T.R.
ISTANBUL SABAHATTIN ZAIM UNIVERSITY
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ISLAMIC ECONOMICS AND FINANCE DEPARTMENT

THE ROLE OF ISLAMIC FINANCE IN CLIMATE REMEDIATION:

AN ANALYTICAL, COMPARATIVE AND CRITICAL STUDY OF THE PERFORMANCE OF SELECTED PARTICIPATORY BANKS OF THE OIC COUNTRIES

Ph.D. DISSERTATION

Muhamed Nezir KHAN

Istanbul
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This study has been approved in partial fulfillment of the requirements for a Ph.D. Degree in Islamic Economics and Finance

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DECLARATION OF SCIENTIFIC ETHICS AND ORIGINALITY

This is to certify that this Ph.D. dissertation titled "The Role of Islamic Finance in Climate Remediation an analytıcal, comparatıve and crıtıcal study of the performance of selected partıcıpatory banks of the oıc countrıes" is my own work and I have acted according to scientific ethics and academic rules while producing it. I have collected and used all information and data according to scientific ethics and guidelines on thesis writing at Sabahattin Zaim University. I have fully referenced, in both the text and bibliography, all direct and indirect quotations and all sources I have used in this work.

Muhamad Nezir KHAN

January, 2025

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ABSTRACT

THE ROLE OF ISLAMIC FINANCE IN CLIMATE REMEDIATION:

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Muhamad Nezir KHAN

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Supervisor: Prof. Dr. Metin TOPRAK

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This study envisages critically investigating the role of Islamic finance on climate remediation as the climate challenge appeared as a preeminent concern of the present era affecting all aspects of life, including health, water and food resources, business, economy, immigration, politics, and international relations. Financial institutions play a complex and multifaceted role concerning environmental degradation. On the one hand, they serve as a bloodline for businesses contributing to ecological degradation, including financing fossil energy sources. On the other hand, climate events can potentially influence financial institutions significantly. Being an integral component of global financial services, Islamic financial institutions have no exemption. The study, upon assessing the theoretical foundations and ethical primitives of Islamic finance, reveals that Islamic finance is rooted in robust religious foundations that hold equal significance in all Abrahamic religions, namely Judaism, Christianity, and Islam. To evaluate the Islamic finance architecture institutions, the study presented a matrix based on the principles set by the world-renowned climate concern organizations, while nine variables have been employed to scrutinize the performance of Islamic finance institutions. Likewise, the study looks at the quarterly data from 18 Islamic financial institutions from 9 OIC countries and 4 Islamic finance architecture institutions. It finds some discrepancies

between the theoretical foundations of these institutions and their practical response to them. Furthermore, the study highlights the dearth of academic research on evaluating the role of Islamic finance in addressing climate challenges, as there has been no study at the master's or PhD level to look at climate challenges from the perspective of Abrahamic religions or examine the performance of Islamic finance. The study suggests a Maqasid Al-Shari'ah-based financing model to bridge this gap and make sure that the activities of Islamic financial institutions are in line with both Shari'ah principles and goals. (Maqasid al-Shari'ah)

Keywords: Islamic finance, climate remediation, climate compliance, environmental degradation, fossil fuels, and green financing.

ÖZET

İKLİM İYİLEŞTİRMESİNDE İSLAMİ FİNANSIN ROLÜ: İİT ÜLKELERİNDEN SEÇİLMİŞ KATILIM BANKALARININ PERFORMANSI ÜZERİNE ANALİTİK, KARŞILAŞTIRMALI VE ELEŞTİREL BİR ÇALIŞMA

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Bu çalışma, İslam finansmanının iklim onarımı konusundaki rolünü eleştirel bir şekilde inceleyerek, iklim değişikliğini çağımızın acil bir sorunu olarak tanımlamaktadır. Bu sorun, sağlık, su ve gıda kaynakları, ticaret, ekonomi, göç, siyaset ve uluslararası ilişkiler dahil olmak üzere yaşamın tüm yönlerini etkilemektedir. Finansal kurumlar, çevresel bozulmada karmaşık ve çok yönlü bir rol oynamaktadır. Bir yandan, fosil yakıt enerji kaynaklarının finansmanı da dahil olmak üzere çevresel zarara katkıda bulunan işletmeler için bir can damarı işlevi görmektedirler. Diğer yandan, iklim olayları bu finansal kurumları da önemli ölçüde etkileyebilmektedir. Küresel finansal hizmetlerin ayrılmaz bir parçası olan İslam finans kurumları da bu dinamiklerden muaf değildir. İslam finansmanının teorik temelleri ve etik ilkeleri incelendiğinde, bu yapının Yahudilik, Hristiyanlık ve İslam gibi tüm İbrahimî dinlerde ortak olan güçlü dini temellere dayandığı ortaya konulmaktadır. İslam finans kurumlarının yapısını değerlendirmek için, dünya çapında tanınan iklim organizasyonları tarafından belirlenen ilkelere dayalı bir matris sunulmaktadır. Ayrıca, İslam finans kurumlarının performansını değerlendirmek için dokuz değişken kullanılmaktadır. Çalışma, 9 İİT (İslam İşbirliği Teşkilatı) üyesi ülkedeki 18 İslam finans kurumu ile 4 İslam finans mimarisi kurumunun üç aylık verilerini analiz etmektedir. Bu analizde, söz konusu kurumların teorik ilkeleri ile bu ilkelerin pratikteki uygulanması arasında tutarsızlıklar olduğu tespit edilmiştir. Dahası, İslam finansmanının iklim sorunlarını ele almadaki rolünü değerlendiren akademik araştırmaların eksikliği

vurgulanmaktadır. Bugüne kadar, İbrahimî dinler perspektifinden iklim sorunlarını ele alan ya da bu bağlamda İslam finansının performansını değerlendiren yüksek lisans veya doktora düzeyinde bir çalışma yapılmamıştır. Bu çalışmada, söz konusu boşluğu doldurmak ve İslam finans kurumlarının faaliyetlerinin hem Şeriat ilkelerine hem de hedeflerine uygun olmasını sağlamak amacıyla Maqasid Al-Shari'ah temelli bir finansman modeli önerilmektedir.

Anahtar kelimeler: İslam finansı, iklim onarımı, iklim uyumu, çevresel bozulma, fosil yakıtlar, yeşil finansman

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AAOIFI:	Accounting and Auditing Organization for Islami Financial Institutions
IFSB:	Islamic Financial Services Board
IIFM:	International Islamic Financial Market
CIBAFI:	General counsel for Islamic banks and financial institutions.
GCF:	Green Climate Fund
ADB:	Asian Development Bank
UNDP:	United Nations Development Program
GEF:	Global Environment Facility
UNFCCC:	United Nations Framework Convention on Climate Change
GCFC:	Global Climate Finance Centre
IRENA:	International Renewable Energy Agency
UNF:	United Nations Framework
GDA:	Global Dryland Alliance
UK PACT:	Partnership for Accelerated Climate Transitions
JC3:	Joint Committee on Climate Change
CRAM:	The proposed climate risk assessment
KINETIK:	Australia-Indonesia Climate and Infrastructure Partnership
CPI:	Climate Policy Initiative
CFA:	Climate Finance Accelerator

CHAPTER I

INTRODUCTION

1.1 Thesis Topic

The primary research issue is: What role does Islamic finance play as an industry in climate change mitigation?

In contrast, the worldwide economy is rapidly shifting its business model from the linear economy based on Hotelling's (1931) (Costanza & R., 1997) to a sustainable and climate-resilient paradigm. Hotelling's rule of thumb misprices societal interests by exclusively focusing on material gain, disregarding the ecological stake of natural resources. (Costanza & R., 1997). However, the climate crisis has recently dominated headlines due to its persistent impact on nearly every facet of modern life, including but not limited to human physical and mental health. (Haines, Andy, & and Jonathan A. Patz., 2004) The safety and nutritional value of food; (Salm, et al., 2021) the quality of water; and infrastructure; (Salim, Mohsen, & and Sami G. Al-Ghamdi, 2020) businesses; (Pinkse, Jonatan, & and Ans Kolk, 2009) the economy; (Debelle & Guy, 2019) geopolitics; (Giddens & Anthony, 2009) immigration; (Dalby & Simon, 2013) and international relations. (A, December 17, 2020) Businesses throughout the globe are rushing to adopt more sustainable and climate-resilient practices. (Hoffman & Andrew J, 2007)

Even though, as a substitute for the traditional Riba-based system, Islamic finance is a rapidly growing system with assets estimated to reach 3.4 trillion USD by 2024 it forms 3 to 4% of the global economy. (Domat, 2024) Does Islamic finance recognise climate challenges and can play a sizable role in climate remediation, and what has it done so far? I address these questions as an Islamic finance student and a social worker drawn to the Islamic finance business and the environmental crisis. However, Islamic finance should not be confined to presenting Shari'ah-compliant alternatives to capitalist finance; rather, it needs to take an innovative approach to designing its financial instruments, particularly regarding climate challenges.

What sparked my curiosity about this topic is that Islamic finance is not merely an economic system graphed by some people to justify their financial gains. Still, it is a

combined representative of divine law and the human experience of hundreds of centuries. Even though the Islamic financial systems carry some extraordinary features that distinguish them from other manmade systems, such as a balanced and realistic approach, strictly linked to real market activities, and steadfast devotion to real wealth creation. (Kahf, 2013) But in the current capitalist-dominated system, it continues to survive as a Halal subset of the linear economy inspired by Hoteling's law (Khan, 2019) Consequently, there is a dire need to employ universal Islamic convictions such as Al-Mizan, Shari'ah objectives, (Al-Maqasid) along with zero extravagance, zero waste, zero pollution, and no financialization. (Ustaoğlu, Murat, & and Cenap Çakmak, 2024)

According to Hotelling's (1931) philosophy, the owner of a resource has two choices: extracting and selling that asset and depositing the proceeds in a bank to mount up its financial assets by hunting an attractive rate of interest or keeping the resource in its natural state and letting it grow. Even though it is a prudent decision, most often the owner always goes with the first option unless he is confident that the foreseeable potential value will leap higher than the interest rate. In simpler terms, it is as if a tree's worth is $100 in 2023 while the bank's interest rate is 40% based on Turkish monetary policy. Unless the owner is certain that the tree will be worth $141 in fiscal year 2024, The owner should cut it down, sell it, and then deposit the $100 in a bank to receive $40 in interest.

This signifies that current cash is worth more than both future cash flow and social benefits. This approach, on the one hand, leads to massive financialization, aka an unprecedented upsurge in financial assets' value over the real economy. (Khan, 2019)

Nevertheless, it additionally motivates households to look for more luxuries by haphazardly using resources and discarding them into the ocean or land, contributing to pollution and climate catastrophe.

That's why the ecological footprint of established nations is far larger than that of emerging nations. (Khan, 2019) So, the higher the countries in the Human Development Index, the higher the level of their ecological footprint. As a result, both developed and emerging countries' ecological footprints have already surpassed the capacity of the planet. (Ecological footprint - Global Footprint Network, 2024,) For instance, the countries that have performed well in the economic field, such as Bangladesh, China, and

India, and secured a considerable position in the Human Development Index, their ecological footprints go up simultaneously. (Ecological Footprint. Global Footprint Network, Retrieved , 2023,)

While the countries where the HDI level is optimistically higher like the USA, Kuwait, Oman, Canada, UAE, Bahrain, Qatar, and Luxembourg, their ecological footprint is exceeding in a stormy manner that even small countries like Qatar and Bahrain would require more land to sustain its current living standard. (Misso, et al., 2018). Conversely, underprivileged countries like Pakistan have not been able to outperform in the earlier few years on the Human Development Index (HDI), but its ecological footprint (EF) is 0.79, which is a fair threshold. (Ecological Footprint. Global Footprint Network, Retrieved , 2023,). In summary, developed or emerging countries have pushed aside the inherent value and social interest of the soil in favour of HID. Rather, the reckless exploitation of natural resources, coupled with the ruthless cutting of forests, is the driving force behind the flourishing of these countries; climate disasters are the price that vulnerable communities must pay (Khan & and Imene Tabet, 2023). This suggests that there is a dire need for a fundamental change in the economic system so that it can rescue the world in both the financial and ecological future. Meanwhile, the world's lawmakers are working together to decrease the global temperature to 1.5 degrees Celsius before industrialisation (Tollefson & Jeff, 2013).

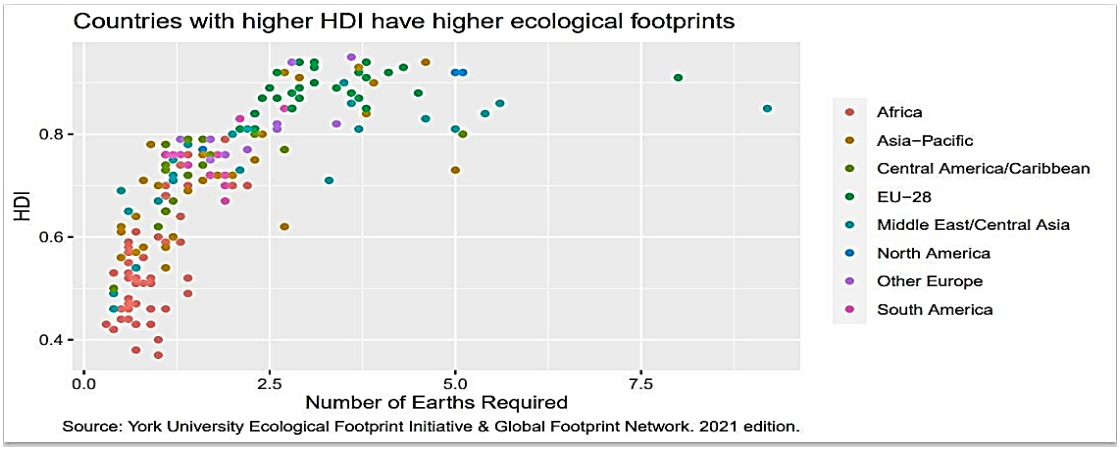

Figure 0.1: World HDI and EF Mapping

Source: EFY, 2023

Figure 1.1. illustrates the disparity between HDI and EF by combining data from HDI and EF for several different countries throughout the globe. The world, other existences, and humanity are now at risk from cascades of disasters. The most significant of all the greenhouse gases typically linked to climate change is carbon dioxide (CO2). (USEPA, 2023) More CO2 has been generated over the two centuries of the Industrial Revolution than in the million years of recorded human history. 2018 saw record highs for greenhouse gas emissions reported in the Meteorological Organization's Greenhouse Gas Bulletin (Arndt, S., & J. Blunden, State of the Climate in 2018-2019). Researchers predict that by 2030, the effects of climate change will push over 100 million people into poverty. (Arndt, S., & J. Blunden, State of the Climate in 2018-2019). Furthermore, we cannot overstate the role of financial institutions in environmental deterioration, given their significant role in development (Ferreira da Cunha, 2020). Rather, the current climate situation calls on both the conventional and Islamic financial systems to incorporate climate remediation into their core objectives for alternative forms of business. I am particularly interested in investigating the role of Islamic financial institutions in mitigating climate crises, as it provides valuable insights into the industry's beliefs and perspectives. This understanding can aid the Islamic finance industry in adopting a climate resilience business model that integrates Sharia flexibility with Sharia objectives. (Maqasid)

A silver lining meanwhile is that various Islamic financial institutions have taken admirable manoeuvres to support environmental efforts including the far-famed Islamic finance giant, The Islamic Bank for Development acronym (IsDB). On that account, an official statement from the president of the Bank IsDB stated that the Bank has so far conferred $4.3 billion in renewable energy sources. This amount additionally includes $ 2.8 billion disbursed in 53 IsDB projects which depicts 20% of the total amount invested in the energy sector. Furthermore, the Banks' insurance wing, namely the Islamic Corporation for Insurance of Investment and Export Credit (ICIEC) has perceptibly invested $ 470 million in clean and renewable energy sources. Likewise, The Islamic Corporation for the Development of the Private Sector (ICD) has contributed $133 million to sustainable and climate-resilient energy sources in member countries. (ICIEC, 2022)

The report cites that in 2016, the Islamic Development Bank allocated about 16 per cent of new financing for projects targeted environmentally friendly initiatives, such as

ventures to build hydroelectric power plants and urban transformation with the participation of the private sector, and the Islamic Corporation for the Development of the Private Sector participated in larger financing A solar energy project in Africa is currently being established in Egypt. (IsDB, 2016)

In this regard, the role of the central banks of Malaysia, Indonesia, Turkey, Pakistan, UAE, Qatar, Saudi Arabia and other OIC countries is commendable. However, there is a need for either the entire economy of these countries to be Islamized, or at least Islamic finance should be given equal space with its competitors to play a role in the national economy. The study aims to examine the role Islamic finance has played in climate remediation over the previous six financial years (2015-2021) by analyzing and comparing data from the eighteen participating banks from the nine OIC member countries. Furthermore, the literature review explores insufficient work on Islamic finance from the climate remediation perspective. Additionally, it reveals a dearth of research on the impact of divine religions on the ecological footprint. Moreover, the study finds that Islamic finance institutions need to reshape their financing policy to comply with sustainable development and climate-resilient finance. Thus, there is a need for a Shari'ah-compliant and Maqasid-oriented financing model.

1.2 The Purpose of the Thesis

The literature review explores a lack of sufficient work on the relationship between Islamic finance and climate change, consequently, further analysis of this relationship is also non-existent. This study concentrates on the fundamental purposes as follows:

i. Examination of the theoretical foundations of Islamic finance

   The study aims to delve into the universal theoretical foundations of Islamic financial institutions in the context of environmental challenges and to understand how these foundations guide the institutions in addressing environmental sustainability and climate-related challenges, a topic of increasing global importance.

ii. Assessing the practical response of the Islamic finance industry

   Similarly, the study also envisages evaluating the practical response of Islamic

finance to climate complications, providing insights that can be directly applied in the field. By reviewing the current performance of Islamic finance architecture and financial institutions, we aim to explore how these institutions are incorporating climate change strategies and products. This research has the potential to significantly impact the real-world application of Islamic finance guidelines.

iii. Finding Discrepancies

The study is also to identify and document the gaps between organisations' actions to address environmental issues and the theoretical underpinnings of Islamic finance regarding sustainable development and climate-resilient finance.

1.3 Research Questions

The main research questions of this study are as follows:

Does the idea of climate-resilient finance align with the fundamental principles of Islamic finance (How and why)? This question investigates the theoretical underpinnings and universal principles of Islamic finance derived from primary and secondary sources. In addition to a comparative stance of other divine religions, like Judaism and Christianity.

Do Islamic financial institutions' theories and practices differ when it comes to incorporating social, governance, and environmental values into financing decisions?: This question seeks to figure out why there is a discrepancy between Islamic financial institutions' theory and practice while the essential principles of Islamic finance are consistent with and supportive of climate sustainability theory, and that Islamic financial architecture institutions explicitly state as much in their climate policies, reports, and special publications.

To transition towards environmentally friendly development and renewable energy sources, what drastic advancements need to be implemented in Islamic financial institutions? This question aims to identify the obstacles preventing the industry from shifting its business model.

1.4 Research Objectives:

The following are the objectives of this research:

i. To further enrich the literature on integrating climate resilience with Islamic finance and to provide readers and relevant institutions with a clear picture of the role of the Islamic finance industry in this field. Being based on universal religious and moral foundations, it is the prime responsibility of the Islamic financial sector not to limit itself to acting as a halal subset of the imitative financial system, but rather to go a step further by introducing such innovative financial tools that are compatible with both Shari'ah principles and Shariah objectives. (Maqasid al-Shari'ah).

ii. Identifying and analysing the barriers to effective climate remediation in Islamic finance:

This involves identifying and analysing the challenges and obstacles that Islamic financial institutions face, both in theory and practice, to play an influential role in climate mitigation. These barriers could include regulatory constraints, the need for more awareness, or the need for innovative financial products.

iii. To develop recommendations for enhancing the role of Islamic finance in climate remediation:

Viable recommendations and strategies to be proposed to enhance Islamic finance's role in climate remediation. These recommendations may include proposing new financial products, policy changes, or strategic initiatives, that are potentially significant for the improvement of the role of Islamic finance towards the achievement of environmental sustainability goals.

iv. To develop a Shariah-compliant and Maqasid Shariah-orientated financing model for the Islamic financial industry. The model presumably augments the Islamic finance institutions' financing policy to be eco-friendly

1.5 Problem Statement

Evaluating Islamic Financial Institutions' Performance for Sustainable Development and Climate Resilience: Challenges, Strategies, and Implications.

