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Towards a Sustainable Future: Evaluating Sovereign Sukuk in Indonesia, the UAE, and Morocco

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Abstract

As contemporary instruments of Islamic finance, sovereign sukuk play a pivotal role in driving economic growth while advancing sustainable development. The sovereign sukuk initiative has opened new pathways for financing infrastructure, promoting social welfare, supporting environmental stewardship, and fostering impact investment aligned with the Sustainable Development Goals (SDGs). This study examines the utilization of sovereign sukuk as sustainable financing mechanisms in three leading Muslim-majority countries, namely Indonesia, the United Arab Emirates (UAE), and Morocco. Indonesia pioneered its first sovereign sukuk in 2008 and, a decade later, became the world's first issuer of a green sovereign sukuk, signaling its leadership in Islamic sustainable finance. The UAE, which launched its inaugural sovereign sukuk in 2014, has recently expanded into the green sukuk market through several landmark issuances, despite being a relatively new participant in this segment. In contrast, Morocco—having entered its first decade of sukuk implementation—issued its debut sovereign sukuk in 2018 and plans to release its second in 2025, reflecting a more gradual trajectory. Drawing upon literature review and content analysis, this study provides a comparative exploration of the sovereign sukuk experiences of these three nations. It focuses on: (1) The experience of Indonesian sovereign sukuk; (2) The experience of the UAE sovereign sukuk; (3) The experience of the Moroccan sovereign sukuk; (4) Comparative analysis of the initial development, law, and regulations of the sovereign sukuk in financing or refinancing eligible green projects that contribute positively to environmental sustainability. The findings highlight how sovereign sukuk can serve as effective instruments for sustainable financing, bridging Islamic ethical principles with global environmental and social objectives.

Keywords: ESG, green sukuk, SDGs, sovereign sukuk, sustainability

INTRODUCTION

The increasing global emphasis on Environmental, Social, and Governance (ESG) investing, together with the broad implementation of the Sustainable Development Goals (SDGs), highlights the inherent alignment between the principles of Islamic finance and modern sustainability objectives. This convergence has accelerated the role of sukuk as an ethical and effective instrument for financing a sustainable future. By design, sukuk provide an equitable mechanism to mobilize capital toward achieving the Paris Agreement and SDG targets, while simultaneously advancing the objectives of *maqasid al-shari'ah,* including the preservation of the environment *(ḥifẓ al-bi'ah).* Given the escalating threats that climate change poses to human welfare and ecological stability, sukuk also assume a pivotal responsibility in funding recovery efforts and enabling timely and resilient climate action.

Align with the funding gap for achieving the SDGs in developing countries growing from USD 2.5 trillion to over USD 4 trillion per year between 2020 and 2025 (OECD, 2022), also the ongoing

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shortfall in climate financing for meeting the Paris Agreement targets (Yu, 2016), the Islamic Declaration on Climate Change calls on Muslims and people of all faiths to act urgently on climate issues (OECD, 2015). In this context, not only Green Sukuk have emerged as a promising and ethically consistent alternative to traditional green finance instruments (Helali, 2024), but also Sustainable Sukuk and ESG Sukuk have emerged with various variants of Blue Sukuk, Social Sukuk, Transition Sukuk, Sustainability or SDG-Linked Sukuk, and Sustainability Sukuk itself.

Further, after the Islamic capital market in 2024 delivered a robust performance driven by a leap in sukuk issuance (IFSB, 2015), it is projected in 2025 that sukuk issuance will remain vigorous. According to S&P Global Ratings (2025), sukuk issuance will reach USD190 billion to USD200 billion this year, following the market's strong performance in 2024, where the total issuance reached USD193.4 billion, down slightly from USD197.8 billion in 2023. Likewise, Fitch Rating (2025b) predicts growth in the global sukuk market in 2025 due to rising funding needs, Islamic investor demand, diversification goals, and regulatory reforms, although the market in the first quarter faces challenges from global volatilities, particularly from United States (US) tariff increases.

By 2025, the global ESG sukuk market is projected to exceed USD 50 billion in outstanding value, becoming a key source of US dollar-denominated financing in Islamic finance, especially across major markets such as Saudi Arabia, the United Arab Emirates (UAE), Malaysia, and Indonesia (Fitch Rating, 2025a; Ho, 2025; ZAWYA, 2025). Malaysia was the first country to issue a Green Sukuk (Hadad-Zervos, 2017; Cho, 2023), while Indonesia led with both the inaugural Sovereign Green Sukuk and the world's first Retail Green Sukuk (MoF of Indonesia, 2019; UNDP in Asia and the Pacific, 2020; Musari, 2021, 2025; Musari & Hidayat, 2023). These milestones have made Malaysia and Indonesia the second and third largest global issuers—after Saudi Arabia—and positioned them at the forefront of sustainability efforts in Islamic finance (BIX Malaysia, 2023).

Considering that government involvement is essential to promote green financing in developing nations (Peng, *et al,* 2018), large-scale green initiatives require access to long-term funding (Sasongko & Sakti, 2020), and green development often suffers from a shortage of long-term financing, as many green technologies are still emerging, carry higher risks, are less proven, and tend to be commercially less competitive compared to conventional technologies (Taghizadeh-hesary & Yoshino, 2020), this study examines the sovereign sukuk in promoting sustainability by taking case study in Indonesia and the UAE because these countries represent sovereign sukuk leadership in supporting sustainability.

According to the study by Alvarez & Marsal Holding (2024), sovereign sukuk dominate the market, where the actual share of sovereign-linked sukuk would be even higher when including sukuk issued by state-owned or state-affiliated entities. In addition, sovereign sukuk often provide a lower financing cost for sovereign issuers compared to conventional international bonds, particularly for countries with higher borrowing costs and lower credit ratings. For this reason, sukuk can be a strategic funding option for states. Governments across the Africa, Asia, Middle East, and other regions are increasingly turning to sukuk as an alternative means of meeting their financing requirements, including in economies experiencing debt challenges. Nevertheless, a significant portion of financial market participants still possess limited familiarity with sukuk compared to conventional debt instruments.

