyah Al-Ammah Lil Kitab, 1990).

[44] Wahbah bin Musthafā Az-Zuhailī, *At-Tafsīr Al-Munīr Fī Al-Aqidah Wa As-Syarī'ah Wa Al-Manhaj* (Beirut: Dar Al-Fikr Al-Mu'ashir, 1997).

أن الإسلام يمتلك رؤية متكاملة تصلح للتعامل مع قضية البيئة و تشتمل هذه الرؤية على تصورات عقائدية و أحكام فقهية و آداب أخلاقية تجعل الإنسان مطالبا و قادرا و مدفوعا إلى التعامل السليم مع البيئة بمفهومها الشامل...

"Islam possesses an integrated vision suitable for addressing environmental issues. This vision encompasses doctrinal beliefs, jurisprudential rulings, and ethical guidelines that oblige, empower, and motivate individuals to interact properly with the environment in its comprehensive sense." [45]

Humans are entrusted with the responsibility to maintain and improve the environment, not only to utilize it for worldly needs but also to draw closer to Allah[46]. Allah has subordinated the universe for the benefit of humankind, as stated in His verse (QS. Al-Jatsiyah: 13). This indicates that the universe is a gift that humans must wisely utilize. Humans are noble in the cosmic order, occupying the highest place among other creatures. Therefore, they are given the moral and spiritual responsibility to maintain the balance of the environment. Islam provides clear guidelines regarding what is halal and haram, starting with preserving purity (*thahārah),* such as performing ablution (*wuḍu)*, bathing, washing clothes, and keeping the body clean. Furthermore, Islam also offers guidance on establishing social relationships, both locally and internationally, all of which are governed by laws intended to achieve public welfare and prevent corruption on Earth.

Meanwhile, the Muslim intellectual Said Muhammad Al-Haffar emphasizes that humans play a vital role in environmental revitalization and conservation. By nature, humans are products of their natural, social, and cultural environments. Their existence, formation, and sustainability are the results of continuous interaction with the elements of the natural system. Humans interact with these elements, influencing and being influenced by them, resulting in a reciprocal relationship between humans and their environment. This relationship is part of the natural world, through which humans become more noble and valuable. This relationship will also continue as long as humans maintain harmony with the natural cycles that Allah has ordained in this universe. Allah created humans in the best form and entrusted them with responsibilities in a broader dimension: both in relation to their material and spiritual environments, their relationships with other humans from various perspectives, and their relationship with the entire universe.[47] From this, an integral relationship between humans and their

[45] Ali Jum'ah, *Al-Bi'ah Wa Al-Hifaz 'Alayhā Min Mandhūr Al-Islāmī* (Cairo: Al-Wabil Ash-Shayyib, 2009).

[46] Ibnu Jarir Ath-Thabari, "At-Tafsīr Ath-Thabarī: Jāmi' Al-Bayān 'An Ta'wīl Al-Qurān" (Lebanon Beirut: Muassasah Ar-Risalah, 1994).

[47] Abū Bakar Jābir Al-Jazāirī, *Aysaru At-Tafāsīr Li Kalām Al-Alī Al-Kabīr* (Jeddah: Racem, 1990); Muhammad Sayyid Thanthawi, "At-Tafsir Al-Wasith Lil Quran Al-Karim" (Maidan Ahmad: As-Sa'adah, 1987).

environment is formed, taking into account both the ontological aspects of existence and the signs of Allah's greatness [48].

