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Mosque-Based Eco-Social Welfare: The Case of 'Brigade Bersih Masjid' Program in Sragen

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Article History Abstract

Received
February 7, 2025

Revised
June 17, 2025

Accepted
June 26, 2025

Published
July 30, 2025

This study explores the role of Muslim scholars and community leaders in promoting environmental sustainability through mosque-based initiatives. Focusing on Al-Falah Mosque in Sragen, it examines the "Brigade Bersih Masjid" (BBM) program, which organizes the cleaning of a different mosque each day, improve mosque management, and raise public awareness about maintaining worship spaces as an integral part of Islamic practice. Using a qualitative case study approach, this research incorporates field observations, interviews with the project manager, and analysis of program reports. Applying eco-social policy theory highlights the integration of environmental policies with religious principles. The findings suggest that religious eco-social policies can be implemented effectively by merging environmental awareness, policy frameworks, and religious teachings within mosque activities. Beyond the BBM initiative, Al-Falah Mosque has adopted sustainable practices such as solar panel installation, green landscaping, energy-efficient ventilation, and biogas production from sacrificial animal waste. Strengthening these efforts through philanthropic collaborations can further support operational sustainability and infrastructure development. This study contributes to the discourse on religious environmentalism by demonstrating the role of mosques in shaping ecological awareness. It underscores mosque-based activism as a key element of religious environmental education and its potential to cultivate eco-friendly worship practices within local communities.

Keywords: Eco-friendly religious program; eco-social policy; eco-social religious policies; ecological worship practices

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INTRODUCTION

There is a chronic disparity in most Muslim societies between Islamic environmental ethics and conditions of ecological cleanliness. Islamic acts of worship place that great emphasis on cleanliness (*taharah*) as an integral aspect of life and religion. The

Qur'an emphasises that personal and environmental cleanliness are not only required for bodily well-being but are also a necessity of ritual worship. Verses such as "Surely Allah loves those who repent much and purify themselves" QS. Al-Baqarah (2:222), and "When you stand up to pray,

wash your face and your hands up to the elbows." QS. Al-Maidah (5:6) underscore the significance of purity in Islamic worship. Therefore, an increasing corpus of literature has examined the relationship between ecological sustainability and Islamic values, on the premise that Islamic teachings provide a foundation for ecological ethics (Can and Ahmed 2023). Their practical application, however, is still uneven, particularly in countries like Indonesia, where ecological cleanliness still faces systemic issues.

Indonesia, home to the world's largest Muslim population, has serious environmental issues, judging by its ranking number 163 among 180 nations in the Environmental Performance Index (EPI) of 2024. More specifically, its water and sanitation score stands at 46.2, ranked number 130 globally (Environmental Performance Index 2024). These figures stand in depressing contrast to Islamic doctrine on cleanliness. The most evident manifestation of this disconnect is the condition of mosques, which, as religious central spaces, often suffer from sanitary neglect and maintenance. Despite caretakers (*marbot*) being charged with the upkeep of cleanliness and functioning of mosques, their efforts are usually undervalued and under-resourced, leading to low morale, limited economic stability, and little long-term investment in maintenance (Jaya et al. 2023). Cases of unutilized ablution areas and toilets due to poor maintenance are common in most Muslim mosques (Suryadi 2024; Utami et al. 2023), indicating the structural disregard not just of ecological sanitation but also of the economic and social well-being of the task takers.

To address these interconnected issues, a bottom-up movement known as Brigade Bersih Masjid (BBM) was established by the Al-Falah Mosque in Sragen, Central Java. The project reflects

the proactive engagement of Muslim scholars (*ulama*) and community leaders in solving the environmental condition of mosques and reacting to the socio-economic marginalization of mosque custodians. BBM integrates normal sanitation practices, environmental education, and *marbots'* empowerment to attain cleaner, more sustainable, and more dignified religious spaces. BBM stands out from others through the integration of socio-economic support mechanisms like regular stipends, hygiene education, and community recognition that target the economic vulnerability of *marbots* directly and foster increased civic participation. These interventions not only allow *marbots* to perform their tasks more effectively but also restore their role as esteem-worthy agents of community health. The program thus moves beyond a specialised ecological intervention in order to take up a wider eco-social model of development grounded in Islamic ethical norms.

This article examines the BBM program as a case study of Islamic faith-based social and environmental intervention to highlight how Islamic teachings of hygiene are implemented in mosque-based interventions that address issues of social justice and economic integration as well. It examines how religious institutions can serve a transformative role in addressing environmental concerns while empowering marginalised members of society through complementary mechanisms of empowerment.

In this sense, the research contributes to global discourse on ecotheology and Islamic environmentalism and shows the potential of grassroots movements to bridge the gap between doctrine, ecological reality, and socio-economic inequalities in Muslim societies.

Literature Review

Recent studies have progressively shifted towards empirical methodology to examine the tangible impact of religious values on environmental outcomes. Betül Akgöl Can and Zahoor Ahmed provide a valuable contribution in this regard by conducting a panel econometric study at a global scale for 147 nations to examine the relationship between Islamic values and environmental quality. Their findings indicate that Islamic values, when instilled in social norms, are associated with a reduction in CO₂ emissions. This observation supports the theory that religious beliefs can be not only moral compasses but also effective social parameters in determining pro-environmental outcomes (Can and Ahmed 2023). Adding to this, Roger S. Gottlieb in John F. Haught's exploration of Christianity and Ecology stresses the urgent need for a mass spiritual revolution against the ecological crisis. He argues that ecological theology exists but is peripheral and requires a more radical engagement of religious traditions to redefine humanity's relationship with the Earth (Haught 2003).