While Malaysia remains the leading issuer of green and sustainable or socially responsible investment (SRI) corporate sukuk, it currently trails behind Indonesia in the issuance of sovereign green sukuk (Rahman, *et al*, 2026). At the same time, although Saudi Arabia has become the top issuer of sustainable sukuk (ZAWYA, 2024), but the UAE was the first issuer of green sukuk in the Middle East and North Africa (MENA) region (GGGI, 2023) as well as has made several significant issuances in recent years and led the way by introducing a Federal Framework for Bond and Sukuk issuances aimed at strengthening both its primary and secondary financial markets in the Gulf region (Rahman, *et al,* 2025).

Further, the performance of sovereign sukuk in promoting sustainability in Indonesia and the UAE is in contrast to Morocco, which is reaching its first 10 years and will issue its second sukuk in its 7th year. Indeed, the Islamic finance industry in Morocco is nascent and its architecture is still developing (Fitch Rating, 2023). If Indonesia has been issuing sovereign sukuk since 2008, Morocco just issued in 2018 (Bambbridge, 2018; Karam, 2018; MoEF of Morocco, 2018) and preparing for a second sovereign sukuk issuance in 2025 (Mahfoud, 2025) to finance the operational and refinancing activities of participating banks while advancing Morocco's renewable energy objectives (Hayes, 2025). Indeed, for Indonesia and Morocco, as well as most Islamic countries in the world, sovereign sukuk is of major importance for developing public borrowing (Musari & El Khamlichi, 2024b).

This study is driven by the need to fill a notable gap in the current literature related to sovereign sukuk. Employing a qualitative research design with an explanatory approach, this study evaluates the implementation and development of sovereign sukuk in Indonesia, in the UAE, and in Morocco. The study is particularly relevant for Muslim-majority countries seeking to draw lessons from the experiences of these pioneering issuers, especially in understanding their initial development phases, legal and regulatory frameworks, and sukuk issuance strategies aimed at advancing sustainable economic growth.

Therefore, this study focuses on (1) The experience of Indonesian sovereign sukuk; (2) The experience of the UAE sovereign sukuk; (3) The experience of the Moroccan sovereign sukuk; (4) Comparative analysis of the initial development, law, and regulations of the sovereign sukuk in financing or refinancing eligible green projects that contribute positively to environmental sustainability. Ultimately, this study seeks to highlight how sovereign sukuk can bridge Islamic ethical finance with global sustainability goals, offering the development of a model that integrates Shari'ah-compliant instruments into a broader ESG-oriented development agenda.

The Experiences of Indonesia Sovereign Sukuk

Indonesia's sukuk market has grown rapidly and dynamically, underpinned by a robust legal and regulatory framework. As noted by Rahman, *et al* (2025) and Musari and El Khamlichi (2024a), prior to the enactment of Law Number 19 of 2008 on Sovereign Islamic Securities, market participants in Indonesia referred to sukuk as Islamic bonds, a term also used in the 2002 Fatwa issued by the National Shari'ah Board of the Indonesian Council of Ulama (DSN-MUI). That Fatwa provided the foundation for several companies to begin issuing sukuk. Although the sukuk market in Indonesia was initially driven by the private sector, the introduction of the Sovereign Islamic Securities Law in 2008 established clear legal recognition and strengthened the application of Shari'ah principles in the capital market. This law serves as the legal foundation for issuing and managing sovereign sukuk, offering greater legal certainty and assurance for investors.

In 2020, the DSN-MUI issued Fatwa No. 137 on Sukuk, broadening its definition and permissible scope to accommodate larger-scale financing while clarifying previously underdefined provisions (*dhawabit*) and limitations (*hudud*) associated with the instrument. By 2023, Indonesia's sovereign sukuk had marked its fifteenth year of development, reflecting a sustained trajectory of innovation and institutional maturity in Islamic capital markets. Musari (2023) highlighted that the range of Indonesia's sovereign sukuk instruments has continued to expand, exemplified by the introduction of the Cash *Waqf* Linked Sukuk (CWLS) and Green Sukuk as innovative tools for social and environmental financing. The CWLS integrates *cash waqf* with sovereign sukuk, whereby the investment returns are managed by *nazhir* (the *waqf* fund administrator) to support social welfare initiatives, economic empowerment programs,

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and broader *masalih 'ammah* (public interests). In recognition of its innovative impact, the CWLS was awarded first place in the 2023 Islamic Development Bank (IsDB) Prize for Impactful Achievement in Islamic Economics.

The issuance of sovereign sukuk serves not merely as a means of financing the state budget, but more significantly as a tangible expression of the Government's commitment to advancing the Islamic economic system both within Indonesia and in the broader global market (Suminto, 2024). There is no doubt about the contribution of sukuk as an effective financing tool to support development projects, especially infrastructure. Funds obtained from the issuance of Sukuk can be directed specifically to projects that support economic growth and community welfare (Suharianto & Sunarno, 2023). Referring to the Directorate General of Budget Financing and Risk Management (DJPPR) Ministry of Finance (MoF) Republic of Indonesia (DJPPR MoF, 2023), the achievements of the Project Based Sovereign Sukuk from 2013 to 2023 are shown in Table 1.

Table 1. Projects Financing Sovereign Sukuk (2013-2023)

1,139 State Islamic Religious Universities (PTKIN) and madrasah building projects worth IDR 14,756 trillion.	286 hajj embarkation and projects of Integrated Hajj and Umrah Service Center (PLHUT) worth IDR3.713 trillion.
1,487 building projects of marriage hall and hajj ritual worth IDR 2,065 trillion.	332 housing projects in the Ministry of Defense worth IDR4,047 trillion.
749 infrastructure projects for natural resource worth IDR36.628 trillion.	723 infrastructure projects for road and bridge worth IDR73.375 trillion.
217 infrastructure projects for land, sea, and air transportation as well as education and training worth IDR61.017 trillion.	90 PTN building projects, 1 high school, 4 vocational schools, 1 education and training hall, and 3 Higher Education Service Institutions (LLDIKTI) worth IDR8,752 trillion.
100 Indonesia Police housing projects worth IDR843 billion.	23 laboratory projects as well as research and technology facilities worth IDR3.374 trillion.
21 national park projects worth IDR453 billion	9 agricultural facility projects worth IDR489 billion.
1 project to guarantee halal products worth IDR148 billion.	1 base facility project worth IDR283 billion.

