

How Islamic Tradition Benefits Nature and Climate Change Action

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ABSTRACT—This article explores the contribution of Islamic tradition and teachings in Southeast Asia, particularly in Indonesia, to benefit nature and climate change action. Indonesian Muslims follow the idea of Islamic jurisprudence (*fiqh*) based on the Imam Syafi'i school of thought, whose principles are practiced in daily life and provide many positive teachings on nature as God's creation. Humans are regarded as the *khilafah fil ard*, stewards of the earth, and the Qur'an teaches that God has created everything in the heavens and on earth as *ayat*, the sign of God. In Indonesia, organizations and scholars have explored the potential of Islamic teachings for climate action in the form of *fatwas* (verdicts) and for awakening the people's awareness of climate change through religious lectures. Government officials and green activists have worked in partnership with the Ulama Council of Indonesia, Muslim leaders, and communities to issue important *fatwas* on certain issues including forest burning and the protection of wildlife. The Islamic principles of charity and finance, such as *zakat*, *infaq*, *shadaqah* and *waqf* as well as green *sukuk* (Islamic bonds), are also beginning to be mobilized for climate change action, including forest conservation. A Sumatra tradition of *lubuk larangan* has been applied to managing river environments. These examples show the potential of Islamic teaching to promote values important for combating the climate crisis.

Introduction

Muslims are the majority in the population of Indonesia. There are more than 700 ethnic communities who inhabit thousands of islands in the archipelago, making Indonesia a very diverse country in terms of culture, tradition and ethnicity. This diversity makes Indonesia a complex country. Before the coming of Muslim traders who spread Islam in the 12th and 13th centuries, the archipelago's major religions were Hinduism and Buddhism.

There was a massive trade and exchange of goods between the many islands, which caused a cultural assimilation among religious communities. Islam spread by absorbing local tradition and culture. Therefore, Indonesia has many traditional legacies, including a religious culture which may not exist in the rest of the Islamic world. Islam allows positive assimilation of local practices as long as they do not conflict with *sharia* and the main teachings of the Qur'an. Islam acknowledges what is known as *al-adat* and *al-urf*, which literally means tradition.



Figure 1. Hindu gateway at Menara Kudus Mosque, Demak (photo: Antara)

The dynamic and harmonious relationship between religion and culture in Indonesia is evident from the presence of Hindu and Buddhist temples and other shrines as part of the cultural legacy that is still well-maintained. History shows that Islam was easily accepted in the archipelago and became the majority religion by assimilating local traditions. For example, the architecture of the mosque as a place of worship reflects local cultural patterns. There are mosques dating from the early 17th to the 19th century, such as the Menara Kudus Mosque in Demak, displaying Joglo architecture which is influenced by Javanese architecture. There is even a gate which is a symbol found in every Hindu religious place of worship.

The assimilation of cultural and religious values is important because it affects the world view which forms the basis for behavior, including treating nature and God's gifts on earth. Likewise, the coming of the modern world has not changed much of the culture of this area. Religious values and local wisdom are passed down and have a role in harmonizing human actions in preserving nature.

Climate change is the central issue of the world today and is already changing both individual and collective behavior. Human management of climate change requires strong moral messages that can be taken from religious teachings. This article examines how Islamic teachings and traditions contribute to actions for combatting the climate crisis. The article builds on earlier work such as Koehrsen (2021) on Muslim movements in Indonesia and the UK, and Khalid (2018) on Islam, modernity and the climate crisis.

Muslims in Indonesia and most of Southeast Asia follow the Syafe'i school, which was promoted by diaspora scholars during the 18th century (Azra 2001). The *ulema* of the archipelago interacted with their counterparts in the Middle East. They wrote books in Malay but with the Jawi script (Malay Arabic) which developed in the early 15th

century. They were *muftis* and advisors to kings and sultans in the archipelago.

The development of Islam in the archipelago is therefore distinctive and dynamic. *Sharia* in its pure sense is a religious teaching. *Sharia* law thus has the authority of religion, but *sharia* also makes room for customary law, called *adat and urf* (Efendi and Zein 2015).

Environmental *fatwas*

Islam has three sources of teachings: the Koran; the *sunnah* of the Prophet Muhammad; and the *ijma* or agreement of the scholars. Scholars who are recognized as having expertise in these three sources have the authority to issue *fatwa* (verdicts) for people to follow. The environmental crisis is a modern challenge that has emerged in the society of mass production, through events such as the green revolution which improved agricultural product by using pesticides but brought negative impacts to the environment and wildlife (Carson 1969). Islam teaches about responsibility and stewardship (*amanah*), about not being extravagant and about thinking of the generation to come.