Environmental degradation has become a primary worldwide concern, affecting all parts of life, including politics, international relations, migration, business, agriculture, water resources, public health, energy systems, and biodiversity. Despite significant efforts to

reduce the effects of climate change. The world community has yet to reach the Paris Agreement's targets simply because of a theoretical and practical gap. Financial institutions are believed to contribute to the degradation of climate by swinging a mammoth amount towards businesses that compromise climate sustainability. All divine religions, specifically Islam are very clear regarding the safeguarding of the environment as they integrate the preservation of human life, wealth, progeny and religion into its fundamental objectives. Thus, disregarding the environment cannot be regarded merely as a social evil that potentially leads to financial gain but is a strict violation of religious rules.

Being comparatively nascent, how does the Islamic finance industry perceive the notion of sustainable development and climate resilience? What role has the industry thus far played? The study envisages ameliorating this situation by conducting a critical analysis of the performance of Islamic finance institutions and suggesting plausible recommendations in the form of policies and frameworks for Islamic finance institutions.

1.6 The Scope and Content of the Thesis

Amidst the current focus on climate change research, conducting a critical analysis of the Islamic finance industry's position is crucial. This study will delve into the industry's current performance, opportunities, challenges, and strategies, providing valuable insights for the field.

The study will explore the profound ideas behind the Islamic finance industry, the intricate relationship between people and nature, and the universal principles of Islam, such as Khilafat, Amanat, Meezan, Immar, Israaf, and Tabzir. These principles, advocating for responsible risk management and environmentally beneficial investments, hold the potential to integrate climate-resilient finance into Islamic finance, offering a promising path forward. Here, the study will look at how some of the most well-known Islamic financial frameworks feel about global warming.

The study will be rich in content, tackling the position of the other celestial religions. It will utilize the diverse primary literature of the three heavenly religions and their authentic commentaries, providing a comprehensive understanding. The study will be focused on the practical analysis of Islamic financial architecture and the performance of Islamic

financial institutions. It will also present a Shariah-oriented financing model and formulate recommendations for the integration of sustainable development and climate-resilient finance into the Islamic financial industry. This practical approach ensures that the research is not only theoretical but also has real-world implications, while also considering its limitations. Consequently, the analysis will not include Islamic capital markets, Sukuk, or Islamic non-banking organizations. The scope, content, purpose, objectives, and methodology will be delineated in the first chapter. The literature review will be the primary focus of the second chapter of the study. The third chapter will be dedicated to the analytical examination of Islamic finance's theoretical underpinnings and other divine religions' teachings regarding climate-resilient finance and sustainable development. Islamic teachings on man-universe relations will also be covered in the same chapter. In the fourth chapter, the climate crisis and the role of financial institutions will be investigated. The climate crisis will be the subject of discussion, in which examples of extreme weather events, rising global temperatures, and greenhouse gases from the past decade (2010-2020) will be provided.

The fifth chapter has been split into two sections. The first section is designed to examine the climate from the perspective of Islamic financial architecture institutions. The second section, with its thorough and rigorous critical analysis, will delve into the data of 18 Islamic institutions from eight Muslim-majority countries, specifically their relation to the climate crisis.

The sixth chapter will introduce a significant financing model that will enable the integration of sustainable development and climate resilience into Islamic finance, as well as the establishment of Maqasid and climate-compliant Islamic financial contracts.

The final and seventh chapters are dedicated to the study's conclusions and suggestions, demonstrating the thoroughness of our research.

1.7 The Peculiar Value of The Topic

The thesis' originality stems from its ambition to make two major contributions.

The first contribution, nevertheless, is to address the lack of literature on environmental issues from the perspectives of Islam and other religions. In other words, the contribution will be pioneering in offering well-equipped faith-based rationality and an exhaustive

study that raises awareness of climate change among religious circles, including the consumers of Islamic finance institutions. The second contribution of the study will be reflected in proposing a Maqasid-oriented financing model inspired by Shari'ha's principles while adhering to world financial norms, this will be the study's second contribution. Inshallah. This proposed model will enable the Islamic finance industry to integrate sustainable development and climate-resilient finance into its system.

1.8 Methodology

This study's overarching goal is to offer a religiously grounded rationale for the implementation of a Maqasid-oriented business model and evaluate the performance of Islamic finance architecture and financial institutions regarding climate change. A descriptive method will be used.

The Islamic financial industry is founded on moral and ethical standards, which explains why Islamic financial institutions must possess a religious and ethical justification for every word and deed. Religious foundations will additionally be considered when evaluating Islamic financial institutions' performance in tackling global warming. This is going to be the focus of an entire chapter. This chapter will discuss how celestial religions observe environmental degradation and what role a financial system built around ideological incentives should play considering the implications of these directives.

1.9 A Few Metrics

In assessing the performance of Islamic financial institutions, we will keep an eye on international norms and standards set by globally recognized institutions, such as the UN rules for responsible banking and the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) etc., and set seven metrics to examine the respective bank's performance as follows:

1. Environmental policy: recognition of SDGs (Does the Institution recognize SDGs?)
2. Green initiatives: Does the respective Institution contribute to green finance?
3. If so, what was the bank's contribution to green finance over the last six financial years (2015–2021)? (Data in numbers, if available?)

4. Country's laws, regulations, and guidelines for green investment (Does the country have special laws for green investment?)
5. The central bank's incentives for green investment (Does the Central bank have special laws for green investment?)
6. International donors and regulatory bodies' incentives for green investment.

We believe that using this global metrics SDG identification, cooperation with climate organizations, implementation of green initiatives, compliance with national laws, and international donor incentives differ at the global level. Banks can effectively be evaluated on their performance on climate change in the context of stakeholders, like the UN standards and hundreds of pages of scholarly work summarizing it. This holistic approach ensures that. How do banks play their part in meeting regulatory requirements and making a meaningful contribution to global sustainability efforts?

So, the Bank's financial report, financial statement, commentary, and declaration on sustainable development and climate-resilient finance (if available) will be evaluated. In addition, the respective bank's membership with UNPR and Sustainability Reports (if available) will also be examined. Furthermore, white papers, research, exclusive publications, and features published globally regarding the climate issue will be examined. The Instructions, achievements, and initiatives of international Islamic financial regulatory and architecture organizations such as the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), International Islamic Financial Market (IIFM), and Islamic Financial Services Board (IFSB) will also be assessed.

Islamic financial institutions can be broadly classified into two categories: Islamic financial architecture institutions (such as the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), International Islamic Financial Market (IIFM), and the Islamic Financial Services Board (IFSB) and Islamic financial institutions. The former serves as the industry's backbone, having primary responsibility for the architectural design of financial products and contracts. Within the Islamic banking sector, their comprehension and perspective on climate change are enormously important.

The primary objective of this analysis is to evaluate the theory and practice paradigms of the respective Islamic financial architecture institutions regarding climate change. An

entire chapter will be allocated for this purpose. The method of evaluation will begin with a brief overview of the institution, its vision, mission, and historical context, followed by a discussion of the institution's performance and environmentally friendly actions. It will also be accompanied by figures, charts, and diagrams.

Examining the Islamic financial institutions' performance, eighteen prominent Islamic banks from nine members of the OIC have been selected. Thoroughly reviewing their six-year financial reports, statements, and observations of sixteen Islamic banks of eight OIC countries, like Indonesia, Malaysia, Qatar, Kuwait, UAE, Pakistan, Turkey, Saudi Arabia, and Oman will lead the research towards creating a basic overview of the performance of the Islamic finance industry regarding climate change.

Six variables have been determined for this function: net financing, fossil financing, green financing, net financing, the average interest rate for the relevant time, and capital adequacy of the last six years (2015–2021), which have been split every four quarters of the year. It offered a chance to examine the performance of respective institutions concerning climate remediation in more detail. Additionally, the study has monitored each bank's total deposits, branch count, green financing to net financing, fossil fuel to net financing, and net financing to deposits ratios.

Financial reports and statements data will be examined to figure out their contribution to climate change mitigation. The performance of sixteen financial institutions from a variety of Islamic countries in the context of climate change will be assessed using the following variables as an axis: annual and quarterly total financing, investment in fossil energy sources, green financing, net financing, total deposits, number of branches, average interest rate, and capital adequacy. The researcher aspires to come up with a Maqasid-oriented, Shari'ah-compliant, and ecologically friendly business model for the Islamic financial industry.

The research shall thus examine the reports, commentary, special publications, sustainability reports (if available), guidelines, accomplishments, and statements of four permanent Islamic financial architecture institutions to comprehend their point of view.

with the caveat that the research will not include Islamic Windows, Islamic Non-Banking Financial Companies (NBFCs), Islamic Subsidiaries, Islamic capital markets and Islamic Index Providers as they are beyond the purview of the topic.

CHAPTER II

LITERATURE REVIEW

The goal of the literature review is to find any academic work that compares the performance of Islamic financial institutions in fixing climate change and giving a religious explanation for the topic.

The literature research reveals that while writers and intellectuals have widely discussed the various aspects of climate change and Islamic finance, they have primarily neglected to assess the effectiveness of Islamic financial architecture and Islamic financial institutions in mitigating climate change, as well as developing a shari'ah and Maqasid-oriented business model. The literature review will proceed in the following manner:

2.1 Historical Sketch of Eco-Related Efforts of Islamic Finance.

The United Nations Scientific Conference on the Conservation and Use of Resources (Lake Success, New York, August 17–September 6, 1949) is considered the first United Nations organ to address resource depletion. However, it was primarily concerned with utilizing the earth's currently accessible resources for human economic and social growth rather than being viewed from a climatic perspective; thus, it is plausible to argue that barely any UN body took climate change profoundly until 1968. (Jackson, From Stockholm to Kyoto: A brief history of climate change, 2007) On May 29, the Economic and Social Council added the aforementioned issues as a particular item on its agenda, which was subsequently ratified by the UN General Assembly, and decided to convene the first UN Conference on the Human Environment. (Jackson, 2007)

In this regard, the UN conference (held in Stockholm, Sweden, from June 5 to 16, 1972), emphasized the substance of human environmental protection and climate change in its declaration, accentuating the worth of being cognizant of goings-on that contributes to climate change. However, the issue of climate won dedicated fascination after 1987. (Jackson, 2007) On the other hand, the present-day version of Islamic finance/banking dates back to 1963. (Islahi, 2018) whereas the idea and term sustainable development debuted in 1987. (Mebratu, 1998) In the Islamic

world, however, the implications of climate challenge uprisings became more apparent after the Paris Agreement of 2015, (Mead, 2015). so, the trend for investigating not only the Islamic world and Islamic financial institutions but also the achievements of conventional financial institutions in terms of climate change emerged recently. The prevailing economic system is predicated on the linear economy (more precisely, the grabe-produce-use-waste model), which poses a risk to future generations as it supports present economic and social development but, on the other hand, jeopardises future generations. (Goyal, Sandeep, Mark Esposito, & and Amit Kapoor, 2018) No doubt, it provides several advantages in the short haul, yet in the long run, it contributes to the extinction of various species, the planet, and the environment. However, the word "sustainable development" first appeared in academic work in 1987. (Kneese, 1988). Another comparable concept, the circular economy, was first formally proposed in 1988. (Kneese, 1988). However, by the 1970s, the concept of the circular economy had set up itself as a foundational aspect as evidenced by a notable line from the address of the President of the American Association for the Advancement of Science, in which he stated:

> *The object of the next industrial revolution is to ensure that there will be no such thing as waste, on the basis that waste is simply some substance that we do not yet have the wit to use ...Ideally, the system would be completely closed. All water would be purified and reused; all solid wastes would be returned as resources for making more things. (Spilhaus)*

As stated by Frosch and Gallopoulos, the circular economy concept emerged more than twenty years before industrial ecology became a central academic topic. He wrote:

> *The traditional model of industrial activity in which individual manufacturing processes take in raw materials and generate products to be sold plus waste to be disposed of should be transformed into a more integrated model: an industrial ecosystem. In such a system, the consumption of energy and materials is optimized, waste generation is*

minimized, and the effluents of one process... serve as the raw material for another process. The industrial ecosystem would function as an analogue of biological ecosystems. (Frosch, 1989).

Frosch and Gallopoulos (1989:144) write in another research article:

The concepts of industrial ecology and system optimization must be taught more widely. ... {They} must be recognized and valued by public officials, industry leaders, and the media. They must be instilled into the social ethos and adopted by government as well as industry.

Industrial ecology concepts, while not yet reaching their promise, provided academic vigour.

Hence, rising academic interest in the matter brought about a range of stunning intellectual works, such as the Journal of Industrial Ecology (1997), Resources, Conservation, and Recycling and Sustainability. In 2001 The International Society for Industrial Ecology (ISIE) was established. (Ekins, 2020)

On the other hand, the history of the first modern Islamic financial institutions can be traced back to the 1960s, when a small interest-free savings bank was founded in Egypt in 1963 by the Mit-Ghamr Islamic Saving Associations (MGISA) (Hussain e. a., 2016) Nile Delta, and it managed to open a total of eight additional branches in other parts of the country over the next three years. However, this institution could not continue to function; a year later, in 1967, it was either liquidated or merged with state-owned financial institutions. Researchers contend that the institution has been suspended for political considerations. (Soage, "An overview of Islamic finance: History, instruments, prospects., 2020) Moreover, in 1963, the Hajj Fund Namely Tabang Haji had been established in Malaysia to help Muslims in saving for the Hajj (trip to Mecca). (Borhan, 2005) It expanded and currently offers a variety of services to its 9 million depositors. (Borhan, 2005) The bank officially started operations in 1977. (Borhan, 2005) In the meantime, several large Islamic commercial banks have been established in other parts of the Middle East, including the first Dubai Islamic Bank in 1975 and the Faisal Islamic Bank of Sudan and Kuwait Finance House in 1977, respectively. (Ibid)

Climate-related literature typically covers topics such as cradle-to-cradle. (C2C) Design, Biomimicry, Industrial Environment, Blue Economy, Sharing Economy, Regenerative Agriculture, and Sustainable Development (Mi etal, 2019) are as follows:

1. Cradle to Cradle (C2C) Design attempts to eradicate waste. This model focuses on efficient products and systems that are both restorative and regenerative.
2. Biomimicry: Biomimicry frequently focuses on closed-loop structures and resource efficiency. It tries to investigate nature's strategies and processes for addressing human design obstacles. (Verbrugghe etal, 2023)
3. Industrial Environment: Industrial ecology aims to perfect resource use, eliminate waste, and foster symbiotic interactions among industries. This theory applies ecological principles to industrial systems.
4. Blue Economy: The Blue Economy advocates responsible use of marine life, assets, and ecological systems, as well as economic activities that assist both creatures and the environment. (Ondıtı, 2021.)
5. Sharing Economy: This concept encourages resource sharing for the effective use of commodities and services, minimizing waste.
6. Regenerative Agriculture: Regenerative agriculture seeks to restore ecosystems, improve soil health, and favour biodiversity while producing sustainable food. The concept also emphasizes innovative farming methods.
7. Sustainable Development Goals (SDGs): The SDGs' primary objective is to create a worldwide structure for overcoming social, economic, and ecological issues (Ibid).

Though these concepts differ variously, all of them share identical objectives: such as to reduce waste, stimulate resource efficiency, and promote sustainable development. Thus, it would be appropriate to argue that these notions frequently complement one another. (Murray etal, 2017)

Despite their infancy, all three phenomena - Islamic finance/banking, sustainable development, and climate change challenges - have piqued the curiosity of people

from numerous sectors. Consequently, considerable academic study has been conducted as follows:

Sariatli Furkan believes that the collapse and failure of the linear business model have sparked discussions on the need to substitute the prevailing linear business model with a circular one, which is susceptible to transforming all present manufacturing, production, and consumption activities. (Sariatli etal, 2017) Geissdoerfer et al portray the circular economy as impacted by ecological capital, with the full capacity to minimize waste in production while also contributing to its manufacturing (Geissdoerfer et al, 2017). This study appears to be inspired by Bouldings (Boulding etal, 1966), who claims that land is a finite and circular business model with little adaptability if the economy and the environment are to coexist (Geissdoerfer et al, 2017). The current comprehension of the circular economy and its practical relevance to economic systems carry a profound imprint of some ideas that share the concept of closed loops (Braungart etal, 2009.), Some key philosophical inspirations can include Cradle-to-cradle, laws of ecology (e.g., Barry Commoner, The Closing Circle), looping and performance economy (Walter R. Stahel), regenerative design, industrial ecology, biomimicry, and blue economy (Geissdoerfer et al, 2017).

As previously stated, the nascent nature of the circular economy notion caused writers to be inconsistent in their descriptions, with the number of definitions exceeding 114. However, the Ellen MacArthur Foundation's definition is more widely recognized, as it depicts circular economy as “a restorative or regenerative industrial economy with intent and design” (MacArthur etal, 2013). Robert observes that the arrangement of manufacturing operations demonstrates that products are not permanent repositories, but rather that the ongoing recycling of material flows takes place in the form of inputs, outputs, and inputs (Grace, Robert, 2017). In a circular economy, materials circulate continuously, and trash is eliminated using either the biological or technological cycles. The technological cycle occurs when recyclable material, such as plastic or metal, is transformed into fresh value through human work. In terms of the biological cycle, crops and

orchards can be fed fresh organic materials derived from biological nutrients (Macarthur et al, 2019).

Kircher et al. make this claim that the researchers evaluated 114 definitions of the circular economy from 17 standpoints before concluding that the circular economy is comprised of three Rs, i.e., Reduce, Reuse, and Recycle. The author critiqued circular research, which shows few conclusive connections to the sustainable development model and currently lacks dedication to crucial systemic transformation. Geng and Doberstein on the other hand, are likely to be more captivated by the Chinese application of the circulatory system (Geng et al, 2008).

In the words of Webster (2015), the circular system is a restorative system designed to ensure the high quality, utility, and significance of products, their components, and resources. (Geissdoerfer et al, 2017) We may state that the economic prosperity of the circular business model is very similar to Geissdoerfer The concept tries to persuade people that winning economic prosperity is essential but not at the cost of the ecosystem, as well as that the adverse implications of economic progress should not jeopardize social fairness. Instead, economic development and environmental preservation should be pursued concurrently, with a particular emphasis on future generations. (Szczygieł, Elżbieta) introduces the circular economy (CE) as a practical strategy for achieving long-term prosperity. According to his study, the CE model is the best strategy for achieving sustainable development goals since it connects ecological issues to economic challenges. He argues that expanding global consumption levels may jeopardize the capacity of future generations to meet their demands. The author assumes that the circular economy is an imperative and prerequisite, rather than a concept (Ibid).

There has been a great deal of research on the potential impediments to the circular economy, and numerous variables that hinder the development of the circular business model have been highlighted. For instance: In the opinion of Kirchherr et al. (J. e., 2018), one of the most significant barriers is a lack of consumer understanding. Rizos et al. (Risos, 2016) discovered similar causes and added the lack of support from the demand network to the list.