In light of the above, the anthology *Ecospirit: Religions and Philosophies for the Earth*, by Catherine Keller and Laurel Kearns, takes the debate further by proposing that the environmental crisis is so demanding that it requires spiritual and religious urgency. This refiguring, the authors suggest, is already in process in the work of ecological theology and religious practice, though still at the margins of mainstream societal, academic, and ecclesial institutions. The book calls for a transdisciplinary reconsideration of language and practice from the way we conceive nature in theology, science, and philosophy, to the way we practice green doctrines, rituals, and liturgies. It summons the resources of imagination, ritual, and hope to respond to an environmental crisis

demanding new ways of thinking and doing (Laurel and Catherine 2007).

Meanwhile, Tarakeshwar et al. provide an insider perspective on Christian communities, explaining how different religious beliefs influence environmental concern and behavior. Their findings indicate that the sanctification of nature is positively linked with environmental concern and willingness for action, whereas theological conservatism is seen to suppress such activity. These varied perspectives collectively indicate that religion's role in environmental sustainability is not monolithic; rather, it depends on how religious teachings are interpreted, institutionalised, and practised within different cultural and political contexts. This plurality highlights the potential of religious values if critically harnessed to facilitate more consistent and effective environmental stewardship across traditions (Tarakeshwar et al. 2001).

While in Indonesia, Hidayat and Purwato argue that this country has made several efforts to integrate environmental sustainability into religious spaces, particularly through the introduction of the eco-mosque program in 2017 by the Majelis Ulama Indonesia (MUI) and Dewan Masjid Indonesia (DMI). This initiative was designed around three fundamental principles: *idarah* (management), *imarah* (prosperity activities), and *ri'ayah* (maintenance and facilities). Even though the program provides a replicable model of incorporating sustainability into mosque operations, adoption remains constrained. It has been found in research that even simple practices like the installation of water-saving faucets, the use of LED light bulbs, and green awareness stickers have been neglected by mosque management boards (DKM-Dewan Kemakmuran Masjid) at a mass level. Furthermore, issues like resource constraints and financial and technical challenges remain obstacles to the

broader implementation of sustainable building ideas. These findings establish the need for universal regulations and institutional support to fully leverage the potential of the eco-mosque concept across different communities (Hidayat et al. 2018; Purwanto et al. 2024).

Further academic discussions have examined the role of *da'wah* (religious outreach) in promoting ecological awareness and supporting the implementation of Islamic environmental principles. *Da'wah* has been shown to play a significant role in encouraging environmental stewardship by mobilising local communities and embedding ecological values within religious practices. For instance, a study by Aridah et al., documents how contemporary *da'wah* integrates Islamic values with ecological awareness to address global ecological challenges. Their findings show that *da'wah* strategies combining moral motivation and religious teachings have effectively fostered community engagement in environmental conservation (Aridah et al. 2025).

Building on this, Nurdin explores the environmental *da'wah* of the "Kader Hijau Muhammadiyah" movement, which integrates religious advocacy with ecological activism. This initiative emphasizes multi-sectoral collaboration through environmental education, advocacy, and practical conservation programs, demonstrating how religious values can be operationalised to support ecological agendas (Nurdin et al. 2024).

Meanwhile, Ramlan takes a broader socio-political perspective, analyzing how Islamic environmental law is practised and interpreted in local contexts. He underscores the role of religious leaders in translating non-binding religious texts such as *fatwas* and *khutbahs* into concrete environmental behaviors. These practices reinforce religious norms as informal

mechanisms of social regulation (Ramlan 2020).

Beyond direct religious advocacy, scholars have also examined myriad aspects of mosque-based environmental drives to social welfare, climate change responses, and economic sustainability. The Qur'an, says Aboul-Enein, is an essential tool in promulgating culturally appropriate environmental health interventions within Muslim communities. By integrating Qur'anic principles into public health and ecological awareness campaigns, religious leaders will be able to facilitate ways of living sustainably that are inspired by Islamic teachings (Aboul-Enein 2018).

Recent research has also focused on the role of youth and digitalization in mosque-based environmental movements. Irawati et al. argue that with the establishment of youth mosque communities, innovation related to sustainability initiatives has increased. The results indicated that creating Green IT communities is considered the most visible means for making people conscious about the correct behavior regarding technological artifacts (Irawati et al. 2023). Mulasari et al. describe the movement of eco-mosques and describe in great detail how a green lifestyle inspired by Islamic values and principles is put forward. They also discuss how digital tools and community-based education could be integrated to widen the reach of the program, as well as strategies for incorporating the principles of circular economy and social health development into mosque activities (Mulasari et al. 2024).

Prabowo emphasizes that the moral approach is important in dealing with environmental crises, and the same ethical and religious frameworks shape public attitudes toward sustainability. His findings reveal that an Islamic ethics approach can support the scientific ways of dealing with environmental management for the most

comprehensive answer to ecological problems (Prabowo 2017). Lastly, Sitorus et al. present social benefits to mosque-based environmental programs, whereby community involvement in different social, health, and educational activities significantly increases. The study has been able to reveal how such a program has increased cooperation within the community, improved local environmental conditions, and social welfare in general (Sitorus et al. 2024).

Thus, findings indicate that joining religious teachings and environmental initiatives creates a potential strong driver of societal change. Suppose there are any financial and structural obstacles, which is often the case. In that case, findings suggest that environmental movements emanating from mosques engender the espousal of sustainable behavior while enhancing social well-being and enjoining the interests of local people in conservation ventures. Consequently, further studies should delve more into the policy implications of these findings and explore other ways in which religious institutions' role can be strengthened to contribute toward sustainability.