In Muslim majority countries, a *fatwa* is usually issued by a particular institution or an *ulema* who is appointed as *mufti* – a position that gives him the authority to give *fatwas* to the public, as well as to the government or royal officials. In the case of Indonesia, this authority is given to the Indonesian Ulema Council (MUI), which has hundreds of branches in the lower administrative levels from province down to sub-district.

These MUI branches serve the village communities. The MUI has issued hundreds of *fatwas*, but began issuing *fatwas* related to the environment only in 2009, in response to new environmental problems. Some environmental conservation NGOs have become aware of the success of this approach and have worked together with religious leaders (Mangunjaya 2011). Some *fatwas* issued by MUI related to the environment are as follows (Mangunjaya and Praharawati 2018):

- *Fatwa* 30 October 1983, regarding population, health and development
- *Fatwa* 2/2010, about recycling water for ablutions
- *Fatwa* 22/2011, about environmentally friendly mining
- *Fatwa* 4/2014, about protection of wildlife for the balance of the ecosystem (biodiversity *fatwa*)
- *Fatwa* 47/2014, about waste management
- *Fatwa* 1/MUNAS-IX/MUI/2015, about the utilization of Zakat Infaq Shadaqah and Waqf (ZISWAF), for the construction of community water and sanitation
- *Fatwa* 30/2016, about the law of burning land and forest

Fatwas 4/2014 and 30/2016 are particularly relevant to climate change and the protection of nature: the biodiversity *fatwa* has changed perception particularly among grassroot-level clerics and the *pesantren* (Islamic boarding schools). The UNAS Center for Islamic Studies has worked with MUI and Indonesian NGOs on implementation

(Figures 1, 2). Forest fires have been a main cause of carbon emissions in Indonesia. In 2015, forest fires covered an area four times as large as Bali and were more intense than in the prior eighteen years. According to Terra Modis, the total area burned was 2,089,911 hectares (CNN Indonesia 2015).

In 2016, MUI released *Fatwa* 30/2016 that stated:

- The burning of forests and land that can cause damage, pollution, harm to other persons, adverse health effects, and other harmful effects, is religiously forbidden (*haram*).
- Facilitating, allowing, and/or deriving benefit from the burning of forests and land as referred to in item 1 is religiously forbidden (*haram*).



Figures 1, 2. Training *imam* on the *fatwa* prohibiting burning forest and land; (above) Kalimantan, 2018; (below) Sumatra, 2019 (photos: Fachruddin Mangunjaya)

- Burning forests and land as referred to in item 1 constitute a crime and the offender is punishable based on the extent of the damage and impact rendered.
- The control of forest and land fires as referred to in the general provision is mandatory.
- The utilization of forests and land is in principle allowed, subject to the following conditions:
 - a. formal rights for such utilization must be acquired;
 - b. license for utilization must be obtained from the appropriate authorities; in accordance with the prevailing regulations;
 - c. utilization must be for the positive benefit of the people;
 - d. utilization must not cause damage and adverse impact, including damaging the environment; and
 1. utilization of forests and land that is not in line with the requirements set forth in paragraph 5 is religiously forbidden (*haram*).

Did the *fatwa* have any impact? Luck (2019) conducted a study of the impact of this *fatwa* in villages with a Muslim majority and non-Muslim majority population, covering 29,300 villages over the period August 2016 to December 2019. The results showed a decrease of forest fires in the Muslim-majority villages after the *fatwa*. An average of 2.2 forest fires were prevented in each village.

Prahawati *et al* (2021) evaluated the impact of training preachers to publicize the *fatwa* in nine villages in West Kalimantan and Riau Provinces in 2019. The results showed that while the *fatwa* had no binding legal basis, its existence provided moral motivation that influenced the attitudes and behavior of individuals and Muslim leaders to prevent forest fires. This motivation was even stronger when accompanied by government programs to protect forests and land. As a result, forest burning decreased significantly over the period 2016 to 2021.¹ World Resources Institute (Indonesia) observed:

After devastating forest and peat fires in 2015, Indonesia's Ministry of Environment and Forestry stepped up its fire monitoring and prevention efforts. The government issued a temporary moratorium on new oil palm plantation licenses and a permanent moratorium on primary forest and peatland conversion.