Source: DJPPR MoF (2023)

Per February 15, 2024, the total amount of project financing by Sovereign Sukuk from 2013 was IDR 242.72 trillion covering 6,104 projects spread across 34 provinces. Accumulated Sovereign Sukuk issuance amounted to IDR2,572.49 trillion with outstanding Sovereign Sukuk amounted to IDR 1,480.49 trillion (Suminto, 2024; DJPPR, 2024). The issuance of Sukuk not only opens up access to domestic funds but also opens the gate for Indonesia to gain financial support from global financial markets. Indonesia currently is the largest Sovereign Sukuk issuer on the global market (Suharianto & Sunarno, 2023). Apart from that, Indonesia is a pioneer in issuing Sovereign Global Green Sukuk at once the first Retail Sovereign Green Sukuk (Musari, 2021, 2022; Musari & Hidayat, 2023).

Table 2. Journey of the Diversification of Indonesia Sovereign Sukuk (2008-2023)

Period	Types of Sovereign Sukuk		
2008-2012	*Ijarah* Fixed Rate (IFR)		
	Global Sukuk (SNI)		
	Indonesia Hajj Fund Sukuk (SDHI)		
	Project based Sukuk (PBS)		
	Islamic National Treasury Sukuk (SPNS)		
2013-2018	Issuance of Sukuk for Infrastructure Development		
	Saving Sukuk (ST)	Retail ST	Online Retail ST
		Global ST	
	Green Sukuk	Retail Green Sukuk	
		Global Green Sukuk	
2019-Now	Online Retail Green Sukuk		
	Green PBS		
	CWLS	Retail CWLS (SWR)	Perpetual SWR
			Temporary SWR
		CWLS (SW)	

Source: Musari and El Khamlichi (2024b)

Overall, as shown in Table 2, the journey of the Indonesia Sovereign Sukuk began in 2008. In accordance with the mandate of Law Number 19 Year 2008 concerning Sovereign Islamic Securities, Article 4, the purpose of issuing Sovereign Sukuk is to finance the State Budget, including financing the project development (DPS DJPPR, 2015). The 2008-2012 period was an important start in building the foundation of Indonesia Sovereign Sukuk, the 2013-2018 period was a period that focused on the development and diversification of Sovereign Sukuk, and the 2019 period until now has been a period of innovation and sustainable growth (Suharianto & Sunarno, 2023).

The Experiences of the UAE Sovereign Sukuk

The UAE has established itself as a prominent global hub for sukuk issuance, with the recent launch of dirham-denominated treasury sukuk anticipated to strengthen the domestic Islamic finance landscape (IIFM, 2024). As noted by Rahman, *et al* (2025), the UAE initiated the development of its legislative and regulatory foundation for sukuk as early as 2000. The nation's inaugural sovereign sukuk was issued by the Government of Dubai in 2004, followed in the same year by a corporate sukuk from Emaar Properties—the renowned real estate developer behind the Burj Khalifa, completed in 2010. Oversight of the UAE sukuk market falls under the Emirates Securities and Commodities Authority (ESCA), established through Federal Law No. 4 of 2000, which serves as the governing framework for ESCA and the broader national capital markets.

In 2014, ESCA provided greater regulatory clarity through Board of Directors' Decision Number 16 of 2014, which laid out detailed provisions for sukuk issuance and listing. This regulation facilitated subsequent issuances, including the Government of Sharjah's sovereign sukuk in 2014 and Dubai Islamic Bank's sustainable sukuk in 2022. To date, sukuk issuances in the UAE have totaled around USD 105.70 billion (IIFM, 2023). In anticipation of COP28,

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UAE-based issuers raised a record USD 3.9 billion to fund the energy transition through investments in sustainable infrastructure across the region (IIFM, 2024). The UAE's goal of achieving net-zero emissions by 2050 is further supported by the issuance of green sovereign sukuk, which aligns with the nation's broader strategic sustainability agenda (MOCCAE, 2022).

To build a well-rounded legal structure for green bonds and sukuk, the UAE has made notable advancements in creating a solid regulatory environment, offering increased clarity and support for both issuers and investors (PME Global, 2023). The Securities and Commodities Authority (SCA) acts as the primary regulator of the country's financial markets, overseeing the issuance of all securities, including green bonds and sukuk. Additionally, the Dubai Financial Services Authority (DFSA) sets out specific regulations for entities within the Dubai International Financial Centre (DIFC), which has become a leading hub for financial and sustainable investments. The Central Bank of the UAE also plays a critical role in supervising the financial and banking sectors, working alongside other regulatory bodies to uphold financial stability.

As noted by Rahman, *et al* (2025), issuing green sukuk has become an increasingly popular option for corporations looking to raise capital. In response, the UAE's Ministry of Climate Change and Environment (MOCCAE), together with the Global Green Growth Institute (GGGI), has published guidelines to foster awareness and alignment with global standards in green bond and sukuk issuance. The framework establishes four key stages for issuers: specifying the intended use of proceeds, developing clear criteria for project evaluation and selection, managing the allocation of raised funds, and maintaining transparent reporting practices. In the UAE, the issuance of green sukuk operates within the legal structure regulated by the Emirates Securities and Commodities Authority (ESCA), complemented by additional compliance oversight from the Ministry of Climate Change and Environment (MOCCAE) and other relevant ministries to ensure consistency with national environmental and social objectives.

The UAE's aspiration to establish itself as a global leader in sustainability is underpinned by a series of landmark national initiatives, including the 2016 Dubai Declaration on Sustainable Finance, the 2019 Abu Dhabi Sustainable Finance Declaration, the 2021 Sustainable Finance Framework, and the UAE Vision 2021 National Agenda (MOCCAE, 2022; Rahman, *et al*, 2025). According to PME Global (2023), when issuing green sukuk, issuers are required to carefully select projects that meet green or sustainable finance standards and support broader environmental and sustainability objectives. Proper utilization of funds often involves third-party verification and certification. Transparency plays a vital role, with issuers expected to disclose detailed information on fund allocation and provide regular updates on the environmental outcomes and progress of the financed projects.