Conceptual Framework

This study is theoretically conceptualised using the eco-social policy approach advanced by Matteo Mandelli, which provides a methodical way of exploring how social and environmental policy goals may be combined within a uniform policy rationale. Eco-social policies, according to Mandelli, are those that address ecological sustainability and social well-being while eschewing the compartmentalised division between environmental and social agendas. His approach is organized around two fundamental dimensions. The first is the direction of policy integration, which distinguishes between reactive and

preventive policies. Reactive eco-social policies try to avoid or compensate for the effects of environmental or social problems after they have effectively "socialised" the environmental condition. Preventive eco-social policies, by contrast, seek to avert such effects by combating their causes, "greening" the welfare state by combining ecological issues with social policy (Mandelli 2022).

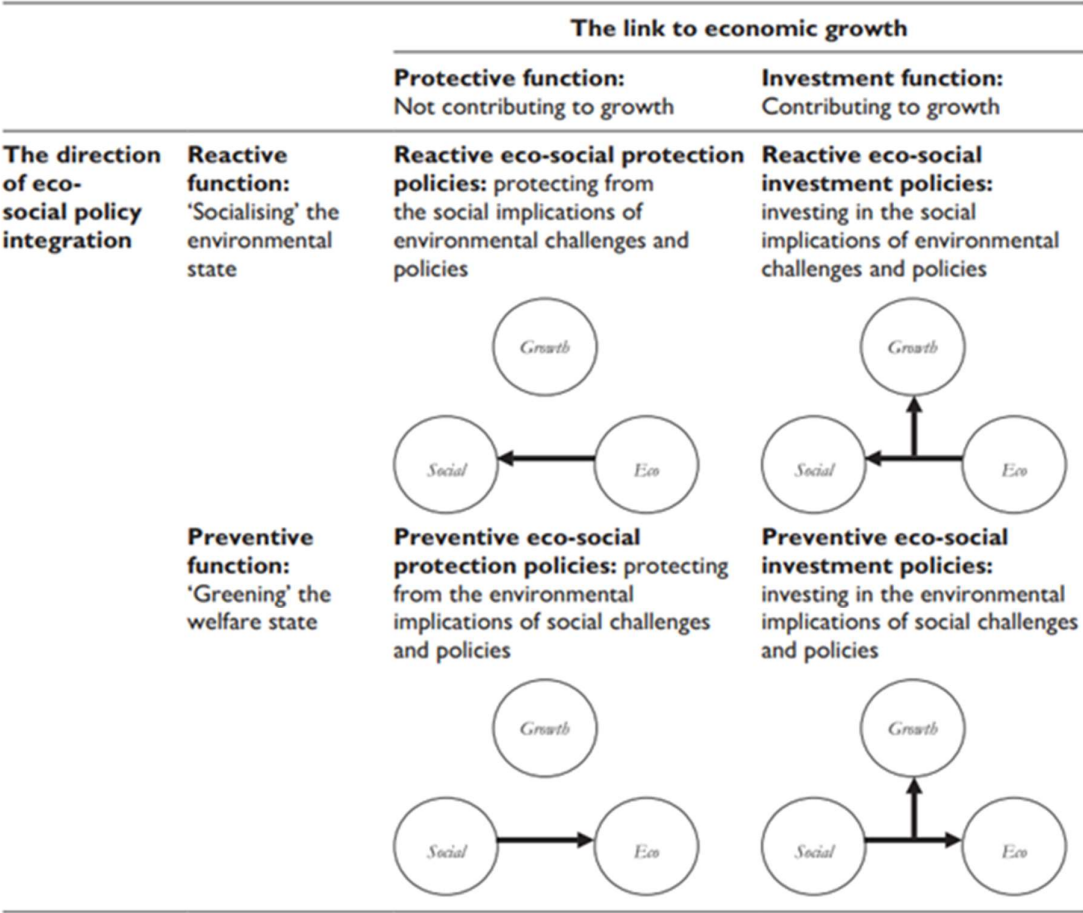
The second axis concerns the policy's role in economic growth, which can be protective with the intent to construct compensatory mechanisms without directly supporting growth or investment-oriented with the intent to establish long-term capacity through human capital development, innovation, and community infrastructure. The two axes give rise to four ideal types of eco-social policies: preventive eco-social protection policies, preventive eco-social investment policies, reactive eco-social protection policies, and reactive eco-social investment policies.

BBM is in the latter category, a preventive eco-social investment policy, because it positively encourages environmental consciousness into religious life, compared to reacting against environmental damage. It is equally investment-oriented in that it activates community engagement, constructs social capital through spontaneous voluntary effort and communal mosque maintenance, and enhances the local environment in a way likely to be supportive of long-term sustainability. This positioning is evident not only in the daily practices of mosque cleaning but also in structural innovations at Al-Falah Mosque, including the installation of solar panels, biogas processing from *qurban* waste, energy-efficient ventilation, and green landscaping.

Furthermore, the case of BBM illustrates Mandelli's concept of the eco-social-growth trilemma, which describes the inherent tensions between ecological goals,

social inclusion, and economic constraints. While eco-social policies aim to balance these objectives, they are often undercut by limited financial and institutional resources. However, BBM demonstrates that mosque-based initiatives can be used as grassroots eco-social programs that combine Islamic values, environmental ethics, and community development. By incorporating eco-social values within religious institutions, these initiatives promote sustainability and provide culturally grounded models of combined policy innovation in the Muslim Society.

Figure 1: Typology of eco-social policies by Matteo Mandelli



Source: (Mandelli 2022)

RESEARCH METHOD

This study used a qualitative approach with a case study design to investigate the relationship between religious faith and environmental sustainability within mosque-based initiatives. Fieldwork was conducted at Al-Falah Mosque to observe the implementation of the BBM program. In-depth interviews were carried out with managers of the BBM programs at Al-Falah Mosque and Lazismu Sragen to explore how a mosque should play its role in educating and raising awareness on environmental

issues. In addition, document analysis was performed to assess the impact of the BBM program on ecological awareness and long-term community participation in environmental efforts. Data collections were collected through observations, interviews, and textual analysis of relevant documents and reports.

