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Mosques as Guardians of Springs: Cultural Heritage of Water Management on Kelud Slopes

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Abstract: Mosques on the slopes of Mount Kelud, Kediri Regency, have historically preserved water management traditions, yet modern practices threaten their sustainability. This study aims to explore the Islamic values embedded in these traditions and their role in maintaining water sustainability. Using a qualitative approach, data were collected through literature reviews, observations of historical mosques, and interviews with mosque administrators, religious leaders, and local water management practitioners. Findings reveal that traditional features like *blombang* (water pools), shady trees (e.g., sawo, tanjung), and natural filtration systems support water availability and ecosystem resilience, while modern cement structures and boreholes disrupt water absorption, causing scarcity and facility damage. These traditions reflect Islamic principles of environmental stewardship. The study implies that revitalizing these practices can enhance water sustainability and strengthen mosques' roles as ecological and cultural hubs, offering a model for community-based conservation.
Keywords: Mosques, springs, water management, kelud slopes, cultural heritage

INTRODUCTION

Mosques on the slopes of Mount Kelud, Kediri Regency, East Java, have long served as vital centers for water management, embodying a harmonious blend of Javanese traditions and Islamic values. These sacred spaces, such as Masjid Ringin Agung, Masjid Baitul Izzah Satak, and Masjid Ar-Rohman

Sepawon, have historically preserved springs through traditional systems like *blombang* (water pools), *marker dam* filtration, and *catchment area* vegetation featuring trees such as sawo (*Manilkara zapota*), tanjung (*Mimusops elengi*), and beringin (*Ficus benjamina*). These practices ensure water availability for religious rituals, including wudhu and bathing, as well as for community needs, while maintaining ecological balance. Rooted in the Islamic principle of environmental stewardship (*hifz al-bi'ah*), these traditions align with Javanese kearifan lokal, such as planting trees to prevent erosion and constructing natural reservoirs (*embung*) to store rainwater (Alkautsar & Elviana, 2022, hlm. 18013). Such systems not only sustain water supply but also reinforce the mosque's role as a cultural and ecological hub, fostering community resilience in the face of environmental challenges.

However, the advent of modernization has disrupted these time-honored practices. The replacement of permeable mosque courtyards with cemented or ceramic surfaces, driven by assumptions of easier maintenance, has reduced groundwater recharge, leading to water scarcity during dry seasons (Ambarwati, 2020, hlm. 32). Unregulated boreholes drilled by surrounding households, often without consideration for sustainable depths, further deplete aquifers critical to mosque water supplies. These changes have also contributed to ecosystem degradation, with puddles forming during the rainy season due to poor water absorption, damaging mosque facilities and compromising sanitation. The loss of shady trees, once integral to water conservation, has exacerbated erosion and diminished the aesthetic and spiritual ambiance of mosques, which were traditionally seen as serene places of shelter. This shift reflects a broader decline in public awareness of environmental preservation, challenging the sustainability of springs that have supported communities for centuries (Suryani, 2019, hlm. 14).

Previous studies have explored water conservation in Islamic contexts, but significant gaps remain. For instance, Alkautsar and Elviana (2022) examined architectural designs for water conservation in urban mosques, focusing on modern infrastructure like rainwater harvesting systems (Alkautsar & Elviana, 2022). However, their work overlooks the integration of traditional Javanese-Islamic practices in rural settings, where mosques rely on natural systems like *blombang* and vegetation. Similarly, Matla'il Fajar Sofwan (2021) discussed ecological ethics in Islam but did not specifically address the role of mosques as active agents in spring preservation (Fajar & SHI, 2021). These studies highlight a need for research that bridges cultural heritage,