In 2016, President Jokowi formed the Peatland Restoration Agency (BRG) to intensify efforts to tackle the issue of emissions from burning peatlands through cooperation with various stakeholders concerned. Local administrations were instructed to pursue sustainable land use, avoid burning of the forest, and enforce prior regulations to prevent deforestation and forest fire. With these and other programs on land use, the burning was brought under control.²

¹ <https://wri-indonesia.org/en/insights/primary-rainforest-destruction-increased-12-2019-2020>

² <https://en.antaranews.com/news/253157/indonesia-raises-greenhouse-gas-emission-reduction-target>

The *waqf* fund and land assets

Islamic finance is currently growing rapidly as an alternative to the conventional financial system. *Waqf* is an Islamic financial instrument that is very flexible in its application. It is an instrument of charity based on *sharia* for Muslims to contribute to give benefit to the people, but the ultimate purpose is to gain God's rewards. According to RI *Waqf* law No 41/2004:

Waqf is a legal act of *waqif* [the giver] to separate and/or hand over some of his property to be used forever or for a certain period of time according to his interests for the purposes of worship and/or general welfare according to *sharia*.

A *waqf* can be used for the good of nature. It cannot be transferred to other people because it becomes the right of the *waqif* (the *waqf* giver) who hands it over to the *nazir* (administrator). The latter can manage it to generate benefits that in turn are used for charity (*maukuf alaih*).

In Indonesia there has been a forest *waqf* initiative to support climate mitigation and other efforts to restore nature and the environment. The forest *waqf* is practiced in Aceh and Bogor.³ A group of people in Aceh, Sumatra, secured more than 4.7 ha land. The *waqf* contributors are from Aceh and elsewhere.⁴ In Bogor, West Java a forest *waqf* has been initiated to halt land degradation and conversion, started with 2,700 square meters of land.⁵

Even though such initiatives are rare, this is a stepping stone towards greater usage of Islamic financial facilities to protect the environment. The forest *waqf* may be used by individuals or institutions to protect nature, particularly the forest. The land *waqf* may be used to protect paddy land from illegal acquisition by people or industry. *Waqf* can be implemented in the form of a land trust dedicated to support charitable objectives, such as agricultural research, wildlife protection, or public gardens in perpetuity (Bagader et al. 1994). It can also take the form of a trust fund to finance such projects. Llewellyn (2003) has drawn attention to the numerous private contributions of land and money as conservation instruments worldwide.

The potential monetary value of *waqf* is estimated at around IDR 2,000 trillion per year, but currently this is far from being realized. There are only 52,000 hectares of land involved, located at 390,000 locations (UNDP and BWI 2022: 25).

Green *sukuk*

Islamic teaching prohibits usury and requires transactions to be based on profit (*tijarah*), buying and selling (*murabahah*), benefit sharing (*mudharabah* and

³ <https://www.hutanwakaf.org/en/>

⁴ <https://www.hutan-tersisa.org/inisiatif-konservasi/>

⁵ <https://www.hutanwakaf.org/en/hutan-wakaf-solusi-melestarikan-rimba/>

musyarakah), and giving (*waqf, shadaqah*, grant).⁶ To comply with *sharia*, the Indonesian government issues Islamic bonds (*sukuk*), including so-called green *sukuk* for public investment in projects such as renewable energy and green infrastructure (IFC and UNDP 2021). Indonesia and Malaysia have pioneered the issue of such bonds since 2017 (Table 1).

In March 2018, the Indonesian government issued its first green *sukuk* valued at US\$ 1.25 billion, followed by issues in 2019 and 2020 reaching a total value of US\$ 2.75 billion (Mangunjaya and Ozdemir 2022). Retail *sukuk* have also been issued. One issued in March 2022 raised Rp 18 trillion (US\$ 9 billion) and another in 2022 was targeted to raise over Rp 20 trillion (US\$ 12.8 billion).⁷

Table 1. Issuance of green sukuk in the world

Issuer name	Country	Issue date	Curr-ency	USD million	Usage
Tadao Energy Sdn Bhd	Malaysia	7/2017	MYR	58	energy
Quantum Solar Park (Semenanjung) Sdn Bhd	Malaysia	10/2017	MYR	236	energy
PNB Merdeka Ventures Sdn Bhd	Malaysia	12/2017	MYR	481	buildings
Mudajaya Group Berhad (Sinar Kamiri Sdn Bhd)	Malaysia	1/2018	MYR	63	energy
Indonesia Government	Indonesia	3/2018	USD	1250	green projects
UITM Solar Power Sdn Bhd	Malaysia	4/2018	MYR	57	energy
Indonesia Government	Indonesia	2/2019	USD	750	green projects
Telekosang Hydro One Sdn Bhd	Malaysia	6/2019	MYR	115	renewable energy
Indonesia Government	Indonesia	11/2019	IDR	103	green projects

