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Leveraging Islamic Finance Principles to Foster Green Finance and Innovation: A Conceptual Framework

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Abstract

This paper aims to explore and conceptualize how green finance and innovation can be supported by the values, principles, and instruments of Islamic finance, ultimately leading to sustainable economic development. This conceptual study uses qualitative methodology, exploring the relationship between Islamic and green finance through a thorough literature review, and developing a conceptual framework for using Islamic finance principles to accomplish green finance objectives. The findings of the study suggest that Islamic finance principles, such as the prohibition of harmful (haram) activities, align well with the objectives of green finance, which seeks to mitigate environmental harm. Moreover, the risk-sharing nature of Islamic financial instruments, such as Mudārabah and Mushārakah, supports sustainable investments by aligning the interests of investors and entrepreneurs towards long-term environmental and economic benefits. The conceptual framework—developed in this paper—has certain ethical and legal foundations. Shariah compliance is first and foremost. Then comes environmental stewardship (Khilafah), which is the idea that humans are stewards of the Earth and its resources. This idea suggests that ALLAH has placed His faith in humanity, entrusting them to protect the natural balance He has created, reduce waste, and make prudent use of the resources available. The proposed framework suggests that one of Shariah's prospective bases for addressing societal demands and changes as well as natural development is public interest (Maslahah). Additionally, the proposed framework suggests certain Islamic financial instruments and mechanisms that can be utilized to foster green finance and innovation, such as green Sukuk, green Mushārakah, green Waqf, green Ijārah, and Takaful for climate risk. Lastly, the conceptual framework suggests regulatory and institutional support

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that includes Islamic development bank, Shariah supervisory boards, and environmental regulations. To the best of the author's knowledge, this is the first study of its kind. This paper contributes to the body of knowledge of Islamic economics and finance by establishing a connection between Islamic and green finance. Based on this, policymakers can develop regulatory frameworks that encourage the integration of Islamic finance principles with green finance objectives. Moreover, standardizing green Sukuk issuance guidelines and other Islamic green finance products can facilitate broader adoption and ensure consistency across different markets and jurisdictions.

Social implications: Based on the suggested framework, when Islamic finance is integrated with green finance, it will promote environmental protection and resource efficiency, contributing to healthier ecosystems and communities.

Keywords: Islamic Finance, Green Finance, Green Sukuk, Maqasid Shariah, Environmental Protection, Anthropocene.

1. Introduction

The current era is referred to by scientists as the "Anthropocene"—a period in geological history during which human activity is altering the natural world to a greater extent than the natural processes that remained stable for so many millennium. Now, human actions are determining whether or not nature will continue to support life, as human actions have a bigger influence on nature's cycles than nature itself (Shrivastava *et al.*, 2019). All human knowledge needs to be fundamentally reimagined in light of the Anthropocene era. Economics and finance—two of the main, however, environmentally unrelated engines of modern society—are no exceptions. Significantly, the transition to a low-carbon economy is required to combat climate change. This calls for reevaluating the foundations of economic organization, the financial system that underpins markets and companies, and the business models that society accepts, such as infinite growth. The current economic, social, and ecological crises require an overhaul of finance, management theory, and economic principles (Lagoarde-Segot, 2015). However, Tarim (2021) has made a strong case that modern finance theory and practice can produce substitute socio-technical arrangements, including abatement markets and socially responsible investing, to mitigate negative consequences, like soil degradation and climate change.

Green finance—also termed as "environmental finance," "sustainable finance," "climate finance," or "green investment"—has drawn the attention of policymakers and academics recently due to the growing global concern for environmental protection, climate change, and sustainable development

(Akomea-Frimpong *et al.*, 2022). Green finance's "green" characteristic mandates that financial resources be allocated to social inclusion, clean energy, green buildings, climate change mitigation, and environmental protection across all economic sectors (Urban and Wójcik, 2019). Whereas, the "finance" element emphasizes that allocations of capital and investments are made possible through financial systems (Weber and ElAlfy, 2019).

The distinction between mainstream global finance and Islamic economics lies in the latter's long-standing emphasis on the need to promote social and environmental sustainability, while the former has only just started to do so. Islamic financiers and regulatory bodies are facing the difficult task of creating a framework for green finance—amid ongoing debates about the Shariah implications of charging interest on debt—in response to the intense worldwide dialogue about the financial sector's role and obligation in fostering a more sustainable economy and the expanding global market for new financial products labeled as "green" or "social," as companies look to raise capital for projects that will benefit the environment and society equally (Jaafar and Brightman, 2022).