On the contrary, Geissdoerfer et al (Geissdoerfer et al, 2017) disagree with acknowledging the dearth of consumer awareness as an obstacle to the spread of the circular business model. According to him, consumers are not active engines, but the producing side is. Consumers, he claims, are not active drivers; however, the producing side is one of the emotional engines impeding the transition from a linear to a circular economy. As has been indicated, several concepts, including circular economy, cradle-to-cradle (C2C) design, biomimicry, industrial ecology, blue economy, sharing economy, regenerative agriculture, and sustainable development, share a common theme; additionally, of the 17 SDGs, 1, 8, 9, 10, and 12 are particularly relevant to economic growth, while the others are indirectly relevant. Consequently, the circular economy has been extensively studied from various perspectives (Suárez-Eiroa et al, 2019) to propose seven practical principles that align with the theoretical objectives of the circular economy and sustainable development, based on an intensive review of scientific literature. (Berg et al, 2018) I prefer substantial modifications to regulatory structures, assuming that the systemic and disruptive alterations needed for a circular economy transition would not occur unless significant actions are adopted. Rodriguez-Anton, J. M., et al. (2019) contend a substantial connection exists between the circular economy and the SDGs. They feel that the relationship between circular economy and SDGs is obvious. Consequently, European countries can accomplish the SDGs by implementing policies encouraging a circular economy (Rodriguez-Anton et al, 2019)

The circular economy has sparked an expanded discussion among proponents and critics as they have voiced reservations regarding the ambiguity of the concept's definition, novelty, viability, and predicted outcomes. Furthermore, opponents contend that proponents of the circular economy have grossly exaggerated the idea, its outcomes, and expectations, while its theoretical foundations remain uncertain, and implementation faces structural impediments. Keith R. Skene, (Skene, 2022) asserts that technical and economic accounts dominate the ideological agenda that founded the circular economy, leading to ambiguous consequences for resilience and depoliticizing sustainable development. Technical and economic accounts

dominate the ideological agenda that founded the circular economy, leading to ambiguous consequences for resilience and depoliticizing sustainable development. Circularity is thus not as promising as its proponents suggest, but it emerges as a conceptual, practically, and theoretically controversial notion. Reike et al. have questioned the virginity of the circular economy, arguing that it is a rejuvenated concept. In which several tactics for extending the use of resources have been combined under the umbrella of circularity to form a new concept (Kirchherr et al, Conceptualizing the circular economy: An analysis of 114 definitions, 2017). Korhonen et al. say that there are clear divisions, separations, and exclusions within academic circles that are researching the circular economy. They use a disagreement between engineering and business researchers as an example (Ibid).

In the words of Kirchherr et al (Kirchherr et al, Conceptualizing the circular economy: An analysis of 114 definitions, 2017). There are over 114 definitions of the circular economy, which are extensively used for various theoretical purposes. (Having so many definitions shows that the concept is still vague.) Blomsma and Brennan conclude that all that happens reflects the circular economy's conceptual fragmentation and lack of ideal power. (Blomsma, 2017) Giampietro and Funtowicz contend that proponents of the circular economy overlook current and established information when defining it. It explicitly ignores the thermodynamic principle that matter cannot be created or destroyed. Whatever resources are spent end up in the environment; they cannot be eliminated, but rather altered and spread. The concept is impractical since it predicts an economy with no waste, closed loops, and items that can be recycled endlessly. In practice, however, this seems to be unachievable (Giampietro, 2020).

Kirchherr et al. (Kirchherr et al, Conceptualizing the circular economy: An analysis of 114 definitions, 2017). Additionally indicates that the circular economy has had little acceptance thus far. Geissdoerfer et al. (Geissdoerfer et al, 2017) argues that the line between sustainability in the circular economy is becoming blurred while describing sustainability as more comprehensive.

Some detractors have gone further, claiming that the Circular Economy is more than just an ideological goal controlled by technology and economic factors. Rather, its contributions to environmental and social sustainability remain unexplored. (Corvellec et al, 2022)

McDowall et al. criticize the circular economy's policy level and direction, citing variances among countries. A comparison of China's and Europe's circular economy concepts reveals that the Chinese approach is quite broadened, including waste and resource issues, as well as pollution and other issues, and it indicates that the Chinese circular economy model has been constructed with the environmental challenges of rapid growth and industrialization in mind. In contrast, Europe's notion of CE appears to have a confined ecological span. The European CE model appears to prioritize waste, resources, and business potential over other concerns. (McDowall et al, 217) Inigo et al. have also criticized the European approach to policymaking. At the policy stage, he contends that the emphasis on the EU indicates that circular economy concepts were devised hastily, without meaningful discussion or consideration of system restrictions. Proponents of the circular economy see it as revolutionary and reformist, challenging the notion developed by Völker et al. The circular economy promises a win-win conclusion, shifting the focus from "trade and barriers" to "synergies and opportunities" through the use of an appropriate policy framework. If one hopes the circular economy to reform the underlying system, CE has yet to succeed in achieving this goal, notwithstanding revolutionary slogans. Neither has been able to alter the status quo regarding authority, standards, or politics. For instance, the closed-loop economy was accepted by EU institutions in the 1970s and has been altered multiple times, most recently with the EU Circular Economy Package, but the performance of previous policies, including their implementation in practice, remains questionable and has not been seriously analyzed (Kovacic et al, 202). The political aspirations of the circular narrative's opponents additionally brought attention to the drawbacks of its policies, which rely upon businesses and markets as their primary drivers. wherein the setting is set by the public authorities. (Hobson, Kersty, 2016) Thus, some authors argue that the circular economy notion is connected to traditional and

neoclassical economic theories regarding the effectiveness of markets. (Flynn, Andrew et al, 2019) Critics contend that to develop a genuinely equitable, environmentally friendly, and circular economy, significant reforms that subvert conventional neoliberal administration are needed. (Flynn, 2019)

Despite sincere respect for all the above-mentioned literature and their authors, it reveals that these studies revolve around the axis of technical and philosophical foundations and details of the concept and even highlight some practical aspects as well or advocating for the circular economy or otherwise and related concepts but the role of financial institutions regarding the climate, precisely the role of Islamic institutions have not been examined.

Recently, the United Nations environmental program unveiled a unique approach to preserving the ecosystem by enhancing six crucial principles: alignment, impact and target setting, client and customer engagement, stakeholders, governance and culture, and transparency and accountability. 330 of the world's most permanent banks have signed this document. These guiding principles will cater to financial resilience and sustainable development of the present without compromising future generations. This initiative was officially launched on 22 September 2022 (Usher, 2020).

2.2 Financial Services and Their Contribution To Climate Challenges:

The financial services industry plays a critical yet complex and multifaceted role in climate change. On the one hand, it provides substantial funding to businesses involved in environmental risks such as fossil fuels and mining, among others. On the other hand, the financial service industry is among the institutions that can play a positive role in climate remediation by supporting environmentally friendly ventures, including clean energy and green finance. Both economics and climate literature have thoroughly examined the multifaceted role of the financial industry. (Afzal, Ayesha, 2022)Considering this significant role, the world's renowned institutions, such as the World Bank, UN, and IMF, have voiced the need for the financial services industry to contribute to supporting and encouraging low-carbon projects. The World Bank additionally expressed apprehension regarding a lack of

data, disclosures, and taxonomies to distinguish resilient climate information infrastructures (Stewart, 2023). Furthermore, the United Nations has set forth principles for responsible banking, which include alignment, target setting, clients and customers, stakeholders, governance and culture, transparency, and accountability. However, the linear economy's take, make, and throw conviction entirely inspires the current financial system, leaving little room for expectations. Afzal, Ayesha et al believe that robust and decentralized financial institutions can improve the environment. (Afzal, Ayesha, 2022).

Honzik et al. think that banks can support sustainable financing by including ecological, social, and governance (ESG) factors in their decision-making processes. They should gradually decrease their participation in carbon-intensive trades (Honzik, 2023).

Irene Monasterolo considers that global climate targets can be met by connecting financial investment with sustainability. However, stakeholders are seriously subjected to carbon-rich resources that may become baffled, slowing the low-carbon transition and adding new sources of risk to financial stability (Irene, 2020). According to an IMF literature analysis on the present dire situation of environmental issues, financial institutions and their economic tools are at the forefront of fighting climate catastrophe. Financial institutions should urgently combine financial policy tools such as financial regulation, financial management and policies, and monetary policy with climate-related criteria to improve financial infrastructure and markets (Krogstrup, 2019). The National Whistleblower Center (NWC) suspects that financial institutions are equally liable for the climate contention. NWC believes that to keep below the 2°C limit established by the Paris Agreement, the world needs to move to net zero emissions as quickly as possible. To sustain the climate, initiatives such as protecting tropical forests and developing an economy with fewer greenhouse gases are needed. On the other hand, banks and other financial institutions have not only remained but also increased lending to, investing in, and underwriting businesses responsible for exacerbating the climate crisis (National Whistleblower Center., 2023). When the primary causes of climate change are looked at, the names of fossil fuel businesses and companies involved

in deforestation rise to the top. Most enterprises in these areas would collapse without the assistance of significant financial institutions, yet notwithstanding this, financial institutions enable these companies to grow by providing loans. In the five years since the Paris Agreement was contracted, the world's 60 top commercial banks have provided financing and underwritten more than USD 3.8 trillion in fossil fuels. Following the signing of the Paris Agreement, financial institutions have boosted their funding of deforestation-related goods by 40%, totalling USD 153.9 billion. (Sierra Club, 2024) Well-known asset managers like BlackRock and Vanguard and bank asset management divisions like JP Morgan and Bank of America assist large investors, such as corporations and pension funds, manage and investing their money.

From 2016 to 2018, fund managers boosted their stakes in fossil fuels by 20%. In 2019, the three largest asset managers had a total of USD 300 billion in fossil fuel investments. In 2020, they also invested $12 billion in deforestation-related agribusiness enterprises. Most oil, gas, and coal infrastructure cannot run without insurance. Industries such as those with ecologically hazardous businesses lean largely on insurance companies. The oil and gas property and casualty insurance market are projected to be worth USD 17.3 billion, with US insurance companies accounting for the majority of the underwriting. In addition to underwriting services, these insurance companies advance investments in fossil fuels and are the world's second-largest investors. In 2016, insurance firms invested $221 billion in oil and gas companies and roughly $2 billion in coal companies (Sierra Club, 2024).

J Eceiza et al. underline the value of financial institutions in addressing climate change and encourage them to concentrate on two fronts: first, managing their financial expenses, and second, bolstering the green agenda (Eceiza, Joseba, et al., 2020). Regardless of the significance of these studies, it is sound to presume that all of them remained focused on investigating the role of traditional financial institutions in climate challenges. Thus, the role of Islamic finance institutions and Abrahamic religions' precepts have still been untouched.

2.3 Abrahamic Religions and Climate Change:

One of the study's goals is to examine the climate problem through the lens of Abrahamic religions, namely Judaism, Christianity, and Islam. The study also intends to do a literature review on this topic. Abrahamic religions and climate change. Since global advanced politics has long ago been stripped of religion, most Western and Eastern nations give no space for religion in their politics, business and economy. So, this abstraction of politics from religious involvement and the absence of interest of prosperous nations' interest in religion led to the lack of prominence of religious perspective on climate. That's why religion has hardly gained proportional prominence in environmental research in recent years. For instance**:**

Allison claims that ecological degradation is still primarily viewed in academia as a biological, economic, and political issue. However, it has spiritual ramifications, as glaciers carry symbolic value for local populations. Thus, Environmental issues should also be evaluated from this perspective (Allison, E. A. , 2015). According to Clingerman and O'Brien, several Christian theologians consider climate change as sui generis, but theologians who regard climate change as sui generis believe it is the outcome of cataclysmic upheaval. Inevitably, this will lead to more instability. To avoid this, we must adopt a new sort of religion and spirituality. Another set of scholars believes that climate change is predetermined, emphasizing in contrast to the previous position, the continuing significance of established religious traditions, notably their commitments to social justice and destructive political and economic antagonism. As a result, it is plausible to believe that religion plays an essential influence on climate change (Clingerman, 2017). Paula J. Posas claims that this suggests a strong religious presence and impact on the moral implications of climate change, as well as the possibility that religion will be involved in resolving climate emergencies in the future (Posas, 2007).

In the opinion of Willis Jenkins et al. (Jenkins, 2013), there is a direct connection between how religion influences or understands human existence and climate change. Human society has been influenced by this connection, as consumers not

only bring up religious actors as part of their conversations about climate change but also overtly highlight religious concepts and terms.

Understanding the religious dimensions of climate change is essential for gaining an in-depth comprehension, especially considering how religion influences how individuals perceive and react to it (Jenkins, W, 2018). According to E. Lisa F. Schipper, belief systems seldom include significant discussion of subjects like mitigating environmental hazards. However, it is impossible to dispute the fundamental ramifications of this sometimes-overlooked component: since belief systems shape attitudes and behavior, religion and belief could have a vital part in assisting successful civilizations reduce the implications of natural dangers, such as climate change (Schipper, 2010). The religious underpinnings of climate change center upon the conviction that God created the world and everything on it, and that human beings are God's children (John 3:5, NIV). Some religions share this attitude (Funk, 2015). Consequently, God's children bear a responsibility to care for His creations, including the planet and other species. (Ibid)

It should be noted that Islam believes that paternity, sonship, and other human traits cannot be attributed to God, as God can never be the father or son of any human or non-human; (The Qur'an. (n.d.). Surah Al-Ikhlas, verses 2-4.) Islam's position on such matters is extremely sensitive. Thus, Islam forbids the employing of such phrases, even figuratively. Rather, Islam even considered it as cursing and insulting God Almighty, as stated in the Prophetic narration (Abuabdillah, 2001). However, Islam proclaims the universe and all that is on it to be Allah's trust (Amanah), with men serving as the successors (caliph). However, all Abrahamic religions share the philosophical objective of preserving the earth and its inhabitants. (Details will be provided in the next chapter).

Since religion plays no part in politics in most Western and Eastern countries under modern governance, its voices were on the environmental question, somewhat muffled. Furthermore, the religious elite made no big attempt to step forward and express their perspectives on this vital matter. Religious perspectives on climate, however, have been marginalized in European and American societies. At the

outset of President Barack Obama's first tenure (2008–2012), the White House Office of Faith-Based Initiatives for Religious Organizations organized an advisory committee to deal with the social and environmental implications of global warming in the United States (Funk, 2015). In June 2015, Pope Francis delivered an encyclical asking Catholics and everyone on the planet to focus on a wide range of environmental challenges and issues, such as environmental damage, changing nature, and global ecological disparities (Francis, 2015). Even, however, if the religion is no longer charmingly relevant in the contemporary Western system, a sizable number of academics have examined the climate issue from the views of several religions, including Christianity and Judaism, for instance:

Employing a web-based survey of 1,927 Australians, Mark Morrison et al. investigate the association between environmental attitudes and religion and examine the viewpoints of Buddhists, Christian literalists, non-literalists, and secularists (Morrison, 2015). However, as the name implies, the study remains limited to the religions and even secular communities. Bernard Daley Zaleha and Andrew Szasz analyze the various viewpoints of Christian denominations (Zaleha & et al, 2015). According to them, traditional Protestant denominations and the Roman Catholic Church have distinct positions on environmental conduct, and they have released explicit statements in affirmation of it. Conversely, influential Southern Baptists and other evangelical Protestants have put out responses that closely mirror the talking points of secular climate doubters, and even have "green" initiatives in their ranks. Conservative Christianity's anti-environmentalism stems from a fear that environmental policies could give rise to a shift toward neo-pagan nature worship (Zaleha & et al, 2015).

According to Gunther Wittenberg, several opponents have cited the Old Testament as a source for anti-climactic activities as they contend that the prophets' battle against idolatry culminated in the "desacralization" of nature and their unrestricted consumption of it (Wittenberg, 2009). They also contend that the prophet Hosea is the true offender in this regard, having turned nature into dead material. But the cult of the tainted Jewish state—rather than Hosea or his teachings—is the real cause of the problem. The aristocratic class, the monarchy, and the priests are all emitting a

torrent of corruption that is licking away at society's moral fabric like a termite. Furthermore, the people's inability to receive knowledge of God and His commands appropriately is the direct consequence of the corrupt priesthood. In addition to the degradation of the ecosystem, the reckless behaviour of the wicked priests will lead to the demise of the Northern Kingdom. Gunther Wittenberg assumes that the lessons of HOSEA are merely an accusation that they are contributing to environmental degradation. Nonetheless, HOSEA has made it crystal clear that environmental justice and social justice are equally important. In addition, the worldview that the Old Testament offered states that all living beings on earth require kindness and reverence and cannot be arbitrarily exploited (Wittenberg, 2009). According to Gunther Wittenberg, the moment has come to set up a sustainable human-esco connection as environmental degradation is a genuine threat to Christianity (Wittenberg, 2009). However, GUNTHER devotes every bit of his attention to examining the climate situation from a Christian standpoint. Even though the studies present a significant scholarly work on the topic, the need to study the climatic catastrophe from the perspective of Abrahamic religions and the evaluation of Islamic finance's role remains unfulfilled. Kornfeld, Itzchak E. define sustainable development as “meeting our needs without compromising the ability of future generations to meet their own needs.” In this regard, the author compares the ecological philosophy of the Jewish and Christian religions. He claims that the earth is the foundation for the basic structure of the rest of the world, which includes water, fauna, and flora. He argues that since the planet is the first substance God created (Genesis), it serves as a foundation for all other elements of the natural world, including plants, animals, and water. In addition, the Jewish people are instructed to safeguard and maintain the planet and its inhabitants in the final four sections of the Torah. Consequently, adherents of the Jewish faith's sustainable development can be explained by the Torah alone.

G. Geoffrey Harper explores how the word "land/earth" (ארץ) has been employed in the Hebrew canon over 2,500 times. It additionally discusses how two words that are related to it, "place" (מקום) and "there" (שם), are additionally employed to describe the land, but this switches the emphasis beyond straightforward

geographic "space." Even though human relations with the earth are not always harmonious, YHWH (Marx. K) will not put up with human immorality because it taints the purity of the planet, which is the shared home of humanity and YHW. Instead, there will be a terrible scourge. And its effects are not going to be confined to a specific region or nation; rather, they will encompass all of humanity. The purification of both the contamination that has been dispersed on the earth and humanity itself is, therefore, the final possible hope (Harper).

Despite the recognition that the author presented considerable knowledge regarding eco-human relations. However, the writer's study entirely treats the Jewish faith as its primary axis. Thus, analyzing the role of a faith-based financial system and interpreting the climate catastrophe in the context of all heavenly religions left untapped (Kornfeld, 2020).

The Middle East and Africa are among the most susceptible to the consequences of environmental change, (Waha, 2017) including intense heat waves, recurrent droughts, and salinization of water supplies. However, the people living in these areas still need to be very alert to climate change. Mazaheri explores the influence of religion on attitudes toward climate change among 13,700 people across twelve nations using data from the Arab Barometer Survey (Mazaheri, 2024). However, compared to their peers, Middle Easterners who are extremely religious appeared to be more concerned about climate change. But contrasted with secular Muslims, religious Muslims who back Islamic governance are less mindful of, and some even regard the response to the problem as a move at "cultural hegemony" (Memarian, 2003). Religion, according to Mazaheri, N., has a major and surprising impact on how individuals view the climate change crisis (Mazaheri, 2024). Islam has an unequivocal position on environmental degradation, theoretically, without endorsing any economic model, notion, or philosophy. The belief that humans are God's vicegerents and that humans have a vested trust over the entire universe is the source of this conviction. this stewardship demands Muslims to make every effort to conserve the environment.

Since the preservation of human life, wealth, and progeny is one of the primary goals of Shari'ah, the climatic disaster poses a significant risk to all of them. Therefore, anything that negatively affects this trust would be regarded as *fasad fil ard*, or "corruption and terror on earth."

Having this position, there is no standardized understanding of climate change among Muslims, which led to differences in approaches to climate crisis mitigation. A small section of Muslim ecologists is lobbying to highlight issues related to climate change, endorsing that Muslim producers and consumers should work together to decrease carbon emissions through socio-technical transition efforts and spread ecological interpretations. Even though the contemporary concern about climate change has recently surfaced in the academic arena, significant scholarly research on climate in the Islamic world has evolved in several languages. Nonetheless, much of it has been written in Arabic. For instance:

Sayyid Nasr is appropriately regarded as being the first to discuss cosmology from an Islamic studies perspective in the twentieth century. It began as Seyyed Nasar's doctoral thesis, which he submitted in 1958 for a doctorate in the history of science and philosophy at Harvard University. The book premiered in 1964 under the title "An Introduction to Islamic Cosmology: Concepts of Nature and Methods Used in Its Study by the Ikhwan al-Safa, Al-Biruni, and Ibn Sina," The book was published in 1978 and updated in 1993 with modifications and a few alterations (Nasr, n.d.). Based on Nasr's approach, all through ancient civilizations, man's position in the universe was inextricably linked to his understanding of his position in it, and cosmology and anthropology had a strong and intimate connection. (Ibid)

The International Islamic Climate Change Symposium took place in Istanbul, Turkey, on August 17-18, 2015, and was attended by Muslim intellectuals from around the world. The symposium's conclusion emphasized the significance of combating environmental issues through Islamic beliefs and principles. Muslim scholars virtually unanimously hold the view that the present state of climate change is the outcome of humans' actions and urge the world's 1.8 billion Muslims

to take steps to play their part in reducing greenhouse emissions and commit to using renewable energy sources.