As reported by Al-Natoor (2021), the UAE has been progressively expanding its role in the SRI sector. In 2019, Majid Al Futtaim introduced the first green sukuk in the Gulf Cooperation Council (GCC) region. The following year, Etihad Airways issued the region's first transition sukuk. In 2021, the UAE unveiled its Sustainability Finance Framework. Additionally, the Dubai Financial Market revised its Shari'ah standards to include provisions for green sukuk. UNDP IICPSD (2024) highlighted that setting Nationally Determined Contributions (NDCs) and renewable energy targets, along with using sovereign green sukuk issuances as benchmarks, can serve as tools to develop yield curves that aid in pricing for the private sector. Furthermore, implementing grant programs that blend philanthropic and private capital can help mobilize funding, reduce certification and reporting expenses for issuers, and lower entry barriers for private sector participants.

In 2020, the UAE—through the Dubai Electricity and Water Authority (DEWA)—launched the region's first sovereign-supported Green Sukuk (UNDP IICPSD, 2024) as amount USD1 billion green sukuk to finance renewable energy and water projects (Fanack Water, 2025). The issuance marked a major milestone in the UAE's Green Sukuk development, supported by the government's implementation of subsidies and tax incentives that reduce operational costs for issuers, attract investors focused on the MENA region's green finance landscape—especially given the UAE's ambitious renewable energy goals—and foster a more dynamic and accessible market by broadening the issuer base, diversifying project offerings, and lowering financial barriers to ensure a steady supply of high-quality Green Sukuk to meet growing investor demand (UNDP IICPSD, 2024).

In its UAE Sustainable Finance Framework 2021-2031, it has been acknowledged that because of the UAE's environmental and climate change challenges, the government has made the green economy—focused on environmental sustainability, resource efficiency, and social inclusion—a strategic priority over the past decade. In response, federal and local authorities have launched a series of strategic initiatives, such as the National Green Agenda 2015–2030, the National Climate Change Plan 2017–2050, and the UAE Vision 2021, complemented by various sectoral and emirate-level programs. Collectively, these measures have laid a robust policy and regulatory foundation to facilitate the nation's transition toward a sustainable, low-carbon green economy.

Further, in 2023, Emirates News Agency – WAM (2023), reported that the UAE Green Agenda 2030 has been updated to support the nation's SDGs and the long-term vision outlined in UAE Centennial 2071. Between 2023 and 2030, the UAE plans to launch various initiatives and projects aimed at advancing the green economy, including raising Gross Domestic Product (GDP) by 4% to 5%, boosting exports by approximately AED 24 to 25 billion, and cutting emissions from 430 kilowatt-hours in 2013 to below 100 kilowatt-hours by 2030. Table 3 shows the main environmental priorities of the policy within the General Policy for the Environment in the UAE to support the implementation of the SDGs.

Table 3. Main Environmental Priorities and Its Impacts on SDGs

Main Environmental Priorities	SDGs
Integrated waste management	11, 12
Promoting environmentally sound management of chemicals	3, 6, 12
Addressing the impacts of climate change in alignment with the nation's economic development agenda	8, 13
Promoting and ensuring the safety of food products and diversifying their sources	2, 12
Preserving natural environment	11, 14, 15
Sustaining local livestock production and optimizing local natural resource	2, 12, 15
Enhancing air quality	3, 11, 13
Sustaining local agricultural production and preserving its resources	2, 12, 15

Source: MOCCAE (2022), developed

Thus, the main environmental priorities within the UAE's General Policy for the Environment are closely aligned with key SDGs 2, 3, 6, 11, 12, 13, and 15. These initiatives not only reflect the nation's commitment to responsible environmental stewardship but also directly support the ambitions of Vision 2030 and the UAE Centennial 2071 by fostering

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sustainable economic growth and environmental resilience. In this context, the development of Green Sukuk emerges as a vital financing mechanism, enabling the mobilization of Shari'ah-compliant capital toward projects that contribute to these national and global sustainability objectives, while reinforcing the UAE's position as a regional leader in Islamic sustainable finance.

In May 2025, as reported by Government of Dubai (2025), the UAE Cabinet endorsed the UAE Strategy for Islamic Finance and the Halal Industry, with the goal of developing a globally competitive national Islamic finance sector, enhancing its operations, and advancing the country's leadership in sustainable finance. The strategy also aims to strengthen exports by expanding domestic halal production and accessing international Islamic markets. By 2031, it targets substantial growth, including raising domestic Islamic banking assets to AED 2.56 trillion, increasing local sukuk issuances to AED 660 billion, and reaching AED 395 billion in international sukuk listings on UAE markets, among other key objectives.

The Experiences of Morocco Sovereign Sukuk

Islamic finance has shown strong and consistent performance across Africa in recent years, maintaining its resilience even during the challenges of the COVID-19 pandemic in 2020 and 2021 (Clifford Chance, 2022). However, its development in the Maghreb region—covering much of North Africa, is relatively recent compared to other parts of the continent, with legal and regulatory frameworks for Islamic finance only emerging in the past few years (Aaminou, 2022). In this region, the sector is primarily driven by Islamic banking, with Morocco and Libya leading in terms of the number of Islamic financial institutions, including both full-fledged banks and Islamic windows (Musari & Sayah, 2023).

In Morocco, according to Fitch Rating (2023) and Rahman, *et al* (2026), the Islamic finance industry is still in its infancy, with Islamic banking services primarily provided through dedicated counters or subsidiaries of conventional banks. A significant milestone occurred on 20 January 2015 with the establishment of the Financial Shari'ah Committee (Dahir no. 1-15-02) under the Supreme Council of Ulama, tasked with ensuring Shari'ah compliance of financial products. Beginning in 2018, the central bank introduced a requirement for external Shari'ah audits of Islamic banks, marking a step toward stronger governance and compliance oversight. In the same year, following the success of the inaugural sukuk issuance, the government broadened the range of permissible sukuk structures beyond *ijarah* to include *murabahah*, *salam*, *istisna*, *wakalah*, *mudarabah*, and *musharakah*, thereby enhancing market depth and offering greater diversification opportunities for both investors and issuers.