In July 2017, a Malaysian company that produces solar photovoltaic cells issued the first green Sukuk in history, spurring debates about the compatibility of Islamic finance and green finance (Liu and Lai, 2021). According to Castree and Christophers (2018), a Shariah-compliant way to a low-carbon "capital switch" is made possible by the growing field of green Islamic finance, notably in Malaysia, especially considering its most polluting and carbon-intensive industries, such as oil, gas, and agroforestry (Begum *et al.*, 2015). Recent estimates state that after a record issuance of $9.4 billion in 2022, green and sustainability Sukuk raised $10.1 billion globally in the first nine months of 2023 (LSEG, 2023).

Islamic finance is well-known for prohibiting specific financial activities, including interest charging, and speculations, or for prohibiting investing in businesses that are Shariah non-compliant (Rethel, 2011; Pollard and Samers, 2007). The primary goal of these prohibitions is to improve society's overall well-being and justice (Obaidullah, 2018; Visser, 2013). Consequently, it is maintained that Islamic finance is compatible with green finance principles, which aim to direct investments towards purposes benefiting the environment (Al-Mubarak and Goud, 2018; Obaidullah, 2018; Ahmed *et al.*, 2015). Particularly, the principle of Wasatiyyah demands that waste, extravagance, and corruption be avoided to preserve Mizan (the world's natural state). Pertinently, Islamic principles forbid the promotion of disorder, known as Fasad, as well as unethical dealings and transactions including interest (Riba), grave uncertainty (Gharar), and gambling (Qimar) (Al-Mubarak and Goud, 2018). Businesses should satisfy consumer needs while staying within the parameters of an effective and sustainable economic system, according to this framework. Consequently, it is illegal to engage in any financial activity that destabilizes the environment, such as environmental degradation (Al-Mubarak and Goud, 2018; Obaidullah, 2018). Islamic scholars contend that because Shariah and environmental sustainability are mutually inclusive, Islamic finance must support environmental preservation and climate action in the wake of climate change, environmental degradation, and the humanitarian catastrophes that follow (Obaidullah, 2018).

The primary aim of this paper is to explore and conceptualize how the principles, values, and instruments of Islamic finance can be leveraged to promote green finance and innovation, thereby contributing to sustainable economic development. Similarly, this paper’s research objectives include: (i) analyzing Islamic and green finance principles; (ii) investigating the synergies between Islamic finance and green finance; and (iii) developing a conceptual framework for integrating Islamic finance principles with green finance strategies. The rest of the paper is organized as follows: The next section reviews the available literature on Islamic and green finance respectively. It also discusses synergies between Islamic finance and green finance. Section 3 tries to develop a conceptual framework for integrating Islamic finance principles with green finance strategies. In the end, section 4 concludes the paper.

2. Literature Review

2.1 Overview of Islamic Finance Principles

Shariah provides an all-encompassing perspective on many facets of life, including business transactions. Shariah provides moral principles for conducting business and relates to economic operations and transactions in addition to legal rules. The basic principles of an economic system are outlined, such as contracts, property rights, the goals of economic activity, and the laws that govern how consumers and sellers behave in the marketplace (Ahmed *et al*., 2015). According to Nasr (1989), "Freedom of action and collective responsibility" is the fundamental idea that underpins Islamic economic theory.

Therefore, the main motivating factor of economic activity should be the fulfillment of individual needs as well as the advancement of societal well-being (Siddiqi, 1972).

In Islam, property rights are considered sacred, whereas, mutually agreed-upon gainful exchanges and trade are encouraged. According to Kahf (1998), a person's use of his property is subject to certain regulations. These include trading property according to Shariah laws, utilizing it without harming others, and using it in a balanced manner avoiding waste. When someone has more riches than the threshold levels, they have obligations to other people and must pay Zakat, or charity. Given that, they protect and promote wealth and posterity, business dealings are considered sacred and even encouraged. Furthermore, business dealings have to be supportive of the overall objectives of Shariah (Maqasid Shariah), promote the welfare of the society (Maslahah), and prevent harm from society (Mafsadah) (Ahmed *et al*., 2015).

This suggests from the viewpoint of society that an economy should ensure development and stability while maintaining an equitable income distribution to ensure that every household has enough money to meet its basic needs (Chapra, 1992). According to Laldin and Furqani (2012), the preservation of wealth is the distinctive objective of Islamic finance. This can be achieved by the creation and acquisition of assets, the circulation of wealth, the protection of its value, the preservation of ownership, and the prevention of damage to wealth.

However, from an individual firm's perspective, business dealings are bound by regulations that forbid taking part in harmful activities like marketing goods that harm customers, disposing of hazardous waste that endangers the environment or nearby communities, taking on excessively speculative business ventures, etc. Shariah compliance also entails achieving contracts' objectives, such as protecting property rights, ensuring that entitlements and ownership rights are consistent, relating transactions to real economic activity, transferring property rights in sales, forbidding the sale of debts, etc. (Ahmed *et al*., 2015).

