A Muslim-Friendly Ecotourism Framework: Addressing Market Needs in Malaysian Islamic Tourism in Paya Lebar Ecotourism, Melaka

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ABSTRACT

While the Islamic tourism sector in Malaysia has been growing rapidly, rural ecotourism is still largely untapped as most of the Muslim-Friendly Tourism initiatives are mainly concentrated on urban accommodation and halal food. The study fills the current gap by suggesting an ecotourism framework that is accommodating to Muslims in Paya Lebar, Melaka, Malaysia. The proposed framework combines basic Islamic principles of *Tadabbur Alam* (deep contemplation of nature and creation), *Tafakkur* (reflective thinking), and *Khalifah* (responsibility for the environment) to improve the ecological tourism experience. *Tadabbur Alam* is a venue for the natural river journey through firefly and crocodile inhabited mangrove habitats within this structure while curated tours of Sabak Arang's century-old, igloo-shaped clay charcoal kilns turn industrial heritage into inspiration for *Tafakkur* and reinforce human accountability as *Khalifah*. This study employed qualitative field visit and semi-structured interviews with key local tourism stakeholders in Sabak Arang to evaluate local site readiness, offerings of goods, and facilities to meet the requirements of Islamic tourism. Research shows Paya Lebar has great potential for spiritual ecotourism, but there is an urgent need for infrastructural upgrades, especially for the provision of designated prayer spaces (*musholla*) and gender-segregated sanitation facilities. Because these requirements exceed the capacity of a single private operator, the study further proposes their delivery through a Public-Private-Community Partnership, in which the state agency provides the capital facilities, the local fishermen's association co-manages operations, and the operator supplies the interpretive content.

Keywords: Ecotourism, *Khalifah*, Muslim-friendly, *Tadabbur Alam*, *Tafakkur*

INTRODUCTION

The global travel market has undergone a structural shift over the past two decades; driven by the emergence of an affluent and interconnected Muslim middle class whose tourism preferences increasingly extend beyond traditional pilgrimage destinations toward top holiday destinations and resorts. The Global Muslim Travel Index similarly projects that the Muslim travel market will reach USD 300 billion by 2026 (Sulaiman & Hashim, 2023). This sustained expansion has made Muslim-friendly tourism one of the most commercially significant and academically active segments of contemporary hospitality research.

Malaysia has positioned itself as a frontrunner within this market. According to the 2023 Global Muslim Travel Index report, Malaysia received the "Best Muslim-Friendly Destination" award from the Organization of Islamic Cooperation and recorded the arrival of 4.5 million Muslim tourists, generating an income of RM14.7 billion (Wahab et al., 2025). By 2028, the Islamic tourism sector is projected to continue growing, reaching a value of RM1 trillion, with a large potential market of 230 million Muslim tourists.

That growth, however, has travelled along a narrow corridor. Muslim-friendly provision has developed almost entirely through urban hospitality, that is, hotels, airlines, and halal food hubs, and the standards that govern it

were written for that environment. Malaysia's principal compliance instrument, the Malaysian Standard MS 2610:2015, addresses the components of the Islamic tourism supply chain as accommodation premises, tour packages, and tourist guides, and it presumes facilities such as designated prayer space and gender-segregated sanitation that urban premises already possess (Samori et al., 2023). Rural and nature-based destinations have therefore been left outside the segment's centre of gravity, not because Muslim travellers are uninterested in them, but because the compliance scaffolding was never designed to reach them.

Ecotourism is where that unserved demand meets an unclaimed supply. Ecotourism combines sustainable travel with the use of natural resources in ways that generate revenue, foster appreciation of traditional culture and the environment, and encourage the participation of local communities in protecting those resources (Prihadi et al., 2024). In Malaysia the segment is expanding quickly, yet the standards currently in place provide only very general guidelines, insufficient to serve holistic aspects and elements (Samori et al., 2023). Its ecological orientation also sits close to Islamic teaching on stewardship: ecotourism is not merely compatible with Islamic values, it can be an expression of them. At least 20 verses in the Qur'an relate directly to the environment and ecological sustainability, and the universal nature of the Qur'an and the Prophet's Word makes Islamic principles relevant to responsible tourism development (Wulandari & Ahmad, 2023).

