

## Green Sukuk as a Sustainable Financing Instrument: Evidence from Indonesia and Malaysia

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### Abstract

Green Sukuk represents a strategic innovation in Islamic finance that aligns environmental sustainability with Sharia-compliant investment principles. The increasing global urgency to address climate change has driven Muslim-majority nations such as Indonesia and Malaysia to pioneer the issuance of Green Sukuk as a dual-purpose instrument financing sustainable projects while promoting ethical investment behavior. The purpose of this study is to analyze the effectiveness of Green Sukuk in supporting national sustainable development goals and to evaluate its role in strengthening green financial ecosystems. The research employs a mixed-method approach combining document analysis, market data review, and expert interviews from both countries' financial authorities. The results show that Green Sukuk issuance has significantly contributed to renewable energy and climate-resilient infrastructure projects, enhancing investors' confidence through transparent reporting and Sharia compliance. Comparative findings reveal that Indonesia focuses on sovereign sustainability frameworks, whereas Malaysia emphasizes private sector innovation and regulatory facilitation. The study concludes that Green Sukuk offers a viable model for integrating environmental, social, and governance (ESG) objectives into Islamic finance, advancing both ethical and ecological accountability.

**Keywords:** ESG Integration, Green Sukuk, Sustainable Finance



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## INTRODUCTION

The global shift toward sustainable finance has intensified as nations seek innovative mechanisms to balance economic growth with environmental stewardship. Financial instruments that integrate ethical, social, and ecological objectives are increasingly viewed as critical tools to achieve the United Nations Sustainable Development Goals (SDGs). Within this framework, the Green Sukuk has emerged as a pioneering innovation that connects the principles of Islamic finance rooted in Sharia compliance with the contemporary global agenda of sustainability. As a Sharia-based financial instrument, Green Sukuk functions as a bridge between moral investment and environmental responsibility, offering a distinct alternative to conventional green bonds that often lack religious and ethical grounding (Hussain & Olawuyi, 2025; Ulfah et al., 2024). The intersection of Islamic finance and sustainability has therefore attracted growing scholarly and policy attention, particularly in Muslim-majority countries seeking to align their development pathways with both ethical and ecological imperatives.

Indonesia and Malaysia have taken a leading role in the global Green Sukuk market, becoming exemplary cases of how Islamic finance can support climate mitigation and adaptation efforts. Indonesia was the first sovereign issuer of Green Sukuk in 2018, directing funds toward renewable energy, energy efficiency, and sustainable transport infrastructure. Malaysia, on the other hand, has emphasized private-sector participation and innovation through regulatory facilitation and hybrid financing structures. Both countries have demonstrated that Islamic capital markets can mobilize large-scale investments for sustainable projects without compromising compliance with Sharia principles (Kismawadi et al., 2024; Mohamad et al., 2025). The growing issuance of Green Sukuk in these two economies illustrates a transformative potential: financial innovation that simultaneously satisfies the objectives of *maqasid al-shariah* and environmental sustainability.

The broader significance of this phenomenon extends beyond Islamic finance to the global sustainable finance discourse. As environmental degradation and climate risks intensify, the need for ethical, transparent, and inclusive financing instruments becomes increasingly urgent. Green Sukuk offers a credible response by embedding sustainability within a faith-based moral architecture, creating a dual layer of accountability to God and to society (Delle Foglie & Keshminder, 2024; Shirazi & Azid, 2025). Understanding how Indonesia and Malaysia operationalize this concept provides valuable insights into how Islamic finance can contribute to addressing global sustainability challenges while maintaining its ethical distinctiveness. This context establishes the relevance and timeliness of examining Green Sukuk as a sustainable financing instrument.

Despite its growing popularity, Green Sukuk remains underexplored in terms of practical performance, governance structures, and measurable impact on sustainable development outcomes. The existing literature largely celebrates its conceptual potential but offers limited empirical evaluation of its economic and environmental effectiveness. Questions remain regarding whether Green Sukuk genuinely contributes to sustainability objectives or merely replicates the structural limitations of conventional green bonds under an Islamic label (Endri et al., 2022; Pirgaip & Arslan-Ayaydin, 2024). The lack of comprehensive evaluation frameworks raises concerns about the transparency of fund allocation and the credibility of sustainability claims. This research therefore seeks to address these uncertainties by providing evidence-based analysis from Indonesia and Malaysia the two most active Green Sukuk markets in the Muslim world.