The financial transactions that are permitted by Islamic law are affected in several ways by these principles. Shariah does, however, recognize some restrictions on business dealings. According to El-Gamal (2006), “Islamic Finance is a prohibition-driven industry.” The basic prohibitions in Islamic finance—Ribā, Gharar, Qimār, and Maysir—are briefly covered in the paragraphs that follow:

a) **Ribā** is an Arabic word. It means lexically an 'increase' 'addition' or 'surplus' (Visser, 2013). However, juristically, it means "any unjustifiable increase of capital, whether in loans or sales." (Iqbal and Mirakhor, 2011). Muslims all agree that it is forbidden to conduct financial or business dealings based on Ribā and that engaging in such activities is a grave sin (Ayub, 2007) owing to the Quranic injunction that states: "…give up what remains [due to you] of Ribā, if you should be believers. And if you do not, then be informed of a war [against you] from Allah and His Messenger." (Quran, 2: 278-279). However, some Muslim scholars disagree to the meaning of the term Ribā as used in the Quran. Some scholars argue that the prohibition of Ribā is only restricted to the Ribā-al-Jāhiliyyah[1] that was prevalent at the time of the revelation of the Quran, while the present-day interest charged or paid by the conventional financial institutions is exempted from that prohibition; some scholars believe that only compound interest gives the meaning of prohibited Ribā while presenting the following Quranic verse as a proof: "Believers, do not consume Ribā, doubled and redoubled, and fear Allah so that you shall prosper."; some other scholars including the late Muhammad Sayyed Atiyya Tantawi, believe that only usury[2] constitutes Ribā, while interest[3] does not come under the ambit of prohibited Ribā (Ayub, 2007; El-Gamal, 2006; Visser, 2013; Venardos, 2005; Warde, 2000). Aside from the aforementioned contradictory viewpoints, the majority of modern Muslim scholars hold that the term "Ribā" in the Quran refers to the interest that is currently charged by or paid to traditional financial institutions (Cole et al., 2013; Iqbal and Mirakhor, 2011; Algaoud and Lewis, 2007; Ayub, 2007; El-Gamal, 2000, 2006).

b) **Gharar** is also an Arabic word. It lexically means an 'excessive risk' (Shawamreh, 2013) 'indeterminacy' 'speculation', or 'hazard' (Mansoori, 2009). However, its juristic interpretation is the sale of an item that is not physically present; the sale of an item whose consequence or result is uncertain; or the sale of an item that carries risk or hazard, the conclusion of which is unpredictable, as a fish in the water or a bird in the air (Khan, 2003). Importantly, Gharar in all Commutative Contracts ('Uqūd al-Mu'āwdāt) is prohibited, however, Gharar in all Gratuitous Contracts ('Uqūd al-Tabarru'āt) is tolerated (El-Gamal, 2001; Al-Dhareer, 1997). Gharar has several effects on modern society one of which is the ban on derivatives like options, swaps, and forwards (Ahmed *et al*., 2015).

[1] If the borrower could not settle the debt on maturity (after one year), the debt was used to be rescheduled by doubling the principle amount of debt (Visser, 2013).
[2] In the Western World, Usury is considered as an excessive or predatory rate of compensation of capital.
[3] In the Western World, Interest is considered as a legitimate compensation of capital.

c) **Qimār** is an Arabic word. It lexically means 'gambling' (Mansoori, 2009). To put it technically, it is a contract in which the ownership of a property is contingent upon the happening of an uncertain event. It encompasses all those contracts in which one side has a fixed loss and the other has a fixed gain, but it's not specific who will lose and who will win (Khan, 2003). It is a zero-sum game. According to Ayub (2007), Qimār is a form of Gharar because a gambler is uncertain about the result of the gamble.

d) **Maysir** is also an Arabic word. Its lexical meaning is "getting something too easily" or "getting a profit without working for it" (Mohammed, 1988). According to Khan (2003), it is "an ancient Arabian game of chance played with arrows without heads and feathering for stakes of slaughtered and quartered camels." The Arabic language uses the terms Maysir and Qimār interchangeably (Ayub, 2007). Maysir is forbidden by Shariah because it fosters animosity and hostility between people (Quran, 5: 90-91).

Risk and return are linked by two fundamental Islamic precepts that regulate business and financial dealings. The first is the legal maxim: (al-ghurm bil-ghunm) 'There is no reward without taking any risk.' This maxim links a responsibility to bear loss with the right to gain (Ahmed *et al.*, 2015). Consequently, this maxim promotes the use of profit-loss-sharing contracts, such as Mushārakah and Mudārabah. Importantly, Mushārakah is a partnership contract in which profits are shared as per the agreed ratio and losses are shared proportionately to each partner's investment. Whereas, Mudārabah is an investment partnership where profits are shared like Mushārakah, however, any losses are borne by the investor only. The second principle originates from a saying of the Prophet Muhammad (pbuh) that became a legal maxim: (al-kharaj bil-daman) 'A thing's benefit is an exchange for the risk of loss resulting from it.' According to this maxim, whoever benefits fully from an item or asset should likewise assume all related risks (Vogel and Hayes, 1998).