Source: Fitrah and Sumitra (2022)

Islamic finance has become a driving factor in the Indonesian economy. Since 2014, the United Nations Development Programme (UNDP) has cooperated with the Indonesian Finance Ministry to strengthen public funding for projects on climate change and the green economy in order to help achieve the Sustainable Development Goals (SDGs). According to the UNDP (2021), *sukuk* reaches out to traditional, Islamic and green investors for green projects and spreads awareness of green issues among the Muslim community and the millennial generation:

Based on the success of reaching out to domestic investors, the government issued the first retail green *sukuk* in the world on November 2019, valued at Rp1.46

⁶ <https://pkebs.feb.ugm.ac.id/2018/04/03/akadkontraktransaksi-dalam-syariah/>

⁷ <https://www.bareksa.com/berita/sbn/2022-09-06/penjualan-sr017-lampaui-sr016-ayo-pesan-masih-ada-kuota-sukuk-ritel>

trillion, attracting more than 7,000 investors who are Indonesian citizens – most of them are millennials. The *sukuk* is sold online and its revenues is used to finance the national climate change adaptation and mitigation projects. (Kementerian Keuangan RI 2020)

The spirit of investing to tackle climate change can go hand in hand with *sharia* teachings on economics, with appeal for the Muslim community in Indonesia.

Islamic scholars

Tradition in Indonesia is a blend of Islam and local values. Islamic rules on female attire can be combined with accessories worn for beauty. Among Muslims in South and Southeast Asia, the dress for *shalat* (prayer) in the *masjid* is different from the style in the Middle East. The crisis over the environment is something new that challenges the Muslim community to develop responses which combine scientific knowledge with local knowledge and values. To achieve such responses, *imams* and Muslim leaders need to understand the science of climate change.

Research on climate change has advanced over the last three decades. Knowledge on the consequence of greenhouses gases in the atmosphere has prompted efforts to change human thinking and behavior. In 2006, Edward O. Wilson recognized the potential of religions to contribute to this process:

I think the usual approach of secular science is to marginalize religion or even disapprove of it publicly and not expect anything from religious believers or at least religious thinkers. But I've taken precisely the opposite approach and that is to recognize that there is a powerful moral energy and purpose among religious believers – well, as there is among dedicated secular humans as well (Wilson 2006).

Islamic scholars must combine scientific knowledge with religious principles to provide simple and motivating explanations about the climate crisis to the public. The UNAS Center for Islamic Studies has worked to achieve this by building bridges between Muslim leaders and environmental scientists and practitioners at the local, national and international levels. The Center has organized training on Islamic ethics for the environment in several places. These courses highlight the Qur'anic verses on the oneness of God (*Tawhid*), the human position in the universe, and the human responsibility for planet Earth, in order to build a sense of mission and responsibility. Understanding the messages of the Qur'an creates a strong spiritual motivation for action, which the *imams* convey to the grassroots through their sermons.

Youth education and the *pesantren*

The *pesantren* or Islamic boarding school is a traditional school for the study of the Qur'an, *hadith*, and Islamic science. The *pesantren* is an important institution that shapes the values, attitudes, and behavior of millions of Muslim youths, many of whom

become leaders of their communities and wider Indonesian society (Mangunjaya and McKay 2012). Indonesia has 26,900 *pesantren* with around five million *santris* (students). Around 70 percent of *pesantren* are located in rural areas and close to forests. Only a few *pesantren* have coursework on Islamic theology, philosophy and practice related to environmental issues such as *al-fiqh al-biah* (Islamic jurisprudence for the environment). Teachers do not have the knowledge or resources to communicate these issues to their students and to build moral values on how to perceive and treat the earth.