Furthermore, several entities are responsible for the regulation and approval of *sukuk* in Morocco. In addition to the Supreme Council of Ulama, the central bank (Bank Al-Maghrib), the Moroccan Capital Market Authority (AMMC) oversees Morocco's capital markets and plays a role in the issuance of *sukuk* and other securities. In more details, the AMMC ensures the proper functioning of the capital market, guaranteeing transparency and the enforcement of regulations for all financial instruments including *sukuk, it* reviews and approves the prospectus before the issuance, and has a regulatory role concerning the management companies that oversee the securitization funds used to issue *sukuk*.

Indeed, as one of the two largest economies in the Maghreb region (Al-Ghwell, 2022), Morocco has emerged as a key player in the African Islamic finance market, where the sukuk journey beginning in 2013 with significant reforms to the securitization law, paving the way for the first sovereign sukuk issuance in October 2018 (MoEF of Morocco, 2018). This initial issuance was a significant step forward in establishing a legal and regulatory framework for Sukuk in this country (Clifford Chance, 2022) Before the launch, the sukuk industry in Morocco was expected to contribute to the national economic growth in many ways (Souissi & Ellaia, 2017; Smaoui & Nechi, 2017).

As highlighted by El Amoumri (2025), Morocco's inaugural sovereign sukuk issuance in 2018, structured using an *ijarah* contract, successfully raised 1 billion dirhams amid strong investor interest, with funds directed toward renewable energy and infrastructure projects that support the national agenda of sustainable development. Despite this initial success, the overall volume of sukuk issuances in Morocco remains relatively limited when compared to leading markets like Indonesia, Malaysia, and Saudi Arabia. The market also lacks diversification and a functioning secondary market, which hampers liquidity and broader investor engagement. Additionally, innovative instruments such as green and social sukuk are still in their early stages of development within the Moroccan financial landscape.

Indeed, following the landmark amendment to Morocco's securitisation law on 5 September 2013—which laid the groundwork for the Kingdom's inaugural sovereign sukuk issuance in 2018 that was 3.6 times oversubscribed—the Islamic finance sector in Morocco and the wider North and West African region has experienced ongoing development and transformation, with Morocco's legal reforms and sukuk debut serving as benchmarks for other African countries (Clifford Chance, 2022). As a real revolution in widening the scope of the possible in terms of issuing Sukuk, the Ministry of Economy and Finance (MoEF) regulated the technical procedures for issuing and operating several types of sukuk products by market actors (Amine, 2022).

No doubt, the future of sukuk in Morocco appears promising. Although sukuk in Morocco are young, they have the chance to grow as a rapidly evolving market. By adopting several sukuk structures that link to *waqf,* which have been used in Malaysia, Singapore, and Indonesia, Moroccan sukuk can also be integrated with Islamic social finance (Musari & El Khamlichi, 2024a). So, it is necessary to revive the institution of *waqf* and *zakat* in Morocco and collaborate with sukuk to reach profit and socio-economic advantage (Yerrou & Oumaima, 2023). By leveraging the potential integration with *waqf* and *zakat*, Islamic financial institutions can support micro-entrepreneurs through co-financing arrangements, subsidies, or credit guarantee schemes, where this approach also enables *waqf* and *zakat* funds to be utilized more sustainably, with a greater emphasis on income-generating initiatives for beneficiaries rather than relying solely on direct cash assistance (Aaminou, 2022).

Regional initiatives like the West African Monetary Union's (WAMU) efforts to establish a common regulatory framework for Islamic capital markets will further facilitate cross-border Sukuk issuance (Clifford Chance, 2022). Additionally, the government's continued support, coupled with the regional initiatives and growing demand for Shari'ah-compliant investment products, which are expected to drive the sukuk market development further. As the market continues to develop and public awareness grows, sukuk are expected to become vital instruments for raising capital to support infrastructure and other strategic sectors in Morocco. Despite existing challenges, the introduction of Islamic finance in the country remains a significant step forward and calls for stronger engagement from all stakeholders, especially the wider public.

Furthert, this study adopts the Islamic sustainability framework as the central theoretical lens, emphasizing the holistic balance between economic development, social equity, and environmental responsibility derived from *maqasid al-shari'ah* (objectives of Islamic law). Within this paradigm, sustainable finance is not merely an instrument for achieving the SDGs, but a moral and spiritual obligation that ensures the protection of faith *(ḥifz al-din),* life *(ḥifz al-nafs),* intellect *(ḥifz al-'aql),* progeny *(ḥifz al-nasl),* wealth *(ḥifz al-mal),* and the environment *(ḥifz al-bi'ah).*

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In Islamic sustainability theory, financial instruments like sovereign sukuk embody the principle of *isti'mar al-arḍ*, where the human mandate to cultivate the earth responsibly, by directing capital toward productive, ethical, and environmentally conscious activities. This aligns with the ethical finance model, which stresses value-based intermediation, transparency, and risk-sharing as ethical imperatives. Unlike conventional bonds that rely on interest-based transactions, sukuk structure capital flows around real assets and risk-sharing contracts *(ijarah, wakalah, musharakah, murabahah),* ensuring equitable outcomes for all stakeholders.

Further, this framework integrates Islamic ethical finance models such as the *tawhidi* epistemology (unity of purpose), *adl wa ihsan* (justice and excellence), and *amanah* (trusteeship), as articulated by Chapra (2008), Asutay (2012), and Khan (2022, 2023). Within this approach, sukuk—especially green, social, and sustainable variants—function as instruments of ethical impact finance, operationalizing moral economy principles through Shari'ah-compliant channels.

Accordingly, the issuance of green and sovereign sukuk in Indonesia, the UAE, and Morocco can be interpreted as the practical realization of Islamic sustainability finance, bridging the spiritual vision of *maqasid al-shari'ah* with global ESG frameworks. The integration of Islamic values within ESG norms demonstrates the compatibility between ethical imperatives of Islam and contemporary sustainability goals—thereby positioning sukuk as a distinctive model of faith-driven impact investing that advances economic resilience, social welfare, and ecological balance simultaneously.