Muslim experts emphasize the need to maintain natural equilibrium, as humans are the only ones who have disrupted it (Worldwide, I. R., 2022). It does not imply that Muslim-majority countries continue to be unaware of climate change; rather, several quantitative research have produced hopeful outcomes. For example, the Pew Research Center conducted a poll of climate-related opinions in certain Muslim nations, including Egypt, Lebanon, Jordan, and Indonesia. According to the survey results, 54% of Egyptians, 53% of Lebanese, and 41% of Jordanians thought global warming was a very severe concern. While 47% of the people in Indonesia prioritized environmental improvement over economic expansion, 53% in Egypt did the same. In Jordan, the figure dropped from 14% to 39% in 2009 (Saniotis A. , 2012). Jens Koehrsen believes that much of the literature on Islam, the environment, and climate change centers on ideology and ethics. This is encouraging, as it indicates a developing environmental awareness; yet it is unknown to what extent this "greening" influences larger sectors of the global Muslim population. Jens Koehrsen feels Islamic environmentalism remains a minority trend among Muslims. However, it may increase in the future. What's causing climate change? There is no shared perspective among Muslims on this. Rather they read it differently. A particular group calls it "divine punishment," while another blames climate change on violating God's commands. One group claims it is the product of human (physical or spiritual) behaviour (Koehrsen, 2021).

Regardless of Jens Koehrsen's argument, it is valid that Muslim academics should take an identical stance on climate change. This position should be inspired by Islamic teachings, scholarly observations, and rigorous assessments. Furthermore, Arthur's primary focus is on investigating Islam, Muslim leadership, and the community's response to climate change, leaving the role of the Islamic financial industry unexplored.

(Turkamani, 2023) claims Islam has the world's second-largest number of followers. Islamic guidelines on the preservation of the climate are comprehensive

and essential, approaching nonbinding declarations. These traditional doctrines and novel ideas have been applied by Muslim people, Islamic NGOs, Islamic governments, and international Islamic organizations to safeguard the environment. Still, the central question is whether Islamic teachings and efforts have been productive in reaching climate change goals. A review of the most recent OIC (2021) report proves that the Muslim world is still involved in growing greenhouse gas emissions (OIC, 16 March 2022). Despite full participation in international climate change meetings and full recognition of the declarations produced, even Islamic countries view the impact of Islamic teachings on environmental protection as blurred. There are multiple reasons for this, including Islamic countries' impoverished economic structures, secular administrations, and colonialism's ongoing influence on them. They base their climate change strategy on political and economic considerations, not Islamic principles. When discussing the capacity of Islamic teachings in environmental protection, Turkmani claims that Islamic traditions are full of feasible tools and methods that are not only able to lead Muslims to the highest norms of environmentally friendly behaviour but can also constitute proper environmental management and its objectives (Turkamani, H. S., 2023). According to Oğuzhan Göksel, economic challenges in Muslim-majority nations push Muslims to opt for economic growth and poverty reduction over climate change prevention (Göksel, O., 2019).

Both authors have discussed various issues concerning climate change in Muslim countries, including a lack of awareness, the secular nature of governments, an absence of political will, poverty, and the continuing influence of colonialism has resulted in a widening gap between Islamic teachings and practices. However, the role of Islamic financial institutions and industry in climate remediation, along with the investigation of environmental remediation through the lens of divine faiths, remains a study gap.

Agustina Damanik points out Islam's role in organizing the environment and potentially curbing the exploitation of its natural assets (Damanik, 2021). The author has identified Indonesia's Angkola and Batak societies and cultures as having a philosophical concept or socio-cultural comprehension similar to Islamic

thought in terms of environmental protection. Regardless of the article's content, the writer's main objective is to identify connections between the cultural and environmental roots of a specific geographic place and Islamic doctrines. Thus, the study gap remains (Damanik, 2021).

Faisal Riza (Riza, 2023) analyzed the environmental crisis using the concepts outlined in the Qur'an. He argues that the current Muslim population is 1.8 million. Most Islamic countries are underdeveloped and are the most vulnerable to climate change and the role of Islam and Muslims in combating climate change is of crucial importance. He additionally figured out that it is an Islamic obligation to pay special attention to the mission of nature's creation, climate change, human beings, and environmental protection. He goes on to say that human beings are Khalifa (vicegerents of God) and should save the environment. A benchmark project for eco-friendly places of worship should be launched to promote environmental awareness (Riza, 2023). Despite the acknowledgement that the aforementioned authors made a valuable academic contribution to Islamic literature, the Islamic financial industry received little attention from academics in the context of climate change. S. Nazrul Islam et al (N & Winkel. J, 2017) investigate the relationship between climate change and "within-country inequality" and argue that it resembles a vicious spiral, leading to unfair environment-disadvantaged communities. The paper identifies three main reflections of climate change's increasing inequality, namely, a greater susceptibility of economically disadvantaged communities to the adverse effects of climate change; increasing vulnerability of vulnerable communities to climate change impacts; and the lack of capacity to deal with the losses that have occurred, identifying recommendations that can be implemented to reduce this inequality gap (N & Winkel. J, 2017).

The study seems to be primarily concerned with climate change and "within-country inequality". Elimination or minimization of inequality in society is undoubtedly one of the main objectives of Islamic economics; however, the teachings of the divine faiths and the role of the Islamic financial industry in the context of climate remediation have not been included in **the**discussion of the paper's conclusion. Thus, the study gap stays unaddressed. According to Hussain et

al., increased knowledge of the Islamic faith raises awareness among Muslims about the importance of protecting the universe (Hussain M. , 2007).

Odeh Al-Jayyousi et al. (Al-Jayyousi et al, 2023) undertook a foundational theory examination of Islamic narratives among policymakers about environmental degradation and Islamic principles. The authors found that Islamic beliefs may contribute to instilling an attitude of positive connection with environmental responsibility and eco-friendly behavior. Despite distinct perceptions about equality and accountability in the Global South and North, policymakers agree on environmental imperatives and the value of mainstreaming ethical ideals to influence climate policy. Furthermore, Islamic principles can inspire both policymakers and consumers to play a positive role in climate sustainability (Al-Jayyousi et al, 2023). Regardless of Athar's conclusion, the article focuses on the Islamic financial system, not Islamic financial organizations. consequently, the study of the role of Islamic financial institutions remains a fertile ground for research. In his study, Mawil Izzi Dien (Dien, 1997) explores the influence of industrialization on the Middle East's natural ecosystem. Izzi claims that Islam as a religion has great respect for and consideration for the natural environment, but industrial culture has surpassed traditional culture because materialistic values have prevailed over spiritual and moral values across the world. Even Muslim countries are not immune to it (Dien, 1997).

According to Saniotis, growing scholarly interest in religions and ecology proves the value of religious conceptions in comprehending humanity's place in the environment. However, it is discouraging that, while Islam contains extensive ethical standards about the environment, the majority of Muslim-dominated countries' adherents appear to be unconcerned about environmental issues. Consequently, there is a need to look at the environment from an Islamic perspective and enhance awareness among Muslim countries and citizens. The author goes on to say that the concept of environmentalism—in its broadest sense was widely recognized in Muslim societies, which had a system of environmental protection that included conservation zones (*Hima*), wildlife sanctuaries (*Harim*), four types of land grants, charitable endowments, water resource protection, and

public office. The Mutasib (ombudsman) monitored the entire management system. However, the rise of European colonialism and reckless political hegemony, which usurped countries and exploited their resources, destroyed nature. Furthermore, the author has emphasized six Muslim philosophers' contributions to current climate literature (Saniotis A. , 2011).

Both honorable authors' focus is on Islamic principles regarding climate change and Muslim thinkers' contributions to climate-related literature; thus, exploring climate change from the divine religions' perspective and evaluating the role of the Islamic Finance industry in Islamic financial institutions. remains undiscovered.

Kaminski's (Kaminski, 2019) paper explores the Islamic discourse on ecology through core Islamic literature. He then discusses the Muslim world's past and present contributions to environmental stewardship. Kaminski investigates the historical backdrop of Muslim concern for the environment, focusing on periods of Muslim political dominance, such as the Middle Ages and the Ottoman period. And has thoroughly researched the OIC-States' contributions to the contemporary global environmental movement, both historically and in the present. According to Kaminsky, the Muslim world has a big impact on today's political turmoil, internal concerns, and climate change (Kaminski, 2019).

Kaminski's (Kaminski, 2019) work, however, is confined to illustrating the Islamic principles on environmental issues, along with an evaluation of the historical contribution of Muslims to the environment during their political supremacy. In addition to a review of OIC countries' role in climate change. So, looking at climate change from three divine religions' perspectives and the examination of the role of Islamic financial institutions stay unexplored.

Capitalism is the economic equivalent of colonialism, having arisen as a modern global economic system with European colonial expansion in the 1400s (Kelley, 2017). The Portuguese, Spanish, Dutch, British, and other powers seized other countries and engaged in widespread plunder and exploitation (Kelley, 2017).

Certain scholars believe that capitalism is a modern version of exploitation, akin to slavery (Kelley, 2017). Consequently, both twins were launched simultaneously in

emerging nations, and resistance to both was voiced simultaneously. In the twentieth century, just after colonialism's political influence waned, talks about an alternative financial system to the capitalist financial system arose in Islamic countries. The current shape of Islamic economics literature (other than jurisprudential texts) can be traced back to the first part of the twentieth century. Abdulkadir, A. T. A. R.'s (Abdulkadir A. T., 2022) assertion that an Indian scholar deserves credit for disseminating the notion of Islamic economics and finance to the world in the early twentieth century appears to be credible. Indian scholars were fluent in Arabic, Persian, and English, and they moved beyond jurisprudence literature and tried to explain Islam's economic views in terms of modern economic concepts and structures. Many prolific academic works appeared in the first half of the twentieth century, for example:

The book The Economic System of Islam (Seoharvi, 1973) by the renowned Indian author Maulana Hufz-ur-Rehman Siwaharvi (1901-1962) of Darul-Uloom Deoband was the first attempt in this field to be published. Meanwhile, another significant book by Professor Anwar Iqbal emerged under the title Islam, and The Theory of Interest (Qureshi, 1946) was published in 1946. with a foreword prepared by the renowned academic and prolific author Seyid Suleiman Nadvi. The next year a sequel on the same theme was published, and the book of Manazir Ahsan Gilani (Gilani) (1892-1956), another renowned scholar- accredited to Deoband-, was published in 1947. Both books describe the features of the Islamic economic system. Rather, Anwar Iqbal addressed the theory of interest from both Western and Islamic viewpoints, along with looking at the evaluation of interest from the perspective of various civilizations, including Greek, Austrian, and Roman cultures. It has also been proved that after 1630 years of groping in darkness, the world has discovered the notion of "zero interest." Islam not only discoursed it in its early years but also implemented it in legal form, which remained part of both religious and commercial policies in Islamic empires for centuries. The distinction is that Anwar Iqbal's work is in English, while the other two authors' work is in Urdu. In the 1960s, Dr. Muhammad Najatullah Siddiqui (1931-2022) wrote Banking without Interest, Maulana Abul Ali Maududi's (1903-1979) work

Economics of Islam (Published in 1969) Baqir al-Sadr's (1935-1980) Our Economics (Published in1982), and other publications debuted in the Muslim world. Since then, significant research has been conducted in several languages on Islamic Economics and finance in different countries. The Islamic financial system advanced significantly, particularly in the Middle East. The citizens of the Muslim states that attained independence after World War II, particularly Indian Muslims, deserve credit for spreading and raising awareness of the concept of Islamic economics and finance (Abdulkadir A. T., 2022). Abd al-Karim Attar credits Hamidullah, a famous Indian scholar, with introducing Islamic finance in Turkey (Eskicioğlu, 1999). Eskicioğlu assumes that it was Professor Dr Sabahattin Zim in Turkey who first talked on "Modern Economics and Islam" at a symposium in Kadıköy Community Center in 1967 (Eskicioğlu, 1999). Initially, there had been no dedicated department or teaching and research framework at universities for the study and teaching of Islamic economics; instead, it was mostly handled utilizing capitalist data and methodology (Zaman, 2010).

Muhammad Obaidullah (Obaidullah, 2018) argues that there are substantial synergies between environmental preservation, sustainability, and Islamic financial objectives, as both strive to improve societal well-being in general. Furthermore, Shari'ah and sustainable development share common goals such as conserving the world and the ecosystem, managing climate change, and adapting. The author explored how Islamic finance can play a critical role in the global effort to address ecological issues. Islamic social funds, such as waqf, may play a significant role in mitigating rising expenses in conjunction with sustainable technology. However, one additional requirement for paying Zakat is that the recipient be deserving and underprivileged. Institutions such as Zakat, Waqf, and Sadakat can thus work together to address humanitarian crises caused by environmental changes. Similarly, Islamic financial institutions can actively contribute to environmental change through Socially Responsible Investment (SRI), Islamic Green Funds, and Islamic Green Sukuk. Consequently, the Islamic financial system has the potential for sustainable development. The author has highlighted green projects such as Green Sukuk, Climate Risk Mitigation

Initiatives, and Climate Risk Adaptation. Regardless of the author's opinions, the paper's axis is confined to the Islamic finance industry's ability to contribute to climate change (Obaidullah, 2018). Thus, there is still a vacuum in studying the role of the Islamic financial industry and conducting a comprehensive study of Islamic Financial institutions in various countries, along with analyzing climate change through the perspective of divine religion.

Habibi Ahmad et al. (Ahmed H. e., 2015) believe that if the world meets its sustainable development goals, all available resources must be harnessed. In this study, the authors investigate the potential of Islamic finance to assist the Sustainable Development Goals and the ability of the Islamic financial sector to contribute to their achievement. Furthermore, the authors propose that the voluntary and charitable sectors, such as zakat and waqf, are Islamic financial institutions, capital markets, and the social sector, which promote strong growth, better financial inclusion, and mediation, reduce risks to vulnerable communities, and provide financial security. The dissertation's focus, however, is to emphasize the Islamic banking system's ability to contribute to climate change and to convince the globe that achieving sustainable development goals will be feasible only if all available resources are used (Ahmed H. e., 2015). So, there is still a need to investigate the role of the Islamic financial industry, conduct a comparative study of banks in various nations, and consider climate change in the context of celestial faiths.

2.4 Islamic Finance and Climate Challenges:

(Sadiq Ramla et al, 2015) Their study, The Role of Islamic Finance in Sustainable Development, additionally highlighted Sukuk's capability to achieve sustainable development (Sadiq Ramla et al, 2015). Khairunnisa Musari believes that other countries across the world can encourage Indonesia by releasing green sukuk to address climate change. Her paper is titled “Integrating Green Sukuk and Cash Waqf Linked Sukuk, the Blended Islamic Finance of Fiscal Instruments in Indonesia: A Proposed Model for Fighting Climate Change.” However, according to her, several faults in the existing Green Sukuk process need to be addressed. Yet since both of the academic studies focus solely on green sukuk, a research

gap remains (Khairunnisa, 2022). Kabeer Hasan, and Mehmet Srac, along with others, explore Islamic finance and sustainable development. The book Islamic Finance and Sustainable Development can be considered an in-depth research effort. This book offers a thorough overview of Islamic financing concerning the SDGs. The author argues that the Islamic finance system and the SDGs are two sides of the same coin. In addition, the book expresses the need to redefine Islamic finance in contemplation of Shari'ah objectives, while also examining the SDGs in light of Islamic finance and recommended Islamic financial tools and models. The book's focus on sustainable development and Maqasid Al-Shari'ah discourse limits its analysis of Islamic finance and selected Islamic financial institutions, despite its outstanding content and understanding.

However, despite its excellent content and comprehensive knowledge of Islamic finance, the work remains focused on sustainable development and Maqasid Alashri'ah discourse; thus, the analysis of Islamic finance and the comparative role of selected Islamic financial institutions remain (Hassan, 2021).

There are a few studies that focus on looking at the circular economy from an Islamic finance perspective, such as AJ Ibrahim, NS Shirazi, et al. (Ibrahim, 2020), which reviewed the circular economy from an Islamic perspective, referring to the linear economic approach as the "take, make, dispose of" paradigm. If the global economy's model stays in the linear economy paradigm, the result will be material availability, material price volatility, and environmental degradation. They believe. Globally, however, the circular economy narrative has been proposed as an alternative to this primitive model, in which products are recycled to be reusable. Islamic finance has a great potential to facilitate a circular business model throughout the OIC countries by using multiple Islamic finance instruments, such as social contracts, equity- and risk-sharing financing so that future generations do not pay the price for the prosperity of the present.

The authors argue that various critical steps to boost circular commerce in OIC countries are urgently required, including policy and strategy development for a comprehensive CE policy master plan, modifying attitudes toward environmental

protection, collaborating with Islamic finance consultants, researchers, and officials to finance circular businesses, incorporating CE into public policy goals to achieve the SDGs in OIC member countries, and offering academic possibilities and funding for CE research in both industrial sciences. (Ibrahim, 2020)

Despite the relevance of the author's scholarly work, the primary goal of the study seems to be emphasizing the potential of the Islamic finance industry and identifying different financial instruments for it. So, what role has the Islamic finance industry performed thus far? This question remains unaddressed (Ibrahim, 2020). In another study, the authors explore how Islamic financial profit and loss sharing and Maqasid al-Shariah-inspired modes can be utilised to foster circular business. In addition, financial regulatory agencies and Islamic financial institutions must incorporate climate change and linear economic activity risks into the assessment of assets and pricing strategies. To achieve the Qatar National Vision 2030, the Qatar Development Bank, Qatar Charity, Islamic Banks, and Qatar Fund for Development Qatar need to collaborate to encourage circular companies such as tyre recycling, among others. Manufacturers may dedicate special consideration to incorporating sustainability into their operations (Abdul-Jalil, 2021). However, the study is confined to exploring the circular economy from an Islamic perspective via the Qatar Vision 2023. Therefore, the evaluation of the Islamic financial industry's performance concerning climate remediation remains still unresolved. Tariqullah Khan accomplished excellent and unprecedented academic research on the integration of Islamic finance and the circular economy. Khan believes that the linear economy paradigm should be substituted with a new zero-waste circular economy paradigm that is compatible with entrepreneurial endeavor in a circular economy and the Islamic vision. Upon evaluating the outcomes, Khan determined that if the linear economy continues to prevail, the present planet will not be sufficient for mankind. Khan additionally asserts that it is momentous for the Islamic finance industry to embark on the next step and become Muqasid al-Shariah orientated, rather than simply harmonizing Shari'ah law, otherwise, its status would be a halal subset of linear (Tariqullah, 2019). Regardless of Khan's academic excellence, his paper revolves around the axis of

the Islamic finance industry. Thus, evaluating the role of Islamic financial institutions in climate remediation, examining climate change through the perspective of sacred texts and faiths, and assessing climate change awareness in Islamic countries remains a research gap and an unanswered question.

In addition, Islamic blended finance for circular economy impactful SMEs to achieve SDGs Islamic Finance and Circular Economy: An Introduction (Khan, 2022). A Literature Review on Islamic Finance Modes as an Alternative Approach to Finance the Business Model of a Circular Economy (Akintan & Mohammad Dabiri, 2021).

Sustainability, trust, and blockchain applications in Islamic finance and circular economy. Best practices and FinTech prospects (Aysan & Ahmet Faruk, 2021). Ramla SadiqVenture waqf in a circular economy is outstanding studies (Khan, 2019). All of them, however, are primarily concerned with either bridging the gap between the circular economy, sustainable development, and Islamic finance or with the potential of the Islamic financial system or instruments to contribute to the circular economy's goals.