Meanwhile, another Muslim intellectual, Ibrahim Uzdumair, highlights that the environment is one of the most crucial and perhaps the most important issues faced by humanity in the modern era. The significance of this issue stems from the fact that it is not a minor concern that can be overlooked, but rather pertains to the very survival of human life. According to him, the environment threatens the rights of future generations to enjoy a healthy climate. This issue presents itself as a global challenge, particularly as advancements in science and technology reveal the destructive impacts on natural ecosystems. Unfortunately, humans are still unable to live harmoniously with nature, which should exist in a state of balance. Humans often fail to understand themselves and the environment, which leads to a failure to recognize the duty to care for and consider nature as an inseparable part of themselves. Therefore, it is essential for humans to realize that the relationship between humans and nature is complementary and inseparable. Discussing the environment means referring to the entire natural condition that supports human life alongside other creatures. Homes, the air we breathe, the water we drink, and the food we consume are all interconnected parts of the environment. Vegetation, rivers, mountains, oceans, roads, and other elements in the universe are the factors that shape society. In the context of Islam, the Quran affirms that Allah encompasses everything: "He is the First and the Last, the Manifest and the Hidden; and He is All-Knowing of everything" (QS Al-Hadid: 3). When discussing environmental issues, we address the destruction of nature caused by the extinction of various animal species, excessive exploitation of resources, and pollution that endangers life. All of these contribute to other social problems, such as poverty, hunger, and displacement, as well as issues like street children, drug addiction, and alcoholism.[49] When we examine the root causes of these issues, it becomes clear that environmental destruction has a direct impact on the sources of human livelihood.

According to the mufassir Imam Al-Qurṭubi, in verse QS. Al-Isra: 44, Allah reveals that the seven heavens, the Earth, and everything within them glorify Him. The meaning of this glorification has generated various interpretations among scholars [50]. Some scholars argue that the glorification referred to in this verse is a proof or testimony—evidence from all of creation about the existence and power of Allah. In this view, the

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[48] Muhamad Parhan et al "Developing a contextual learning model in Islamic education to improve applicable knowledge and foster knowledge-based virtues". *Jurnal Pendidikan Islam*, 10 no 1. (2024): 75-86.

[49] Nikmah Rahmawati, "Kenakalan Remaja Dan Kedisiplinan: Perspektif Psikologi Dan Islam," *Sawwa: Jurnal Studi Gender* 11, no. 2 (2017): 267.

[50] Abu Abdullah Syamsuddīn Al-Qurthūbī, *Al-Jami Li Ahkām Al-Qurān* (Kairo: Dar Al-Kutub Al-Mishriyyah, 1964).

glorification is not meant to be understood physically or verbally, but as a form of acknowledgment through the existence of His creations, which indirectly reflect the greatness of Allah. On the other hand, there is a view that interprets this glorification as a true, tangible glorification, meaning that every creature, whether visible or invisible, genuinely glorifies Allah, even though humans cannot hear or comprehend it. Some scholars, such as Ikrimah, restrict this glorification to living creatures that move, like trees and angels, while inanimate objects, like stones, are considered not to glorify Allah. In relation to this, a narration mentions that a tree used to make a table once glorified Allah when it was still alive, but after it became a table, it no longer did so. Additionally, other interpretations suggest that the phrase "*you do not understand it*" refers to disbelievers who ignore Allah's wisdom and, therefore, cannot realize or comprehend that everything in the universe—both visible and invisible—glorifies Allah. Al-Qurthubi emphasized that this verse conveys the message that all of Allah's creations, both living and non-living, play a role in acknowledging His power, even though humans may not always be able to understand it.

In various hadiths and Quranic verses, there is an explanation regarding the relationship between humans, living creatures, and inanimate objects in glorifying Allah. One such hadith narrated by Ibn Abbas tells of the Prophet Muhammad passing by two graves and planting a branch from a fresh tree to alleviate their punishment. This Hadith indicates that trees, as living beings, have the ability to glorify Allah while they are still fresh, but they cease to do so once they dry out. This view portrays that everything, both inanimate objects and living beings, plays a role in glorifying Allah, although humans may not always be able to hear or understand it. Furthermore, in Surah Sad (38:17), Surah Al-A'rāf (7:57), and Surah At-Thūr (52:44), the Quran describes how the mountains and other elements of the universe also glorify and submit to Allah. Allah has made the mountains glorify alongside Prophet Dawud, and mentions how the mountains would fall in fear of Allah or nearly collapse upon hearing accusations that Allah has a child. This chapter shows that the entire universe, even seemingly lifeless elements such as mountains and stones, has a spiritual connection with its Creator and submits to His power.