religious values, and ecological resilience, particularly in the context of Mount Kelud's unique socio-environmental landscape. The rapid decline of springs, coupled with increasing population demands for water, underscores the urgency of this inquiry, as government-led conservation programs alone are insufficient to address the scale of the challenge (Fajar & SHI, 2021, hlm. 264). Mangunjaya, in his study Sustainable Indonesian Mosques (Eco-Masjid), (Mangunjaya, 2024) highlighted eco-friendly mosque initiatives, such as energy efficiency and waste management, but paid limited attention to traditional water management practices rooted in local wisdom. Similarly, Fauziah, in Bridging Perceptions: Green Islam and Water Recycling Challenges in Indonesian Mosques (Fauzia dkk., 2026) explored community perceptions of water recycling in urban mosques, but her analysis did not address rural contexts or the integration of Javanese-Islamic traditions. Al Haidary, in Ecosufism on the Perspective of Seyyed Hossein Nasr (Al Haidary, 2023) examined the spiritual dimensions of environmental care in Islam, but his theoretical approach lacked empirical insights into practical water management systems in mosques.

This study seeks to fill this gap by investigating how mosques on the slopes of Mount Kelud preserve springs through traditional water management practices. By documenting systems like the *blombang* at Masjid Ringin Agung, the *catchment area* vegetation at Masjid Baitul Izzah Satak, and the *marker dam* filtration at Masjid Ar-Rohman Sepawon, the research highlights their ecological and cultural significance. It explores how these practices embody Islamic teachings on environmental care and Javanese wisdom, offering a model for sustainable water management. The significance of this study lies in its potential to inform community-based conservation strategies, leveraging mosques as platforms for environmental education and collective action. In an era of growing water scarcity and environmental degradation, revitalizing these traditions could strengthen the resilience of rural communities, ensuring the sustainability of springs for future generations. By examining the intersection of religion, culture, and ecology, this research contributes to broader discourses on sustainable development and the role of religious institutions in addressing global environmental challenges.

RESEARCH METHODS

This study employs a qualitative research method to explore the traditional water management practices preserved in mosques on the slopes

of Mount Kelud, Kediri Regency, as taught by kyai and previous scholars. The research design adopts a descriptive-interpretive approach, focusing on understanding the socio-cultural and ecological dimensions of these practices. This method is suitable for capturing the nuanced interplay between Javanese-Islamic traditions and environmental conservation, as it allows for in-depth exploration of historical practices, community values, and physical infrastructure. Following Moleong and Surjaman, (Moleong & Surjaman, 1991, hlm. 24) the qualitative design emphasizes naturalistic inquiry, enabling researchers to examine the mosques' water management systems, such as *blombang* (water pools), marker dam filtration, and catchment area vegetation, within their cultural and environmental contexts.

The research focuses on three mosques as primary subjects: Masjid Ringin Agung, located within the Mahir Arriyadh Islamic Boarding School; Masjid Baitul Izzah in Satak Hamlet, Puncu Subdistrict; and Masjid Ar-Rohman Sepawon in Plosoklaten Subdistrict. These mosques were selected for their historical significance and distinct water management systems, including *blombang*, vegetation with trees like *sawo* (*Manilkara zapota*) and *beringin* (*Ficus benjamina*), and marker dam filtration. Data comprise both primary and secondary sources. Primary data are collected from interviews with mosque administrators (*Ta'mir Masjid*), religious leaders, and environmental community members, as well as from archival records, photographs, and artifacts like the gentong air at Masjid Ringin Agung. Secondary data are sourced from literature reviews, including books, journal articles, and documents related to Javanese-Islamic water conservation practices and the ecological history of Mount Kelud.

Data collection involves multiple techniques to ensure comprehensive and reliable findings. Field observations were conducted at the three mosques to document physical infrastructure, such as *blombang* pools, marker dam systems, and vegetation, and to assess their functionality in water conservation. Semi-structured interviews with mosque administrator members (*Ta'mir Masjid*), kyai, and local environmental activists provide insights into the historical transmission of conservation values and current practices. Archival analysis, including photographs and artifacts, complements these efforts by tracing the evolution of water management systems. For secondary data, a literature review examines texts on Islamic environmental ethics, Javanese local wisdom (*kearifan lokal*), and regional ecological studies. Data analysis employs a thematic approach, coding

qualitative data to identify recurring themes, such as the integration of *hifz al-bi'ah* (environmental stewardship), the role of kyai, and the ecological impact of traditional systems. Triangulation across observation, interview, and archival data ensures validity, while interpretive analysis connects findings to the cultural and spiritual significance of these practices, aligning with the research objective of proving the preservation of traditional values.