The present study responds to this gap by developing a Muslim-friendly ecotourism framework for Paya Lebar Ecotourism in Melaka, Malaysia. The study pursues three objectives: to evaluate the destination's readiness to offer Muslim-friendly activities that comply with the principles of Muslim-friendly tourism; to examine how the site's educational tours and tourism souvenir products can incorporate the concepts of *Tafakkur*, *Tadabbur Alam*, and *Khalifah*; and to provide Islamic tourism stakeholders with a practical framework for developing actionable Islamic ecotourism sites that are highly competitive Muslim-friendly destinations in Malaysia, able to attract a niche market of spiritually conscious Muslim eco-tourists.

The Growth and Configuration of Muslim-Friendly Tourism

Muslim-Friendly Tourism and geo-tourism destinations have proliferated without implementing adequate synergies, and the literature has consequently sought to integrate MFT data with sustainability ideas in order to develop theory (Saffinee et al., 2022). A comparative systematic review of Indonesian and Malaysian halal tourism studies shows, however, that the broader discussion is not limited to the hospitality field but extends to halal standards, food, Islamic travel packages, halal transportation, and Islamic finance (Alam et al., 2024). Bibliometric and structural topic modelling of 62 peer-reviewed publications identifies three distinct research clusters — Sustainable Tourism and Development (51.72%), Halal Tourism and Entrepreneurship (37.93%), and Technology and Digitalization (17.24%) — and a temporal shift in priorities in which entrepreneurship studies have declined while sustainability integration and technological applications have gained momentum, particularly post-pandemic (Jabeen et al., 2025). The same body of analysis reveals persistent field fragmentation, with researchers specialising in individual domains rather than developing comprehensive approaches that bridge religious compliance, environmental responsibility, and technological innovation (Khan et al., 2025).

A persistent structural constraint is the uneven standardisation of halal criteria for sharia-compliant tourism business management. The sector faces challenges that include non-uniform implementation of standards, limited awareness and capacity among industry players, and the need for stronger harmonisation with international frameworks such as OIC/SMIIC (Zaidi et al., 2025a), alongside major barriers such as the lack of universal halal certification standards, limitations in basic infrastructure, and uneven levels of industry awareness (Azli et al., 2025). Where standards do exist, they tend to be general rather than holistic: the basic elements of Muslim friendly hospitality have been adequately addressed by the Malaysian Standard, yet loopholes remain that need to be addressed for further improvement, and the standards currently in place provide only very general guidelines and requirements that are insufficient to serve holistic aspects and elements (Samori et al., 2023).

Empirical evidence nevertheless confirms that Muslim-friendly provision shapes demand. Halal-friendly facilities and halal-friendly service positively influence the visiting intentions of Indonesian, Malaysian and Brunei Muslim tourists (Soonsan & Jumani, 2024). Survey data from 400 Muslim tourists indicate that the availability of halal food (78%), prayer facilities (65%), family-friendly environments (55%), and cleanliness

and safety (50%) are the key factors influencing destination choice, while 55% of respondents reported using halal tourism apps to plan their trips (Magfiroh, 2024). A systematic review of Muslim tourist behaviour found that religious factors predominantly influence tourist preferences, while social, psychological, and economic factors reinforce travel decisions, with religiosity functioning as the central variable in destination choice (Mabrur et al., 2025).

Ecotourism and Its Islamic Alignment

Ecotourism refers to travel in natural areas that conserves the environment and sustains local people's well-being. Ecotourism activities are in principle beneficial to mangrove areas while maintaining the biological and ecological functions of mangrove forests, so that there is sustainable economic value and empowerment of local communities (Ginantra, 2023). The concept is elaborated through eight principles: minimising physical, social, behavioural and psychological impacts; building environmental awareness, culture and respect; providing a positive experience for visitors and hosts; providing direct financial benefits for environmental conservation; generating financial benefits for local communities and private industry; providing impressive interpretive experiences for visitors; building and operating facilities or infrastructure while minimising environmental impact; and recognising the rights and spiritual beliefs of indigenous communities while empowering them.