In terms of investigating environmental preservation from an Islamic perspective, the late, well-known scholar Yusuf Al Qaradawi has done good academic work. Qardawi defines the environment as the human habitat where he dwells and returns after a long journey. It contains both static and living parts. Static refers to both the natural world established by God and the man-made components manufactured by humans. Qaradawi conducted an in-depth study of the environmental issue and concluded that preserving the planet from all forms of pollution is an Islamic responsibility. However, despite the author's outstanding efforts, the book is confined to an Islamic perspective on climate and the environment. As so, the appraisal of Islamic financial institutions' climatic performance and the discussion of ecological jurisprudence from all Abrahamic religions continue (al-Qaradawi, 2006).

Therefore, the peculiarity of this study is that it strives to offer a rationale for climate remediation from all of the divine religions, namely Judaism, Christianity,

and Islam, besides critically evaluating the current performance of Islamic financial institutions. In addition, it provides a Maqasid-oriented business model for how the Islamic finance industry could achieve the goals of sustainable development and a climate-resilient economy.

CHAPTER III

FIQH OF ECOLOGICAL ENVIRONMENT CHANGE IN THE LIGHT OF ABRAHAMIC RELIGIONS (JUDAISM, CHRISTIANITY, AND ISLAM)

3.1 What is Ecology?

The Arabic-derived word Fiqh signifies comprehension or an in-depth understanding of an issue (Al-Subki, 1984). And the word ecology emanated from the archaic Greek word *οἶκος* or *oîkos*, meaning 'house', and *-λογία -logía* ' (Feng, 2023).

The United Nations defines ecology and the environment as: “Totality, or pattern of relationship between organisms and their environment.” (United, N., 1997)

It describes the study of interactions among creatures, particularly mankind, and their physical surroundings, considering ecology at the individual, population, community, ecosystem, and biological levels. Ecology is strongly associated with the fields of biological geography, biology of evolution, genetics, ethics, and natural history. Keeping in mind that, while ecology is an area of biology, it is not equated to environmental activism (Balasubramanian, 2021).

Another frequently employed term in this context is the environment, which typically implies natural surroundings. The environment according to the definition of the United Nations is:

> *The totality of all the external. Conditions affecting the life development and survival of an organism (Balasubramanian, 2021)… It encompasses the physical surroundings that are shared by all living creatures, such as air space, water, land, plants, wildlife fauna flora, etc.* (Anil, 2018).

Therefore, we define Fiqh of ecology or environment here as a profound comprehension of the question of environmental and ecological change and the hunt for remedies from the viewpoint of heavenly religions.

Beyond the literal and philosophical hair-splitting, Al-Qardawi (al-Qaradawi, 2006) describes ecology as the human habitat in which he lives and returns as a final abode after a long journey. It consists of both static and living elements. Static alludes to both the natural universe created by God and the artificial components manufactured by humankind. For instance, man-made streams, trees planted, houses, and all of the tools and equipment produced for peace and war. While the word living describes both people and animals, Also, the definition of environment encompasses earthly, celestial, and heavenly phenomena, such as the sun and moon., etc. (al-Qaradawi, 2006)

The term Fiqh (of ecology) has been deliberately chosen over the term philosophy as it is a solely religious or, particularly, an Islamic term that denotes a Revelation-oriented deep understanding of an issue; additionally, this term has a greater connection with Muslims' understanding and psychological formation. This terminology is frequently employed in Islamic literature to clarify concerns related to halal and haram (lawful and unlawful) from the Shari'ah perspective. It provides a psychological incentive for a Muslim to abide by the halal and avoid the haram, as it is directly related to the joy or disapproval of Almighty Allah. Therefore, employing the expression Fiqh transmits an indication to the Muslim community that, even in the context of environmental change, encouraging environmentally friendly matters while preventing environmentally damaging activities is all part of the same Fiqh that stems from the Shari'ah.

3.2 Ecological Environment in the Light of Abrahamic Religions:

This subsection will cover the etymological background of the notion of ecological Fiqh, its meaning, its significance, and the relationship between human beings and the universe in the light of Abrahamic religions, in addition to the ethical standards that three divine religions enacted on their followers in sacred literature. A compared assessment of the scriptures concludes the conclusion that, while all celestial faiths recognize ecological accountability, Islamic teachings are more explicit and persuasive regarding it. Being a religious and moral values-based system the Islamic financial system needs to maintain those moral and spiritual

principles. The term has emerged and acquired popularity in the twenty-first century, as a major genre of Islamic literature in response to mounting environmental challenges, when Muslim scholars and practitioners started recognizing the need for an Islamic legal framework for environmental protection. The term includes issues about Muslim environmental management and moral responsibilities (Jens, 2021). According to the literature, Syed Hossein Nasr was believed to be the first Muslim scholar to write about the environment in modern times, beginning in the early-1960s (Richard, 2003).

3.3 Environmental Protection

Humans, animals, plants, land, water, and air constitute the environment, so heavenly religions have taken an extra stake in preserving these components. All Celtic religions, despite their differing approaches, concur on the need to preserve all aspects of the universe.

3.3.1 Preservation of Human Beings

There could have been various explanations for mankind's entrance into the realm of nature. Yet, one factor that all heavenly religions seem to concur upon is that humankind is functionally incomparable to its counterpart components and the remaining components are subordinate to it.

The Bible states that once God has created, he will create man in his image and likeness. When God created man, he stipulated that he had dominion over every creature, including birds flying in the sky, livestock and fish in the sea, and even over every creeping thing that crawls on the earth. (Revelation 4:11).

Shari'ah has gone a step beyond simply proclaiming the safeguarding of human life, faith, lineage, intellect, and wealth as its primary objectives (Auda, 2008).

This is why the unlawful killing of a single person is regarded as equivalent to the annihilation of all humankind. Shari'ah Law recognizes the inviolability of human beings; even a murderer who committed an awful offence such as killing whıch will end up resulting in a death sentence, yet his self-esteem and dignity cannot be compromised. The Qur'an proposes that the deceased person's heirs redeem him by

accepting blood money or volunteering. According to the Holy Quran, forgiving (even the killer) is better for oneself. The Quran states:

> *And whoever is killed unjustly, we have invested his heir with authority (of equal retaliation), but he must not cross the limit in the matter of killing. Surely, he will be helped.* (The Meanings of the Noble Qur'an with Explanatory Notes, July 2010, Al-isra 17/33).

However, even if they crave Qiṣāṣ (the same penalty for the crime done), they do not have the authority to go beyond the limitations set by the Shari'ah. The human soul is the flagship component of this cosmos, around which the entire story revolves. consequently, all heavenly religions agree on the relevance of protecting his life at all costs. This is why committing suicide is prohibited.

The Bible says: "You shall not murder" (The holy Bible, 2001, Exodus 20:13). Since suicide is a form of murder the Bible prevents man from committing suicide. According to the Bible, humans are like the holy temple of God, and whoever tries to destroy it, God will destroy him (Exodus 20:13). And people should not be overly wicked fools and die before their time by committing suicide. (Ecclesiastes 7:17)

The Holy Quran states: "Do not put yourselves into destruction". (Al-baqarah 2/195). This involves prohibition against abortion unless the mother's life is threatened by pregnancy. According to Shari'ah Criminal Law, if someone commits a crime that kills a woman's fetus in the womb, he is sentenced to ghurra or entire diat. The famous Hanafi jurist Quduri wrote:

> *When a man strikes the belly of a woman, and she miscarries the fetus then he is liable for ghurrah. (Half of the tenth of the compensatory payment) DIYAH. But if she delivers it alive then later it dies. There is a full compensatory payment (DIYAH) for it*, (Al-Quduri, 1997).

The fundamental principle of preservation is relevant equitably to all human beings, regardless of colour, creed, or country as Islam does not tolerate distinguishing between human beings based on ethnic, geographical, or creedal distinctions; rather, Islam regards differences in people's forms and physical characteristics as

evidence of the ultimate power of Almighty God. The Quran states: “And among His signs is the creation of the heavens and the earth and the difference of your tongues and colours. Surely in this, there are signs for the person knowing.” (Al-room 30/22).

Furthermore, Islam believes that the various colours of people, inanimate objects, plants, and animals all point to the Creator, the Almighty. The Quran says:

> *Did you not see that Allah has sent down water from the sky? Then We brought forth with it fruits having different colours. And among the mountains, there are tracks, white and red— of different colours, and (others) utterly black.* (Al-fatir 35/27-28)

From the viewpoint of Islam, the purpose of human distinctions between colour and descent is solely to let people with one another. The only criterion for excellence is piety. Allah Almighty declares**:** “Surely the noblest of you, in Allah ‘s sight, is the one who is most pious of you.” (Al-Hujrat 49/13).

Wars pose a significant threat to the survival of humans; hence it is not acceptable in Islam to wage war for no reason; even yearning for war is considered unfavourable in Islam.

According to the hadith of the Prophet of Islam, instead of yearning to confront your enemy, seek Allah's protection from all evil (Bukhari, "Tamanni", 94, No. 7237). The directive to keep peace is exclusive and war is the last resort used under dire and odd circumstances. Where all other options, including political, diplomatic tools, and economic boycotts, failed. Even if war has been imposed on a country, certain laws and etiquette must constantly be followed. The Quran says: *“*And do not transgress. Verily, Allah does not like the transgressors.” (Al-baqarah 2/190).

While sending a military campaign to Syria under the command of Yazid bin Abi Sufyan, Abu Bakr al-Sadiq, the first caliph of the Muslims, issued certain guidelines which outline the principles and laws of Islam about a war: “I recommend you ten things: never kill a woman, a child, or an elderly man. It is forbidden to chop or burn fruit trees. Do not butcher cattle or camels, and don't cut or burn palms. Never

tie him up, avoid deceiving him out of the booty, and refrain from being a coward." (Al-Waqidi , 1992).

These instructions made it clear that it is unlawful to hurt anyone who has nothing to do with war, whether a human, animal, or plant. Animals as part of the ecosystem. The next aspect of the environment is "animals". All divine faiths seem unanimous in their need to treat animals compassionately. According to the Bible:

> *If you see the donkey of one who hates you lying helpless under its load, you shall refrain from leaving it to him, you shall surely release it with him. (Exodus 23:5). If you happen to come upon a bird's nest along the way, in any tree or on the ground, with young ones or eggs, and the mother sitting on the young or the eggs, you shall not take the mother with the young (Deuteronomy 22:6*).

The Bible further states: "You shall not muzzle the ox while he is threshing (Deuteronomy 25:4). Scripture extols individuals who tend to and nurture animals: "They give water to all the beasts of the field; the wild donkeys quench their thirst." (Psalm 104:11).

Islam puts such a premium on compassion toward animals, (as a component of the environment) that according to the Prophetic narration, a woman was banished to hell simply because she killed a cat, leaving it hungry and thirsty, whereas another woman was declared deserving of paradise for providing water to a thirsty dog (Muslim, " virtues", 45 NO. 174). According to Islamic traditions, even if the animal has to be slain, the cutting instrument should be honed so that the animal suffers as little as possible. Rather, Islam goes far beyond by requiring that the sharpening blade be kept hidden from the animal. According to the prophetic narration, the Prophet of Islam (peace and blessings of Allah be upon him) forbade a person from sharpening a knife in front of an animal (Bukhari, " Adab" , 78 No. 40).

And stated:

> *So, when you kill, you have to carry out so in the best way; when you slaughter, do so in the best way as well. Allow one of you to hone his blade*

and comfort his animal (to alleviate its pain). (Al-Mustadrak, tefsir 41, No 7570, 1990).

Narrated by Abdullah ibn Mas'ud: We accompanied the Prophet of Allah (ﷺ) on a voyage. He went to relieve himself. We noticed a bird with two newborns and grabbed them. The bird arrived and started to expand its wings. The Prophet of Allah (ﷺ) asked, who grieved this bird for its newborns? Return them to it. He also noticed that we had burned an ant town. He asked: Who burned it? We responded: We. The prophet said: no one is allowed to chastise fire save the Lord of fire. (Abu Dawud, "Al-Jihad" 15, No. 199).

Hunting animals is permitted in Islam, but it could be banned based on the surrounding circumstances. Ibn Taymiyyah, may God have mercy on him, argues that hunting for a need is fine, but for enjoyment and sport is unfavourable. It is forbidden if it leads to the destruction of people's crops and property (Abu Dawud, "Al-Jihad" 15, No. 199). This prophetic hadith warns that nobody should overlook even the killing of a tiny living creature, considering that it could appear insignificant to him but has meaning in the sights of Allaah. According to Abdullah bin Amr, the prophet of Allah, (may God bless him and grant him peace,) said:

Whoever kills even a bird without the right, Allah will ask him about it on the Day of Resurrection. his companions asked him, O Prophet of Allah! What is his right? The Prophet (peace and blessings of Allah be upon him) said, the right is not to slaughter a bird except when you eat it, however, never throw away its head. (Nasa'i, "Buyu", 43 No. 4450).

The ban on killing animals for no reason can be extrapolated from prophetic narrations. (Nasa'i, "Buyu", 43 No. 4450). Similarly, Shari'ah does not condone killing an animal after it has been tied. Anas noticed some lads Aiming at a tied hen. Anas went on to say, “The Prophet has forbidden the Aiming of tied or imprisoned animals.” (Muslim, "alsayd", 34 No. 92).

In addition, the Prophet of Allah ﷺ prohibited cursing and staining animals' faces (Muslim, Libas, 34 No. 2117). Celestial religions' instructions on animals, it is

evident that these living beings should be cared for and not mistreated unless essential. Thus, Shari'ah scholars argue that if the state bans the hunting of a specific type of bird or fish during a certain time of year to conserve environmental components, the restriction must be respected (Al-Qaradawi, 2006).

3.3.2 Protecting Plants

Plants (as the third component of the environment) are the ornaments of the planet, lush green trees, crops, and blossoming flowers delight mankind's aesthetic sense besides their additional advantages. The heavenly religions agree on the preservation of plants, the third component of the ecosystem.

> *The Bible states: But as for me, I am like a green olive tree in the house of God. I trust in the loving-kindness of God forever and ever. He will be like a tree firmly planted by streams of water, which yields its fruit in its season* (Palm 1:3).

Islam forbids the cutting down of plants and trees for no purpose and supports their preservation. If someone wrongfully, unfairly, and without use to himself cuts down a large tree in a desert where travellers and animals seek shading, Allah will drop his head in hell (Mishkat al-Masabih, "buyu",11, No.2970). The first Muslim Caliph, Abu Bakr Siddique, outlawed tree chopping as war etiquette (Al bayhaqi, Bay'ah 40, No. 17566). Agriculture has always been regarded as a means of recompense in Islam. According to Jabir, the Messenger of Allah, may God bless him, said: “If a Muslim plants a tree or sows seeds, then a bird or person or any animal may eat them, it would be considered charity for him.” (Muslim, Musaqah, 22 No. 12).

Almost all Islamic school jurisprudence texts have an entire section on The Revival of The Dead Earth (Ihya' Al-Mawat). This implies that keeping uncultivated land barren for cultivation is inappropriate behaviour. If someone cannot cultivate should give it to someone else so that he can do it. It turns out that Islam lays a specific focus on promoting forests and safeguarding the environment from pollution. The notion of safeguarding the environment from all forms of pollution can be derived from all the Prophet of Islam's narrations that emphasize cleanliness.

In Islam, cleanliness in Islam not just linked to faith, but it's also regarded as half of the faith as stated in the Prophetic narration: “Purity is half of the Eiman” (Muslim,Taharah 2 No 2).

According to Imam Nawawi's commentary, removing an anguishing thing from the path encompasses every attempt made to clear the physical obstruction or waste from the land: “Harm implies anything that causes damage, such as stones, mud, thorns, or anything else.” (Al-Nawawi, 2008). According to Anas bin Malik, there was a tree in the pathway that was causing discomfort to the people, so once a man ditched it from the path of the people; “The Messenger of Allah, peace be upon him said: Protect yourself against the three activities which elicit cursing: urinating in waterbodies, in the centre of the path, and the shadow.” (Mishkat al-Masabih, "Tahara" 3, No. 51).When Abu Musa arrived in Basra, he stated: “Umar bin Al-Khattab has sent me to teach you the Book of your Lord and the Sunnah of your Prophet, and to clean your paths.” (Daghmush, 1999) Preservation of water resources. Aside from its economic value, water is significant to humanity for a variety of reasons. For followers of some heavenly religions, water is more than just a material form of stuff in our world; it also has an esoteric significance and form (Burmil, 1999). Some writers believe that pouring water on the 'thirsty ground' represents pouring God's Spirit on the people and the spiritual realm as well. (Burmil, 1999). In the Tanakh (Hebrew Bible), water poured on ‘thirsty land’ is paralleled with God’s spirit being poured on people.

> *For I will pour water on the thirsty land, and streams on the dry ground; I will pour out my Spirit on your offspring, and my blessing on your descendants. They will spring up like grass in a meadow, like poplar trees by flowing streams.* (Isaiah 44:3-5)
>
> *On the last day, that great day of the feast, Jesus stood and cried out, saying,If anyone thirsts, let him come to Me and drink. He who believes in Me, as the Scripture has said, out of his heart will flow rivers of living water.* (7:37-38).

In some other passages of the Bible, people who wreck the world have been threatened with destruction. So, when the people became furious and deserved God's anger approached, the time had come for the destruction of those who recklessly ruined the earth. (7:37-38).

It shows that heavenly religions all believe that water is a magnificent blessing from God, and it is credited to God Almighty in various Bible passages, indicating its importance and value in human life. Furthermore, water is used throughout the Bible to represent many facets of God's strength. It may be employed as a sign of purification, similar to the ritual washings of the Hebrew Bible's tribute system (Exodus 30:18–21, Leviticus 16:4–24, 17:15). According to another passage of the Bible: "I will give you showers of rain at their proper time, and the land will yield its produce, and the trees of the field will give their fruit." (Leviticus 26:4-6).

Islam takes a unique and unconventional approach to water protection recognizing water as the foundation of all living things. The Quran states: "We separated them and made from water every living thing". (Anbya 21/30). In dozens of Quranic passages, Allah Almighty credits the descent of water to Himself. For instance: "and sent down rain from the sky." (Ar-rum 30/24)., (Ibrahim14/32) "So we sent water down from the skies." (Al-Hijr 15/ 22) (An-nahl16/65)., (Qaf 50/9) all these and similar passages from the Holy Quran emphasize the significance of water and also testify that there is a close interaction between water, the environment, and man, proving that man is responsible for maintaining the connection. The prophetic hadith has exhorted people to safeguard and rationalize their consumption of water resources. As has been previously mentioned in the hadith about avoiding three curses the prophet of Allah (peace and blessings be upon him) forbade bathing in stagnant water to avoid contamination. In another tradition, the Prophet of Allah, may God bless him and grant him peace, stated, "Do not urinate in stagnant water and then bathe in it." (Muslim," Taharah", 2 No. 121). Urinating and polluting are not permitted, even in running water. commenting on this hadith, Imam Nawawi states:

> *And if the water flows a little, urinating is undesirable, according to a group of our scholars. while the preferable view is that it is forbidden, as it Makes it*

> *unclean and impure and induces others to use it even though it is impure according to the well-known opinion of Shafi'i.* (Al-Nawawi, 2008).

likewise, numerous hadiths prohibit the waste of water resources. For instance: "The Prophet (peace and blessings of Allah be upon him) performed ablution three times and said: Whoever exceeds three times in washing the organs of ablution, he has committed injustice and transgression." (Nasa'i,"Taharah",1No.141). Based on a prophetic consideration, there may have been an excess in ablution even if you are by a rushing river (Ibn Majah,"Tahara", 1No.159).