2.2 Concepts, Instruments, and Mechanisms of Green Finance

The greatest challenges facing humanity today include pollution, climate change, environmental degradation, biodiversity loss, water crises, and related humanitarian issues like hunger, forced migration, poverty, unemployment, and inadequate access to healthcare and education, as well as armed conflicts in many parts of the world (Emmerij *et al.*, 2001). To enable humanity to solve these enormous challenges, the financial sector is essential. Pertinently, developing the technology and regulatory frameworks required to solve these issues alone is insufficient. Moreover, a lack of funding to scale up these solutions for the priority action areas makes it extremely difficult to address these issues and ensure equitable and sustainable growth for all while adhering to the boundaries of the planet (Steffen *et al.*, 2015).

To ensure that enough money is available for projects that benefit society and the environment, the financial sector has developed innovative strategies and tactics. At the same time, money is gradually being pulled away from unsustainable projects and industries that have significant negative effects on the environment and humanity, especially those that worsen the effects of climate change. This is done to position the financial sector as the leader in climate action, sustainable development, and green recovery. Green finance represents an innovative concept that is in line with the financial sector's responsibility to address today's enormous challenges in a manner that guarantees the generation of value for society and industry alike while avoiding environmental damage (Thompson, 2023). The intricate and dynamic relationships that exist between how businesses are operated, how they affect society, and how these activities affect the environment are becoming more widely understood. To guarantee that the aims and objectives of the Paris Agreement are fulfilled, green finance has emerged as one of the main pillars of the financial sector. Therefore, the main goal of green finance is to separate environmental degradation from inclusive economic growth (Bhattacharyya, 2022).

2.2.1 Terminology

Several terms are commonly used to generally characterize the concepts, structures, and classifications of green finance and investment. Since there are often no formal definitions for these terms, the meanings and applications of these many types of green finance may overlap and intersect. These instruments typically follow rules that disallow funding for certain types of projects that investors find unfavorable, like funding new fossil fuel power plants because of their detrimental effects on the environment, and instead support and endorse projects that are thought to "do no harm" to the environment and that contribute to the creation of multifaceted benefits above and beyond environmental preservation (CBI, 2016). A brief glossary illustrating the distinctions and connections among these interconnected concepts or financial mechanisms is shown in Table 2.1.

Table 2.1. Terminology Related to Green Finance Modes

S. No.	Term	Explanation
1	Green finance	A general term that refers to contributing financial resources to the implementation and support of environmental projects that would eventually improve the environment.
2	Sustainable finance	Financial resources are allotted to programs that ensure inclusive, equitable, and sustainable growth or the accomplishment of one or more SDGs.
3	Climate finance	Financial resources are allotted to energy and infrastructure projects that are low-carbon and resilient to climate change, particularly those that help with adaptation and mitigation measures.
4	Carbon finance	Financial instruments are based on the economic worth of carbon emissions that an organization can finance initiatives that reduce carbon emissions to offset the carbon emissions that it cannot prevent.
5	Impact investing	Investing in projects that deal with social or environmental issues; the objective is to attain a favorable result without being overly fixated on how it is accomplished.
6	ESG investing	A wide range of social, governance, and environmental factors are taken into consideration when financing projects or businesses that are being invested in. These factors include human rights, working conditions, pay or compensation structures, diversity and inclusion on the board, taxes, and pollution. Financing must also include sustainable and ethical business

		practices.
7	Adaptation finance	Finance for initiatives that reduce economic risks associated with climate change and assist a region or industry in adapting to its repercussions, whether they are now being felt or not.
8	Ocean finance	For island nations and coastal towns, in particular, financing is essential to the growth, protection, and sustainable development of the blue, or ocean-based, economy.
9	Environmental finance	Financial instruments are designed to support enterprises in producing environmentally friendly and technologically and financially viable products, taking into account the potential long-term effects of environmental degradation on project viability.
10	Transition finance	Financial programs that help companies with large carbon footprints gradually transition to net zero emissions operations.
11	Microfinance schemes	Initiatives to make it easier for people, communities, or small businesses engaging in social or environmental development projects—often in rural areas—to obtain financing.

Source: Adopted from (Bhattacharyya, 2022).