Concern for conserving natural resources and maintaining the environment has gained traction in recent years. Sustainable halal tourism encourages environmentally friendly practices such as minimising carbon footprints, conservation of natural resources, and proper waste management in line with Islamic principles (Sharma & Sharma, 2026). Empirical work among 402 Muslim tourists in nature-based settings in West Java shows that memorable nature-based tourism experiences — shaped by dimensions such as satisfaction, co-creation and novelty — have a significant direct effect on Muslim tourist environmentally responsible behaviour, operating primarily through place attachment rather than environmental concern (Arissaputra et al., 2025). Within the Malaysian context, the Malaysian standards currently in place are regarded as providing only very general guidelines and requirements that are insufficient to serve holistic aspects and elements, including for the recently emerged domestic "glamorous camping" niche (Samori et al., 2023).

The relationship between ecotourism and Islamic teaching has attracted growing scholarly attention. Muslim tourists with high levels of ecotheological awareness grounded in the concepts of *caliphate*, trust, and *tawhid* tend to choose destinations that are sustainable, tranquil, and spiritually meaningful, and they demonstrate ethical tourism behaviour such as refraining from damaging nature and participating in conservation programmes (Adinugraha et al., 2025). Guests from the halal market are likewise characterised by a responsible approach to sustainable development based on moral values, and are extremely environmentally conscious because of Islamic regulations and the conditions in which they live (Dugonjić & Uršulin-Trstenjak, 2022). Conversely, critical scholarship warns that where halal tourism adopts an anthropocentric sustainability paradigm, nature risks being treated merely as a "resource" for human profit, producing outcomes that contradict the principle of *amanah* (trust) and amount to "greenwashing" or "halal-washing" (Shahmi et al., 2025).

Islamic Environmental Ethics: *Tadabbur Alam*, *Tafakkur*, and *Khalifah*

The conceptual foundation of this study rests on three interrelated Islamic principles. *Tadabbur Alam* denotes deep contemplation of nature and creation; *Tafakkur* denotes reflective thinking; and *Khalifah* denotes human responsibility for the environment. The Qur'anic basis for contemplation of nature is explicit. In Islam, admiration of the elegance of God's creations gives resourcefulness for a trusteeship that will correctly take care of nature, and Muslims are invited to explore nature and to love and contemplate on its greatness, including its arrangement, proportionality, flora, and fauna (Mohamad & Ismail, 2023). Surah Aali 'Imran, verse 191, describes "those who remember Allah standing and sitting and lying on their sides and reflect on the creation of the heavens and the earth," while surah al-Nahl, verse 6, speaks of the beauty found in creation; according to these verses, Allah instructed us to appreciate every creation of the heavens and the Earth, including trees, animals, land, and water, because nothing Allah creates is in vain and everything that occurs in this world has a purpose.

The *Khalifah* concept establishes the ethical boundary of that engagement. The Qur'an contains profound environmental education values, particularly through the concepts of *tawhīd* (oneness of God), *mīzān* (balance), and *khalīfah* (stewardship of the earth), with *khalīfah* emphasising human responsibility to manage and preserve nature as a trust from God; ecological exegesis analysis shows that environmental damage contradicts the principle of natural balance taught in Islam, and the integration of ecological verses, *tadabbur*

(contemplation) activities, and direct practices such as greening can build sustainable environmental awareness and behaviour (Zamawi & Krisbiyanto, 2024). In classical exegetical thought, four key Qur'anic concepts — *khalīfah fī al-ard* (vicegerency), *'imārat al-ard* (constructive inhabitation), *taskhīr* (divine subjugation of nature), and the prohibition of *fasād* (corruption) — together position humans as trustees, cultivators, grateful beneficiaries, and moral guardians of the earth, embedding an environmental ethic emphasising stewardship, sustainability, intergenerational justice, and spiritual accountability (Khasani, 2025). Read through an ecological hermeneutic, humankind as *Khalifah* is not an absolute ruler over nature but a guardian of cosmic balance, subject to divine law, and environmental degradation stems from humanity's deviation from its primordial role as God's trustee (Rohmah et al., 2026). Contemporary Islamic environmentalism similarly identifies *khilafah* (stewardship), *amanah* (trust), and *mizan* (balance) as the ethical foundations of Islamic environmentalism, promoting sustainable practices such as consumption moderation, resource efficiency, and environmental protection as a form of worship (Zulaika et al., 2025).