RESULTS AND DISCUSSION

The mosques on the slopes of Mount Kelud, Kediri Regency, serve as vital centers for preserving traditional water management practices, rooted in Javanese-Islamic values taught by kyai and scholars over centuries. This section presents detailed findings from field observations, interviews, and archival analysis of three mosques—Masjid Ringin Agung, Masjid Baitul Izzah Satak, and Masjid Ar-Rohman Sepawon—focusing on their unique systems and cultural significance. By comparing these findings with prior studies, the discussion highlights the mosques' contributions to ecological resilience and their alignment with broader environmental ethics, addressing modern challenges to spring sustainability.

Javanese Tradition in Water Conservation

The modern era is marked by the discovery of digitalisation and computers, humans with all the technological achievements that continue to develop have killed "animate nature" through desacralisation and continued to the construction of social institutions through secularisation behaviours. Humans are no longer in a socio-mystical space, but become a figure who loses his traditional grip in seeing and placing natural entities (Hardiman, 2003, hlm. 57). As a result, although the modern world contributes a sophisticated "new colour", on the other hand, the modern world has given birth to the destruction of nature.

Nature is subjected to a crime of massive exploitation on the paradigm of thinking and the view that nature is a resource that can bring a lot of wealth. Globalisation then becomes a discourse that is so harmful to the environment. Not only does it result in ecological disasters, the emergence of the globalisation trend is also a disaster that can undermine the preservation of noble culture (Al Haidary, 2023, hlm. 34).

For Javanese people, destroying nature means destroying God's creation. Their destructive behaviour means betraying God's mandate to preserve nature. Those who destroy nature seem to have no God. Vice versa, those who

care for God's creation are those who love God Himself (Nasr, 1968, hlm. 98). The nobility of Javanese philosophy illustrates that humans have a high awareness of aligning their behaviour with the patterns of nature. The relationship between humans and nature is in a very close position. Javanese people wisely have a noble awareness that makes nature a fellow creature of God. As the earth is positioned like a mother who has given love and affection to raise her. Like a mother, the earth must always be respected. Nature as God's creation must be guarded, cared for, and preserved like a human's *dulur mbarep* (elder brother) who must be respected and must not be arbitrary. A popular concept for Javanese people is *memayu hayuning bawana*[1] as a representation of the Javanese ideals of life. *Memayu hayuning bawana* aims to create prosperity on earth as a reflection of Javanese behaviour in harmonising the order based on harmony between *jagad alit* (microcosm) and *jagad agung* (macrocosm). *Memayu hayuning bawana* means that Javanese people really have a close relationship with nature. Land and water are part of the way a servant serves his God and is grateful for His gifts. It is from the land and water that humans live their lives.

Water is an essential element for life. One of the environmental problems faced by humans today is due to the disappearance of ancestral traditions in preserving the environment, especially in the use of water. Javanese traditions have various ways that have been carried out for a long time for water conservation. Some of them involve local wisdom practices that have been passed down from generation to generation. Among the local wisdoms in conserving water are: the philosophy of merti tirta, building cliffs and watu, doing babad tanah, conserving embung, making terraced irrigation systems, conducting slametan events and building cekdam or small dams.