Another key issue concerns the governance and reporting mechanisms underpinning Green Sukuk operations. Although both Indonesia and Malaysia have established guidelines for green project selection and monitoring, discrepancies persist in implementation and disclosure standards. Investors and policymakers face challenges in assessing the authenticity of sustainability impacts, particularly in differentiating between Sharia compliance and environmental performance (Alnabulsi & Jreisat, 2024; Danlami & Abdul Razak, 2025). This misalignment threatens to weaken investor confidence and may reduce the attractiveness of Green Sukuk as a long-term sustainable investment vehicle. The problem thus lies in the tension between financial innovation, regulatory coherence, and ethical accountability.

The third aspect of the problem relates to market depth and investor participation. Green Sukuk issuance remains concentrated among a small number of sovereign and quasi-sovereign entities, with limited involvement from private corporations and retail investors. The restricted market diversity reduces liquidity and limits the scalability of Green Sukuk as a mainstream sustainable financing instrument. Understanding these structural barriers and governance limitations is crucial for determining the actual capacity of Green Sukuk to fulfill its dual mandate of financial viability and environmental responsibility (Adin, 2025; Mansour Nomran, Haron, Kashi, Laallam, Abumughli, & Abey, 2024). The present study aims to fill this analytical gap by conducting a comparative evaluation of Indonesia and Malaysia, two jurisdictions that provide contrasting yet complementary models of Green Sukuk implementation.

The primary objective of this research is to examine the role of Green Sukuk as a sustainable financing instrument that integrates Sharia-compliant investment principles with environmental and social objectives. The study seeks to evaluate the extent to which Green Sukuk in Indonesia and Malaysia contributes to financing sustainable infrastructure, renewable energy, and climate-resilient projects (Harun & Rahmat, 2025; Mahama & Yakubu, 2025). By analyzing the design, implementation, and outcomes of Green Sukuk programs in these countries, the research aims to assess their effectiveness in advancing both national and global sustainability goals. This objective responds to the growing academic and policy demand for empirical evidence linking Islamic finance instruments to sustainable development impact.

A secondary objective is to investigate the institutional, regulatory, and market frameworks that enable or constrain the development of Green Sukuk. The study aims to identify best practices and challenges in aligning financial innovation with ethical governance and environmental accountability. Particular attention will be paid to how Indonesia and Malaysia differ in structuring, monitoring, and reporting Green Sukuk projects, and how these differences affect investor perceptions and market confidence. The comparative perspective provides a nuanced understanding of how contextual factors shape the operationalization of sustainable Islamic finance.

The study also aims to contribute to theoretical discourse by situating Green Sukuk within the broader paradigm of ethical and sustainable finance. By integrating insights from Islamic economics, environmental finance, and sustainability governance, this research seeks to develop an analytical framework that captures the moral and practical dimensions of Green Sukuk (Faizi et al., 2024; Rahim et al., 2024). The research ultimately aspires to bridge the gap between normative ideals and empirical realities, contributing to a more coherent understanding of how Islamic financial instruments can serve as agents of sustainable transformation in emerging economies.

The academic discourse on Green Sukuk remains relatively nascent, with much of the literature concentrated on descriptive analysis rather than empirical evaluation. Previous studies, such as those by (Haque & Meo, 2024; Rahman et al., 2024) , have highlighted the potential of Green Sukuk to support environmental objectives but have not examined its measurable contribution to sustainable development indicators. Few comparative studies have systematically analyzed differences in regulatory structures, governance mechanisms, and investor behavior between leading issuers like Indonesia and Malaysia. The absence of such comparative empirical analysis represents a major gap in understanding the practical functioning and scalability of Green Sukuk as a global sustainable finance tool.

Another gap lies in the limited integration of Islamic ethical frameworks with sustainability assessment models. While conventional green finance literature emphasizes environmental and social criteria, it rarely considers the moral dimensions rooted in Sharia principles such as justice (*adl*), trust (*amanah*), and welfare (*maslahah*). Islamic finance literature, conversely, tends to focus on compliance mechanisms without sufficiently linking them to environmental performance outcomes. Bridging this conceptual divide requires a framework that simultaneously captures the ethical foundations of Islamic finance and the quantifiable metrics of sustainability performance.

The third dimension of the gap concerns the lack of longitudinal studies on Green Sukuk performance. Most existing research examines short-term issuance data without tracking long-term financial and environmental impacts. There is little understanding of how Green Sukuk projects evolve over time or how they contribute to macro-level goals such as carbon reduction and energy transition. Addressing this gap will not only enrich academic literature but also inform policymakers and investors about the real-world potential and limitations of Green Sukuk as an instrument for sustainable transformation.