2.2.2 Green Finance Taxonomy

The term "green finance taxonomy" describes a framework for categorizing and characterizing the many project types and commercial endeavors that are covered by green financing programs. It is an essential part of the rules that control the green finance industry and allows asset managers and/or investors to assess what is really green and how closely it follows the guidelines for environmentally friendly development, growth, and preservation. The majority of financial institutions find, choose, and finance green projects using their taxonomy, which varies based on the prevailing regulatory frameworks in every region. The marketplace or regulatory environment in which the institutions are operating may have a significant impact on this process. Taxonomies are widely utilized to determine whether projects are eligible for funding. An increasing number of people are interested in creating harmonized taxonomies for the global financial markets that transcend national boundaries and legal systems. The EU Sustainable Finance Taxonomy, the guidelines from the ASEAN Capital Markets Forum, and the China-based Green Bonds Endorsed Project Catalogue are the most well-known of these taxonomies (Pfaff *et al.*, 2021; WBG, 2020). Table 2.2 lists the most prevalent project classes or categories that are now funded by green investment mechanisms (i.e., the characteristics that are shared by the majority of the taxonomies in use).

Table 2.2. Typical Initiatives that Qualify for Green Finance.

S. No.	Type of project/sectors
1	The use of green and renewable energy to lower emissions across industries and improve energy access and affordability for developing nations and communities.
2	Activities to optimize water consumption, save energy, and construct green and sustainable buildings, whether new or retrofitted.
3	Transportation services and clean mobility in both urban and rural areas.
4	Applications relating to land use, projects involving regenerative agriculture, nature-based remedies, ecological preservation, ecosystem services, and the preservation of natural capital.
5	Integrated wastewater treatment and reuse, sanitation services, and water resource management.
6	Development of resource-saving, recycling, waste management, circular economy, and climate-resilient urban infrastructure projects.

Source: Adopted from (Bhattacharyya, 2022).

2.2.3 Common Instruments of Green Finance

To fund green projects, like those listed in Table 2, capital is raised or mobilized through mechanisms known as "instruments of green finance." These mechanisms are designed to provide a reasonable return on investment for the capital invested. Banks, governments, insurance companies, and private investment firms are possible issuers of these instruments.Table 2.3 shows some instruments that are most frequently used in the green finance markets today. Some of these are more focused on specific projects or assets, while others are more concerned with the overall effect they have (e.g., supporting the energy or climate transition or achieving the SDGs) (Bhattacharyya, 2022).

Table 2.3. Common Green and Sustainable Finance Instruments

S. No.	Instrument	Salient features
1	Green bonds	An instrument, debt/fixed-income which has been awarded a green label by the issuer and is used to raise capital for climate and environmental initiatives that adhere to the voluntary Green Bonds Principles framework.
2	Green loans/ Concessional debt	Such lending is influenced by the project's particulars as well as environmental and resource utilization criteria.
3	Sustainability bonds	Bonds issued with the proceeds going towards financing or refinancing a mix of environmentally friendly and socially meaningful projects aimed at a certain demographic.
4	Climate bonds	Financial instruments with fixed income that follow the Green Bonds Principles and support initiatives that have a positive influence on the climate.
5	Social bonds	Financial instruments are designed to assist initiatives aimed at improving food security, health, and education to have a beneficial social impact.
6	Carbon pricing	An economic penalty, usually in the form of a tax, is imposed on carbon emissions associated with industrial activity. Environmentally friendly technology can be developed and implemented with the money collected by these processes.
7	Blended	Combined efforts to raise more funds for

	finance	development financing from public and commercial sources as well as voluntary, philanthropic donations for sustainable development in developing and emerging economies.
8	Grants	Funding from the private industry (in general) for initiatives that influence the environment and society.
9	Sustainability linked bonds	Bonds are issued for normal corporate purposes, while, the financial features of the instruments include certain sustainability-linked indicators.
10	Blue bonds	Debt financing instruments are issued specifically to bolster policies aimed at maintaining a sustainable ocean economy and safeguarding the ocean, island nations, and communities that depend on the ocean.
11	Sovereign bonds	A debt security that the government issues to cover a portion of its costs for a range of initiatives, including those related to environmental preservation and sustainable development.
12	Transition bonds	The corporate sector may issue such securities as sustainability-linked bonds or green bonds to better coordinate their financing strategy with their decarbonization and climate transition plans.
13	Green securitization	It indicates the transformation of illiquid green assets, like green buildings, into marketable financial instruments. Green loan and mortgage refinancing are typical usages for them.
14	Green Derivatives	It is a financial plan that gives a green asset a value to reduce and manage risk in certain types of green investments.
15	Green Sukuk	Following Shariah regulations, these are Islamic financial instruments that provide funding for initiatives that have a good

		environmental impact.
16	Green/eco-friendly insurance products	These insurance products assist in the replacement of destroyed assets with more environmentally friendly and sustainable ones.

Source: Adopted from (Bhattacharyya, 2022).