This concept is further supported by narrations from Ibn Mubarak and Anas bin Malik, which describe how the Earth and the heavens communicate about the existence of Allah's servants who remember Him. Even the voice of the muezzin will testify on the Day of Judgment, highlighting how the universe and its creatures contribute to glorifying Allah. Through this understanding, the relationship between humans and the environment—both living beings and inanimate objects—becomes crucial. The entire universe acknowledges Allah's power and glorifies Him, even though humans may often be unaware of it. Therefore, humans' interactions with nature should be respected and

preserved because nature and all other creatures also play a part in glorifying Allah. This explanation teaches us to be more sensitive and appreciative of Allah's creation around us, which also participates in His glorification.

Based on the explanation above, the concept of environmental conservation from the perspective of Islamic scholars can be formulated as illustrated in the diagram below:

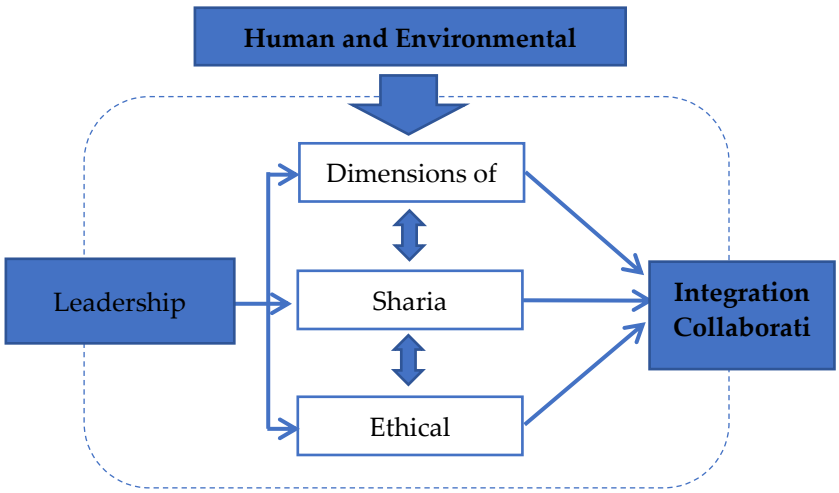

Figure 3. Flow of Human and Environmental Relations from the Perspective of Ulama

V. Mitigation of Global Warming Disasters in Indonesia and the West

Global warming and climate change have increased the frequency and severity of natural disasters worldwide, including in Indonesia and Western countries. Effective mitigation strategies are essential to reduce the impact of these disasters. Indonesia has implemented integrated structural and non-structural measures to address water-related disasters, such as floods and droughts, including scientific planning, institutional reforms, and capacity building.[51] The country also emphasizes the importance of urban planning and land use regulations to enhance Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA).[52] In Eastern Indonesia, Multi-Stakeholder Fora (MSFs) have been established to manage diverse stakeholder perspectives and collaborate on climate-resilient development strategies. These MSF involve public officials, businesses, and citizens to

[51] Mikio Ishiwatari et al., "Building Quality-Oriented Societies in Asia Through Effective Water-Related Disaster Risk Reduction and Climate Change Adaptation," *Journal of Disaster Research* 18, no. 8 (2023): 877 – 883.

[52] Mikio Ishiwatari et al., "Building Quality-Oriented Societies in Asia Through Effective Water-Related Disaster Risk Reduction and Climate Change Adaptation," Journal of Disaster Research 18, no. 8 (2023): 877 – 883.

ensure the feasibility and effectiveness of climate adaptation measures.[53] Additionally, the World Health Organization's Health Emergency and Disaster Risk Management (Health-EDRM) framework has been adopted to develop adaptive strategies for vulnerable populations affected by climate-related disasters, including the systematic collection of evidence and stakeholder consultations to inform health adaptation policies.[54] Indonesia also leverages local wisdom for disaster mitigation, such as traditional forest conservation practices and spring conservation rituals, integrating these with government efforts to enhance disaster resilience.[55] Adaptive social protection systems are being developed to mitigate the economic impact of natural disasters on vulnerable populations, aiming to prepare better and support affected individuals through targeted reforms.[56]