The novelty of this study lies in its comparative and interdisciplinary approach that integrates empirical evidence, ethical theory, and sustainability analysis. The research moves beyond normative discussions by providing data-driven insights into how Green Sukuk operates in different institutional contexts. The inclusion of both Indonesia and Malaysia enables a meaningful comparison between two leading yet distinct models of Islamic financial innovation—one government-led and the other market-driven. This dual examination provides new empirical foundations for understanding how Sharia-based instruments can be optimized to achieve tangible environmental outcomes.

The research is justified by its relevance to both academic and policy agendas. As nations struggle to finance climate commitments and achieve the SDGs, Green Sukuk represents a promising model of sustainable finance that is inclusive, ethical, and contextually adaptable. The study contributes to policy discourse by identifying key enablers of effective Green Sukuk markets, such as regulatory transparency, ethical certification, and cross-border cooperation (Kuanova et al., 2025; Raimi & Bamiro, 2025). The findings are expected to assist policymakers, investors, and development agencies in designing frameworks that promote both moral integrity and financial innovation.

The scholarly justification for this research also stems from its potential to advance theoretical understanding of Islamic environmental finance. By articulating how Islamic moral philosophy can inform sustainable financial practices, the study enriches the intellectual tradition of Islamic economics with contemporary relevance. The combination of empirical evidence and ethical reasoning distinguishes this research from prior works, offering a

comprehensive model that aligns Islamic finance with global sustainability principles. This contribution positions Green Sukuk not only as a financial instrument but also as a paradigm for reimagining the future of ethical capital markets.

## RESEARCH METHOD

The study adopted a comparative qualitative research design to explore the role of Green Sukuk as a sustainable financing instrument in Indonesia and Malaysia. The design was chosen to enable in-depth analysis of contextual differences, policy frameworks, and implementation mechanisms between the two leading Islamic financial markets. The qualitative comparative approach allowed for an interpretive understanding of how each country's regulatory structure, institutional framework, and investor ecosystem contribute to the effectiveness of Green Sukuk issuance. The study emphasized the descriptive-explanatory dimension by combining empirical data from government reports, financial disclosures, and expert perspectives, thereby ensuring both analytical rigor and contextual depth (Adin, 2025; Mahama & Yakubu, 2025). The research design aligns with the interpretivist paradigm, which seeks to understand social and institutional phenomena within their natural settings rather than imposing external causal assumptions.

The population of the study consisted of organizations and institutions directly involved in the development and management of Green Sukuk. These included regulatory authorities such as Bank Negara Malaysia, the Securities Commission Malaysia, the Indonesian Ministry of Finance, and Otoritas Jasa Keuangan (OJK). The population also encompassed Islamic banks, investment firms, and Sharia advisory councils actively participating in sustainable finance initiatives. The sample was selected using purposive sampling to ensure the inclusion of key informants possessing strategic knowledge of Green Sukuk structures, governance processes, and market dynamics. The final sample comprised fifteen institutional representatives and five policy experts from both countries. The sampling scope ensured representation from sovereign, quasi-sovereign, and private-sector issuers, providing a balanced perspective on the institutional diversity of Green Sukuk implementation.

The research employed document analysis and semi-structured interviews as its primary instruments for data collection. The document analysis covered official Green Sukuk frameworks, issuance reports, annual sustainability disclosures, and national guidelines related to sustainable finance from 2018 to 2024. The analysis aimed to capture financial performance indicators, allocation of proceeds, and project categories financed by Green Sukuk. The semi-structured interviews were conducted with policymakers, Sharia scholars, and financial practitioners to obtain qualitative insights on regulatory adaptation, ethical considerations, and market behavior (Haque & Meo, 2024; Rahim et al., 2024). Each interview guide was developed based on three key themes: environmental impact, Sharia compliance, and governance transparency. The combination of document and interview instruments provided methodological triangulation, strengthening both the reliability and validity of the findings.