3.1. Pollution-free air

The holy scriptures of the monotheistic religions do not contain the term "environmental pollution" in its contemporary sense, as it is a relatively new concept. Nonetheless, several broad passages in the scriptures emphasize the need to preserve the environment and maintain it hygienic, safe, and inhabitable for future generations. From these works, academics and interpreters deduced several environmental challenges, doctrines, and principles. For instance, the Bible says:

> *You shall not pollute the land in which you live, for blood pollutes the land, and no atonement can be made for the land for the blood that is shed in it, except by the blood of the one who shed it.* (Numbers 35:33-34).

This scripture addresses spiritual pollution in the first stage, such as murdering, stealing, and plundering other people's property, but it also covers material pollution. The Bible foretells dire consequences for humanity if they carry on committing crimes against God's law and causing corruption on Earth. "Hear the word of the Lord…they break all bounds, and bloodshed follows bloodshed. Therefore, the land mourns and all who dwell in it languish… even the fish of the sea are taken away." (Numbers 35:33-34).

According to the book by Jeremiah the God Almighty brought the children of Israel into an abundant land to enjoy its products but when they defiled the God's land, they deserved a punishment. (Jeremiah 2:7). According to Bible passages, air pollution, like other environmental factors, is an abominable behaviour. And people should endeavour to limit it at all costs so that future generations are not harmed

because all components of the environment including the earth, mountains, trees and other creations wither and suffer from human being's mischief as has been stated in the Bible of Isaia (Isaiah 24:4).

Islam is an updated version of the previous monotheistic faiths, yet it has a far broader scope as its message extends to the last living man on Earth. Islam's inspired books, the Qur'an and the Sunnah, offer specific instructions, directly addressing environmental components or presenting principles that provide comprehensive direction for dealing with an environmental issue. Furthermore, Shari'ah's secondary sources, such as ijtihad (independent interpretation), address all issues. The Shari'ah secondary sources such as ijtihad and Maslaha, address any remaining issues.

In the Shari'ah perspective, the notion of safeguarding the air from pollution stems from prophetic narrations that denounce behaviours that cause people discomfort and odour and recommend that they avoid such conduct unless essential. This is the reason why when Muhammad (peace and blessings of Allah be upon him) would go to privy, this is why, when Muhammad (peace and blessings of Allah be upon him) wanted to relieve himself, he went to a far-off place in the desert, mountains, or scrubs. In the preceding pages, hadiths were stated to encourage people to stay away from curse-causing factors such as the privy in streets, water, and under a shady tree as it was thought to be the reason for people's curses.

The prophetic narrations that forbade going to the mosque after eating garlic or onions also provide an instructive example about keeping the environment neat and clean. It is reported that the Prophet of Allah, may God bless him and grant him peace, said:

> *Whoever eats garlic or onion, let him leave our mosque and stay in his house. (Ibn Majah, "Taharah"1, No.159). likewise, Prophet Muhammad (may God bless him and grant him peace) avoided some foods because they create bad breath and whispered to Allah's Messenger Gabriel* (Ibn Majah, "Taharah",1No.159).

Dr Yusuf al-Qaradawi (Al-Qaradawi, 2006) believes that those who compromise their lives, property, health and others' health by smoking in the present day ought to receive a greater warning as even though eating beans such as onions and garlic is permissible in Shari'ah, yet, Simply their stink annoys other people, the Prophet of Islam, peace and salutations be upon him, prevented those who ate these beans from attending public events. On the contrary, smoking is hazardous not only to the smoker's health, psychology, and wealth but also to those sitting nearby and even bystanders. Furthermore, an extensive number of experts believe that smoking violates Shari'ah. These hadiths provide the Shari'ah rationale for putting limits on the emission of toxic gases. Although aeroplanes, vehicles, and other modes of transportation have become essential, their consumption of fossil fuels contaminates the atmosphere. This issue needs to be mitigated by using renewable energy sources such as solar energy.

3.3.3 Noise Pollution

Aside from the foregoing, Islam is concerned with human psychology and healthcare. Islam does not condone exposing people to annoying sounds. The Qur'an equates a loud voice with donkey braying, narrating the Lockman's advice to his son to lower his voice by stating: “Indeed, the most disagreeable of sounds is the voice of donkeys." (Luqman 31/19). If the Shari'ah prohibits increasing the volume of the Quran in holy mosques to avoid disturbing other worshipers and scholars, what about other sources of noise and disturbance that irritate people? Sound pollution is regarded as undesirable by both Shari'ah and modern studies since it is irksome for human beings. Moreover, it can impair hearing due to high frequency. While terms such as heat pollution, radiation, and noise pollution are newer and have no direct references in the Holy Scriptures. However, several Islamic norms and objectives tackle environmental issues. For instance, (Muwatta Malik, "Aqdiya",36No.31). “Ladrar Willa dirar” asserts that Shari'ah forbids inflicting injury to anyone without a legally mandated punishment.

Similarly, (Lebanese, 1923) **الضرر يزال** (the injury must be removed.

3.4 The Phases of Human-Environment Interaction

All divine religions have conferred the relationship between humans and the environment. Although their approach varies depending on when that particular religion started its emergence, they are on some fundamental concepts such as subjugations, succession, and reconstruction. The following lines shed light on these concepts. subjugation, succession, and reconstruction

3.4.1 The Human-Earth Relationship

Regarding the relationship between humans and the earth, the three divine religions., Judaism, Christianity, and Islam seem to be unanimous on the following fundamental ideas: subordination, rebuilding, and succession. We shall delve deeper into each of these concepts. God Almighty made the earth and everything in it; he is the only one who possesses them, according to heavenly faiths. The Bible states: "The earth is the Lord's and everything in it." (English Standard Version Bible, 2001, Ps 24:1). In Leviticus, addressing the Israelites, God clearly says that:

"The land is mine." (English Standard Version Bible, 2001, Lev 25:23).And "The heavens belong to the Lord, the earth with all that is in it." (English Standard Version Bible, 2001, Deuteronomy 10:14). Furthermore, John witnesses singing among the living things in his vision of heaven. "You are worthy, our Lord and God, to receive glory and honour and power, for you created all things, and by your will, they existed and were created" (Revelation 4:11).

The Quran also expresses this same idea via various verses, such as: "To Allah belongs the dominion of the heavens and the earth and whatever is within them. And He is over all things competent." (Al-Mai'da 5/120), The Quran frequently uses the expression: لِلَّهِ مَا فِي السَّمَوَاتِ وَمَا فِي الأَرْض, Like An-Nisa 4/170, Yunus10/55, An-Nur24/64, Luqman 31/26 and Al-Hadid57/1. which unequivocally implies that everything is the universe belongs to Allah almighty. Several taxonomies found in various heavenly texts identify mankind as the world's vicegerent and guardian, and the natural world as a trust (Amānah), signifying that the human is solely liable for the preservation of his natural surroundings since he is the one to whom the entire universe has been designated. Breaking this idea would therefore be considered

disobedience to the Almighty God, betrayal, causing trouble (fasād) on earth, extravagance (isrāf), and causing harm (ḍarār). Describing the same notion the Bible declares that: "Everything belongs to the LORD your God (Deuteronomy 10:14-17).and harming the universe is an ultimate mischief and violence which's plague return to the doer himself (Psalm 7/16).

According to celestial religions (Judaism, Christianity, and Islam), the soil has the honour of Being the fundamental substance of human existence, albeit with minor variations. All celestial religions' sacred books have extensively discussed this idea, highlighting another aspect of the human-environment relationship. For instance, the Bible explains: "And the LORD God formed man of the dust of the ground and breathed into his nostrils" (Genesis 1:27).The Quran discusses the same conviction in seven different verses, such as Al-An'am 6/2, Al-a'raf 7/12, Al-ra'ad 13/71–76, Al-Mu'minun 23/12, Al-Sajdah 32/7, Al-Saffat 37/11. Allah Almighty says: "And certainly, did We create man from an extract of clay" (Al-Mu'minun 23/12).

Hence, the earth functions as a womb for humanity, akin to a mother, and hence warrants the same treatment of justice, care, and kindness. This is because humans have originated from the Earth and will eventually return to it. As per the Quran, according to a prophetic narration, the ground is recognized as a spot for worship and a means of purification (Muslim, "hudud", 29No. 10). The Qur'an has over 1,000 verses that explicitly address a diverse array of ecological problems (Gada, 2014). Moreover, the Qur'an and prophetic narrations explicitly link the environment to fundamental values such as compassion, fairness, excellence, non-violence, and other virtuous characteristics. It is imperative to continuously remind humans of their duty to care for the cosmos, its resources, environment, and other animals. To safeguard mankind, it is crucial for everyone, notably those who adhere to religious convictions, to rise beyond their disparities. All belief systems adopt the viewpoint not only as a moral or social duty but also as an observance of faith and obligation. The following parts will present additional details regarding the interconnection between humanity and the Earth.

3.4.2 Vicegerency (Khilafah)

Like numerous other concepts, divine religions all adhere to the notion that human beings are vicegerents of the Almighty God. Subsequently, he has authority over the entire universe. The Bible asserts:

> *Then God said: Let us make human beings in our image, after our likeness. Let them have dominion over the fish of the sea, the birds of the air, the tame animals, all the wild animals, and all the creatures that crawl on the earth. So, God created man in his image, in the image of God he created him; male and female he created them* (Genesis 1:27).

To denote this notion, the term "*Khalifah*" is employed in the Holy Qur'an as Allah says: "And [mention, O Muhammad], when your Lord said to the angels, "Indeed, I will make upon the earth a successive authority" (Al-baqarah 2/30).

The Quranic term *"Khalifah"* originates from the Arabic word *"Khalaf,"* It means he remained behind or assumed someone's position. The gerund is "**خلافة**". which signifies one who succeeds in becoming a progenitor and assumes the role of vicegerent. The Quran refers to this term and its derivations, which are words that contain identical etymology, on a total of 27 occasions. Khalifah, in essence, denotes the possession and exercise of any office, authority, trust, or responsibility in complete adherence to the volition and purpose of the principal party. The plural forms of "Khalifa" are "Khalaif" and "Khulafa". It is stated nine times in the Holy Qur'an, and in seven of those instances, the word Khilafah is used in juxtaposition with another phrase, **" في الأرض** *Fi al-Ard"* In his meticulous translation of the Holy Qur'an's meanings, German Arabist Rudi Barrett concluded that whenever the word "Caliph" or one of its derivatives appears, the Qur'an refers to the "caliphs" or "successors" of prior generations or groups. From his perspective, the esteemed verse (Al-Baqarah 2/30) should be interpreted as suggesting that Adam, and by extension, human beings, will eventually supplant angels as the inhabitants of the earth. Vicegerency is commonly associated with this planet, Earth. The lineage of this caliphate originated with the prophet Adam, the quintessential progenitor of humanity, who served as the inaugural *khalifa* on this planet. Subsequently, the

responsibility of the caliphate on this planet was bestowed upon every individual, regardless of his gender, colour, creed and country. Consequently, in our capacity as vicegerents of God, each individual is obligated to ensure that the planet remains inhabitable for other living things, animals, and other creatures. Furthermore, the Viceregency (Khilafah) stipulates that humanity must construct the planet both on an individual and social level, utilise its resources prudently, and preserve its natural equilibrium. The Quran states: "He has produced you from the earth and settled you in it" (Hud 11/61). This verse suggests that Khilafah is obligated to fulfil certain further stipulations, including the construction (I'mar) of the earth. Linguists, including Imam Al-Raghib, hold the view that the linguistic roots of the terms "**استعمار**" and "**إعمار**" denote the act of entrusting the development of the land to someone. Naturally, this involves ensuring that the individual to whom the task has been delegated can access the resources and tools needed for building the earth (Al-Ragheb Al-Isfahani, 1906).

Furthermore, it is imperative for the *Khalifah* of God- to uphold impartiality (Adl) in the Khalifah position, as transgressors are deemed ineligible to hold such a lofty rank. According to the Quran God's covenant does not extend to those who engage in wrongdoing (Al-baqarah2/124). Moderation (Al-Wasatiyyh) and, trustworthiness (al-Amin) are further attributes that are expected of the vicegerent of God Almighty, in addition to the abovementioned qualities. Because of the lack of moderation, *Khalifa* will succumb to the perils of excess and paucity, culminating in catastrophic consequences. It is imperative to consider the significant physical and spiritual ramifications of *Khilafah* in addition to its fundamental prerequisites and universal equilibrium. This is to ensure that this advancement does not disproportionately benefit a small subset of people or an area in particular. It is imperative to consider the significant physical and spiritual ramifications of *Khilafah* in addition to its fundamental prerequisites and universal equilibrium. This is to ensure that this advancement does not disproportionately benefit a small subset of people or an area in particular. This is to ensure that the benefits of this progress are not limited to a specific region or a limited subset of the population, but rather extend to a much broader populace. This is to ensure that

the benefits of this progress are not limited to a specific region or a limited subset of the population, but rather extend to a much broader populace.

To preserve the equilibrium of the universe, -Along with other duties-human beings should have been engaged in any endeavour that contributes to this process, including cleaning (Tahara) and maintaining a verdant planet through farming and planting (Tashjir). “The Prophet (Peace and salutations be upon him) stated in an authentic hadith, You may proceed with the planting of a new tree even if the Day of Judgement breaks out.” (Al-Adab Al-Mufrad,"alwalidayn", 27No. 4). While the one in question does not stand to gain anything from the tree, it is still conceivable that someone else could. “Whoever plants a tree or cultivates crops, and any creature (human, animal, or bird) consumes from it will receive the same reward, (Al-Adab Al-Mufrad,"alwalidayn", 27No. 4). Stated the Prophet in another hadith.

This hadith suggests that charitable giving extends beyond mere fruit consumption. It further states that if some fruit provides a nesting site for a bird, it is useful to any creature, or contributes positively to the mitigation of climate change, then the tree-singer will receive credit for its actions. Additionally, vicegerency requires that individuals consider the rights of others, such as the rights of the environment, the atmosphere, and other organisms on the planet, given that these components comprise their shared habitat. Humans and other components of nature are, in this regard, neighbours. Therefore, In the desert, cutting down trees that offer life-sustaining sanctuary for both humans and animals is strictly forbidden, as stated in a narration attributed to the prophet (peace be upon him). Muslim jurists have reached the consensus that the act of terminating the life of a non-combustible living being is unequivocally forbidden, irrespective of the circumstances (peace or war) (Abou Bakr Ahmed Ba Kader et al, 2013).

The fulfilment of God's servitude (Ubudiyya) is also achieved through man's vicegerency on earth (Ibn Taymiya, 1999). According to the Quran (Az'zariyat 51/56)., the primary objective of both man and jinn is to attain knowledge of and worship their respective God. In his capacity as God's Khalifah, man ought to exert every effort to strengthen his relationship with his God. Additionally, he ought to

refrain from engaging in any activity that could divert his attention away from it. Self-glorification is therefore abhorrent, particularly when it violates the rights of others.

3.4.3 The concept of trust

A fundamental principle shared by all monotheistic religions concerning the relationship between humans and the Earth is the concept of trust or amanah. The monotheistic narrative of Trust" and vicegerency have an unbreakable connection. It signifies that humanity is the supreme authority and leader of this world and that all that we possess in this realm—including life, family, health, wealth, and even the universe at large—is an amanah (trust) of God. For this, humanity will be held accountable. Because it is a life-long responsibility that all individuals are bound by, as the Bible says. “I will give you the crown of life.” (Revelation 2:10).

An evaluation of the monotheistic texts reveals the importance attributed to trust and stewardship. Certain verses in the Bible even forewarn the Israelites of divine retribution for their lack of integrity, dishonesty, and disregard for trust.

According to the Bible of Hosea, the almighty God has expressed his unpleasure with the children of Israel by saying that they have been designated this beautiful land to inhabit it and worship God, but instead of spreading piety, love, hormone, peace and tranquillity you have filled it with cursing, lying, killing, burglary and adultery and made it is craving for faithfulness, love, acknowledgement of God. Such misconduct does not only harm them, rather it leads to severe consequences for other creations including birds in the sky, beasts in the field, and even fish in the sea (Hosea 4:1). It additionally illustrates the concept that human violations are the root cause of natural disasters like drought, flood, and so on. Describing the relationship between vicegerency (*Khilafa*) and trust (Amanah) Quran employs a unique and motivating approach which underscores that human beings hold a significant position in the universe as they were the ones who courageously assumed this weighty *Amana* and trust, in contrast to elements such as the heavens, earth, mountains, etc. The Qur’an said: “Indeed, we offered the Trust to the heavens

and the earth and the mountains, and they declined to bear it and feared it; but man [undertook to] bear it (Al-ahzab 33:72)

For this rationale, the angels expressed concern when Allah declared the plan to create Adam and entrust Him with this responsibility; they questioned whether He would create a being that would instigate discord on earth and spill blood.

In response, Allah Ta'ala said: “I know what you do not know” (Al-baqarah 2/30)

Both types of revelation, the Qur'an and Sunnah, firmly regard trust (Amana) as a fundamental component of Islam. Delineating the qualities and indications of pious believers, the Quran states: “And they who are to their trusts and their promises attentive” (Al-Mu'minun 23/8). According to the prophetic message lacking trustworthiness is akin to lack of faith. (Mishkat al-Masabih,"Iman", 1No.31)

Additionally, a decline in societal confidence is cited as a portent of the apocalypse by the prophet Muhammad, peace be upon him.

3.4.4 Building and Development

Celestial religions regard humans as the vicegerent of Allah on earth and the guardians of the cosmos. They entrust humanity with the construction, upkeeping, and cultivation of the earth. The Bible of Genesis, for instance, the bible of Genesis describes humans as the ones who have been appointed to look after the Garden of Eden (Genesis 2:15). Additionally, humans are bound to be responsible and sustainably develop and manage the Earth's resources. By equating laborious agricultural practices to spiritual development, the verses of Proverbs (Proverbs 27:23–27) emphasize the importance of diligence and prudent resource management. Material progress is undeniably admirable; adhering to the heavenly religions (Judaism, Christianity, and Islam); however, dedicating one's entire life to getting material prosperity and possessions is not admirable for the caliph of Allah. According to Bible (Matthew 6:19–21), Jesus, peace be upon him, has always been encouraging his followers not to invest all their faculties to achieve merely some worldly luxuries, but rather store them up to eternal treasures of heaven. On the contrary, it is advisable for humans to consistently strive for their spiritual growth and ultimate rest. The Quran, conveying the prophet Muses' guidance to Croesus,

supports this idea: "However, strive for the Hereafter with the wealth Allah has bestowed upon you; do good in proportion to how good He has been to you; and avoid seeking mischief in this realm (Al-Qasas 28/77).