Conserving of Water Resources on Mount Kelud

Mount Kelud is one of the active mountains, geographically located between three administrative regions and natural boundaries, namely Kediri District, Blitar District and Malang District. Mount Kelud has an altitude of 1,731m above sea level with its peak named Kelud peak and is adjacent to several older mountains such as Mount Kawi, Mount Butak and Mount Anjasmoro. (Nurhayati & others, 2021, hlm. 3) Topographically, all the rivers in the Kediri District centre their sources on Mount Kelud and flow into the Brantas River, totalling 35 rivers. The groundwater potential of these rivers

[1] a term that can be paired with the concept of *Rahmatan lil 'Alamin in Islam*, whose common goal is to preserve, beautify and save life on earth.

before reaching the Brantas River has been utilised by the community both for daily needs and irrigation of rice fields or irrigation for the government.[2] Water sources to meet the needs of the population in addition to using private wells are also helped by the existence of rivers that drain water from the Kelud mountain springs. Springs are linguistically a place of water that flows from rock or soil to the surface of the ground naturally. The springs in the Kediri District area on the slopes of Mount Kelud totalled 152 points spread across 5 sub-districts, namely Kandangan 26 points, Kepung 22 points, Puncu 11 points, Ploso Klaten 60 points and Ngancar 33 points (Chambert-Loir, 1992).

Spring protection is important for the preservation of water flow. The presence of shady trees around springs serves as a buffer for springshed protection, in addition to being a forest ecosystem. Trees around springs provide infiltration during the rainy season, which in the long term can replenish soil aquifers as one of the reasons for the preservation of springs (Sinha Ray & Elango, 2019, hlm. 88). Springs on the slopes of Kelud are mostly covered with protective trees such as Bendo, Kedawung, Kepuh, Preh, Kemiri, Pucung, Cangkring, Trembesi, Pule, Sembung and Banyan trees[3]. These trees still support the springs that are used by the community as livestock feed, as mentioned by Mbah Wagiyo:

> *"Nek ketigo tiyang-tiyang mendet toyo wonten mriki mas, teng mriki kathah wit miri eco damel masak diluroni tiang-tiang, wit cangkring enten wonten ngandap mriko mas, cangkring niku ngandape toyo sumber biyanter mas, kulo pados pakan wonten mriki mas, geh kadang kajeng damel masak"*[4]

The springs around the slopes of Mount Kelud are named by the community as *mbah*, as an identifying mark as well as a historical monument. The name is related to the name of the discoverer of the spring or related to historical events around the spring area.[5]

The "sacredness" of springs and their vegetation, the community conserves springs in the form of *finding solutions*, which is a mission to *find* new springs in the forest area. This activity is carried out by the people of Puncu Sub-district, because according to data on water sources in the Kelud Slope area,

[2] Communication and Informatics Office of Kediri District 2022-2023 & Citizen Interviews
[3] https://www.forestdigest.com/detail/255/pohon-pelindung-mata-air, accessed on 1 April 2020.
[4] Wagiyo, seeker of firewood and leaves for cattle at Sumber Baung, Jagul Village, Ngancar Sub-district, Interview, Jagul, 6 March 2024.
[5] Nuryakin, Interview, 8 March 2024.

Puncu Sub-district is the least abundant. Water from springs in the rainy season is abundant, but in the dry season (in the Puncu sub-district area in particular) there is a shortage of water and this has become an annual problem.[6] The springs on the slopes of Kelud today are threatened with drying up and even disappearing. After the 2014 eruption, massive sand mining has emerged, PTPN 12 Damarwulan Satak Puncu Plantation, illegal logging of forest trees has occurred for the purpose of dredging Kelud sand, as a result the vegetation supporting the springs has been destroyed and the sand biophori as rainwater absorption has been degraded.[7]

Both the catchment vegetation or the biophori system needed by the springs today, all that remains is the mosque that can continue its resilience and sustainability, so maintaining the legacy of ancestral hydrological system management in the mosque area today is important.