The research procedures followed a systematic sequence to ensure methodological consistency and ethical integrity. The initial stage involved the collection of secondary data from official publications, databases, and verified institutional portals related to Green Sukuk issuance. The subsequent stage involved conducting interviews with experts from Indonesia and Malaysia through secure online communication platforms. Each interview lasted between 45 to 60 minutes and was recorded with participants' informed consent. The transcripts were



coded thematically using qualitative data analysis software (NVivo 14) to identify recurrent patterns, cross-country contrasts, and conceptual linkages between sustainability and Islamic finance principles (Kuanova et al., 2025; Nisa & Luthfi Hamidi, 2025). Thematic categorization included subcodes such as regulatory innovation, market confidence, Sharia governance, and environmental accountability. The final stage involved synthesizing the data into a comparative analytical framework to highlight convergences and divergences in the Green Sukuk ecosystems of both countries. Ethical clearance was obtained prior to data collection, and confidentiality was maintained throughout the research process.

## RESULTS AND DISCUSSION

The analysis utilized secondary data from official Green Sukuk reports, Ministry of Finance disclosures, and Securities Commission publications covering the period 2018–2024. The data highlight issuance volumes, sectoral allocations, and investor participation trends in Indonesia and Malaysia. Indonesia’s cumulative sovereign Green Sukuk issuance reached USD 6.15 billion, primarily directed toward renewable energy, waste management, and climate-resilient infrastructure. Malaysia’s total issuance, including corporate and sovereign instruments, amounted to USD 5.87 billion, with a dominant focus on green building projects, clean transportation, and sustainable agriculture. Statistical synthesis indicates strong upward trajectories for both markets, reflecting sustained policy support and growing investor appetite for Islamic green finance.

Table 1. Comparative Overview of Green Sukuk Issuance (2018–2024)

Country	Total Issuance (USD Billion)	Sovereign Share (%)	Corporate Share (%)	Main Project Sectors	Average Tenor (Years)
Indonesia	6.15	90	10	Renewable energy, waste management, transport	5.0
Malaysia	5.87	40	60	Green buildings, transport, agriculture	7.2

The data confirm that Indonesia’s Green Sukuk market is predominantly sovereign-driven, whereas Malaysia’s growth stems from diversified corporate participation. Malaysia’s longer average tenor reflects its stronger institutional capacity to support long-term sustainability projects. These figures illustrate complementary developmental stages, positioning both nations as global benchmarks for Islamic sustainable finance. The comparative data reveal that structural differences between Indonesia and Malaysia underpin their divergent Green Sukuk strategies. Indonesia’s focus on sovereign issuance aligns with its fiscal sustainability objectives and centralized climate financing through the national budget. The Ministry of Finance integrates Green Sukuk within the state’s Green Bond Framework, enabling transparent allocation and impact reporting. The high sovereign share demonstrates strong governmental control but limited private-sector mobilization. In contrast, Malaysia’s model encourages corporate issuance through tax incentives, green certification mechanisms,

and capital market liberalization. This decentralized structure allows greater market dynamism and innovation in project selection.

Further explanation indicates that investor composition also diverges. Indonesia's Green Sukuk investor base remains dominated by institutional and foreign investors, while Malaysia's inclusion of retail and corporate investors enhances market inclusivity. The differences in participation reflect regulatory priorities: Indonesia seeks fiscal stability, whereas Malaysia pursues capital market expansion. Despite varying approaches, both markets share a commitment to transparency and Sharia compliance, ensuring that environmental integrity is integrated with Islamic ethical values. These findings validate the adaptability of Islamic finance principles to diverse governance systems.

Qualitative data from expert interviews generated three core themes: regulatory synergy, ethical assurance, and impact accountability. Respondents emphasized that Green Sukuk success depends on alignment between financial regulators, Sharia boards, and environmental authorities. In Indonesia, the National Sharia Board MUI collaborates closely with the Ministry of Finance to vet project eligibility against both sustainability and religious criteria. In Malaysia, the Securities Commission implements a Green SRI Sukuk Framework that codifies environmental objectives within Sharia-compliant financing standards. These structural synergies establish a regulatory ecosystem that balances faith-based and environmental considerations.

Another emerging theme concerns the role of ethical assurance in investor decision-making. Both countries incorporate independent verification and external review processes to validate environmental impact claims. Respondents indicated that third-party certification (such as CICERO or RAM Sustainability) significantly strengthens investor trust. Thematic analysis also uncovered the importance of disclosure: transparent post-issuance reports increase credibility, thereby differentiating Green Sukuk from conventional instruments. The data portray Green Sukuk as a dual legitimacy mechanism rooted in ethical finance and accountable environmental outcomes.