In addition, the celestial religions establish a connection between material progress and social justice, compassion, humility, and contentment. For instance, According to the Bible (Isaiah 58:6-7), losing out the chains of oppression, releasing people from the clutches of transgressors, and shuttering the yoke are among the fundamental responsibilities of humans being the vicegerent of God. The Quran asserts that the man who holds the position of vicegerent and trustworthy is solely responsible for the spiritual and physical development of the earth. Allah Almighty says: “He has produced you from the earth and settled you in it.” (Hud 11/61)

Forms and methods of building and development may vary depending on the requirements of society, culture, and geo-location. Also, it is not confined to only superficial and material building and development but also encapsulates moral and spiritual aspects. geographic region, forms and techniques of development may differ. Furthermore, this message of monotheistic religion inclusion incorporates moral and spiritual dimensions in addition to material and superficial progress. For instance, a specific period may have witnessed the prevalence of a particular form of construction (I'mar), but the principles outlined in the Holy Qur'an, Seerah (the prophet's biography), and Islamic jurisprudence may have applied to all types and developments of that era. The Prophet of Allah (peace and blessings of Allah be upon him) articulated in his prophetic narrations that the terrestrial universe is a tremendous gift from Allah and a formidable challenge to effectively govern, thus he said: “The world is verdant and enticing, and indeed, Allah is ensuring that successive generations of you live there so that He may observe your behaviour.” (Muslim, "Ay'man", 49 No. 12). Additionally, religious texts describe and encourage certain land development and construction types. There are, for instance, comprehensive descriptions of tree planting, plant propagation, and the reclamation of desolate land (*Ihya Al–Mawat*). Unowned, uninhabited territory typically situated in a remote location from residential zones constitute wasteland. Any individual who reclaims such land is eligible to own it, according to all Muslim

schools of thought. Nevertheless, the Hanafi school further mandates that the reclamation of barren land be accompanied by government approval (Qudāmah, 2004). Important hadith provides the foundation for the notion of reclamation of desolate land (Ihya Al-Mawat): “He who reclaims the wasteland deserves it (Abu Dawud,"kharaj", 20,No. 149). Additionally, agriculture, tree cultivation, and the construction of canals or wells are all subject to explicit guidance in Islam. Almighty Allah inspires humanity to reflect on their surroundings, including when the rain descends from the sky, causing grains, grapes, palm trees, fruit, grass, and various herbages to grow within the earth. Mankind and their grazing livestock find pleasure in the presence of such great favours of God. Surah Absa verses 24-32, for example, states that Allah bestows upon His devotees the distinct compensation of possessing arable land courtesy of precipitation. In the modern era, countries striving for economic well-being, national revenue, and food independence consider agriculture and planting their fundamental economic pillars. Prominent academicians have therefore declared agriculture to be obligatory. According to Qurtubi, a renowned Maliki exegete and jurist, greening the earth and planting is a communal obligation (Fard-kifayah); therefore, in cases of dereliction, the state may compel individuals to do so (Al-Qurtubi, 2008). According to Imam Raghib Alasfahani, a renowned Muslim intellectual, Islam's three core credentials include the concepts of greening, constructing the planet, and expanding its resources. The concept of building or development extends beyond the aforementioned instances to encompass the construction of infrastructure, the establishment of factories, and any other form of developmental endeavour (I'mar). Nevertheless, such endeavours ought to be distanced from residential zones, to shield individuals from detrimental emissions, smoke, odours, and other contaminants, as harming an individual or object without justification is proscribed in Islam, as specified by the late Dr. Yusuf Qaradawi (Al-Qaradawi, 2006). Forests safeguard the soil from wind and water erosion and contribute to its nutritional and medicinal value for both humans and animals. By draining its discharge, they conserve water, moderate the climate, and generate oxygen for us. Additionally, the aesthetic qualities of vegetation and animals that evoke joy, tranquillity, and excitement are mentioned in the Qur'an on

multiple occasions. For instance, some verses refer to the aesthetic sense of the universe, depicting the hidden beauty of taking the animals to pasture in the morning and driving them back in the evening. (An-nahl 16/6). Prophetic narration designates a three-mile-radius postal post-periphery section of Al-Madeenah as protected territory. The trees are strictly protected and cannot be cut down, except for what is necessary for the sustenance of the Camel (Abu Dawud," Al-Jana'iz", 14, No.2031). Alkhulafa al-Rashidun, one of the Prophet's righteously instructed successors, reportedly maintained this policy even after his death, based on scholarly consensus (Al-Qaradawi, 2006). In the present epoch, as susceptible nations and communities grapple with several challenges arising from climate change, such as natural disasters, floods, fires, heatwaves, and torrential rains, the significance of rejuvenating the planet becomes increasingly paramount. Deforestation, urbanisation, and conversion of agricultural fields into residential and commercial areas should be meticulously prohibited. Moreover, every nation should be dedicated to the SDGs of the United Nations.

3.4.5 Cleanliness and Hygiene

Sanitation is a critical component in the environmental protection procedure. Divine faiths have placed a strong emphasis on cleanliness, both spiritually and physically, including personal hygiene, living conditions, and attractiveness. Concerning physical hygiene, the Old Testament, and Leviticus in particular, contains a variety of laws and regulations that adherents are obligated to observe. These regulations incorporate both spiritual and physical cleanliness. Illustratively, the dietary purity or impureness of particular animals is delineated in Leviticus. (Leviticus15: 11). In contrast, Leviticus 15 contains directives concerning hygienic practices during and following menstruation and bodily discharge (Leviticus:15).

Focusing a premium on moral cleanliness Jesus criticized contemporary religious leaders and Pharisees for neglecting moral purity in favor of an overbearing focus on external cleanliness. According to the Bible, these individuals engage in hypocrisy, prioritizing physical cleanliness over inner purity. Such people are like the ones who recklessly focus on the purity of the outside of the cup and dish but

ignore the inside, which is filled with dirt. (Matthew 23:25–26). However, Islam takes an unprecedented and distinct stance on hygiene, considering it a social obligation, responsibility, and half of the faith (Eiman), akin to religious duty and worship (Muslim, "Taharah" ,2No. 1). Constantly beginning with an emphasis on clinginess and purity (*Kitab Ul Taharah*), this attitude can be observed in the first chapter of nearly every book of Islamic literature, particularly the Hadith (prophetic narrations), and Islamic jurisprudence. (Fiqh). Prayer, following faith, is regarded as the preeminent religious ritual, and intentional non-attendance at prayer has been characterized as indicative of disloyalty and hypocrisy (Muslim,"Iman", 1No.153). Conversely, precedence over such a significant act of piety is contingent upon the individual, ensuring that their person, attire, surroundings, and location are all spotless. It was described by the Prophet Muhammad (Peace be upon him) as "purifying half of faith (Muslim, "Tahara",2No. 1). The Quran underscores the significance of both physical and spiritual purity, asserting that: Allah favours and adores those who consistently approach Him in repentance and those who purify themselves (Al-baqarah 2/222). Allah Almighty proclaims his everlasting benevolence and affection towards individuals who maintain a state of cleanliness and purity in another verse. As the almighty says: "Allah loves those who preserve cleanliness." (Al-Anfal 8/108).

3.4.6 Sustainability and Conservation

Sustainability and preservation are among the most significant responsibilities entrusted to humanity in its capacity as the vicegerent of God. The celestial religious narrative posits that all resources are substantial blessings and entrustments of the omnipotent God. Thus, humans are expected to safeguard these resources, employ them judiciously and responsibly, express gratitude to the almighty Allah, and abstain from waste and extravagance. (Israf) Excessive or wasteful behaviour or spending" is typically labelled "extravagance" in religious contexts. While the Bible does not explicitly mention the word "extravagance" it does advocate for principles and teachings that promote frugality, accountability, and prudent expenditure. For instance: The Bible urges people to abstain from greed and an abundance of prosperity, declaring: "Watch out! Be on your guard against

all kinds of greed". (Luke 12:15). Jesus vehemently condemns those who compromise moral and spiritual principles in the pursuit of material prosperity.

Admonishing moderation in expenditure, many passages of the sacred book (Proverbs 21:20) declare that being content with a little but pure food is far better than absorbing impure one. Similarly, the Bible also exhorts people to not waste any resources (John 6:12).

The Qur'an, in its customary manner, advanced the matter by asserting that all natural resources serve as evidence of the existence of the omnipotent Allah, in addition to being bestowed with his favour and bounties.

The Qur'an states: "Who remember Allah while standing or sitting or [lying] on their sides and give thought to the creation of the heavens and the earth." (Al-i-Imran3/190).

Humanity is therefore obligated to preserve nature, discover its diversity, and find God and employ these things for the betterment of all living things. The Quran uniquely emphasizes the responsible use of natural resources, including water, livestock, the sea, and sea species, as Allah has provided you with animals for transportation and sustenance. These animals also offer additional benefits, such as the ability to transport you to your desired destinations and carry you on their backs, similar to how ships transport people across the sea. (Al-Nahl40/ 79-80).

On the other hand, corruption extends beyond financial mismanagement. It includes things that are against Islam's moral and ethical standards, like abusing power (Ghulul), charging interest (Riba), breaking trust (Khiyanah), and cheating (Akl al-Mal bi al-Bathil), stealing (Sariqah), taking bribes (Rishwa), and wasting, spoiling, destroying, or polluting pure things. It also includes killing living things for no reason and using up too many natural resources. The Quran and Hadith have explicitly condemned and threatened severe implications on individual and societal levels. The Holy Quran repeatedly condemns and forbids corruption in its verses, demonstrating the abomination and ugliness of corruption from the perspective of Islam. Like Al-Baqarah 2/30, 60, 204-206, Al-Ma'idah 5/33, Al-A'raf 7/56, 74, 85, Hud 11/85, Al-Ra'd 13/25, Ash-Shu'ara' 26/151, 152,183, Al-Qasas 28/77, Al-

Ankabut 29/36, Sa'ad 38/27, 28, and Muhammad: 47/22, 23. Spiritual corruption includes deceiving people's thoughts or diverting them from the truth, in addition to inciting cruelty, empowering wickedness, and inciting hatred in people's hearts. Surah al-Ma'idah 64 contains a severe critique of the Jews' mental deception, which the Holy Qur'an labelled “mischief.” (Fasad) (Al-Ma'idah 5/64). The prophet Shuaib (PUH) addressed his people on multiple occasions focusing on refraining them from (*Fasad*) corruption. (Al-A'araf 7/74).

Nature's diverse elements and scenery serve as reflective surfaces that mirror the omnipotence and perpetual splendour of the all-powerful deity. Muslims specifically received instruction from their Prophets (peace and blessings of Allah be upon them) on how to respect nature, including moral standards for treating trees, animals, water, and other natural elements. Such principles have been assimilated into the religious foundation. Thus, it is accurate to assert that environmental protection and animal rights were recognised in mediaeval Islamic law. In verse 8 of Surah Nahel, for instance, Allah designates a variety of animals as His particular boons for humanity. Moreover, the aesthetic qualities of various animals are discussed in verse 6 of the identical surah (Al-nahl16/8). The rationale behind the directive of the Messenger of God (peace and blessings be upon him) is to ensure the safeguarding of natural aesthetic phenomena, the renunciation of their rights, and the prohibition of labour that inflicts suffering upon them. This includes inciting conflicts among them, designating them as targets for gunfire, depriving them of food or water, or even using offensive language, such as swearing, against them. The prophet (peace be upon him) said:“Be conscious of the rights of these dumb (non-speaking) animals with reverence for Allah. Allow them to roam freely when they are in good condition and ride them when they are in good condition.” (Abu Dawud,"Al-Jihad", 15,No. 72).” As previously stated, the hadith forbids inflicting distress on a bird for its newborns. (Tirmidhi,"Jihad",23No.40) Also, using animals as shooting targets (Muslim,"alsayd",34No.88)and inciting conflicts between them is strictly forbidden (Tirmidhi,"Jihad",23No.40). In the Quran, it is explicitly stated that all terrestrial beings and avian species that soar in the sky are communities similar to you, thus demonstrating the veracity of Islam about the

animal. The almighty God says: “And there is no creature on [or within] the earth or bird that flies with its wings except [that they are] communities like you.” (Al-an'aam 6/38)

This caused considerable perplexity among the classical exegetes, who pondered how birds and animals could attain the status of nations comparable to that of humans. Furthermore, in what ways do they resemble human communities and how might they be comparable to the former? Based on the prevailing consensus, this verse suggests that such beings constitute moral communities endowed with rights; therefore, it is of the utmost importance to safeguard them without imposing an excessive burden. Nature, encompassing animals and birds, is a nation and ummah similar to us, as described in the Holy Qur'an. Consequently, we ought to regard nature not merely as a source, but also in terms of the constituent elements that comprise it. Consequently, one ought to approach the multiverse from the perspectives of an avian creature, a predatory creature, and an aquatic creature. Given that we are, in essence, an element of a greater biological community and a component of the natural world's overall operation, both of which are divinely ordained by God in this creation, we bear grave responsibilities not only for the well-being of fellow human beings but also for our fellow creatures, as traditional Islam teaches regarding all orders of creation.

3.4.7 Ecological Balance

The preservation of equilibrium in all circumstances and entities is what balance and moderation signify; this concept encompasses all facets of existence, including ecological equilibrium. By their very essence, divine religions demonstrate a profound adherence to equilibrium. In their inherent essence, the heavenly faiths adhere rigorously to the principle of equilibrium. Tens of verses encourage people to exercise self-control and equilibrium in numerous facets of life. The following biblical passage exemplifies the principle of moderation in indulgence and warns against excess: “If you find honey, eat just enough—too much of it, and you will vomit”. (Proverbs 25:16).

Regarding moderation and self-control, the Bible says that people strive to gain worldly benefits and rewards such as crowns, etc., by training themselves hard through sports, etc., but these are temporary rewards that will soon perish, in contrast to the rewards that God will grant them that will last forever. Similarly, the Bible also describes the fruit of the Spirit as love, joy, peace, patience, kindness, goodness, faithfulness, and gentleness (Proverbs 25:16). On the other hand, the Quran describes balance as both an ornament and an essential part of God's universe. The Quran states**:** "Indeed, all things We created with predestination." (Al-Qamar54/ 49) and said: "We do not send it down except according to a known measure." (Al-hijr15/19)

Describing the significance of moderation, the Quran holds the position that even Allah almighty, who has eternal reserves for everything, still discharges them in an exact proportion. How many gusts of wind blow, where do they go, and for how long? What is their speed, how high do the waves rise in the sea, and where do they go? Where should rainfall occur, and how many droplets fall? There is an organized system and moderate procedure. Furthermore, introducing this Ummah, the Quran counts moderation among the basic components that qualify it for the position of witness on other nations (Al-Baqarah2/142). Thus, man, as the vicegerent of the God, is supposed to preserve this state of balance in the world. The Quran instructed people to diligently uphold the balance, utilizing the term "Meezan" to denote its importance. Allah Almighty ordered the humans by saying that he raised the sky to a tremendous height and instituted the equilibrium of justice. This equilibrium of justice prevents cheating on the scales. So, human beings should weigh with fairness and avoid doing so inadvertently**.** However, man transforms from a dependable vicegerent, protector, and builder of the earth to an extravagant and insatiable consumer when he irresponsibly interacts with nature, motivated by avarice rather than necessity. Lethal atomic bombs, with their extensive radioactive fallout, drastically alter Earth's natural state. Industrial pollution and municipality refuse to taint the divinely supplied pure water. Consider the scenario wherein over 120 Mediterranean coastal communities discharge their sewage and pollution directly into the sea (EEA-UNEP, 2020). The ecological equilibrium is disrupted

when chemical inputs continuously erode the natural purity of the earth's produce for financial gain, and when industrial pollution, dense carbon emissions, and traffic contribute to the release of noxious substances into the atmosphere, endangering both human health and other organisms. The consequence of this is natural disasters. In addition, the substitution of their natural diet with animal-derived protein for livestock and grass-eating animals leads to the development of diseases such as mad cow disease. The maintenance of the balance that God intended is compromised when genetically modified fruits are cultivated for commercial purposes, neglecting the natural variety. It is- as Al-Qardawi asserts way less than an act of transgression and corruption (Al-Qaradawi, 2006).

3.4.8 Corruption and Mischief

The Divine Religions hold an unequivocal stance regarding corruption and mischief; they regard both as grave offences and the most perilous social disorder. The Bible, in numerous verses, denounces those who instigate evil to propagate mischievous behaviour on earth and warns them of the dire consequences of their actions, as they will ultimately face their consequences (Psalms 7:16). The Quran's unique perspective on mischievous behavior and corruption is evident in over 13 instances, where it employs severe language and threatens wrongdoers with severe consequences. (Al-Qasas 28/77). According to the Quran, Allah declares that he does not love mischievousness and encourages people to visit the places and locations where these oppressors have been inhabiting and take lessons. The Quran further states that corruption has increased on land and at sea due to people's actions. Allah intends this to make them experience the consequences of their activities, perhaps they may choose to return to the right path.

However, when human beings contribute to the planet's decline through avarice, waste, damage, and disregard for Allah's guidance, they fail to act as stewards and builders. Consequently, the vicegerency finds him culpable for breaches and misuses of trust (Khilafah). Other beings, including him, must bear the repercussions of this. The Quran used the word Fasād to describe corruption, an Arabic-rooted word derived from Fasad, which means rottenness, corruption, or

depravity. According to Imam Raghib, everything that crosses its legitimate and moderate limits—a little or more—is called Fasād, and its anonymity is Islah (setting things aright). It is used for the human soul, body, and all other things that are out of moderation (Al-Ragheb Al-Isfahani, 1906). “Fasād” is formally defined as anything that did not deliver the expected benefit” (Al-Jurjani, 1985).The Qur'an employs the term "fasād" in a straightforward manner to denote a multitude of concepts, including rebellion against Allah, mortality, immorality, and the commission of nefarious actions. Fasād, which means disorder and corruption, is portrayed in the religious narrative as social maladies that wreak havoc on societies and nations. This includes economic, academic, media, political, moral, security, and other forms of Fasd (corruption and mischief).

Al-Qaradawi identifies the preservation of the natural environment as a primary aim of the Shari'ah, alongside the safeguarding of property and life (Ḥafz al-mal and Ḥafz al-nafs, respectively). As we are currently experiencing, environmental degradation, resource depletion, and ecological imbalance disruption are significant threats to human life and safety, he explained. Thus, it is probable that this circumstance would be regarded as a form of Fasād, which means corruption and malice (Al-Qaradawi, 2006). Regrettably, the present day is contaminated with moral, economic, biological, ecological, and urban dysfunction, all of which have detrimental effects on the environment, terrestrial production, and marine life. There is a mass extinction of living things, a disruption of the global equilibrium, and the emergence of deadly illnesses in humans, animals, and microbes.

3.4.9 Extravagance (*Israf and Tabzir*)

All divine religions rigorously forbid excess (Israf and Tabzir) and deem it immoral, as it devalues the wealth that God has bestowed upon mankind. The Bible addresses this issue in depth and condemns it in numerous passages. Using an example, the Bible elaborates on the abhorrence of Israf and Tabzir.

According to the Bible, a few days later, the younger son of Israel gathered his wealth and began travelling to a far-flung area; instead of using his wealth

moderately, he squandered all his property. Suddenly, a severe famine broke out in that country, leaving him in dire need.

Another verse in the Bible describes individuals who are extravagantly spending their wealth associated with prostitutes (Proverbs 29:3). Also, people who are blindly involved in extravagance, the Bible threatens them with a tant consuetudes because such people took their bellies as God and worldly luxuries as the main axis of their all efforts, so their end is destruction (Proverbs 29:3). *Israf* and *Tabzir* are two Arabic terms utilized by Islam to denote extravagance. Despite the frequent interchangeability of these two terms in Islamic literature, some Muslim scholars have distinguished them. We refer to excessive expenditures on permissible products and services as Israf, while we call spending in an impermissible manner Tabzir (Haram).

Hence, regarding permissible products and services, a Musrif (spendthrift) fails to exercise moderation; for instance, he may consume an excessive quantity of food or wastewater for wudu (Ibn Abidin, 2003).

Mubezzir, on the other hand, squanders his considerable wealth on prohibited or unlawful products and services, including alcoholic beverages, swine, gambling equipment, and liquor. such kinds of people are described as "brothers of Satan" in the Qur'an (Al-isra17/27). Extreme resource-for-some-pluses impede others' access to even the most fundamental necessities of existence, while extravagances inflict suffering on others. Furthermore, unappreciation is demonstrated through the act of destroying a divine gift. The Qur'an cautions against severe retribution for those who lack gratitude. Regarding the allocation of resources, moderation serves as the foundational governing principle. It is ideal for each individual to partake in God's bounties of food, drink, and clothing while expressing gratitude to Him. However, it is forbidden to go overboard with one's appearance, as it is stated in a hadith that it ought to symbolize the blessings of God (Tirmidhi, "Adab",43No. 2819).

The life of a prophet embodied the virtues of simplicity, simultaneity, and moderation. His Ummah has consistently been encouraged to adopt his way of life in every aspect, including worshipping God and partaking in food and drink.

A woman belonging to the Bani Asad tribe was seated with Aysha Siddiqah (may Allah higher her status) when the prophet (peace be upon him) entered the house and asked, "Who is this?" She replied:This is So and so. "She remains awake at night engaged in prayer! The Prophet disapprovingly said: stop! Perform good deeds to the best of your ability; Allah will continue to reward you until you get tired of performing such actions. (Bukhari,"Tahajjud"19 ,No.1151).