Western countries, like those in the Asia-Pacific region, are adopting integrated approaches to Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA), leveraging science and technology, securing financial investments, and promoting good governance to enhance disaster resilience.[57] A key focus in the energy sector is reducing greenhouse gas emissions, as Western countries transition to renewable energy sources and implement environmentally friendly technologies to meet the targets set by the Paris Agreement. [58] Furthermore, international cooperation between developed and developing countries, such as the partnership between Australia and Indonesia, is crucial for mitigating global climate change. These partnerships serve as models for effective collaboration in reducing emissions and adapting to climate change.[59] However, key challenges, such as the significant investment gap for flood protection and other climate adaptation measures, are estimated at USD 64 billion per year. Effective governance and coordination among local, national, and international stakeholders are essential for the

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[53] I R Widiati and Irianto, "Mitigation and Adaptation to Climate Change on among Stakeholder for Sustainability: Evaluation a Regional Multistakeholder for an Approach of the Role of Disaster Risk Management," in *IOP Conference Series: Earth and Environmental Science*, vol. 235, 2019.

[54] Rina Suryani Oktari et al., "Indonesia's Climate-Related Disasters and Health Adaptation Policy in the Build-Up to COP26 and Beyond," *Sustainability (Switzerland)* 14, no. 2 (2022).

[55] D P Simarmata and D R Indrawati, "Using Local Wisdom for Climate Change Mitigation," in *IOP Conference Series: Earth and Environmental Science*, vol. 1109, 2022.

[56] Katrin Gasior et al., "Adaptive Social Protection in Indonesia: Stress-Testing the Effect of a Natural Disaster on Poverty and Vulnerability," *Social Policy and Administration* 58, no. 3 (2024): 505 – 520.

[57] Ishiwatari et al., "Building Quality-Oriented Societies in Asia Through Effective Water-Related Disaster Risk Reduction and Climate Change Adaptation."

[58] K Handayani and T Filatova, "Greening Energy Supply in the Light of SDGs and Covid-19," in *IOP Conference Series: Earth and Environmental Science*, vol. 753, 2021; Dwi Sari Ayuningtias et al., "A Qualitative Review on the Strategies to Reduce the Buildings' Carbon Emissions," in *E3S Web of Conferences*, vol. 517, 2024.

[59] Ross Garnaut, "Climate Change and Indonesia: In Honour of Panglaykim," *Bulletin of Indonesian Economic Studies* 45, no. 1 (2009): 107 – 116.

successful implementation of mitigation strategies.[60] Additionally, enhancing the capacity of local governments to implement DRR and CCA measures is critical for building resilience. [61]

The following is a comparative study table of global warming mitigation between Indonesia and the West:

Aspect	Indonesia	The West
Vulnerability	High exposure, especially in coastal cities	increasing frequency and severity of disasters
Mitigation Strategies	Local Wisdom, multi-stakeholder forums	Integrated urban planning, international cooperation
Health and Social Protection	Insufficient Current Systems, need for adaptive strategies	Emphasis on science, technology, and governance
Regulatory Efforts	Ambitious NDC targets, local government roles	Innovative urban planning concepts

Table 2. Comparison of global warming disaster mitigation in Indonesia and the West

Indonesia and Western countries face significant challenges in addressing climate-induced disasters, yet with different mitigation approaches suited to their respective contexts. Indonesia, an archipelago with numerous coastal areas, is highly vulnerable to disasters like floods, droughts, and storm surges, which mostly impact poor communities in informal settlements. Indonesia integrates local wisdom, such as traditional forest conservation laws in Aceh and sacred forest practices in Bali and North Maluku, to manage ecosystems in a sustainable manner. However, a key challenge lies in the limited social protection systems that inadequately protect vulnerable groups, such as large households and individuals with disabilities. In contrast, Western countries, although equipped with more advanced infrastructure, also experience an increased frequency and intensity of disasters, such as floods and heatwaves. They adopt technology-based and

[60] Le Minh Nhat and Dang Quang Thinh, *Linkages between Disaster Risk Reduction and Climate Change Adaptation in the Context of Increasing Climate Change-Induced Loss and Damage in Vietnam*, *Linking Climate Change Adaptation, Disaster Risk Reduction, and Loss & Damage*, 2024.