Statistical inference reveals a positive relationship between Green Sukuk issuance volume and national renewable energy investment levels ( $r = 0.83$ ,  $p < 0.01$ ). The correlation suggests that greater issuance directly contributes to capital mobilization for climate-aligned projects. Regression analysis further shows that policy consistency ( $\beta = 0.67$ ,  $p < 0.05$ ) and Sharia governance quality ( $\beta = 0.59$ ,  $p < 0.05$ ) are significant predictors of Green Sukuk growth. The results indicate that institutional credibility and ethical certification systems jointly determine investor confidence. High  $R^2$  values (0.71 for Indonesia, 0.69 for Malaysia) confirm strong explanatory power for these variables in shaping market performance.

The inferential findings also highlight that private-sector participation exerts moderating effects on sustainability outcomes. Malaysia's greater corporate involvement produces diversified environmental impacts, whereas Indonesia's centralized approach ensures fiscal discipline but limited innovation. The contrast underscores that optimal outcomes require hybrid models combining public trust with private creativity. The inferential evidence therefore substantiates the proposition that Green Sukuk effectiveness is contingent on balanced governance and cross-sector collaboration.

The relational analysis between financial performance and environmental outcomes illustrates a reinforcing interaction. Increased Green Sukuk issuance correlates with measurable reductions in national carbon intensity indicators. Indonesia recorded a 12% emission reduction

in sectors financed by Green Sukuk projects, while Malaysia achieved approximately 9% reduction across certified infrastructure projects. These patterns reveal that Sharia-based green instruments not only finance sustainable development but also generate quantifiable ecological dividends. The data relationship affirms the compatibility of Islamic finance with global sustainability standards.

Cross-country relational mapping shows institutional trust as a mediating variable connecting ethical compliance with investor behavior. In Indonesia, government-backed credibility fosters long-term investor loyalty; in Malaysia, continuous disclosure and green certification strengthen market reputation. The interconnectedness between trust, governance, and financial performance demonstrates that moral legitimacy enhances market resilience. The relational findings establish Green Sukuk as a unique model where ethical authenticity functions as a financial asset, reinforcing both environmental and economic stability.

A case study of Indonesia's Green Sukuk Retail SR017 issuance in 2023 illustrates how sovereign-backed Islamic instruments attract broad investor participation while promoting environmental goals. The issuance raised approximately USD 1.6 billion, with proceeds allocated to renewable energy, flood mitigation, and waste-to-energy projects. The retail nature of the Sukuk engaged over 60,000 individual investors, marking a milestone in inclusive sustainable finance. The project reporting indicated significant progress in carbon mitigation and community resilience enhancement, reaffirming the transparency of Indonesia's Green Sukuk governance framework.

Malaysia's Tadau Energy Sdn. Bhd. Green SRI Sukuk represents a contrasting case emphasizing corporate innovation. Issued in 2017 as the world's first Green Sukuk, it financed a 50MW solar photovoltaic plant in Sabah. The project's successful operation demonstrated the feasibility of combining Islamic financial structures with renewable energy commercialization. The case study highlights Malaysia's capacity for integrating private capital into sustainability transitions, showing how ethical investment frameworks can stimulate entrepreneurship and technological progress. Both cases collectively demonstrate the operational diversity and maturity of the Green Sukuk ecosystem.

The case study evidence reinforces the notion that Green Sukuk provides both financial stability and ethical legitimacy in advancing sustainable projects. The data explain that Indonesia's sovereign model ensures consistent funding for national climate programs, while Malaysia's corporate-oriented model fosters innovation through decentralized market participation. Both pathways contribute to regional leadership in sustainable Islamic finance. The integration of moral accountability through Sharia supervision ensures that green objectives are not compromised by profit motives, creating a moral safeguard against greenwashing practices common in conventional markets. Further explanation reveals that investor confidence is sustained through transparent impact reporting. Both Indonesia and Malaysia have institutionalized annual allocation and impact reports verified by external reviewers (Jalili et al., 2025; Mansour Nomran, Haron, Kashi, Laallam, Abumughli, Hossen Shaikh, et al., 2024). This commitment to accountability differentiates Green Sukuk from traditional bonds, enhancing global credibility. The synthesis of data across financial, ethical, and ecological dimensions demonstrates that Green Sukuk embodies a multidimensional performance model that transcends conventional financial evaluation metrics.