The three domains reviewed above are usually treated as separate literatures, and each is internally coherent. Their analytical value for this study, however, lies in their intersection rather than in their parallel existence, and that intersection can be stated precisely. The MFT literature contributes the compliance architecture. Its instruments, MS 2610:2015 and the Maqasid al-Shariah framework, translate Islamic obligation into auditable service requirements. The accommodation standards cover rooms, food and beverages, public bathrooms, public *musholla*, and recreational infrastructure and health facilities, while the prayer-related requirements specify adequate prayer space, verified *qiblah* signage, prayer mats, female prayer garments, and prayer-time information (Saffinee, et al., The standard elements for muslim-friendly accommodation premises, 2017). These are operational criteria, and they are portable: nothing in them is intrinsically tied to a hotel.

The ecotourism literature contributes the ecological architecture. It specifies that a viable site must deliver quality interpretive experiences, minimise environmental impact, involve the local community in management, and distribute economic benefit locally. It also supplies the mechanism by which interpretation becomes conservation: memorable nature-based experiences translate into environmentally responsible behaviour primarily through place attachment, which means interpretive quality is not decorative but causal. Islamic environmental ethics contributes the motivational architecture. *Tadabbur Alam*, *Tafakkur*, and *Khalifah* explain why a Muslim traveler would seek such a site at all. Muslim tourists with high ecotheological awareness, grounded in the concepts of caliphate, trust, and tawhid, tend to choose destinations that are sustainable, tranquil, and spiritually meaningful, and they demonstrate ethical tourism behaviour such as refraining from damaging nature and participating in conservation programmes (Adinugraha et al., 2025). The same scholarship warns, however, that where halal tourism adopts an anthropocentric sustainability paradigm, nature risks being treated merely as a "resource" for human profit, producing outcomes that contradict the principle of *amanah* and amount to "greenwashing" or "halal-washing" (Shahmi et al., 2025).

The integrated foundation, therefore, is this: Islamic environmental ethics supplies the demand-side motivation, ecotourism supplies the site-side form, and MFT standards supply the compliance-side criteria. A rural site becomes Muslim-friendly not by importing an urban hotel model but by meeting portable Shariah criteria within an ecotourism structure whose interpretive content is itself theologically grounded. Framing Shariah compliance as a shared ecosystem responsibility rather than an isolated financial burden on a vulnerable private business is crucial to grounding the study's practical feasibility. This integrated position is what the remainder of the study tests at Paya Lebar, and it is what the proposed framework operationalises.

METHOD

This study adopts a qualitative research design combining field observation and semi-structured interviews, supplemented by document analysis. A qualitative approach is appropriate because the research question

concerns the readiness, challenges, and perspectives of industrial heritage operators in implementing Muslim-Friendly Tourism principles. The qualitative orientation is consistent with prior work in this domain: research on Muslim-friendly sustainable geo-tourism employed the grounded theory approach, analysing Qur'anic verses and Hadith dealing with sustainability concerns to develop theory inductively (Saffinee et al., 2022). while research on eco-glamping indicators used systematic literature searches with narrative review and thematic organisation (Samori et al., 2023).

The operational principles identified in that grounded-theory research include having good intentions, connecting with Allah the Almighty, seeking knowledge, upholding *Maqasid al-Shari'ah*, reflecting (*muhasabah*) on Allah's creations, and pondering on the beauty of nature; a good *Khalifah* who performs duties well in the world can be considered to possess the characteristics of a good slave to Allah the Almighty (29). That study synthesised six elements of MFS-GT, namely values, culture and norms, ethics, environment, community participation, and socioeconomic, epistemologically constructed from the *Maqasid al-Shariah* perspective, with religious components consisting of Islamic values, Islamic culture and norms, and Islamic ethics, and sustainable components consisting of environment, community participation, and socio-economic aspects.

The study site is Paya Lebar Ecotourism in Melaka, Malaysia. The destination comprises two complementary attractions. The first is a river journey through mangrove forests inhabited by fireflies and crocodiles, which constitutes the site's *Tadabbur Alam* experience as an immersive encounter with living creation. The second is Sabak Arang, a heritage site of century-old charcoal kilns made of igloo-shaped clay, where the conventional factory tour is transformed into an occasion for *Tafakkur* and *Khalifah*, reflection on humanity's environmental stewardship. Sabak Arang also features an edutour visited as part of the eco-cruise itinerary. The site's positioning within the Sungai Linggi landscape is documented in comparative wetland ecotourism research, which characterizes the Melaka case as dominated by natural landscapes and river ecosystems, with attraction focused on nature exploration, tranquillity, and passive observation. The study also incorporates a benchmark location: the Kuala Sepetang Charcoal Factory in Perak, an established operator in the same industry, serves as a comparative case against which the Paya Lebar findings are assessed. Its function is not to describe the primary site but to identify best practices in revenue diversification, commercialisation, and heritage-based tourist engagement that a rural operator in this industry has already achieved.