[61] Riyanti Djalante et al., "Building Resilience to Natural Hazards in Indonesia: Progress and Challenges in Implementing the Hyogo Framework for Action," *Natural Hazards* 62, no. 3 (2012): 779 – 803.

resilience-oriented urban planning approaches, such as the "sponge city" concept in China and resilience-based city planning in Europe, to mitigate hydro-meteorological disasters. Despite more advanced social protection systems, Western countries still need adjustments to cope with the rapidly changing climate.

International cooperation is crucial for climate change mitigation in both regions. Indonesia's multi-stakeholder approach, involving the government, private sector, and local communities, is vital due to the country's geographic and cultural diversity. This collaborative model fosters inclusive and sustainable mitigation strategies. Meanwhile, Western countries rely on international partnerships and evidence-based policy integration, as seen in the Australia-Indonesia climate mitigation partnership. Although approaches differ, Indonesia and Western countries emphasize the importance of strong regulations, local capacity building, and adapting social protection systems to address the tangible impacts of climate change. Strengthening international cooperation and knowledge sharing is essential for improving resilience to climate-related disasters.

VI. Review of the Indonesian Ulema Council's Fatwa Regarding Environmental Conservation in Mitigating Global Warming Disasters

The Indonesian Ulema Council (MUI), through Fatwa MUI Number 86 of 2024, emphasizes that global climate change poses a threat that necessitates collaboration and active participation from all segments of the global community. MUI views humanity as stewards of the Earth, having a moral and spiritual responsibility to preserve and prosper the Earth, which reflects the Islamic value of rahmatan lil 'alamin. The climate crisis is not only triggered by environmental factors but is also closely related to economic, social, political, and cultural systems, as well as values and ethics. Therefore, according to MUI, strengthening these values through law enforcement and changes in the socio-political system is key to creating sustainable solutions. In line with this, MUI believes that each individual has an obligation to adapt and mitigate the impacts of climate change to prevent damage (mafsadah). Thus, controlling climate change becomes an integral part of humanity's responsibility to achieve environmental balance and sustain life. This fatwa highlights the importance of taking strategic steps to control climate change through approaches aligned with Islamic principles. MUI concludes that controlling climate change requires collaborative efforts through mitigation and adaptation involving various stakeholders, including the central government, local governments, educational institutions, non-governmental organizations, and the wider community. These strategic steps include reducing greenhouse gas emissions, forest preservation, and increasing awareness of the importance of environmental sustainability. These efforts must be carried out comprehensively to prevent further damage to the Earth's ecosystems and maintain environmental balance.

The Indonesian Ulema Council (MUI) has shown serious concern regarding climate change mitigation and global warming through a series of fatwas and decisions that support environmental protection. In Fatwa MUI Number 22 of 2011 on Environmentally-Friendly Mining, MUI emphasizes that the management of natural resources, particularly in the mining sector, must adhere to sustainability principles and environmental friendliness. This fatwa emphasizes the importance of actions that prioritize not only economic gains but also the preservation of nature, thereby preventing ecosystem damage that could exacerbate climate change. Similarly, in Fatwa MUI Number 04 of 2014 on Wildlife Conservation, MUI reminds us that the existence of wildlife and healthy ecosystems plays a crucial role in maintaining environmental balance and mitigating the impacts of global warming. Through these decisions, MUI supports policies that promote wise natural resource management while discouraging activities that harm the environment.