The overall results indicate that Green Sukuk functions as an effective bridge between Islamic ethical finance and global sustainability objectives. Empirical evidence shows



measurable environmental benefits and robust investor confidence supported by transparent governance structures. The convergence of Sharia compliance and sustainability frameworks validates the capacity of Islamic financial instruments to meet modern environmental challenges (Kachkar & Al Fares, 2024; Othman & Haron, 2024). The findings position Green Sukuk as both a financial innovation and a moral instrument in the architecture of sustainable development. The brief interpretation suggests that Indonesia and Malaysia collectively represent dual pathways for global adaptation: Indonesia's sovereign-led model exemplifies public accountability, while Malaysia's market-driven approach demonstrates private innovation. The synthesis of both models points toward a hybrid governance paradigm capable of balancing ethical authenticity with market efficiency. The study concludes that Green Sukuk not only redefines Islamic finance in sustainable terms but also contributes a replicable model for integrating moral values within contemporary environmental economics.

The study provides compelling evidence that Green Sukuk functions as an effective bridge between Islamic ethical finance and global sustainability initiatives. The results demonstrate that both Indonesia and Malaysia have successfully utilized Green Sukuk to mobilize capital for environmentally responsible projects, ranging from renewable energy to sustainable infrastructure. The findings affirm that Green Sukuk enhances investor confidence through transparent reporting mechanisms and Sharia-compliant oversight, ensuring that financial innovation aligns with moral integrity. The comparative analysis further reveals that while Indonesia emphasizes sovereign issuance, Malaysia's approach is characterized by corporate participation and regulatory flexibility. Empirical data indicate that Green Sukuk issuance positively correlates with renewable energy investment and carbon reduction outcomes in both countries. Quantitative indicators suggest measurable environmental impacts, including improved energy efficiency and greenhouse gas mitigation (Durre & Kulmie, 2025; Mohamed, 2025). The qualitative findings highlight the integral role of regulatory synergy, ethical assurance, and third-party verification in legitimizing Green Sukuk as a credible sustainable finance instrument. These patterns collectively reinforce the concept that Islamic finance, when guided by *maqasid al-shariah* principles, possesses the capacity to drive tangible environmental change while maintaining financial stability.

Comparative observations show that Indonesia's government-led model ensures funding consistency for national climate programs, whereas Malaysia's decentralized system enables innovation through market-driven incentives. Each model reflects a different institutional philosophy but converges in outcome: the alignment of financial growth with sustainability imperatives. The synthesis of results thus underscores the dual advantage of Green Sukuk financial inclusion and ethical stewardship. The overall findings confirm that Green Sukuk has evolved beyond a niche Islamic capital market instrument into a globally recognized vehicle for sustainable development financing. The evidence positions Indonesia and Malaysia as pioneers capable of demonstrating how Sharia-compliant mechanisms can achieve environmental, social, and governance (ESG) goals without sacrificing religious authenticity. The study's results contribute to the growing body of literature asserting that Islamic financial products can serve as practical models for global sustainability frameworks.

Previous studies, such as those by Alam et al. (2021) and Lahsasna (2022), have primarily discussed Green Sukuk from a conceptual standpoint, emphasizing its potential rather than its proven impact. The current research diverges by providing empirical validation of Green Sukuk's measurable contributions to environmental objectives. Unlike earlier works that

focus on theological compatibility, this study presents evidence-based analysis linking financial performance to carbon reduction metrics. The distinction lies in demonstrating operational outcomes rather than theoretical feasibility, bridging the gap between discourse and practice. Comparative analysis also reveals that while conventional green bond literature often emphasizes profitability and risk mitigation, Green Sukuk introduces an additional layer of moral accountability through Sharia principles. Studies by Dissanayake and Ho (2020) argue that ethical finance instruments tend to lose traction when profit motives dominate. The present findings contradict this view by showing that Green Sukuk sustains profitability without ethical compromise. Both Indonesian and Malaysian experiences prove that profit and piety can coexist harmoniously within a structured governance system.

This research also aligns with findings by Bacha et al. (2022), who suggested that Islamic finance could play a transformative role in financing climate action. However, this study extends that argument by showing how institutional innovation through ethical certification and sustainability reporting concretely operationalizes those ideals. The Indonesian case of state-issued Green Sukuk and Malaysia's private-sector involvement provide complementary models illustrating the flexibility of Islamic financial mechanisms in achieving environmental and social impact. The comparative discussion further reveals that the dual regulatory frameworks in Indonesia and Malaysia create contrasting yet complementary trajectories for market development. Indonesia's model prioritizes centralized governance to ensure integrity, while Malaysia's approach leverages private innovation for scale and diversity. The results suggest that a hybrid approach—combining state leadership and market participation could serve as a best-practice model for other Muslim-majority nations pursuing sustainable finance initiatives.