Data collection employed a qualitative approach combining semi-structured interviews, field observation, and document analysis. Semi-structured interviews were conducted with three primary stakeholder groups. First, interviews with local traditional charcoal producers at Sabak Arang, a key pitstop along the Ecocruise Sungai Linggi. Second, key informant interviews with the Melaka River and Coastal Development Corporation. Third, comparative interviews with operators at the Kuala Sepetang Charcoal Factory in Perak as an established industry benchmark to identify best practices in revenue diversification, commercialization, and heritage-based tourist engagement. To complement interview data with real-time site dynamics, non-participant field observations were carried out across the primary and benchmark locations.

The focus on industrial heritage operators is deliberate: limited literature addresses Islamic tourism within industrial heritage places, particularly in relation to traditional charcoal manufacture as a tourism site. Data analysis is interpretive and thematic. Field notes and interview transcripts are organised thematically around the study's three constructs, namely *Tadabbur Alam*, *Tafakkur*, and *Khalifah*. The output of the analysis is a framework specifying the components a rural Muslim-friendly ecotourism site requires, alongside an assessment of the Paya Lebar site's current conformance.

RESULT AND DISCUSSION

Site Readiness and Potential

The findings indicate that Paya Lebar possesses substantial potential for spiritual ecotourism. The site's ecological assets — a mangrove river system populated by fireflies and crocodiles — provide a naturally compelling setting for *Tadabbur Alam*, offering the immersive encounter with living creation that the site's design envisages (Figure 1). The co-location of Sabak Arang's igloo-shaped clay charcoal kilns adds an

industrial heritage dimension that is rare in the Muslim-friendly tourism literature (Figure 2), which has concentrated on hotels, airlines, and urban halal food hubs. This dual structure means the site can serve two distinct reflective registers: the ecological register of *Tadabbur Alam* through the river journey, and the historical-industrial register of *Tafakkur* and *Khalifah* through the kiln tours.



Figure 1. A natural mangrove river setting for *Tadabbur Alam*



Figure 2. Sabak Arang's igloo-shaped clay charcoal kilns

Infrastructure and Maqasid al-Shariah Alignment at Sabak Arang

The most significant finding regarding the Paya Lebar framework concerns site infrastructure, particularly at key operational pitstops such as Sabak Arang. One of the stops along the river eco-cruise route, Sabak Arang hosts guided educational tours (edutours) showcasing traditional igloo-shaped clay charcoal kilns and a production kitchen, with sessions led by the owner lasting between 30 minutes and one hour. Given this extended dwell time, tourists frequently require prayer spaces and restroom facilities. The current absence of these basic amenities constitutes the principal barrier to the site's conformance with Muslim-friendly tourism requirements (Figure 3).

These infrastructural needs map directly onto the core *kulliyyat* (fundamental necessities) of *Maqasid al-*

Shariah established in national and international standards. Under Hifz al-Din (preservation of religion), guidelines such as the ITPiEG and the Malaysian MS 2610 framework mandate the provision of a designated prayer space (*musholla*) equipped with clean prayer mats, *telekung* (prayer garments), verified *qiblah* direction signage, and accurate prayer schedules. Concurrently, establishing gender-segregated sanitation and ablution (*wudhu*) facilities aligns with *Hifz al-Nasl* (preservation of dignity and lineage), ensuring modesty, privacy, and hygiene for visitors during stopovers. In addition to addressing basic spiritual and physical needs, Sabak Arang operationalizes the Islamic principle of *Khalifah* (environmental responsibility) through its site-specific merchandise. The charcoal produced in the traditional clay kilns is repurposed into functional, eco-friendly souvenirs, specifically natural charcoal air purifiers (Figure 4). These products serve a dual purpose: providing visitors with practical merchandise that actively purifies indoor air while demonstrating tangible environmental stewardship in practice. By pairing industrial heritage interpretation (*Tafakkur*) with eco-conscious product design, Sabak Arang reinforces the framework's goal of fostering meaningful reflection alongside sustainable resource utilization.