In 2008, the Ministry of Environment launched a project of *eco-pesantren* to promote environmental education in the *pesantren*. The Ministry provided a budget.⁸ The project started with meetings between academia and NGOs, and the publication of teaching materials. In 2013, The Center for Islamic Studies or Pusat Pengajian Islam Universitas Nasional (PPI-Unas) developed an online learning platform on environmental issues (www.ekopesantren.com) which provided free access to schools on environmental issues. In 2019, PPI-Unas developed and published a teaching module on environmental *fatwas* that is currently distributed to *pesantrens* in West Java and Sumatra. The involvement of *pesantren* in environmental action, however, is not new. There are some *pesantren* which started environmental actions earlier, as follows:

In 2003, *Pondok Pesantren Al Ittifaq* in Ciwidey, West Java won the Goverment of Indonesia National Environmental Award for its program on organic agriculture, sustainable land use and improving the economy of the surrounding community by empowering 500 vegetable farmers to supply vegetables to supermarkets in Jakarta and West Java.⁹

Pondok Pesantren Nurul Haramain pioneered tree planting on thirty-three hectares of its own land, as well as hundreds of hectares in the surrounding community and neglected areas. The *pesantren* also became a zero-waste school by recycling garbage and teaching the community how to produce organic fertilizer.¹⁰

EcoPesantren Daruttauhid in Bandung, West Java is built from sustainable bamboo, and teaches students about organic farming.¹¹

Pesantren Modern Darul Ulum in West Java protects a small forest on their school grounds and has turned nearby water resources into *harim* zones. The *pesantren* teachers promote environmental awareness and include environmental topics in their curricula. As this *pesantren* is close to Gunung Gede National Park, the students plant trees and participate in the restoration of the national park forest.¹²

⁸ In 2015 the environment and forestry ministries were combined as the Ministry of Environment and Forestry.

⁹ <https://www.youtube.com/watch?v=dtZse5ahQPs>

¹⁰ <https://www.youtube.com/watch?v=Ccfe8CfUQHU>

¹¹ <https://www.youtube.com/watch?v=TdbeukgjXiE>; <https://www.youtube.com/watch?v=ORM-K-e4AbA>

¹² <https://www.youtube.com/watch?v=0-NR8JFvAzo>

Jamil (2021) summed up the work of the *eco-pesantren*:

As such, *eco-pesantrens* have implemented the programmatic ideas of *hima* (environmental management zones) and *harim* (inviolable sanctuaries) and established zones where each student has to take care of his or her own tree. An example that dates back to the 1970s before the introduction of *eco-pesantrens* is the pesantren An-Nuqayah in Madura.

This *pesantren* managed to significantly raise groundwater levels in arid land through tree planting. The driving force behind this was the need for spiritual cleansing before prayer. In order to procure sufficient water for cleansing before each of the five daily prayers, the local *kiai* together with his students continuously planted trees to better absorb rainfall, leading finally to the creation of a creek and small river.



Figure 3. Lubuk Larangan Bulu Soma, North Sumatra (photo: Taufik Mulyana)

The *lubuk larangan*

Lubuk larangan are schemes of natural resource conservation, particularly watershed areas, based on local tradition or customary law. Under these schemes, local communities maintain the vegetation along the river-banks and keep the river clean and unpolluted. *Lubuk larangan* are found scattered in the provinces of West Sumatra, North Sumatra, Jambi and Riau (Figure 4). The tradition is derived from the Minangkabau indigenous community of West Sumatra. The *lubuk larangan* has ecological, economic, social and cultural functions. It builds a bond between humans and nature. The local wisdom is associated with Islamic rituals involving the *masjid* and its congregation (*jama'ah*) (Mangunjaya and Dinata 2017).

The opening and closing ceremonies of *lubuk larangan* are held in the *masjid* with a

Qur'an recital. The community members commit to these schemes, and as a result there is no single case of these schemes being violated, as customary law would be invoked for punishment.

The *lubuk larangan* have proved to be effective for nature conservation, particularly for river ecosystems as well as animal habitats. In 2022, there were more than 867 *lubuk larangan* in West Sumatra and more in Muslim-majority areas in North Sumatra, Riau and Jambi (Mangunjaya et al. 2022). They are based on a Minangkabau saying: *adat basandi sara, sara basandi kitabullah* (Custom leans on *sharia*, *sharia* leans on God's scripture). West Sumatra is rich in natural resources, especially along the coastlines, and has a legacy of protecting this heritage.

Conclusion

The management of climate change requires awareness of the need to use natural resources morally and wisely. Islam in Southeast Asia upholds the moral value of moderate usage of natural resources. Teachings on environmental responsibility, derived from Islamic teachings, are authoritative messages conveyed by religious leaders such as Islamic jurists and scholars to the grassroots. In Indonesia, the blend of Islamic teaching and local tradition has resulted in several initiatives to mitigate climate change, including Islamic finance (green *sukuk*), *waqf* for sustainable land use for forest restoration (*hutan wakaf*), *eco-pesantren* for inculcating green values in youth, and *lubuk larangan* for conserving natural resources by the local community.

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