2.3 Synergies between Islamic Finance and Green Finance

Recent years have accelerated the integration of sustainability and environmental concerns within the global financial system. One notable development is the increasing alignment of Islamic finance with global sustainability goals, especially through the issuance of green Sukuk. Since 2017, there has been an increase in green Sukuk issuances, particularly in Southeast Asia and the Gulf Cooperation Council (GCC) countries, aimed at financing renewable energy projects and sustainable infrastructure. Malaysia and Indonesia have led these efforts, with landmark issuances such as the world's first sovereign green Sukuk by the Indonesian government (Hanieh, 2020; Liu and Lai, 2021). Malaysia's regulatory framework, which includes the Securities Commission's guidelines on Sustainable and Responsible Investment (SRI) Sukuk, has facilitated the issuance of green Sukuk and has been instrumental in promoting renewable energy initiatives (Securities Commission Malaysia, 2019). Indonesia's green Sukuk market is similarly robust, with funds raised supporting various environmental projects (Rahman et al., 2024). Additionally, international organizations like the Islamic Development Bank (IsDB) have strengthened their commitment to sustainable development by financing projects that align with both Shariah principles and the UN Sustainable Development Goals (SDGs) (Kasri et. al., 2023).

Sustainability and environmental preservation are good fits for the Islamic finance agenda, which aims to improve overall societal well-being. Organizational objectives like environmental and planetary protection align with both the SDGs and the objectives of Shariah (Maqasid Shariah) (Chapra, 2008). However, Harahap *et al.* (2023) argue that The United Nations' SDGs and Maqasid Shariah share the objective of perfecting a sustainable human life. For this purpose, the global quest for green finance solutions can greatly benefit from the contribution of Islamic finance, which is seen as an application of Maqasid Shariah.

Apart from the current global and local Muslim communities' efforts to reduce carbon emissions, the Islamic finance sector may play a major role in promoting environmental sustainability by investing in environmentally-friendly projects (Moghul and Safar-Aly, 2014). In cases where subsidies are not available to cover the additional expenses associated with clean technology, Islamic social funds may be able to make a substantial contribution to this effort. An additional requirement must be satisfied for Zakāt monies to be used for the intended purpose. Poor people must be the beneficiaries. The institution of waqf, in conjunction with Ṣadaqah and Zakāt, can undoubtedly be useful in managing humanitarian situations brought on by climate change. Similar to Socially Responsible Investment (SRI) Funds, Islamic Green Funds can significantly advance the green finance agenda, as can Green Sukuk similar to Green Bonds (Obaidullah, 2018).

A green Sukuk would also act as a link between the classical and modern periods and the present Islamic financial sector by including more deeply rooted Islamic considerations for the environment and social well-being, which are essential to Islamic law and the Islamic tradition. This offers a great chance for the Islamic and SRI/green finance markets to learn from one another about how to create more inclusive and responsible economies, as well as how to raise capital for environmental projects across markets using a financial instrument that is mutually marketable, a green Sukuk (Moghul and Safar-Aly, 2014).

3. Developing a Conceptual Framework

This conceptual framework has been developed using qualitative research methodology by employing an extensive literature review to explore the intersection between Islamic finance and green finance. By systematically analyzing existing research in both fields, this study identified key principles of Islamic finance—such as risk-sharing, ethical investment, and the prohibition of harmful activities—and examined how these principles align with the objectives of green finance, including sustainability, environmental preservation, and responsible economic growth. The literature review served as the primary method for gathering insights, allowing for the synergies between the two disciplines. Based on this comprehensive review, the study developed a conceptual framework that proposes how Islamic financial instruments, such as Sukuk and profit-and-loss-sharing contracts, can be tailored to support green finance objectives. This framework is designed to provide a foundation for future empirical research and practical application, offering a theoretical model for how Islamic finance can contribute to fostering sustainable economic development.

3.1 Ethical and Legal Foundations

a) **Shariah Compliance**: If a company's core business is halal and complies with Shariah regulations, then the investment is Shariah compliant. This will eliminate from the investable universe any companies engaged in conventional banking, conventional insurance, alcohol, tobacco, pork production, manufacturing of weapons, pornography, or similar activities. Moreover, the investee company's financial and other activities must adhere to Islamic law. This means avoiding interest (Riba), grave uncertainty (Gharar), and gambling (Qimar) (Sheikh and Khan, 2014).

b) **Environmental Stewardship (Khilafah)**: The idea that humans are stewards of the Earth and its resources is emphasized by the concept of Khilafah, which suggests a divine trust placed upon humanity. This trust entails responsibilities to avoid waste, use resources responsibly, and safeguard the Creator-established natural balance (Jaafar and Brightman, 2022).