Beyond physical infrastructure, the analysis highlights a strategic and operational gap in community engagement. The site currently relies on a passive nature-observation model with minimal interaction between tourists and the broader local population. Because low community participation acts as an obstacle to long-term ecotourism development, whereas active participation positively impacts ecosystem sustainability and the local economy, transitioning toward a participatory management model is essential. Involving local residents in maintaining amenities, expanding eco-friendly souvenir production, and supporting educational activities will allow Sabak Arang to meet Shariah compliance benchmarks while driving local economic empowerment.



Figure 3. Sabak Arang educational tours (Edutours)



Figure 4. Eco-friendly souvenirs of charcoal air purifiers

The Proposed Framework

Synthesising the findings with the established standards, the study proposes a Muslim-friendly ecotourism framework that links each of the three Islamic principles to a site component and to the corresponding Shariah compliance criteria. Table 1 presents the framework.

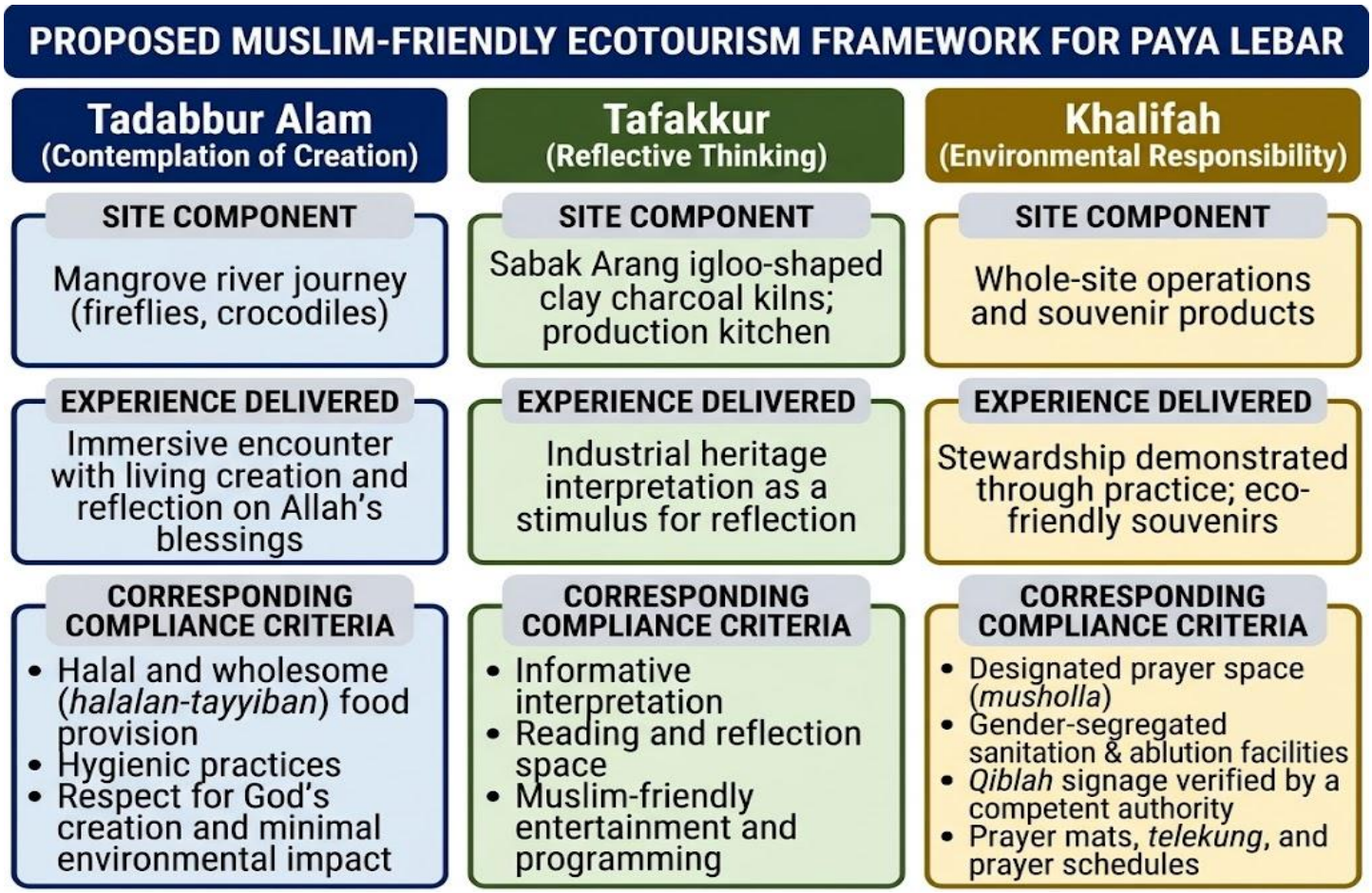


Figure 5. Proposed Muslim-Friendly Ecotourism Framework for Paya Lebar

The framework's logic is integrative rather than additive. The *Tadabbur Alam* component supplies the theological motivation for conservation; the *Tafakkur* component converts industrial heritage into a reflective instrument; and the *Khalifah* component converts both into operational requirements that can be audited against MS 2610:2015 and the *Kulliyyat Maqasid Syariah*. This structure responds directly to the gap identified in the literature: insufficient study combining the ecological suite with the concepts of *Tafakkur*, *Tadabbur Alam*, and *Khalifah* to facilitate the development of sustainable tourism activities.

The findings confirm the study's central premise: Paya Lebar's ecological and heritage assets make it a viable candidate for Muslim-friendly ecotourism, but the site cannot currently claim conformance with Islamic tourism requirements because the most basic infrastructural conditions — a designated *musholla* and gender-segregated sanitation — are unmet. This pattern is consistent with the broader literature, which has repeatedly identified a gap between the conceptual availability of Muslim-friendly standards and their practical realisation. Even where standards exist, loopholes remain, and the standards currently available provide only very general guidelines and requirements that are insufficient to serve holistic aspects and elements. Policy analysis similarly identifies uneven standardisation across service segments, inconsistent competency among frontline staff, and limited readiness among small and medium enterprises as persistent implementation gaps (Zaidi et al., 2025b). The concentration of MFT development on hotels, airlines, and urban halal food hubs has left rural and nature-based sites without the infrastructure and interpretive scaffolding that the standards presuppose.