The research was implemented between July and December 2024 at Al-Falah Mosque in Sragen, Central Java. This study provides an overview of how mosque-led environmental programs contribute to sustainable development and offers policy recommendations to enhance the effectiveness of faith-based environmental initiatives. By examining the BBM program as a model of faith-based environmental stewardship integrated with social empowerment, the research aims to contribute to policymaking strategies that influence religious institutions for broader ecological and social transformation.

However, one significant constraint of this research is the restricted recent program activity due to COVID-19. So, this paper is a reflective overview based on BBM's past recorded practice and reported community contribution, rather than a measure of recent implementation. The research focused only on eco-faith activities in Al-Falah Mosque and a few monitored mosques around Al-Falah, which are historically linked to BBM activities. This research did not encompass other mosques under BBM's cleaning schemes across Sragen. Therefore, observing these surrounding mosques cannot be regarded as definitive proof of BBM's overall performance or enduring effect. Rather, they are indicative findings utilised in making recommendations for further research and future program enhancement.

This methodological limitation is consciously acknowledged to offer a balanced and open reading of the BBM

model and its potential for reproduction or renewal.

RESULT AND DISCUSSION

Genesis and Goals of the BBM Program

Centrally located in Sragen Regency, Al-Falah Mosque has become a pivotal institution for religious outreach and social welfare. With the motto "From the Mosque We Rise," the mosque positions itself not only as a place of worship but also as a center of education, economic empowerment, and community development (Interview with Tommy Arisaputra, Head of Program Division at Laziz-Mu Sragen, September 2024). One of its flagship initiatives is the BBM program (Putri 2021). Initiated in 2019 through a collaboration between Lazizmu Sragen and the regional federal prison, BBM initially served as a rehabilitation program where inmates cleaned local mosques. This effort gained momentum with strong support from a benefactor, the owner of Aulia Fashion Surabaya, who provided financial support, transportation, and cleaning equipment (Interview with Tommy Arisaputra, September 2024).

The program was institutionalised through strategic collaboration with Al-Falah Mosque and officially launched during a Sunday morning recitation session, where 40 mosques registered for the service on the first day. BBM is entirely free of charge and funded by Lazizmu Sragen, which covers salaries for tools, fuel, and staff. The Muhammadiyah Disaster Management Center (MDMC) Sragen also contributes by providing equipment and support for more complex activities such as trimming large trees or addressing infrastructure threats (Interview with Heri Ananto, Coordinator of BBM Program, September 2024).

Between July 2019 and February 2020, BBM successfully cleaned around 250 mosques across Sragen Regency, a region with over 2,100 mosques and 1,500 prayer rooms. The program emphasizes training *marbots* on sanitation and sustainability, and it has contributed significantly to improving cleanliness standards and raising environmental awareness.

The BBM has three main goals: to make at least one mosque clean every day, except Sunday, to disseminate information concerning the cleanliness of mosques, and to train the *marbots* and teach them appropriate sanitation and the concept of sustainability in maintaining their mosques (interview with Heri Ananto, September 2024). Indeed, the initiatives reemphasize the status of mosques as centers of Muslim civilization that embed economic, environmental, and social activities within a mosque framework.

In terms of implementation, BBM follows a set of informal yet consistent standards. These include: (1) a regular cleaning schedule for key areas of the mosque (with particular focus on ablution spaces and toilets); (2) the use of environmentally friendly cleaning products; (3) visual cleanliness indicators to ensure that all areas are properly maintained; and (4) training sessions for volunteers and *marbot*. These standards aim to make mosque hygiene practices more measurable, replicable, and sustainable, particularly across mosques in Sragen, which serve as the primary targets of the BBM program.

Above, it has nurtured the volunteers for mosque-cleaning activities with Komunitas Resik Masjid (Korem), it has cemented the BBM program position in the greater community by making a call to action in which "Back to Mosque" is in its name and a place for launching donation campaigns. Moreover, the program has

changed *marbots'* attitudes towards cleanliness; highly committed caretakers have shown significant changes in maintaining their mosques (Interview with Heri Ananto, September 2024).

Despite these successes, the program has several challenges. The most significant issue is the difference in commitment among mosque caretakers. In rural areas, where permanent *marbots* do not exist in mosques, cleaning depends on voluntary effort by the community at their local mosque. Moreover, even though Al-Falah Mosque has attempted to increase environmental awareness through sermons, these tend to focus on disaster responses rather than more general issues of sustainability because religious scholars do not have the capacity to undertake comprehensive environmental studies. Due to that, environmental awareness among the religious community is still low in the area.

The COVID-19 pandemic, which began affecting Sragen in March 2020, forced BBM to suspend its activities due to restrictions placed on religious and social congregations. The program remained inactive, and no formal efforts to revive it have been made yet. While BBM is still a remarkable example of religious-based environmental stewardship with strong replication potential across Indonesia, this recent activity limitation renders it less likely to be replicated. This study acknowledges the absence of up-to-date data and attempts to offer reflective commentary on BBM's past impact, hoping to encourage future efforts that may try to build upon or restart its principles.

Theological Underpinnings and Community Engagement in Mosque-Leaded Environmental Activism

Islamic ecological theology provides a normative framework for integrating

environmental consciousness into religious life. At the centre of this theology is the Qur'anic concept of "*khalifah fil ardh*" human beings as vicegerents or guardians of God on earth. Rather than providing a justification for dominion or exploitation, this concept speaks of moral accountability, balance, and preservation. Qur'anic verses such as Al-A'raf (7:56) "Do not spread corruption on the Earth after it has been set in order" and Al-Baqarah (2:12) "Indeed, they are the ones who spread corruption, but they perceive it not" offer divinely sanctioned commands of ecological integrity. Theologically, the world is not so much the backdrop of human life but a trust (*amanah*) that must be guarded and maintained (Latif et al. 2023; Mulasari et al. 2024).