DISCUSSION

Towards a Sustainable Future in Indonesia, the UAE, and Morocco

Table 4 maps the positioning of Indonesia, the UAE, and Morocco from demography, geography, economic indicators, human development & sustainability, energy and electrification, digital penetration, and ecological footprint. In demographics and geography aspect, Indonesia is the most populous and geographically expansive, giving it significant economic and cultural influence in the Muslim world. The UAE, while the smallest in size and population, leverages its wealth and infrastructure to maintain global relevance. Meanwhile, Morocco, with a more homogeneous religious composition, sits in between in terms of size and population.

Table 4. Comparison of Indonesia, the UAE, and Morocco in Demography, Geography, Economic Indicators, Human Development & Sustainability, Energy and Electrification, Digital Penetration, and Ecological Footprint

Aspects	Indonesia	The UAE	Morocco
Religions	Muslim 87.2%,	Muslim 74.5%	Muslim 99%
Population (July 25th, 2025)	285,858,783	11,362,159	38,452,062
Total area	1,904,569 sq km	83,600 sq km	716,550 sq km
Real GDP (purchasing power parity)	$3.906 trillion (2023 est.)	$718.95 billion (2023 est.)	$339.603 billion (2023 est.)
Real GDP per capita	$13,900 (2023 est.)	$68,600 (2023 est.)	$8,900 (2023 est.)

Aspects	Indonesia	The UAE	Morocco
Human Development Index (HDI) - 2022	0.71	0.94	0.70
SDGs Index (SDGi) - 2022	69	70	71
Electrification - total population	100% (2022 est.)	100% (2022 est.)	100% (2022 est.)
Electricity generation sources -of total installed capacity (2023 est.)	Fossil fuels: 82% Solar: 0.2% Wind: 0.1% Hydroelectricity: 6.4% Geothermal: 4.4% Biomass and waste: 6.9%	Fossil fuels: 75.3% Nuclear: 19.9% Solar: 4.8%	Fossil fuels: 78.6% Solar: 5% Wind: 15.5% Hydroelectricity: 0.9% Biomass and waste: 0.1%
Telephones - mobile cellular total subscriptions	352 million (2023 est.)	21.2 million (2023 est.)	55.9 million (2023 est.)
Ecological footprint (number of earths required)	0.5	2.0	0.6

Source: CIA Fact Book (2025a, 2025b, 2025c); Worldometers (2025a, 2025b, 2025c); Global Footprint Network (2025)

In economic indicators, according to Table 4, the UAE outpaces the others in per capita income, reflecting high wealth concentration despite a smaller economy overall. Indonesia leads in total economic size, though this is diluted by its massive population. Morocco's lower GDP and per capita figure indicate more modest economic development. Meanwhile, in human development & sustainability, the UAE is a clear leader in HDI, suggesting strong healthcare, education, and income levels. Despite similar SDGi scores, Morocco and Indonesia lag in HDI, pointing to inequality or weaker institutional services.

In energy and electrification, all three have achieved full electrification. Indonesia heavily depends on fossil fuels, but has significant potential in geothermal and biomass energy. UAE has diversified energy via nuclear and solar, showing long-term strategic planning. Morocco is notably advancing in wind and solar energy, making it a regional leader in renewable integration. Regarding to digital penetration, mobile subscriptions in Indonesia significantly exceed its population—indicating widespread adoption and possibly multi-device use. UAE's and Morocco's subscription levels are also relatively high, aligning with their urbanization and development levels.

In ecological footprint, the UAE's ecological footprint is the highest—four times greater than Indonesia's, which reflecting a high-consumption, carbon-intensive lifestyle. Indonesia and Morocco exhibit much lower environmental impact relative to their populations, indicating more sustainable consumption patterns. In other words, the UAE's footprint is the most unsustainable, requiring the resources of two Earths to sustain its lifestyle. Meanwhile, Indonesia and Morocco have much smaller ecological footprints, indicating lower per capita consumption and more sustainable patterns.

Overall, towards a sustainable future, the UAE is highly developed, affluent, and technologically advanced but comes with significant ecological trade-offs. While Indonesia is

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a regional economic powerhouse with great potential but still faces developmental challenges in HDI and sustainability, Morocco is moderate across most indicators, balancing economic ambition with renewable energy investment and religious unity. Indeed, there is a clear mismatch between economic and human development progress and the preservation of ecological and environmental sustainability, which remains a core challenge in achieving sustainable development, where higher HDI scores are typically associated with larger ecological footprints (Musari & Khan, 2023; Musari, 2024; Khan, 2022, 2023).

Evaluating the Sovereign Sukuk in Indonesia, Morocco, and the UAE

Green bonds and sukuk have progressively evolved into pivotal instruments for mobilizing ethical capital and narrowing the financing gap between available resources and the escalating global demand for sustainability-driven investments and development projects (GGGI, 2023). The green and sustainability sukuk market is poised for substantial expansion, driven by growing awareness and dedication to environmental and sustainability goals, along with anticipated policy rate reductions in 2024 (LSEG, 2024). An additional advantage of expanding sovereign green and sustainability sukuk is the establishment of a yield curve, which can serve as a benchmark for pricing similar issuances by corporations, where in turn, this would motivate more companies to issue their own green and sustainability sukuk (LSEG, 2024).

Since launching the MENA region's first green bond, Morocco has recorded notable progress in developing its climate finance landscape, evidenced by successive issuances from both public and private sector institutions (GGGI, 2023). Morocco's intention in 2025 to reinitiate sovereign sukuk issuance signifies a deliberate strategic move to harness Shari'ah-compliant financial instruments as tools for addressing climate challenges and attracting ESG-oriented global investment. Anchored by its ambitious renewable energy targets—52 percent of installed capacity by 2030 and 40 percent of total energy consumption by 2035—the country aspires to position itself at the forefront of green finance while capitalizing on the growing international appetite for sustainable assets (Hayes, 2025).

Then, as reported by Emirates News Agency – WAM (2025), the UAE is experiencing swift expansion in major projects across critical sectors like infrastructure, renewable energy, and real estate, reflecting its strategic commitment to embedding sustainability within its economic agenda. These large-scale developments, along with the nation's emphasis on climate-aligned and sustainable initiatives, are expected to be significant catalysts for future sukuk and bond issuances.