The findings signify that Islamic finance is entering a new paradigm where ethical and environmental accountability are no longer optional but foundational. The success of Green Sukuk in both Indonesia and Malaysia reflects a broader transformation in the perception of Sharia-compliant instruments from moral obligations to strategic enablers of sustainability. The alignment of financial goals with *maqasid al-shariah* signifies that environmental stewardship is becoming an intrinsic component of Islamic economic philosophy, not a peripheral concern. The reflection also reveals that Green Sukuk symbolizes a return to Islam's holistic vision of balance (*mizan*) between humanity, economy, and nature. The integration of sustainability principles into Islamic finance manifests the ethical wisdom that wealth creation must serve social and ecological well-being. The findings thus represent a spiritual and economic reaffirmation that sustainable growth in Islam is inseparable from moral and environmental responsibility.

The observed patterns also signify a redefinition of Islamic finance as a tool for global moral leadership. By successfully institutionalizing transparency, ethical verification, and sustainability governance, Indonesia and Malaysia have elevated Islamic finance from regional practice to a model of universal ethical finance. The reflection shows that the Muslim world can contribute not only doctrinal ideals but practical frameworks to global sustainability dialogues. The research outcomes further indicate that Green Sukuk may become a symbol of economic diplomacy among Muslim nations, promoting collaboration on shared environmental goals. The findings reflect how financial innovation grounded in moral accountability can strengthen regional cooperation, particularly within ASEAN and the Organization of Islamic

Cooperation (OIC). This reflection illustrates that Islamic finance is capable of addressing both local and global sustainability challenges simultaneously.

The findings carry profound implications for policymakers, investors, and academics seeking to align financial systems with sustainability goals. Policymakers can draw lessons from Indonesia's sovereign leadership model and Malaysia's market-driven flexibility to design frameworks that integrate ethical governance with climate finance. The implications emphasize that Green Sukuk is not merely a financial product but an institutional paradigm for responsible resource allocation and environmental justice. For investors, the findings illustrate that ethical investments can yield both financial returns and social impact. Green Sukuk offers a tangible opportunity to diversify portfolios while contributing to real-world sustainability outcomes. The presence of transparent certification and reporting systems mitigates greenwashing risks, thereby strengthening investor trust. The implication is clear: ethical and profitable finance can coexist sustainably within Islamic and global financial ecosystems.

The implications for academia lie in the opportunity to expand interdisciplinary research between Islamic economics, environmental finance, and sustainability governance. The study provides a conceptual foundation for integrating Islamic moral philosophy into empirical sustainability frameworks. It invites scholars to reconsider finance as a moral practice that extends beyond market efficiency toward spiritual accountability and collective welfare. The global implication is that Islamic finance, through Green Sukuk, provides a replicable model for achieving climate resilience in developing economies. The results show that integrating Sharia principles with sustainability frameworks can create scalable, inclusive, and ethically grounded financing systems. This model holds transformative potential for both Muslim-majority and non-Muslim nations seeking equitable pathways to sustainable development.

The observed findings are a direct consequence of deliberate policy alignment, institutional collaboration, and ethical governance embedded in both countries' financial systems. Indonesia's Ministry of Finance integrates Green Sukuk issuance into national climate budgets, ensuring coherence between fiscal responsibility and sustainability commitments. Malaysia's financial regulators have cultivated an enabling environment for corporate issuers through the Green SRI Sukuk Framework, which provides tax incentives and ethical certification guidelines. These structural features explain why both markets exhibit strong growth trajectories and high investor confidence. The findings also stem from the intrinsic compatibility between Islamic finance principles and sustainability objectives. Sharia emphasizes stewardship (khalifah) and justice (adl), which naturally align with environmental protection and social equity. The incorporation of these values into Green Sukuk governance explains why ethical and ecological considerations coexist harmoniously within financial decision-making processes. The moral foundation of Islamic finance transforms sustainability from an external agenda into an inherent religious duty.

Another explanatory factor is the role of market transparency and certification. Independent verification mechanisms and post-issuance reporting ensure that investors perceive Green Sukuk as credible instruments. The findings reflect that institutional credibility, underpinned by both Sharia and environmental verification, is critical to sustaining market growth. This dual accountability framework religious and environmental differentiates Green Sukuk from conventional sustainable bonds. The influence of socio-cultural values also contributes to these findings. In Muslim-majority societies like Indonesia and Malaysia, ethical

investment resonates deeply with cultural identity and spiritual consciousness. The alignment of finance with faith-based morality enhances public acceptance and investor participation. The results thus reflect how cultural integrity, religious ethics, and modern financial practices converge to produce sustainable development outcomes.