The MUI also provides detailed guidance on the ethical and balanced use of natural resources. In formulating its stance, the MUI draws upon classical Islamic legal scholarship, such as the opinions of Muhammad bin Ahmad al-Fasy in al-Taqrīr wa al-Iḥkām and Ali Haidar in Durar al-Ḥukkām. These scholars emphasize that the exploitation of natural resources without proper authorization or beyond reasonable limits constitutes a violation of fiqh principles and may lead to environmental harm. Such classical insights are consistent with MUI's position that uncontrolled resource use contributes to environmental degradation and exacerbates global warming. This fatwa is also supported by the views of renowned scholars such as Imam Syathibi in Al-Muwāfaqāt, where he argues that:

المفهوم من وضع الشارع أن الطاعة أو المعصية بحسب عظم المصلحة أو المفسدة عنها، وقد علم من الشريعة أن أعظم المصالح جريان الأمور الضرورية الخمسة المعتبرة فى كل ملة ، وأن أعظم المفاسد ما يكر بالإخلال عليها.

> "It is understood from the intent of the Lawgiver that obedience or disobedience is measured according to the magnitude of the benefit (maṣlaḥah) or harm (mafsadah) it produces. It is well-known from the Sharī'ah that the greatest benefits lie in the preservation of the five essential necessities (al-ḍarūriyyāt al-khams), and that the gravest harms are those that disrupt them."

The Indonesian Ulema Council's (MUI) fatwa on environmental protection is strongly grounded in the principles of maqāṣid al-sharī'ah, as developed by the great scholar Al-Shāṭibī. This connection is clearly visible in how the fatwa identifies environmental degradation as a form of mafsadah (harm or damage), which directly threatens the five

basic objectives of Islamic law (ḍarūriyyāt al-khamsah). Positioning environmental damage as a moral and legal violation, the MUI aligns its argument with the maqāṣid al-sharīʿah framework articulated by al-Shāṭibī, emphasizing that preventing ecological harm is not only an ethical duty but also a Sharīʿah obligation. Therefore, the fatwa's call to regulate the use of natural resources and to compensate for environmental loss reflects al-Shāṭibī's concept of prioritizing the protection of essential human interests and preventing corruption (fasād) on Earth.

Additionally, MUI supports broader protection measures related to environmental policies in Indonesia. For example, through laws such as Law No. 41 of 1999 on Forestry, Law No. 32 of 2009 on Environmental Protection and Management, as well as government regulations related to peatland and land management, MUI urges that these policies not only be implemented for economic interests but also consider environmental preservation to reduce carbon emissions. MUI also supports efforts to prevent environmental damage, such as those outlined in the Ministry of Environment and Forestry regulations, aimed at preventing forest and land fires that could exacerbate global warming. Through various fatwas, regulations, and policies supporting environmental protection, MUI calls on all parties to play an active role in safeguarding the Earth, in order to prevent more severe damage that could exacerbate global climate change.

The Fatwa of the Indonesian Ulama Council (MUI) regarding global warming mitigation has significant implications in encouraging changes in individual behavior, strengthening collective responsibility, and forming sustainability-based policies. This fatwa emphasizes the obligation of Muslims to protect the environment as a moral and spiritual trust, promotes environmentally friendly lifestyles, and supports initiatives such as reforestation, waste management, and reducing fossil fuel consumption. At the community level, this fatwa strengthens the value of gotong royong (mutual cooperation) in climate change mitigation efforts. Meanwhile, at the government level, it provides ethical legitimacy to reinforce emission reduction policies, halting deforestation, and transitioning to clean energy. Furthermore, this fatwa emphasizes the importance of ecological education grounded in Islamic values in educational institutions, aiming to cultivate a generation that is aware of the connection between religious teachings and environmental preservation. This makes MUI's fatwa a strategic instrument in addressing the climate crisis in a holistic and sustainable manner.