The following Table 5 shows the comparison of the feature of Indonesia, the UAE, and Morocco sovereign sukuk. The features of them are summarized by referring to the aspect of the first issuance, issuer, law and regulation, source of Shari'ah legitimacy, type, tenure, key players and institutional enablers, transferability and assignability, risk, redemption, source of investor payment, type of investor, yield/coupon, contract, minimum order, number of issuances, and frequency of payments.

Table 5. Comparison of the Features of the Indonesian, the UAE, and Moroccan Sovereign Sukuk

Aspects	Indonesia	The UAE	Morocco
First Issuance	2008	2004.	2018.
Issuer	Government of Indonesia.	Government of Dubai; Government of Sharjah;	MoEF Morocco.

Aspects	Indonesia	The UAE	Morocco
		Government of Abu Dhabi; Federal Government of the UAE, acting through the MoF of the UAE.	
Law and Regulation	Law Number 19 Year 2008 on Sovereign Islamic Securities (SBSN).	Federal Law Number 4 of 2000; Decretal Federal Law Number 14 of 2018.	The Laws 33-06 and 119-12 on Securitization; The decision of the MoEF Morocco Number 1346-18; The dahir no 1-15-02 of 20 January 2015.
Source of Shari'ah Legitimacy	Fatwa of DSN-MUI and Statement of Shari'ah Conformity of DSN-MUI.	The Higher Shari'ah Authority ("HSA") under Central Bank of the UAE.	National Shari'ah Board for Shari'ah compliance; Higher Council of Ulama (CSO).
Type	IFR; SDHI; SPNS; PBS; Green Sukuk; Green PBS; Saving Sukuk (ST); CWLS.	Sovereign Domestic Sukuk – UAE Treasury T-Sukuk, Green Sukuk, Sustainability-linked Sukuk.	Sovereign Sukuk certificates; Sukuk *Ijarah*.
Tenure	2, 5, 7, 10, 30 years	2, 2.4, 3, 4.5, 5, 10 years	5 years
Key Players and Institutional Enablers	MoF Indonesia, other ministries and state institutions, distribution banks, securities company, Indonesia *Waqf* Board (BWI), *nazhir*.	UAE MoF, Central Bank of the UAE, ESCA, SCA, DFSA, DIFC, MOCCAE.	MoEF Morocco, Bank Al Maghrib, Maghreb Titrisation, the AMMC.
Transferability and Assignability	Tradable; Non tradable.	Tradable.	Non tradable.
Risk	Low-risk (Guaranteed by the State Budget Act and SBSN Act).	Low-risk (Guaranteed by the Government of UAE).	Low-risk (Guaranteed by the state).
Redemption	At maturity date.	At maturity date.	At maturity date.
Source of Investor Payment	State Budget.	Revenue from the underlying sukuk assets.	Revenue of the rental investment.
Type of Investor	Individual investor; Institutional investors, ie foundation, corporate, and organization.	Institutional Investors, ie Islamic Banks & Windows, ESG/Green Investors, retail investors.	Restricted to resident investors, including mainly participatory banks (35%), conventional banks, insurance companies and mutual funds.
Yield/Coupon	Fixed, floating with floor.	Fixed.	Fixed.
Contract	*Ijarah, Wakala*.	Hybrid Sukuk - *Ijarah/ Murabahah, Wakala*.	*Ijarah*.
Minimum Order	IDR 1,000,000.	AED 100,000.	1 billion MAD.

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Aspects	Indonesia	The UAE	Morocco
A Number of Issuance	>78 series.	>29 issuance.	1 issuance.
A Number of Green Sukuk Issuance	14 series of Retail Green Sukuk (2019-July 2025) 8 issuances of Global Green Sukuk (2018-July 2025).	1 quasi-sovereign green sukuk.	1 issuance in 2025.
Frequency of payments	Monthly.	Profit payment will be semiannual.	Annually.

Source: DPS DJPPR (2015), BPKH (2021), Suharianto and Sunarno (2023), Musari (2023), Musari and El Khamlichi (2024a), Farraj (2025).

According to Table 5, in the legal and regulatory framework, Indonesia has the most comprehensive sukuk-specific regulation. UAE balances conventional and Islamic frameworks, enabling innovation (e.g., green sukuk). Morocco has established a legal base focused on securitization. In the Shari'ah legitimacy and oversight, all three rely on national-level centralized Shari'ah authorities, ensuring uniformity. UAE's HSA is directly linked to the central bank, strengthening its institutional alignment. In the source of investor payment, Indonesia's model offers direct state obligation, minimizing asset performance risk. UAE and Morocco use asset-based income, but the UAE enhances investor protection through sovereign guarantees.

Then, in the type of investor and market access, Indonesia has the most inclusive investor base, supporting financial inclusion. UAE targets sophisticated institutional investors, while Morocco's access remains limited and domestic. In transferability and assignability, UAE leads in liquidity and global investor access through listings and secondary trading. Morocco lacks a developed sukuk secondary market. In sukuk structures and contracts, Indonesia and the UAE have highly diversified sukuk instruments. UAE stands out for integrating sustainability and hybrid models; Morocco is still limited to basic structures. In market depth and frequency, Indonesia dominates in volume and frequency. UAE is scaling up, especially with its new domestic T-Sukuk program. Morocco is still in early developmental stages.

Overall, although Indonesia, the UAE, and Morocco have adopted sovereign sukuk as strategic instruments for sustainable financing, their experiences differ in terms of institutional maturity, regulatory innovation, and ethical integration. The principles of Islamic sustainable finance must meet at least 10 aspects, namely Shari'ah compliance, green impact, money velocity, long term value creation, performance measurement, risk sharing, Al-Ghazali optimum, not be an inheritance burden, public involvement, and partnership (Rahman, *et al,* 2025). Table 6 presents a critical comparison of the strengths, weaknesses, and key contextual challenges shaping the trajectory of Islamic sustainable finance in the three countries.