It is brought to practice through the BBM program of Al-Falah Mosque, where sustainability has been an Islamic duty and a public desire. In taking recourse to the ideological foundation of the *khalifah* concept, the BBM program also redefines mosque cleanliness as not only more than mere hygienic maintenance but as a practice based on Islamic morality. Mosque cleaning daily and on regular cycles, recycling activities, and the use of green technology like solar panels and biogas units are indicative of this religious-environmental nexus. Here, cleanliness is a ritual of stewardship, echoing the Prophetic practice that "cleanliness is part of faith" (*al-nazafah min al-iman*) (Bashyroh and Mahmud 2021; Djuned 2023; Rakhmat 2022).

Therefore, environmental theology is unevenly practised across the involved congregations. While most BBM volunteers are motivated by a religious sense of obligation, they also lack formal theological training on environmental ethics. This difference is of greatest concern among *marbots* and elderly congregants who carry out environmental responsibilities but may

not necessarily articulate their significance in theological terms. Therefore, environmental loyalty remains more of a behavioral commitment than an intellectual commitment. Closing this knowledge gap is key to institutionalising ecological awareness as part of mosque culture and religious instruction. Embedding formal environmental theology courses in mosque life through Friday sermons, Qur'anic study groups, and youth training could instill comprehension and ownership of the ecological mandate.

A second important Islamic concept relevant to environmental sustainability is *israf* excess or waste. The Qur'an condemns *israf* firmly, for example, in Surah Al-A'raf (7:31): "Eat and drink, but do not be wasteful." Indeed, He (Allah) hates those who are wasteful." Translated to contemporary environmental concerns, *israf* encompasses overuse of energy, water, and other natural resources as well as uncontrolled waste production (Bashyroh and Mahmud 2021). In the context of an eco-friendly mosque in Al-Falah Mosque, practices such as water conservation for ablution, recycling of *qurban* waste to generate biogas, and waste minimization of food in religious events are manifestations of anti-*israf* ethics in practice.

Nevertheless, such habits are limited to a few progressive mosques. An extension of the broader cultural change against *israf* in daily life and religious festivities needs to occur in Muslim majority cultures in order to render ecological footprints smaller. This may involve mosque-led campaigns advocating frugality, particularly during Ramadan and Eid al-Adha, when expenditures reach a high point. By framing environmental efficiency as an ethical excellence, mosques can act as potent moral beacons for ecological temperance.

The BBM program has had a significant role to play in altering attitudes towards the environment, especially

towards sanitation and waste disposal within urban mosque settings. Initiatives such as volunteer recruitment in Korem have popularised mosque-based volunteering as an acceptable social practice. In those locations where *marbots* are permanently deployed, there has been a visibly discernible improvement in the environment. Standards of cleanliness have become more deeply rooted, demonstrating the manner in which religiously organized systems can impact environmental behavior.

However, the program is also facing some challenges that threaten its sustainability in the long run. First, rural mosques continue to lack human contribution in cleaning the mosque and financial capital. Lack of trained *marbots* often results in inconsistent sanitation and poor ecological awareness. Unless there is specialised capacity-building in the rural areas, such imbalances might increase, reducing the overall contribution of religious ecological activities.

Secondly, the BBM inspired the Korem's existing volunteer constituency is largely made up of people over 40 years of age, which is a cause for concern regarding intergenerational succession. Although older volunteers have commitment and experience, without younger participation, there is the potential for stagnation. More importantly, young people, even though they are most affected by ecological emergencies, are less represented in mosque-based environmental sustainability initiatives. In order to sustain momentum, the BBM program must develop a youth outreach strategy that includes leadership development, peer education, and social media-based outreach. In this way, by infusing ecological values into youth religious life, the program can achieve its relevance and durability over the long term.

Hence, combining Islamic ecological theology through the doctrines of *khalifah*

fil ardih and *israf* offers a powerful moral and operational foundation for environmental stewardship. The BBM initiative is an example of how mosques can become living laboratories of green Islamic practice, translating abstractions in theology into practical commitment for sustainability. In order to magnify and heighten this impact, however, more intentional investment will need to be made in theological education, rural mobilization, and intergenerational renewal. Through this, mosque-based environmental work can shift from dispersed projects to sustained movements of ecological conscience grounded in faith.

Marbot Economy and Eco-Social Justice

Despite their significant contribution to maintaining the cleanliness, comfort, and orderliness of mosques, *marbots* in Indonesia mostly live in precarious economic conditions. Numerous studies and local reports have shown that the majority of *marbots* are not paid adequately and securely, but they sometimes attract students to join as *marbots* due to several benefits, such as the tranquillity of the soul. In most regions, they merely get IDR 750,000 to IDR 1,500,000 per month, which is much lower than the provincial minimum wage. The majority are based on mosque charity boxes or ad hoc individual donations and lack formal contracts, benefits, or coverage under state-sponsored social protection schemes (Anggalih 2024; Baasithurahim and Zaki 2020; Elhakim and Masykur 2020; Jaya et al. 2023; Yulianus et al. 2024).

Handayani and Septiana's study finds that while some parts of *zakat*, *infaq*, and *sadaqah* (ZIS) funds are used to provide for *marbot* welfare, the provision is uneven and strongly reliant on local management awareness and institutional volition. In some locations, such as Jakarta, BAZIS has

begun introducing incentive schemes for *marbots*, but they have yet to be nationally standardized (Handayani and Septiana 2017). While in Lombok, the local district authority uses the government budget to pay *marbots* (Nensi and Asmara 2024). In other locations, such as Sragen, they may depend primarily on individual benefactors or philanthropic organizations for their subsistence, which renders *marbots* one of the most structurally vulnerable agents of mosque-based service delivery.