The findings also carry implications for market positioning. The segment of Muslim tourists with high ecotheological awareness is demonstrably disposed toward sustainable, tranquil destinations offering spiritual value, and such tourists exhibit ethical behaviour including refraining from damaging nature and participating

in conservation programmes (Adinugraha et al., 2025). Evidence that memorable nature-based tourism experiences translate into environmentally responsible behaviour primarily through place attachment (Arissaputra et al., 2025) indicates that the interpretive quality of the *Tadabbur Alam* experience is not incidental but a determinant of conservation outcomes. Given that the halal tourism market represents 12.3% of global outbound tourism and is growing at 4.8% against a global average of 3.8%, a rural destination that credibly integrates Islamic values with ecological integrity occupies a defensible competitive position.

Finally, the framework's emphasis on community participation and product development connects to the wider evidence that ecotourism can convert conservation into local. The comparative evidence indicates that conservation outcomes depend on site context: near communities, conservation success depends heavily on improving local livelihoods, whereas in wilderness areas the design should focus on low-carbon infrastructure such as eco-cruises and circular innovations that preserve ecosystem purity. Paya Lebar, with its river ecosystems and minimal community interaction, currently resembles the latter model. A Muslim-friendly framework that incorporates community participation as a core element offers a pathway to strengthen the former dimension without compromising the ecological integrity that makes the site compelling.

The evidence shows that Paya Lebar possesses substantial potential for spiritual ecotourism, and simultaneously that the site cannot currently claim conformance with Islamic tourism requirements because the most basic infrastructural conditions, namely a designated *musholla* and gender-segregated sanitation, are unmet. The framework therefore appears to prescribe exactly what the operator cannot afford. Recommending capital-intensive facilities to a single private business contending with core business survival and raw material scarcity would render the framework descriptively accurate but practically inert.