c) **Public Interest (Maslahah)**: One of Shariah's promising foundations for meeting societal demands is its consideration of the public interest (Maslahah), which has been considered by Shariah as a source of law that may adapt to societal demands and changes as well as natural development. The goal of implementing Shariah laws based on Maslahah is to accomplish justice and fairness by removing hardships and realizing benefits (Laldin, 2010).

d) **Risk Sharing:** Risk sharing is a more effective strategy to share the fruits of prosperity and enhance the involvement of agents in economic growth and development than risk transfer, which currently dominates the world of finance. Risk sharing is seen as the cornerstone of Islamic finance by Muslim economists and Shariah scholars, with its capacity to promote financial inclusion and the impoverisher's ability to accumulate assets and share success acting as a litmus test. When financial resources are directed towards profitable endeavors through risk sharing, the financial system may successfully realize social participation and economic equity (Maghrebi and Mirakhor, 2015).

e) **Ethical Investment**: Those projects need to be given preference that promote social good and environmental well-being.

f) **Sustainability**: Investments should consider long-term environmental impact and resource preservation.

3.2 Financial Instruments and Mechanisms

a) **Green Sukuk**: Sakk, the singular form of the word "Sukūk," refers to a document demonstrating financial obligations. Given an underlying pool of assets, a Sakk denotes a proportionate beneficial ownership, or "usufruct." Sukūk are Shariah-compliant securities backed by a specific pool of assets. Returns from Sukūks are usually associated with the returns and cash flows produced by the assets that are created or acquired using the proceeds obtained through the Sukūk. The Islamic equivalent of a green bond, the green Sukūk, is an investment in renewable energy and other environmentally beneficial assets that comply with Islamic law. Notably, Green Sukūk addresses the Shariah concerns for protecting the environment (Obaidullah, 2018).

b) **Green Mushārakah**: Mushārakah is an Islamic mode of financing. Under this agreement, monies from the Islamic Financial Institution (IFI) are provided and mixed with funds from the business enterprise. All capital providers have the option to be involved in management, but they are not obligated to. The partners share the profit according to predetermined ratios, and each partner bears the loss exactly in proportion to their respective capital investments (Khan, 2003). In case of green Mushārakah, IFIs partner with businesses to co-own and co-manage environmentally friendly ventures.

c) **Green Waqf**: The literal meaning of Waqf is ‘detention’. However, technically, it means “appropriation or tying up of a property in perpetuity so that no proprietary rights can be exercised over the corpus but only over the usufruct. The waqf property can neither be sold nor inherited or donated to anyone. Awqāf consisted of religious foundations set up for the benefit of the poor” (Khan, 2003). Here, green Waqf can be established as an inalienable endowment dedicated to environmental conservation or sustainable development projects. The generated income is used for the Waqf’s purpose.

d) **Green Ijārah**: The literal meaning of Ijārah is 'letting on lease'. However, technically, it means the sale of usufruct of an asset in exchange for a definite reward. Also, it refers to a contract of land lease at a fixed rent payable in cash. Ijārah is an Islamic mode of financing. "It is an arrangement under which the IFI leases equipment, a building, or other facility to a client against an agreed rental. The conventional lease financing distinguishes between an operating lease and a financing lease. In the Islamic framework, Ijārah represents a conventional operating lease" (Khan, 2003). Here, Green Ijārah is meant for financing the acquisition of eco-friendly equipment or infrastructure with a deferred ownership transfer upon lease completion (called Ijārah Muntahia Bit Tamleek).

e) **Takaful for Climate Risk**: Takaful is "a form of insurance within the Islamic framework. Conceptually, a group of persons join hands to share risk mutually. They contribute a given sum of money periodically to cover defined risks. In case of loss covered by the scheme, the sufferer gets financial compensation from the Takāful. Others meet the loss and share the burden mutually. The funds collected remain invested in Islamically permissible investments and any profit or loss after charging the Takāful expenses is credited or debited to the accounts of the members" (Khan, 2003). Here, Takāful is suggested for climate-related risks.

3.3 Regulatory and Institutional Support

a) **Islamic Development Bank (IsDB):**It was established in 1975. "It is owned by member countries of the Organization of Islamic Cooperation (OIC). All member countries have subscribed to the authorized capital but the major contributors are Saudi Arabia, Libya, Kuwait, and the UAE. There are 56 member countries of the bank currently. The bank provides development finance to Muslim countries based on various Islamic modes of finance such as Mushārakah, Mudārabah, Murābahah, 'Ijārah, and Qard Hassan" (Khan, 2003). The bank claims to follow the financing of green projects in Muslim-majority countries. Since its inception, the IsDB has contributed to the development of renewable energy projects in its member countries by providing total financing of about US$ 2.75 billion (Obaidullah, 2018).

b) **Shariah Supervisory Boards (SSBs)**: According to AAOIFI (2022), "an SSB consists of jurists having vast experience in Fiqh Al-Muamalat (Islamic commercial jurisprudence). These jurists can consistently direct, review, and supervise the activities of IFIs to ensure their Shariah compliance." Generally speaking, SSBs are defined by the IFSB (2009) as a group of Shariah scholars serving as special consultants to the IFIs. Here, SSBs will be ensuring compliance of green finance products with Islamic principles.

c) **Environmental Regulations**: This framework suggests designing and implementing policies that align with both Islamic principles and environmental goals.