It is within this context that the BBM program becomes a social innovation that brings not only environmental but also socio-economic well-being to *marbots*. As a joint program of Al-Falah Mosque and Lazismu Sragen, BBM provides its members with activities that typically mirror those of conventional *marbots*, regular stipends, technical sanitation training, and more public recognition. These caretakers are no longer understood merely as janitorial staff but as agents of environmental change and embodiments of Islamic values of hygiene and social goodness. The program also offers initial training in hygiene procedures, principles of sustainability, and the theological significance of mosque cleanliness as part of religious practice. The strategy repositions *marbots* from marginal actors to become direct participants in mosque-based environmental education systems.

Sociologically, this project is significant because it contributes to the social empowerment of *marbots* in their societies. Testimonies from participants show that BBM *marbots* feel more appreciated and part of a broader religious movement with mutual impact. This suggests that appreciating the physical and spiritual labour of *marbots* contributes to their mental well-being, particularly in a social context where their work is regularly undervalued and invisibilized.

More broadly, the BBM initiative can be read as a model of operational eco-social justice. Not only is its design directed towards ecological restoration in mosques, but it also provides equitable distribution of social gains, particularly to vulnerable groups such as *marbots*. By providing access to resources, training, and public legitimacy, BBM demonstrates the coupling of environmental and social goals, strongly echoing preventive eco-social investment policies theorised by Mandelli. This model supports the notion that ecological sustainability cannot be sensibly sought without confronting, at the same time, the root frameworks of social disparity.

In this manner, *marbots* are not merely recipients of material assistance but are empowered as active agents of faith-based ecological transformation. At the policy level, the BBM model holds valuable lessons for the development of sustainable mosque-based programs in Indonesia. It affirms that environmental sustainability must be succeeded by the discovery and protection of the social actors that maintain it.

Integration of Sustainability in Mosque Infrastructure

In addition to its social and religious roles, Al-Falah has encouraged green innovation through concrete infrastructure enhancements. Installation of solar panels, green landscaping, and natural air systems shows care for carbon emissions and energy saving. One of the most notable achievements is producing biogas from *qurban* waste, representing a renewable energy source and translating Islamic ecological values into practice.

These innovations reflect the shift from reactive to preventive measures in the operational structure of the mosque. Rather than waiting for the environment to worsen, Al-Falah Mosque invests in long-term environmental strength. Such architectural

and technological shifts offer a replicable model that can be adopted by other religious places seeking to align their physical infrastructure with Islamic sustainability standards.

Islamic environmentally friendly financing streams have been piloted and incrementally used to fund such innovations. Green infrastructure projects like solar panels and biogas plants in mosques were mainly funded from a combination of *waqf* (Islamic endowment), corporate social responsibility (CSR) programs, Micro, Small, and Medium Enterprises (MSMEs), and philanthropic foundations like Lazismu. Such financial instruments capture Islamic economic principles and enable mechanisms for inclusive environmental action by broader segments of society. Several studies also suggest that those schemes are beneficial for religious activities (Arijulmanan et al. 2020; Iskandar 2020; Rarasati and Priyadi 2024).

The material implications of these technologies are immense. Solar panels, for instance, have created significant reductions in electricity bills, relieving the mosque of the financial strain of its running costs while reducing its carbon footprint (Almasri et al. 2023; Azura and Fauzi 2023). Similarly, biogas from *qurban* waste not only serves to prevent environmental pollution but is also a cost-effective, renewable energy source for domestic use, such as cooking for communal meals or supplying heat for ablution water (Nawab et al. 2022; Wasi et al. 2023).

But their deployment is not without challenges. From a technical perspective, solar panels and biogas digesters require frequent servicing by skilled person, which is lacking in most mosque communities. Non-technical challenges include the lack of environmental awareness, refusal to embrace new technologies, and the need for capacity building among the mosque management and among the local

community. These challenges demand joint efforts by religious leaders, environmental NGOs, and technical experts to extend training, maintenance assistance, and establish an ecological stewardship culture grounded on Islamic principles.

Through these concerted efforts, mosques are not merely places of worship but also captains of grassroots climate action, offering replicable examples of faith-based sustainability.

Eco-Social Policy Alignment and Institutional Constraints

Analyzed through the eco-social policy framework of Matteo Mandelli, the BBM program can be positioned as a preventive, investment-based initiative that integrates social welfare and environmental protection. It reflects the mosque community leaders' triad of *idarah* (management), *imarah* (prosperity activities), and *ri'ayah* (facilities and maintenance), with each element contributing to ecological sustainability.

However, while BBM demonstrates coherence with Islamic eco-social principles, it faces structural constraints, particularly financial. Compared to state-funded environmental programs, BBM depends heavily on donations. Although its partnership with Lazismu Sragen provides some operational stability, no clear evidence exists of a financial strategy for expanded growth. The Islamic *qanaah* ethic of contentment can explain the community's modest material ambitions, but it is also representative of a broader tension between religious principles and economic sustainability.

In addition, despite having professionalised management and streamlined implementation, BBM has yet to shape itself into a green economic development platform. Opportunities for growth, such as using the mosque as an environmental education centre or a

sustainable enterprise, are not tapped. Removing these constraints would enhance BBM's contribution to broader policy goals and enhance its institutional utility within Indonesia's eco-social environment.