This tension is not unique to Paya Lebar; it is the general condition of the segment. Analysis of Malaysia's Muslim-friendly hospitality governance identifies persistent implementation gaps, including uneven standardisation across service segments, inconsistent competency levels among frontline staff, and limited readiness among small and medium enterprises due to resource constraints, documentation burdens, and the demands of continuous compliance (Zaidi et al., 2025b). The same analysis concludes that standards adoption by SMEs must be supported progressively rather than assumed. The paradox, in other words, is a structural feature of how MFT standards reach small rural operators, not a failure of this particular site. Resolving it requires reframing compliance from a cost borne by the operator to a service delivered by an ecosystem. The mechanism is a Public-Private-Community Partnership orchestrated by the Perbadanan Pembangunan Sungai dan Pantai Melaka, the state agency responsible for the development of Melaka's river and coastal areas.

Community co-management also resolves a second gap identified in the findings. The site presently relies on a passive nature-observation model with minimal interaction between tourists and the broader local population, and low community participation is an obstacle to long-term ecotourism development. Bringing PNMB into operations converts that weakness into a mechanism. The community-based tourism literature is consistent on this point: empowerment and ownership by the host community are the conditions under which local benefit and conservation outcomes are jointly achieved.

The charcoal produced in the traditional clay kilns is already repurposed into functional, eco-friendly souvenirs, specifically natural charcoal air purifiers, which provide visitors with practical merchandise that purifies indoor air while demonstrating environmental stewardship in practice. The constraint is that this product line competes for the same raw material as the site's core charcoal output, and it is currently presented simply. Moving the product mix from volume-dependent raw charcoal toward value-added processed goods increases the return per unit of raw material, which means the same kiln output supports more revenue, and it reduces exposure to raw material scarcity rather than amplifying it. The *Khalifah* logic of the framework is what makes this product line more than merchandising: the air purifier is the material expression of environmental responsibility, and its sale funds the upkeep of the site whose interpretation produces that responsibility in the first place.

Taken together, *Shariah* compliance at Paya Lebar is not a private operator's capital expenditure; it is a distributed obligation in which the state agency supplies the asset, the community association supplies the labour, and the operator supplies the interpretive content and the site itself. Under this framing, the *musholla*

and the gender-segregated ablution facilities are not costs imposed on a vulnerable business but public goods positioned within a working heritage destination. The obligation aligns with *Maqasid al-Shariah* directly: the designated prayer space with clean mats, verified *qiblah* signage, and prayer-time information serves *Hifz al-Din*, while gender-segregated sanitation and ablution facilities serve *Hifz al-Nasl* by ensuring modesty, privacy, and hygiene for visitors during stopovers.

The commercial case reinforces the ethical one. Given that the halal tourism market represents 12.3% of global outbound tourism and is growing at 4.8% against a global average of 3.8% Zakariyah (2026), a rural destination that credibly integrates Islamic values with ecological integrity occupies a defensible competitive position. Finally, the framework's emphasis on community participation and product development connects to the wider evidence that ecotourism can convert conservation into local benefit. The comparative evidence indicates that conservation outcomes depend on site context: near communities, conservation success depends heavily on improving local livelihoods, whereas in wilderness areas the design should focus on low-carbon infrastructure such as eco-cruises and circular innovations that preserve ecosystem purity. Paya Lebar, with its river ecosystems and minimal community interaction, currently resembles the latter model. A Muslim-friendly framework that incorporates community participation as a core element offers a pathway to strengthen the former dimension without compromising the ecological integrity that makes the site compelling.

CONCLUSION

This study has developed a Muslim-friendly ecotourism framework for Paya Lebar Ecotourism in Melaka, integrating the Islamic principles of *Tadabbur Alam*, *Tafakkur*, and *Khalifah* with the established compliance criteria of MS 2610:2015 and the *Kulliyyat Maqasid Syariah*. The findings demonstrate that the site possesses substantial potential for spiritual ecotourism, anchored in its mangrove river journey and the industrial heritage of Sabak Arang's century-old igloo-shaped clay charcoal kilns. They also demonstrate that this potential cannot be realised without infrastructural investment, most urgently in designated prayer spaces (*musholla*) and gender-segregated sanitation facilities.

The study's contribution is a practical and competitive structure to guide policymakers and operators in building sustainable, Muslim-friendly ecotourism sites for spiritually oriented Muslim eco-tourists. Its principal limitation is its single-site, qualitative design, which limits statistical generalisability; the framework's transferability to other rural ecotourism contexts should be tested through comparative research. Future studies might extend the framework to additional industrial heritage and wetland sites, and to the measurement of visitor outcomes among the spiritually conscious Muslim eco-tourist segment.

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