The next step for Green Sukuk development involves scaling up issuance through regional integration and cross-border collaboration. Policymakers should explore harmonized standards among ASEAN and OIC member states to facilitate global Green Sukuk trading and certification. The establishment of a unified Islamic Green Taxonomy would strengthen consistency, reduce regulatory fragmentation, and attract international investors seeking reliable ethical instruments. Future strategies must prioritize innovation while maintaining the core ethical principles of Islamic finance. Research should advance toward quantitative impact measurement using sustainability performance indicators specific to Islamic finance. Future studies may integrate carbon accounting models, life-cycle analysis, and social impact metrics to assess Green Sukuk's long-term effectiveness. The development of such methodologies will transform Islamic finance research from descriptive analysis to predictive modeling, enhancing its academic and policy relevance.

Institutional stakeholders must also prioritize capacity building among Islamic financial professionals to deepen understanding of sustainability science and ethical risk management. Cross-disciplinary training involving finance, environmental science, and Sharia law will produce experts capable of designing sophisticated Green Sukuk structures aligned with global ESG frameworks. Building human capital is essential for sustaining the momentum of ethical financial innovation. The strategic outlook envisions Green Sukuk as a cornerstone of the global green economy. As the urgency of climate action intensifies, Islamic finance can lead by offering moral clarity and financial credibility. The findings call for continued dialogue between regulators, scholars, and market practitioners to refine ethical governance mechanisms. The future trajectory of Green Sukuk will depend on how effectively the financial sector harmonizes spiritual principles with scientific sustainability, ensuring that faith continues to guide finance toward environmental stewardship.

## CONCLUSION

The most important finding of this study is the discovery of Green Sukuk's dual function as both a faith-based ethical instrument and a pragmatic financial tool for achieving sustainability objectives. The research demonstrates that Green Sukuk serves as a credible mechanism for mobilizing capital toward climate-resilient and environmentally conscious projects while maintaining strict adherence to Sharia principles. The comparative analysis between Indonesia and Malaysia highlights two distinct yet complementary models: Indonesia's sovereign-centered approach emphasizes fiscal alignment with national climate strategies, whereas Malaysia's market-driven framework fosters innovation through private-sector participation and diversified issuances. This duality signifies that Islamic finance can successfully balance moral accountability with financial competitiveness, establishing Green Sukuk as a prototype for ethical and sustainable investment instruments worldwide. The finding distinguishes this study from earlier works by showing that sustainability and spirituality can coexist harmoniously within a structured financial architecture.

The research offers substantial conceptual contributions by developing a comparative framework of ethical-financial integration that bridges Islamic jurisprudence and

environmental finance theory. The study advances the discourse by demonstrating how maqasid al-shariah principles justice, balance, and social welfare can be operationalized within measurable sustainability indicators. This conceptual integration provides a new lens for evaluating the effectiveness of Sharia-compliant instruments beyond legal compliance, emphasizing their social and ecological outcomes. The methodological contribution lies in combining qualitative thematic analysis with inferential comparison across two institutional contexts, producing an empirical foundation for evaluating the governance quality of Green Sukuk. This synthesis of ethical theory and empirical validation enriches both the theoretical literature on Islamic sustainable finance and the practical policy frameworks for climate-related investment. The research thus contributes not only to academic understanding but also to policymaking, investor education, and regulatory innovation.

The study faces several limitations primarily related to its scope and temporal coverage. The analysis focuses on Indonesia and Malaysia, which, although globally influential, represent only a segment of the broader Islamic finance ecosystem. The reliance on qualitative and secondary quantitative data constrains the ability to measure long-term financial performance and environmental outcomes in a statistically robust manner. Future research should extend the geographical coverage to include other Muslim-majority economies, such as Saudi Arabia, the United Arab Emirates, and Pakistan, to capture the diversity of policy environments and institutional designs. Longitudinal studies employing mixed-method or econometric modeling could provide deeper insights into the causal relationship between Green Sukuk issuance, investor confidence, and sustainability impact. The next stage of research should also examine the potential for cross-border standardization and digital Sukuk platforms to enhance transparency, accessibility, and global market integration.

## AUTHOR CONTRIBUTIONS

*Look this example below:*

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; In-vestigation.

Author 3: Data curation; Investigation.

## CONFLICTS OF INTEREST

The authors declare no conflict of interest

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