Javanese Muslim Cultural Heritage In Water Conservation For Mosques on The Slopes of Mount Kelud

Javanese society before the arrival of Islam has had a long history of beliefs, spiritual practices and customs for centuries. Javanese philosophy teaches the importance of harmony, balance and wisdom (*winasis*) through self-control and harmony with nature. Javanese people have a strong belief in the existence of spirits and supernatural powers which is a complex blend of various beliefs such as animism, Hinduism, Buddhism, and local traditions.

The construction of places of worship (mosques) for villagers on the slopes of Kelud was inspired by the Javanese way of life and philosophy that values harmony, balance and the relationship between humans, nature and the supernatural world. This can be seen in the portrait of mosque construction that is still preserved today.

1. The Pondok Ringin Agung Mosque, formerly known as Pondok Keling, is closely associated with the ancient Kalingga Kediri Kingdom: 4 *Blombang Wudhu* water reservoirs from the Keling Kepung spring, water jars from the Kalingga Kingdom era, the Serinjing River, and endemic bamboo for the lives of the *santri* (Islamic boarding school students).[8]

Located in the heart of the Mahir Arriyadh Islamic boarding school, Keling

[6] Anang Prakasa, a member of the Kediri District Legislative Council Commission II on Economics and Finance 2023

[7] https://radarkediri.jawapos.com/nasional/781275151/heboh-warga-membalas-penebangan

[8] Moch Didin Saputro, *Ekspedisi Serinjing: Telusur Sejarah Awal Terbentuknya Kediri,* Pemkab Kediri in colaboration with PT. Jagad Presindo Kuatama Kediri, 2019.

Village, Pare District, Kediri Regency, the Pondok Ringin Agung Mosque stands as a symbol of cultural resilience and environmental preservation. As one of the oldest Islamic boarding schools in the Pare area, founded in 1818 by Kyai Nawawi, [9] this mosque is not only a centre for worship and religious education, but also a guardian of the spring that is the lifeblood of the community. The name 'Ringin Agung' itself refers to the old, shady banyan tree under whose shade Kyai Nawawi first established a simple mosque. This banyan tree, along with other vegetation such as the sapodilla tree (*Manilkara zapota*) that dominates the mosque courtyard, not only provides a beautiful atmosphere but also plays an important role in preserving the water source that flows through the Islamic boarding school and mosque.

The spring, located in the lowest area of the mosque, is one of the unique ecological features of Pondok Ringin Agung. This spring flows into a *blombang* (traditional Javanese pond) consisting of four ponds, three of which are used for bathing by the santri, while the pond closest to the mosque serves as a place for wudhu. The proximity of the water source to the mosque, coupled with the lush vegetation that prevents erosion and increases water absorption, ensures that these ponds never dry up, even at the peak of the dry season.[10]

1. Photo of *Blombang* at Ringin Agung Mosque, which is used for ablution and purification

The sawoo and banyan trees, with their deep roots and dense canopies, serve as hydrological buffers, maintaining the clarity and abundance of water that has been the lifeline of the pesantren for more than two centuries. The

[9] Interview with Gus Burhan, one of the families of the pesantren caregiver who is a descendant of *Kyai* Nawawi, the founder of the pesantren, 6, 2024.

[10] Interview with *Kyai* Jali Romlani, the caregiver of Pondok Ringin Pesantren.

presence of ancient andesite stone barrels in the northern porch of the mosque adds a rich layer of history to this narrative of preservation.[11]

Found in the Serinjing River, these jars are believed to be a legacy of the Kalingga Kingdom or even the Panjalu Kingdom (1117–1130 AD), as indicated by the ancient Javanese square calligraphy inscriptions that adorn their surfaces. According to Novi Bahrul Munib, a cultural activist and chair of the Kadhiri History and Culture Preservation Community, this script is similar to that found at the Brumbung site, indicating the prosperity of civilisation in the northern region of Kali Serinjing during the reign of King Bameswara. To this day, the barrel is still used to store drinking water from an old well near the mosque, demonstrating the continuity between its practical function and historical value. The water in the barrel, which remains clear despite coming from a centuries-old well, reflects the community's success in maintaining the purity of its water source.[12]