Table 1: Mapping of BBM and Al-Falah Mosque activities using Mandelli's eco-social policy matrix

Mandelli's Policy Type	Description	Al-Falah Mosque / BBM Activities
Reactive Eco-Social Protection Policies (‘Socialising’ the environmental state, not contributing to growth)	Policies that respond to environmental challenges, focusing on protecting social groups from ecological harm	-BBM's early focus on cleaning mosques as a response to sanitation issues. -Sermons during natural disasters (disaster relief awareness). -Lack of structured environmental theology in teaching due to a knowledge gap
Reactive Eco-Social Investment Policies (Contributing to growth through social investment in response to environmental challenges)	Investing in social mechanisms in reaction to environmental risks	-Volunteer training as informal eco-educators. -Changes in community behavior (especially mosque caretakers in urban areas). -Community engagement in response to cleanliness awareness.
Preventive Eco-Social Protection Policies. (‘Greening’ the welfare state, not tied)	Proactively protecting people from social harm that may emerge due to environmental challenges	-Environmental sermon integration efforts. -Advocacy of environmental Islamic values (e.g., stewardship,

directly to growth)	to	anti-corruption on Earth).
		-Promoting contentment (<i>qanaah</i>) and behavioral change among congregants.
Preventive Eco-Social Investment Policies. (Contributing to growth by embedding sustainability into social systems)	Long-term investment in integrating environmental principles into the core of social and institutional systems	-Solar panel installation. -Biogas production from <i>qurban</i> waste. -Green landscaping and natural ventilation design -Collaboration with Lazizmu for sustainability financing. -Professionalised management of BBM activities

Source: Authors' conceptualization

Mandelli's eco-social policy matrix offers a conceptual framework to assess how social policies integrate environmental concerns across two axes: the direction of integration (reactive vs. preventive) and the link to economic growth (protective vs. investment-based). This matrix helps identify the philosophical and functional orientation of a given program, whether it merely responds to environmental and social challenges or anticipates and strategically incorporates them into developmental pathways.

The vertical axis in Mandelli's matrix distinguishes between reactive and preventive policies. Reactive policies are typically short-term responses to existing environmental crises or disruptions to mitigate immediate social consequences. They often emerge after damage has occurred, such as through relief campaigns, public health interventions, or awareness

sermons during disaster periods. Preventive policies, however, are meant to anticipate and minimize potential environmental harm before it happens in order to foster a foresightful and adaptable culture. The policies target systemic behavior change, ecological knowledge, and sustainable community design.

The x-axis separates the defensive role of safeguarding communities, but not necessarily stimulating economic growth, and the investment role, whereby social and environmental activities are conceived as sources of long-term economic growth. Investment-driven policy aligns with a more elaborated definition of sustainability as a value-carrying rather than solely cost or moral obligation mechanism.

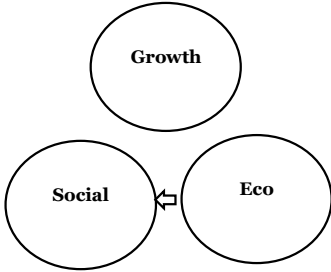
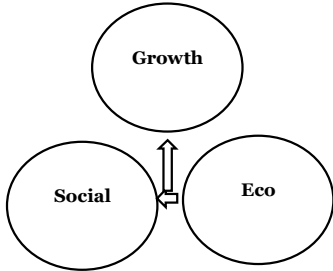
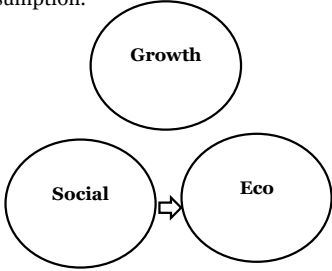
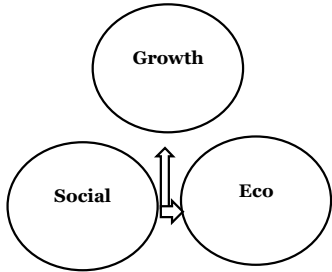
Applied to mosque-based environmental initiatives, this matrix allows us to classify initiatives like BBM in terms of strategic intent and socio-economic impact. Reactive protective actions, for example, like clean-up campaigns or sermons during environmental crises, are there to safeguard the health and morale of the community without structural economic objectives. These are worthwhile but one-dimensional. Reactive investment policies, on the other hand, cover community training projects that respond to environmental concerns while supporting human capital, like BBM's grassroots eco-education program.

Better still are preventive protection policies that emerge when religious teachings are proactively reconciled with environmental ethics. Ecological values embedded in sermons, or which led to behavior change through the ethic of *khalifah* (being a steward) or *qana'ah* (contentment), are characteristic of this paradigm. They are invoked to reorient the community's moral compass towards sustainability, even when unconnected to explicit linkage with measurable economic growth.

At the most integrated level, preventive investment activities are the strategic union of long-term economic viability and conservation. BBM's activities to install solar panels, convert ritual animal waste into biogas, and adopt climate-sensitive architecture belong in this category. These efforts reduce environmental degradation and the cost of operations and potentially generate green economic value. When combined with systematic financing (e.g., through *Lazismu*) and professional administration, these moves transform the mosque into a microcosm of sustainable development.

Ultimately, Mandelli's matrix is useful for evaluating where a religious environmental program stands and how it might evolve. It encourages a shift from reactive charity toward strategic investment, from short-term relief toward long-term resilience. Understanding this positioning for BBM and similar initiatives can help guide policy refinement and institutional development in line with Islamic eco-social ethics.

Figure 2: Typology of religious-based eco-social policies
(Adapted from Mandelli's eco-social policies Matrix)

Direction of Integration	Protective Function contributing to economic growth	Investment Function Contributing to economic growth
Reactive <i>"Socialising the religious environmental institution"</i>	Reactive Mosque-Based Protection Policies Protecting communities from the social consequences of environmental crises (e.g., floods, pollution, climate disasters), grounded in <i>Amanah</i> (trust), <i>Islah</i> (reform), and <i>Adl</i> (justice). Programs: Using zakat/charity to support disaster victims, Friday sermons on climate awareness and disaster response. 	Reactive Mosque-Based Investment Policies Investing in social recovery after environmental harm, based on <i>Khalifah</i> (stewardship), <i>Adl</i>, and <i>Islah</i>. Programs: Green job training for climate-affected communities, eco-friendly business support for informal sectors. 
Preventive <i>"Greening the welfare religious institution"</i>	Preventive Mosque-Based Protection Policies Preventing ecological risks through education and behaviour change, guided by <i>Tawhid</i> (oneness), <i>Khalifah</i>, and <i>Qana'ah</i> (contentment). Programs: Lifestyle education on waste reduction, Friday sermons promoting mindful consumption. 	Preventive Mosque-Based Investment Policies Investing in sustainable futures inspired by <i>Amanah</i>, <i>Qana'ah</i>, and <i>Islah</i>. Programs: Solar panels funded through waqf/CSR, biogas from sacrificial waste, mosque-based urban farming. 