This framework offers a foundation for integrating Islamic finance and green finance. By fostering collaboration between financial institutions, businesses, and policymakers, this approach can contribute to a more sustainable and equitable future.

It is worth mentioning here that Islamic finance has made significant contributions to the green finance ecosystem, particularly through innovative instruments like the green Sukuk. Malaysia, a pioneer in this field, launched the world's first green Sukuk in 2017, aimed at financing renewable energy projects. This initiative aligns with the Maqasid al-Shariah objectives, promoting economic growth and environmental sustainability. The growth of the green Sukuk market illustrates the synergy between Islamic finance principles, such as ethical investing and risk-sharing, and global environmental goals.

A comparative analysis between this conceptual framework based on Islamic finance principles, and conventional green finance frameworks, reveals key differences in their philosophical foundations and operational models. Conventional green finance often centers around maximizing returns while integrating environmental considerations, primarily through Environmental, Social, and Governance (ESG) criteria. Islamic finance, however, is underpinned by the principles of Shariah which emphasize not only environmental stewardship but also social justice and ethical governance. The prohibition of interest (Riba), speculative transactions (Gharar), and investments in harmful industries sets Islamic finance apart from its conventional counterpart. In this way, this conceptual framework can offer a holistic, faith-driven approach to sustainable development, addressing not only environmental but also societal concerns.

4. Conclusion

This conceptual study aimed to explore and conceptualize how the principles, values, and instruments of Islamic finance can be leveraged to promote green finance and innovation, thereby contributing to sustainable economic development. After analyzing Islamic finance and green finance principles, this paper has developed a conceptual framework for leveraging Islamic finance principles to achieve green finance goals.

The study's findings indicate that the goals of green finance, which aims to lessen environmental harm, and Islamic finance principles, such as the prohibition of harmful activities (haram), are a good fit. Additionally, by directing investors' and entrepreneurs' interests towards long-term environmental and financial gains, Islamic financial instruments like Mudārabah and Mushārakah, with their risk-sharing characteristics, encourage sustainable investments.

The conceptual framework suggested by the study has certain ethical and legal foundations. Shariah compliance is first and foremost. An investment is considered as Shariah-compliant if the investee company’s core business is halal and complies with Shariah regulations. As a result, any businesses involved in conventional banking, conventional insurance, alcohol, tobacco, pork production, weapon manufacturing, pornography, or other related activities will no longer be considered investable. Moreover, the investee company’s financial and other activities must adhere to Islamic law. Then comes environmental stewardship (Khilafah), which is the idea that humans are stewards of the Earth and its resources. Notably, this concept implies that Allah has entrusted humans with duties to preserve the natural equilibrium that He has built, minimize waste, and use resources sensibly.

According to the suggested framework, public interest (Maslahah) is one of Shariah's promising foundations for meeting societal demands and changes as well as natural development. The goal of implementing Shariah laws based on Maslahah is to accomplish justice and fairness by removing hardships and realizing benefits. Additionally, this framework proposes that only those projects need to be given preference that promote social good and environmental well-being. Furthermore, investments should consider long-term environmental impact and resource preservation.

The conceptual framework suggests certain Islamic financial instruments and mechanisms that can be utilized to foster green finance and innovation, such as green Sukuk, green Mushārakah, green Waqf, green Ijārah, and Takaful for climate risk. Lastly, the conceptual framework suggests regulatory and institutional support that include Islamic development bank, Shariah supervisory boards, and environmental regulations.

In addition to summarizing the findings and the proposed framework, it's important to highlight avenues for future research that can build upon the conceptual model introduced in this study. One key area is empirical validation of the framework through case studies or quantitative analysis in different regional contexts. Islamic finance is practiced with varying degrees of intensity across regions, such as Southeast Asia, the Middle East, and Africa, and these regional distinctions could influence how effectively Islamic finance principles can foster green finance and innovation.

Furthermore, future research should compare the Islamic green finance framework with conventional models, particularly to assess their relative effectiveness in fostering sustainability and innovation. A comparative analysis could identify best practices from both approaches, leading to more integrated and globally applicable models of green finance. By focusing on these areas, future studies can validate and expand upon the theoretical propositions outlined in this paper, ultimately contributing to a richer understanding of the interaction between Islamic finance and global sustainability challenges.

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