The preservation of the spring at Pondok Ringin Agung is inseparable from the role of the Islamic boarding school community, led by leaders such as *Kyai* Jali Romlani. Although *Kyai* Jali does not know for sure the origins of the ancient jars—which were brought by students from Kali Serinjing in the Kepung region during his childhood—he emphasises that these artefacts are an integral part of the boarding school's identity. Moreover, this mosque and Islamic boarding school have become a space for dialogue between tradition, spirituality, and environmental awareness. The well-preserved vegetation, sustainable water sources, and historical artefacts such as ancient barrels reflect a holistic approach to conservation, which integrates Islamic values, local wisdom, and ecological responsibility.

Historically, Pondok Ringin Agung also has ties to Prince Diponegoro's struggle, with its mosque known as a place of worship for soldiers at that time. Its location, only 500 metres from the Pare-Kandangan Highway, makes this Islamic boarding school easily accessible, yet the beautiful atmosphere and tranquillity offered by the sawoo and banyan trees create a spiritual oasis amid the hustle and bustle of modern life. Conservation efforts at this pesantren not only preserve water sources but also strengthen local cultural and historical identity, making it a relevant model of community-based conservation for research.

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[11] Interview with *Kyai* Jali Romlani, the caregiver of Pondok Ringin Pesantren.

[12] Interview with Novi Bahrul Munir Chairman of the Kadhiri History and Culture Preservation Community of Kediri Regency

2. Baitul Izzah Mosque in Satak Hamlet, Puncu Subdistrict, houses the Damarmulan water source with a catchment area vegetation that still survives. The trees are 30-40 years old on average: Ficus Karet Bolu, Klerak, Juwet, Sawoo, Ringin Sepreh. Ta'mir acknowledges that there are astral beings in each of these trees.

2. Photo of Baitul Izzah Mosque surrounded by vegetation around the mosque to absorb water

Located at an altitude of about 800 metres above sea level, the Damarwulan Spring is one of the vital springs on the northern slope of Mount Kelud, precisely above the Baitul Izzah Mosque area, Satak Village, Puncu District, Kediri Regency. This spring is not just a source of water, but also the lifeblood for around 5,000 residents of Puncu and Satak Villages, who depend on its clear flow for domestic needs, agricultural irrigation, and the sustainability of the local ecosystem. Surrounded by lush green vegetation, Damarwulan Spring symbolises the harmony between nature and community life, providing clean water that flows continuously throughout the year, even in the midst of the dry season that often hits this region.

However, in 2019, the existence of Sumber Damarwulan was threatened by illegal logging activities carried out by a sand mining company in an area approximately 500 metres from the spring. These activities not only disrupted the ecological balance, but also threatened the preservation of vegetation that acts as a hydrological buffer to maintain groundwater availability. The illegal logging caused unrest among residents, who realised that the loss of trees would have a direct impact on water depletion and ecosystem damage in their area. In response to this threat, the residents of Puncu and Satak villages, together with the local nature lovers community, united in a protest action called “Cut One, Plant a Thousand”. This movement is not only a form of

resistance, but also a tangible manifestation of collective awareness of the importance of preserving natural resources as a cross-generational heritage.

Amidst these dynamics, the Baitul Izzah Mosque in Satak Village has emerged as an inspiring centre for the conservation movement. For the mosque's managers, preserving the lush trees around Sumber Damarwulan is not only an environmental responsibility but also a spiritual and social mandate. The dense vegetation around the spring acts as a rainwater catchment, preventing erosion and ensuring optimal water absorption to maintain groundwater reserves. This commitment is reflected in various initiatives, such as the replanting of endemic trees, environmental education campaigns, and strengthening the role of the mosque as a space for community dialogue on sustainability. Through an approach that integrates religious values and local wisdom, the Baitul Izzah Mosque has succeeded in mobilising the community to participate in ecosystem conservation efforts.