Source: Authors' conceptualization

Future Directions and Replicability of BBM

Al-Falah Mosque is a promising model of how mosques can be agents for green transformation. Its dual approach of Islamic morality and grassroots organizing offers a model for sustainability in mosque-based action. However, the pause in the BBM program during the COVID-19 pandemic, followed by inactivity, serves as a

reminder of how vulnerable volunteer work is without institutional support. To move forward, BBM requires a strategic reactivation plan and a more sustainable institutional foundation.

One of the promising options is to observe the successful practices of other green mosque projects in other parts of Indonesia that have been found to be sustainable and highly integrated with

society. An example is the Az-Zikra Mosque in Sentul, Bogor, which, under Khotib Kholil's leadership (2016–2022), was able to integrate various environmentally friendly aspects successfully. These included water optimization technology, bioclimatic building design, use of biogas, waste incineration technology, green urban space development, and plastic bottle donation campaign (*sedekah sampah*). Az-Zikra Mosque not only met eco-mosque criteria set by the Green Building Council Indonesia (GBCI) but also became a successful ecological learning facility by involving the local community in participatory environmental activities (Arijulmanan et al. 2020). This case reiterates the possibility of mosques as comprehensive sustainability hubs that merge natural resource optimization, environmental awareness, and spiritual development. BBM can take a similar path by expanding its environmental agenda beyond sanitation and by more directly involving community members in long-term ecological programs.

More crucially, BBM-type models must be replicated by receiving support from large religious organizations such as Muhammadiyah and Nahdlatul Ulama (NU). Such institutions have extensive networks of mosques, well-coordinated governance, and outreach branches in communities that can institutionalize activities like BBM in broader spaces. In the instance of Muhammadiyah, integration on the national level by Lazismu can offer a sustainable funding mechanism and program standardization. Similarly, NU's ground-level network of *pesantren* could institutionalize the BBM form of environmental ethics into curricula and mosque activities in *pesantren*.

Furthermore, cross-sectoral coordination should be prioritized. Environmental NGOs may provide technical expertise and knowledge. In

contrast, Islamic universities may provide theological and scientific counsel to incorporate environmental education in religious contexts and Islamic boarding schools (*pesantren*) as laboratories and dissemination centers for faith-based sustainability models. University institutions can lead the production of adaptive frameworks, impact assessment, and training modules for disseminating BBM in different socio-ecological contexts.

Institutionally, BBM must evolve from a project-like ad hoc activity to a full-fledged structural department of mosque administration. It can be established as a mosque-local environmental task force under the board of *takmir* (mosque board of management) with defined tasks, annual planning, and measurable targets.

Alternatively, BBM could operate in collaboration with *zakat* management bodies (like Lazismu or Baznas), creating a sustainable platform for eco-social funding that supports both mosque sanitation and the welfare of *marbots*. This integrated model would embody Mandelli's concept of preventive eco-social investment: simultaneously fostering environmental stewardship and addressing social vulnerabilities.

To sustain the momentum, BBM must also go to the younger generation. Virtual campaigns, gamification of volunteerism, and inter-generational knowledge sharing programs are a must. Integration with youth mosque communities can rejuvenate the aged pool of volunteers, integrating environmental action as part of the new cultural identity of religious institutions.

Overall, while BBM has proven local impact, its potential lies in its scalability and adaptability, borrowing ideas from other successful models like Az-Zikra, attracting institutional religious actors, creating cross-sectoral collaborations, and formally organizing its structure can make BBM a local movement, a national one. Under the

context of Indonesia's extensive Muslim majority and growing ecological problems, mosque-based environmentalism is not only a moral imperative but a strategic avenue towards resilient and inclusive sustainability.

CONCLUSION

The BBM initiative demonstrates how mosque-based environmental programs can serve as strategic platforms for faith-driven ecological action. Formed through a collaboration between the mosque's *takmir* and *Lazismu*, BBM represents a locally rooted, yet structurally organized effort to link Islamic values with environmental stewardship. This partnership highlights the crucial role of both religious leadership and philanthropic networks in mobilizing sustainable practices within faith communities.

Key findings from this study show that mosques, beyond being places of worship, can operate as hubs for environmental education and behavioral change. Integrating ecological messages into religious discourse through sermons, BBM programs, and volunteer training has helped to cultivate a stronger communal responsibility towards sustainability.

While the BBM initiative has proven effective at the local level, it also holds broader relevance. As the world's largest Muslim-majority nation, Indonesia has the potential to scale such initiatives nationally, reinforcing environmental ethics through religious institutions. For replication, however, further institutional support, structured training for religious leaders, and long-term funding mechanisms are essential.

This study contributes to the growing discourse on faith-based environmentalism, highlighting how grassroots religious efforts like BBM can inspire civic engagement and provide models for eco-social policy

integration, both within Indonesia and in comparable Muslim contexts globally.

ACKNOWLEDGEMENT

The authors would like to express our sincere gratitude to Faried F. Saenong Ph.D. for his valuable insights and feedback on this research presentation at the International Symposium on Innovative Masjid. His constructive input has greatly enriched the discussion and strengthened the analysis presented in this study.

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