VII. Implementation of *Fiqh Bī'ah* in Society 5.0

Fiqh Bi'ah (environmental conservation) is a study that integrates Islamic jurisprudential principles with efforts to preserve nature.[62] In Islam, nature and all its contents are considered a trust from Allah, which must be protected and managed wisely. As stewards of the Earth, humans have a responsibility to maintain the balance of nature and not to damage His creations. This value is reflected in the verses of the Quran that prohibit corruption on Earth (QS. Al-A'rāf: 31) and remind people not to be excessive in utilizing natural resources (QS. Al-A'rāf: 31).[63] Islam also emphasizes the importance of preserving natural resources such as water, soil, flora, and fauna. The Prophet Muhammad encouraged planting trees, maintaining cleanliness, and avoiding pollution. In his hadiths, the Prophet also taught that every tree planted or every piece of garbage cleaned is considered an act of charity. Furthermore, the principle of moderation, or wasathiyyah, in Islam encourages believers to avoid excessive consumption and to use natural resources sustainably.[64] Fiqh of environmental conservation also encompasses waste management, pollution reduction, as well as environmental education and awareness, all of which are part of the responsibility of Muslims toward nature.

The concept of Society 5.0, introduced by Japan, envisions a "Super Smart Society" that integrates digital technologies, such as AI, IoT, and big data, into all aspects of life to meet individuals' needs efficiently.[65] Its goals are centered on human-centric development, focusing on enhancing the quality of life by merging physical and cyber spaces with advancements in healthcare, economic activities, and social services.[66] In this context, *Fiqh Bī'ah*, Islamic environmental jurisprudence, plays a critical role by emphasizing the protection and preservation of the environment as a religious duty. This principle includes prohibiting environmental harm (haram) and enforcing laws against ecocide (environmental destruction).[67] The integration of *Fiqh Bī'ah* into Society 5.0 aligns with the society's Sustainable Development Goals. Strategies for implementing *Fiqh Bī'ah* include utilizing existing legal frameworks, such as the Nahdlatul Ulama fatwa and

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[62] Jum'ah, *Al-Bīatu Wa Al-Hifādz 'Alaihā Min Mandzūrī Al-Islāmi*.

[63] Jum'ah, *Al-Bīatu Wa Al-Hifādz 'Alaihā Min Mandzūrī Al-Islāmi*.

[64] Engkos Kosasih, Mohammad Rindu Fajar Islamy, and Rizzaldy Satria Wiwaha, "Artificial Intelligence in the Era of Society 5.0: Compromising Technological Innovation Through the Wasathiyyah Approach within the Framework of Islamic Law," *Al-Istinbath: Jurnal Hukum Islam* 9, no. 2 (2024): 519 – 540.

[65] Amna Iqbal and Stephan Olariu, "A Survey of Enabling Technologies for Smart Communities," *Smart Cities* 4, no. 1 (2021): 54 – 77; Zodwa Dlamini et al., *Way Forward for Society 5.0 and Next-Generation Healthcare*, *Society 5.0 and Next Generation Healthcare: Patient-Focused and Technology-Assisted Precision Therapies*, 2023.

[66] Iqbal and Olariu, "A Survey of Enabling Technologies for Smart Communities"; Dlamini et al., *Way Forward for Society 5.0 and Next-Generation Healthcare*.

[67] Dri Santos and Asnawan, "Reviewing The Concept Of Fiqh Al-Bi'ah In Law Enforcement Against Ecocide Performers In Indonesia," *Relacoes Internacionais no Mundo Atual* 4, no. 42 (2023): 310 – 327.

Indonesian Law No. 32 of 2009, to enforce environmental protection laws.[68] Moreover, technologies such as AI and IoT can be leveraged to monitor and manage environmental resources efficiently, thereby preventing degradation and promoting sustainability.[69] By combining religious teachings with modern communication platforms, public awareness initiatives can cultivate a culture of environmental responsibility. However, challenges exist in integrating *Fiqh Bī'ah* into Society 5.0, such as technological barriers and potential cultural resistance due to varying interpretations of religious teachings and modern environmental practices.[70] Solutions to these challenges include fostering collaboration between religious leaders, technologists, and policymakers to create cohesive strategies and promoting flexible interpretations of Fiqh that accommodate evolving societal and technological contexts. In conclusion, implementing *Fiqh Bi'ah* in Society 5.0 requires a multifaceted approach, combining legal enforcement, technological innovation, and public education. By aligning Islamic environmental principles with the goals of Society 5.0, it is possible to create a sustainable and harmonious society that respects both religious values and modern advancements.