More than just protecting water sources, these conservation efforts have a broader meaning as a long-term investment in environmental sustainability and increased collective awareness. The “Cut One, Plant a Thousand” (*Tebang Satu, Tanam Seribu*) movement has not only revived the green landscape around Sumber Damarwulan, but also instilled values of ecological responsibility in the hearts of the community. This study highlights how the synergy between local communities, religious organisations, and nature lovers can be an effective model for water resource protection. By placing the Baitul Izzah Mosque as a catalyst for change, this study underlines the importance of a community-based approach in addressing environmental challenges, while strengthening the role of religious institutions in advancing the sustainability agenda at the local level.

3. Arrohman Sepawon Mosque with a water reservoir from the Glatik spring, featuring three circular terraced structures of varying sizes as filters to ensure the hygiene and quality of the mosque's water supply and community consumption. Fishing for mujaer fish is prohibited; there are mystical fish guarding the pond.

On the slopes of Mount Kelud, at an altitude of about 900 metres above sea level, the Ar-Rohman Sepawon Mosque in Sepawon Village, Plosoklaten District, Kediri Regency, stands as a guardian of ecological and cultural heritage. This mosque is not only a centre of worship but also manages the Sumber Glatik water source, which has supported the lives of the surrounding community for centuries. Flowing from natural springs, the water from Sumber Glatik is

collected in a traditional sanitation system consisting of three terraced ponds of varying sizes, designed as natural filters to ensure the clarity and hygiene of the water. This system, which has been in place since the colonial era, reflects local wisdom in water resource management, while emphasising the importance of harmony between humans, nature, and spiritual values.

3. Photo of *Blombang* in the Arrohman Sepawon mosque, which serves as a water reservoir used to irrigate the mosque and the surrounding community.

The sanitation system at the Ar-Rohman Sepawon Mosque consists of three artificial water ponds in a row, each larger than the last, located about 300 metres from the mosque building. Each pond is about 3 metres deep and has 60 cm thick circular walls made of iron sand, a local material that is sturdy and resistant to erosion. The separators between the basins, known as marker dams, function as natural filters that filter out sediment and impurities, so that the water in the third basin—the largest—is of optimal hygienic quality for wudhu, community consumption, and other domestic needs. This design not only demonstrates the technical ingenuity of the Sepawon community, but also their ecological awareness that poorly managed water can be a source of disaster, such as flooding or pollution.

The uniqueness of these ponds lies not only in their technical function, but also in their cultural and spiritual dimensions. Tilapia fish live naturally in the ponds, but the community is prohibited from fishing them out as a form of respect for the pond ecosystem. Furthermore, local residents believe in the existence of 'mystical fish' that are considered guardians of the ponds, a belief that is deeply rooted in Javanese tradition. This belief strengthens the community's commitment to preserving the ponds, as violating rules such as fishing is considered to disturb spiritual and ecological harmony. Thus, these

ponds are not only sanitation infrastructure, but also sacred spaces that connect the community with nature and their ancestral heritage.

The water management system at the Ar-Rohman Sepawon Mosque reflects a holistic approach that has been passed down since the colonial era. At that time, the Sepawon community realised that Sumber Glatik, located in the highlands, had great potential but also posed risks if not managed properly. Therefore, they designed a gravity-based filtration system that utilised the natural topography and local materials. The sustainability of this system to this day demonstrates the resilience of local wisdom in facing environmental challenges, such as droughts or the threat of pollution. The lush vegetation around Sumber Glatik, consisting of endemic trees such as banyan and sawoo, also supports the preservation of the spring by preventing erosion and maintaining groundwater recharge.

The Ar-Rohman Sepawon Mosque not only functions as a guardian of water sources, but also as a centre for education and social cohesion. The mosque administrators, together with community leaders, actively involve residents in the maintenance of the pond and surrounding vegetation, while educating the younger generation about the importance of environmental preservation. Oral traditions about mystical fish and fishing restrictions serve as tools to instil ecological responsibility, reinforced by Islamic values about protecting nature. Thus, the mosque acts as a catalyst that integrates spirituality, local wisdom, and environmental awareness into a single framework of conservation.