Table 6. Comparison of the Strengths, Weaknesses, and Contextual Challenges of Indonesian, the UAE, and Moroccan Sovereign Sukuk to Islamic Sustainable Finance

Aspects	Indonesia	The UAE	Morocco
Strength	Indonesia demonstrates the most advanced and diversified sovereign sukuk architecture. Supported by a strong legal foundation, consistent government commitment, and centralized Shari'ah oversight through DSN-MUI, Indonesia integrates both *maqasid al-shari'ah* and ESG objectives effectively. The introduction of Green Sukuk and CWLS illustrates how fiscal instruments can blend environmental, social, and spiritual impacts.	The UAE excels in aligning sukuk with comprehensive sustainability visions (UAE Vision 2021, Green Agenda 2030, and Centennial 2071). Its multi-layered regulatory institutions—ESCA, DFSA, and MOCCAE—enable swift policy coordination and investor confidence. The UAE has positioned itself as a MENA pioneer for green and transition sukuk, supported by robust capital markets and sovereign creditworthiness.	Morocco's experience illustrates promising regulatory evolution and the gradual institutionalization of Shari'ah-compliant instruments through the Financial Shari'ah Committee and AMMC. The 2018 sovereign sukuk issuance signified a milestone in Maghreb's Islamic finance development, while its plans to integrate sukuk with *waqf* and *zakat* demonstrate strong ethical alignment and potential for inclusive development.
Weaknesses	However, Indonesia's heavy reliance on government-led issuance has limited private sector participation and secondary market liquidity. Green project evaluation and post-issuance impact reporting remain constrained by inconsistent ESG data and verification frameworks.	Yet, its sustainability framework is primarily top-down and state-driven, often privileging large corporate or quasi-sovereign issuers over grassroots or inclusive finance initiatives. Despite regulatory sophistication, social impact integration lags behind environmental priorities.	However, Morocco's market depth and investor base remain narrow. Limited liquidity, nascent infrastructure, and low awareness of Islamic capital markets hinder scalability.
Challenges	The main challenge is sustaining innovation while improving transparency and impact measurement to align with global green finance standards without diluting Shari'ah authenticity.	The UAE faces the paradox of high ecological footprint and carbon-intensive consumption, which questions the depth of its sustainability transformation. Balancing rapid development with ecological restraint remains an enduring structural challenge.	The main challenge lies in fostering cross-sector collaboration and building investor confidence while ensuring regulatory harmonization within Africa's emerging Islamic finance ecosystem.

Source: Compiled by Author

Comparatively, Indonesia has institutional maturity and ethical depth, UAE has regulatory innovation and ESG integration, meanwhile Morocco has emerging framework and Islamic social finance potential. Indonesia's strength lies in institutional maturity and ethical integration, the UAE in regulatory innovation and global positioning, and Morocco in

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foundational development and social finance potential. However, all three face shared challenges: ensuring measurable sustainability outcomes, preventing "greenwashing," and embedding *maqasid al-shari'ah* as a guiding principle beyond compliance. These findings suggest that the future of sovereign sukuk depends not only on structural design or issuance volume, but on how effectively each system integrates Islamic ethical finance principles like justice *('adl),* stewardship *(khalifah),* and balance *(mizan),* into measurable and inclusive sustainability practices.

Indeed, sukuk can help countries obtain alternative instruments for financing budget deficits rather than the option of seeking interest-bearing loans to fund fiscal needs. As an investment instrument, theoretically, sukuk has the potential to maintain economic growth through fiscal policies that encourage expansive real sector investment and spending, both for infrastructure development as well as social and environmental financing. The implications of this situation in the long term will be to increase the government's primary budget surplus, maintain national economic stability, and build socio-economic resilience, ultimately creating fiscal sustainability.

However, from this evaluation, a hypothesis emerges that countries with very high levels of human development and very high per capita income tend to have green sukuk issuers originating from corporations. As highlighted by UNDP IICPSD (2024), the green sukuk market in the GCC is presently led by public-sector and quasi-sovereign issuers, with private sector involvement remaining relatively limited—except in Qatar and the UAE, where private entities are showing growing interest.

Likewise, this evaluation confirms the statement that countries with very high levels of HDI and very high per capita incomes as well as very high SDGi tend to have a higher ecological footprint. As highlighted by Musari and Sakti (2025), Hidayat, *et al* (2024), the data indicate a general pattern in which higher HDI scores correspond with higher SDGi values, greater GDP per capita, and an increased ecological footprint. This pattern implies a strong positive correlation between the level of human development and the magnitude of ecological impact, meaning that improvements in human development often come with increased environmental impact.

CONCLUSION

This study highlights the evolving role of sovereign sukuk as a strategic instrument for advancing sustainability in Muslim-majority countries, particularly Indonesia, the UAE, and Morocco. Indonesia stands out as a global leader, not only for its consistent and large-scale sukuk issuances but also for pioneering innovative instruments such as green sukuk and CWLS. Its sukuk framework is deeply rooted in national Shari'ah authority, legal infrastructure, and a strong government commitment to Islamic finance and sustainable development. The UAE, while newer to green sukuk, has rapidly emerged as a frontrunner in the MENA region, combining regulatory innovation, strategic national visions, and integration of ESG principles across various levels of government with domination by the private sector.

In contrast, Morocco is in an earlier phase of sukuk development, with its first sovereign sukuk issued in 2018 and a second planned for 2025. However, the country has made notable regulatory advancements and shows promising potential, especially in aligning sukuk with renewable energy goals and Islamic social finance tools like *waqf* and *zakat.* This positions Morocco to benefit from the experience of leading countries while adapting to its own economic and regulatory contexts. The study confirms that sovereign sukuk can serve as powerful financing tools for infrastructure, social services, and green initiatives, while also enhancing financial inclusion and Shari'ah-compliant investment opportunities.

Nevertheless, the analysis also reveals critical sustainability trade-offs. Countries with very high HDI and per capita incomes, such as the UAE, tend to have larger ecological footprints, highlighting the tension between economic development and environmental stewardship. While sukuk offer a Shari'ah, compliant pathway to mobilize capital for sustainability, a more integrated approach is needed—one that balances financial innovation with ecological responsibility. Therefore, future sukuk development should not only focus on legal and financial mechanisms but also emphasize ethical, environmental, and social considerations to ensure that Islamic finance truly supports a sustainable and inclusive global future.

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