The increasing environmental awareness is a crucial aspect of implementing *Fiqh Bī'ah* in Society 5.0, where integrated environmental education within broader social initiatives can help society understand the importance of environmental preservation in line with the principles of *Fiqh Bī'ah*. This fosters awareness of ethical responsibility toward nature and the significance of sustainability. Community involvement in environmental conservation also creates a collective sense of responsibility and empowers individuals to engage in sustainable practices actively. From a policy perspective, governments can develop regulations that integrate *Fiqh Bī'ah* principles into environmental sustainability management, thereby supporting inclusive and effective policies and facilitating collaboration among governments, industries, and civil society to create participatory and widely accepted environmental policies. *Fiqh Bī'ah* also promotes the adoption of sustainable practices in resource management, aiming to minimize waste and optimize the use of natural resources, supported by technology to create efficient systems. Circular economies, which reduce waste and sustainably manage resources, align well with *Fiqh Bī'ah* principles and can reduce environmental impact while enhancing sustainability. However, challenges arise in maintaining a balance between technological advancements

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[68] Dri Santos and Asnawan, "Reviewing The Concept Of Fiqh Al-Bi'ah In Law Enforcement Against Ecocide Performers In Indonesia," Relacoes Internacionais no Mundo Atual 4, no. 42 (2023): 310 – 327.

[69] Vasja Roblek, Maja Meško, and Iztok Podbregar, "Mapping of the Emergence of Society 5.0: A Bibliometric Analysis," *Organizacija* 54, no. 4 (2021): 293 – 305.

[70] Abd. Karim Faiz, "Fiqh Moderation on Qibla Direction Determination: Flexible Accuracy; [Moderasi Fiqh Pada Penentuan Arah Kiblat: Akurasi Yang Fleksibel]," *Journal of Islamic Law* 1, no. 1 (2020): 83 – 99; Suwarjin, "Achieving Religious Harmony through Fiqh Wasatiyah," *Manchester Journal of Transnational Islamic Law and Practice* 19, no. 2 (2023): 145 – 161.

and environmental ethics, where *Fiqh Bi'ah* guides to ensure technology is used in ways that do not harm nature. Adapting the principles of *Fiqh Bi'ah* to diverse social and cultural contexts is also necessary to ensure that environmental policies and practices are widely accepted and respected. Overall, the implementation of *Fiqh Bī'ah* in Society 5.0 combines advanced technology with Islamic ethical and legal principles to promote environmental sustainability, enhance quality of life, and contribute to achieving the Sustainable Development Goals.

VIII. Conclusion

The Islamic perspective emphasizes that Fiqh Bī'ah (environmental conservation) is crucial to consider, especially in light of the recent increase in global warming, which poses significant threats to human life. The integration of faith, Sharia, and ethics must be communicated to Society 5.0 through sustainable efforts so that the concept of ecological citizenship is developed within individuals. As an archipelagic country, Indonesia faces more direct threats than Western countries, especially from a geographical standpoint. Both Indonesia and Western countries emphasize the importance of strong regulations, local capacity building, and the adaptation of social protection systems to address the increasingly tangible impacts of climate change. Both regions need to strengthen international cooperation and share knowledge to enhance capacities in facing climate-induced disasters. Implementing Fiqh Bī'ah can be promoted through various strategic efforts, including the utilization of technology, adoption of sustainable practices in natural resource management, and enhancement of environmental awareness, which also plays a key role in implementing Fiqh Bī'ah in Society 5.0.

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