The results of this study highlight the traditional sanitation system of the Ar-Rohman Sepawon Mosque as a model of community-based water conservation and local wisdom. By combining simple technology, cultural values, and spirituality, this system offers valuable insights into how local communities can manage water resources sustainably. This study also emphasises the role of religious institutions as agents of change in the sustainability agenda, while reinforcing the importance of cultural heritage preservation in the face of modern environmental challenges. As a site that unites ecology, history, and spirituality, the Ar-Rohman Sepawon Mosque is living proof that ancestral wisdom can be a solution for a more sustainable future.

CONCLUSION

This research aimed to demonstrate that traditional water management and conservation values, taught by *kyai* and previous scholars, have been

preserved for centuries in mosques on the slopes of Mount Kelud, Kediri Regency, embodying Javanese-Islamic principles. The findings confirm that Masjid Ringin Agung, Masjid Baitul Izzah Satak, and Masjid Ar-Rohman Sepawon serve as vital centers for spring preservation through distinct systems. Masjid Ringin Agung utilizes a *blombang* system with four pools, supported by sawo (*Manilkara zapota*) and beringin (*Ficus benjamina*) trees, and a Kalingga Kingdom gentong air (circa 1117–1130 CE), ensuring water for wudhu, bathing, and drinking. Masjid Baitul Izzah Satak protects the Damarwulan spring, serving 5,000 residents, through *catchment area* vegetation with 30–40-year-old trees (e.g., Ficus Karet Bolu, Juwet) and the 2019 "Tebang Satu Tanam Seribu" campaign, which restored groundwater after illegal logging. Masjid Ar-Rohman Sepawon employs a colonial-era *marker dam* with three terraced pools to filter Glatik spring water, reinforced by cultural beliefs in a mystical fish, ensuring hygienic water quality. These practices integrate Javanese *memayu hayuning bawana*, harmonizing microcosm and macrocosm, with Islamic *hifz al-bi'ah* (environmental stewardship), sustaining ecological balance and cultural heritage.

The implications are profound for environmental and cultural conservation. Mosques, as community and spiritual hubs, offer a scalable model for sustainable water management, blending *kyai*-led education, local wisdom, and practical systems to address modern challenges like water scarcity and ecosystem degradation from cemented courtyards and sand mining. This model can guide policymakers in promoting reforestation, water management training, and mosque-based conservation initiatives, enhancing rural resilience amid population growth and environmental pressures. The cultural significance of artifacts like the gentong air and spiritual beliefs in sacred springs strengthens community commitment, aligning with global sustainable development goals.

Future research should quantify the ecological impacts of *blombang*, *catchment area*, and *marker dam* systems, measuring water quality, flow rates, and aquifer recharge to validate their efficacy. Comparative studies in other rural regions could assess the adaptability of Javanese-Islamic models, while investigations into engaging younger generations in these traditions could ensure their continuity. By building on these findings, researchers can further position mosques as pivotal institutions for ecological and cultural preservation, contributing to sustainable water management worldwide.

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Interviews

Interview with Novi Bahrul Munir Chairman of the Kadhiri History and Culture Preservation Community of Kediri Regency

Interview with *Kyai* Jali Romlani, the caregiver of Pondok Ringin Pesantren.

Interview with Gus Burhan, one of the families of the pesantren caregiver who

is a descendant of *Kyai* Nawawi, the founder of the pesantren, 6, 2024.
Interview with Wagiyo, seeker of firewood and leaves for cattle at Sumber Baung, Jagul Village, Ngancar Sub-district, Jagul, 6 March 2024.
Interview with Nuryakin, , 8 March 2024.
Interview with Anang Prakasa, a member of the Kediri District Legislative Council Commission II on Economics and Finance 2023