Similarly, extravagance encompasses passive destruction resulting from individual sloth and carelessness. This includes actions like allowing an animal to perish from hunger and disease, neglecting a crop until it is ruined, and leaving farmland or houses to deteriorate over extended periods. which constitutes a flagrant disregard for the objective of Shari'ah (Maqas-d Al-Shariah) of safeguarding property (Hifz al-Mal). The rationale behind this is that, according to Islamic teachings, ownership signifies a trust (Amna), whereby the owner is obligated to safeguard the possession, utilize it for personal gain, or donate it to another person. As stipulated by the jurists, an owner does not have the right to burn down or annihilate his property. This principle suggests that *Israf* (extravagance) additionally includes wasteful actions and passive destruction, such as relinquishing one's talents and resources, accepting others to take control of one's resources for malevolent purposes, or remaining silent in the face of somebody committing transgressions out of apathy rather than capacity on a more comprehensive scale.

The term "Fasād" (Mischief-making) includes contemporary forms as well, such as unnecessarily killing insects or animals, incinerating anthills, dumping industrial waste into a river, or transporting garbage to a public area for burning. Such conduct is appropriately regarded as Fasad (mischief-making) to the environment due to its detrimental impact on ecology.

A commonly employed term in Shari'ah jargon is "*darar*," (Tort) which means "Harm that befalls a person in his money, body, honour, or affection" (Williams, 1982). This distinguishes it from Fasad (mischief-making), which necessitates the participation of more than one party. While Fasad can occur Unilaterally. In certain

circumstances, however, the Fasād and Darār may gather; for instance, this could occur when an individual spills perilous chemical waste into a river while concurrently inflicting bodily injury upon someone else. Or if someone sets fire to trash in a public space, causing him to set fire to or damage the property of another person. In this instance, this person is simultaneously committing both Fasād (mischief) by destroying the environment and ḍarār (Harm) by causing disruption (Efendi & Yūsuf , 1894).

Fasād and ḍarār, as posited by certain academicians, were allegedly associated with public rights, which have far-reaching implications for numerous individuals and communities. The public prosecutor may assert and initiate legal proceedings against them on behalf of the community, in addition to public damages and criminal penalties. When civil rights are violated, a civil claim for compensation is often filed in response. His actions may be subject to legal action by the injured party or the victim. Shari'ah law additionally enables government authorities to impose restrictions on endeavours, projects, and practices that have the potential to cause significant environmental harm, according to the principle that "Prevention of harm is more important than achieving benefits" under such circumstances. Personal harm may be tolerated to compensate for public harm, following the Shari'ah maxim that "grave necessity justifies illegality. (Efendi & Yūsuf , 1894). Permission could be granted, however, if the community had an urgent need for a project that would harm the environment or an individual. (Efendi & Yūsuf , 1894).

CHAPTER IV

CLIMATE CRISIS AND FINANCIAL INSTITUTIONS

4.1 Climate Crisis and Financial Institutions

According to scientific research, human activities, especially recklessly using natural resources and burning fossil fuel, cause four various types of events, such as rising global temperature, melting ice, acidification, drought, heavy rainfall and extreme weather incidence (NASA, 2023). These tragedies will eventually pose serious threats to the planet. In this chapter, the study will exemplify the most popular incidences of them and delve into investigating how financial institutions contribute to climate disasters. The study will endeavour to answer the following questions:

a. What does it mean by the climate crisis, and does it exist? (evidence from literature)
b. What are greenhouse gases?
c. Do financial institutions contribute to the climate crisis and how?

4.2 Understanding of Climate Crisis and Greenhouse Gases.

Climate crisis refers to the state of constant change in average weather patterns and average temperatures around the globe. Like increasing heatwaves, heavy rainfall, wildfires, and droughts (NASA, 2023).

Human activities on the earth, precisely using fossil fuel, create various types of gases; the most famous of them include CO2, CH4, N2O, and F.G. When these gases reach the atmosphere, they prevent ultraviolet (UV) rays from crossing the ozone, so the emitted UV hits back the earth which leads to an increase in the surface temperature (NASA, 2023).

In simple words: Some plants require higher than normal soil temperatures to grow. Therefore, some plant nurseries have installed glass-roofed rooms; consequently, the glass absorbs a part of the ultraviolet rays that reach the ground and return, thereby increasing the air temperature in the room and ensuring the survival of the

plants (Kepenienė et al, 2024).followings are some manifestations of the deadliest climate crisis incidence as the tip of the iceberg:

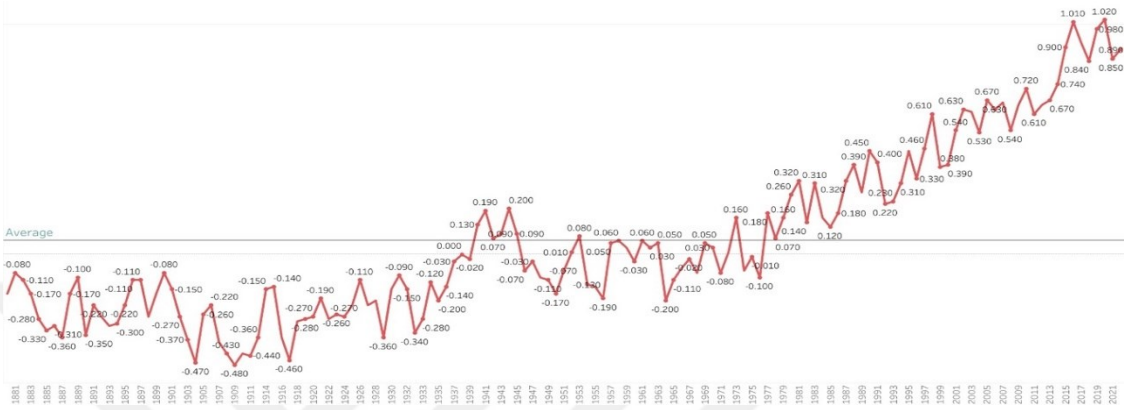

Figure 0.1: AST, 1850 to 2020

Source: Climate Govt. Media, 2023

4.3 Rising Global Temperatures:

As previously stated, human activities have drastically led to the rising of global temperatures. the graph below shows the data on the temperature of the last 173 years.

This graph compares the temperature of the 20th and 21st centuries (1880–2022) by presenting annual surface temperatures spanning the past 142 years. Blue lines on the graph indicate years with temperatures below the mean, while the years denoted by red bars experienced above-average temperatures.

Data from the National Centres for Environmental Information was used to generate the NOAA Climate.gov graph. The chart provided illustrates the subsequent climate alterations that have transpired.

Temperature data from NOAA indicate that 2022 was the sixth warmest year in recorded history.

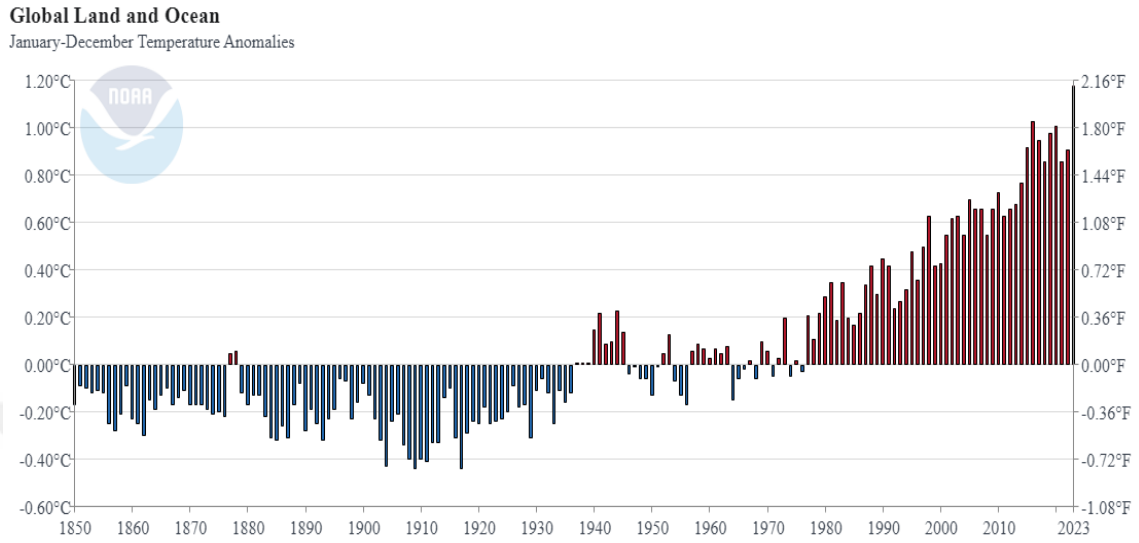

Figure 0.1: Global Temperatures

Source: NCEI, 2023

Compared to the pre-industrial era (18580-1990), the Earth's surface temperature dramatically increased and reached 1.90 degrees Fahrenheit (1.06 degrees Celsius) in 2022. It is a substantial 1.55 degrees Fahrenheit (0.86 degrees Celsius) higher than the 20th-century average of 57.0 degrees Fahrenheit (13.9 degrees Celsius).2010 marked a significant milestone, concluding a decade with the ten warmest years in recorded history. This trend of increasing temperatures indicates the situation's urgency.

A mere marginal rise in the Earth's average annual surface temperature necessitates enormous heat energy, owing to the oceans' immense dimensions and thermal mass.

Consequentially, with the increased heat, regional and seasonal temperatures expand substantially. This causes the thawing of snow and sea ice, stormy precipitation, and the alteration, extinction, or reduction of the habitat ranges of numerous species and trees.

It's crucial to note that the polar regions are experiencing a more rapid warming trend than most land areas, as depicted on the map below:

4.4 Ice Melting

Ice melting is among the hazardous incidences of climate disasters caused by human activities. After observation expanded over two decades, scientists of two well-known institutions, the scientists from NASA (the National Aeronautics), ESA (Space Administration), and the European Space Agency, concluded that the ice sheets in Greenland and Antarctica experience erosion. Most recent research suggests that compared to 1992, the sea level has increased by 11.1 million metres (NASA. (n.d.)., n.d.).

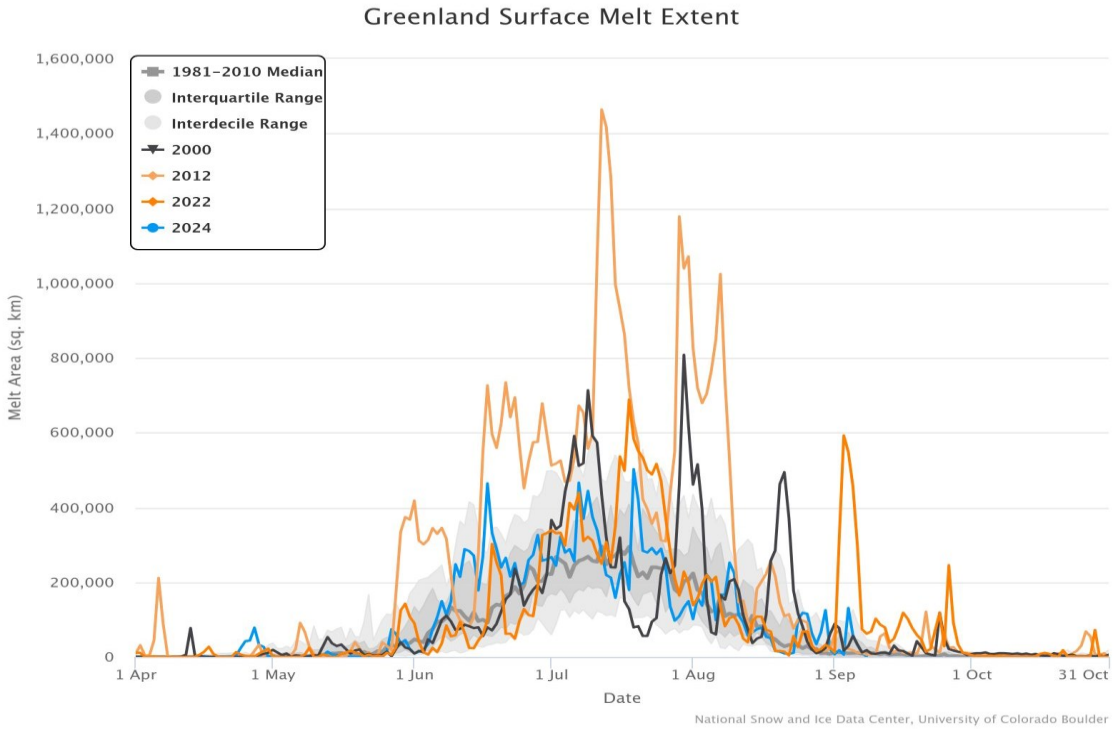

Figure 0.2: Ice melting sheet 1993-2018

Source: NCEI, 2023

4.5 Rising Sea Level

Another phenomenon of the climate crisis is the rapidly rising sea level. A 20% of overall sea level rise has been observed over the20 20-year survey. Furthermore, about 2/3 of the melting ice belongs to Antarctica and Greenland.

The data taken by the satellite further affirms that Antarctica and Greenland are facing rapid ice loss contrary to previous observations.

As stated in the measurement report of polar ice sheet changes by 47 experts hailing from ten distinct satellite missions (Dutton, 2015).

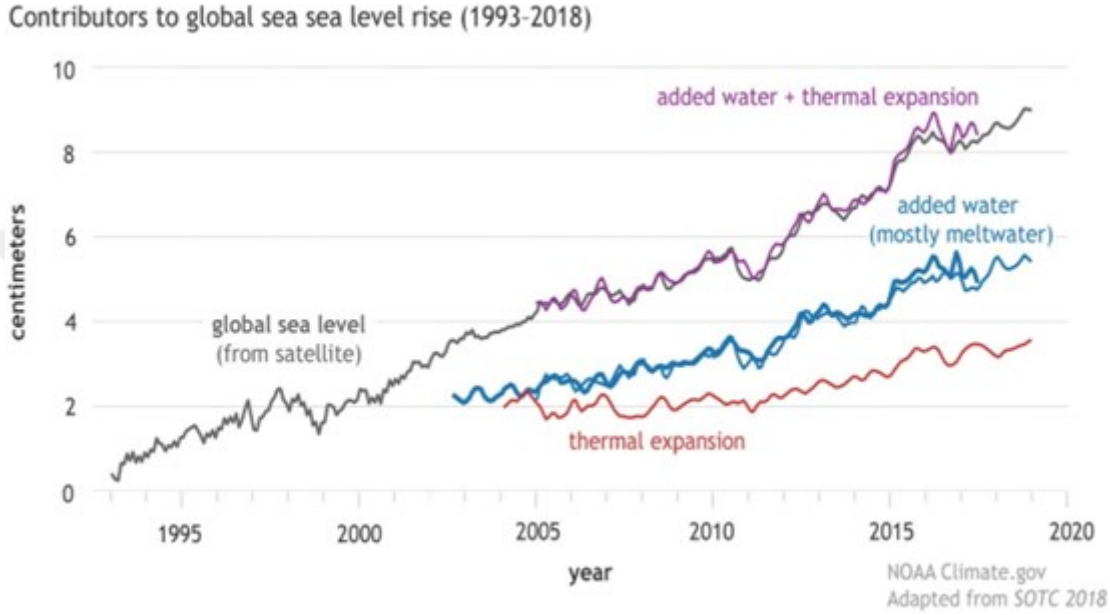

Figure 0.3: Rising sea level

Source: NCEI, 2023

New satellites play a significant role in quantifying and monitoring polar ice and glaciers' velocity and observing the thickness of ice sheets. Experts think that this advancement in technology made it possible for scientists to detect even minute variations in the earth's gravity due to glacier melting.

Technological and scientific advancements have made vigilant surveillance of various parts of the universe easier. New studies claim that since the mid-1990s to 2020, the mass balance of Greenland ice melting has hit nearly fivefold (Kantamaneni, Komali , & et al, 2022).

4.6 Extreme Weather Events

According to The SREX (Special Report for Managing the Risks of Extreme Events and Disasters is: A climate incident that rarely takes place in a particular

geolocation and time of year. While the climate event refers to persistent extreme weather conditions for a considerable time.

Extreme weather incidents refer to an unusual change in the meteorological conditions, like heat waves, decreasing the temperature to a dead level, heavy rainfall, storms, floods, etc. Such events may pose a serious hazard for human beings and the whole ecosystem. Experts believe that any unusual variation in the weather conditions, either shortening or lengthening of the average period of weather, can lead to climate-related disasters and hence negatively impact the inhabitants of the planet. For instance, prolonging both the weather in the winter and summer, beyond their customary period, can negatively affect agricultural products. Analogously, extended summer periods or abnormally high temperatures give rise to forest fires, resulting in ecological imbalances that profoundly impact human existence via the depletion of habitats, fauna, flora, and vegetation. Moreover, the convergence of numerous occurrences can ultimately result in atmospheric catastrophes. Consider precipitation or sleet that may fall during the summer (Steele, 2018).

4.7 Few Examples of Extreme Weather Events

Many countries around the world have recently experienced severe weather events, resulting in the loss of lives, animals, and property destruction.

According to the NOAA (NOAA) official website, only the losses caused by extreme climate events in the United States are shocking in the last three years 2017-2020. So, according to the details given by NOAA:

Sophisticated weather phenomena have recently struck numerous nations across the globe, causing substantial damage to property, loss of life, and the deaths of animals.

Only the losses caused by extreme climate events in the United States during the last three years, 2017–2020, are alarming, according to the official website of NOAA (National Hurricane Centre and Central Pacific Hurricane Centre). For instance:

Extensive destruction took place in 2017 in the United States when Hurricane Harvey hit many areas of the United States, causing landfall and loss of lives. In the same year, Hurricane Maria struck Puerto Rico and caused a mass destruction of infrastructure and power shortage for many days (NOAA).

2018, the deadliest wildfire in California led to the perishment of thousands of residences and air pollution. According to the report, it was among the most destructive in the history of the state.

In addition, Hurricane Laura and Hurricane Sally were among the significant storms in the United States, demonstrating the severity of the Atlantic hurricane season of 2020 (Cangialosi, 2020).

During the last decade (20210) the financial losses caused by natural disasters in Europe have been estimated at around 145 million Euro. The highest losses occurred in Europe during 2017 a single year have reached 27.9 billion Euro (World Economic Forum, 2024, September 10).

On the other hand, Asian countries have been struck by numerous climate-related events causing the lives of millions of individuals, animals, and other organisms in addition to extensive damage to the country's infrastructure.

Nearly 20 million people perished in the harshest floods in Pakistan in 2010, for instance. In addition to the devastation of property and infrastructure, Prolonged flooding in Thailand in 2011 significantly impacted the manufacturing industry of the nation. Moreover, the nation was compelled to endure enormous economic losses (Hashimi,Nisar et al, 2012). In 2012, Iran encountered a severe heat wave that resulted in over seventy fatalities, hospitalised patients because of power disruptions, and inflicted economic detriment in the form of factory closures (Yadollahie M. , 2019). One of the fiercest and most destructive storms in Philippine history, Typhoon Haiyan, killed over 6,000 people in 2013 (Thomas, 2013). Widespread destruction and the displacement of over a million individuals were consequences of the 2014 Kashmir floods in Pakistan and India. Over 2,500 individuals perished in India during the 2015 heat wave (al V. e., 2017). Dust storms in Iran (Javadian, 2019) In 2016, dust cyclones in Iran and Iraq resulted in extensive

destruction and human casualties exceeding seventy. Cyclone Mora impacted Bangladesh and Myanmar in 2017, resulting in extensive devastation and forced migration (Albarakat, 2019). Beyond 4,000 people have been killed, along with extensive destruction wreaked by the 2018 Sulawesi earthquake and tsunami in Indonesia. Iran's 2019 floods damaged a great deal of infrastructure and affected over a million people (Yadollahie M. e., 2019). In 2020, Cyclone Amphan hit Indo-Bangladesh and India causing extensive destruction and claiming numerous lives (The Guardian, 2020). Further details can be found in the chart provided below:

Figure 4.5 shows a considerable rise in wildfire incidences since 1980, which reached its peak in 2000. From 1980 to 2011, there was a constant rising and upward trend in the frequency of floods and the moving of marshes. Comparatively, thunderstorms have increased tenfold since the very beginning of the dataset, as is depicted in the graph.

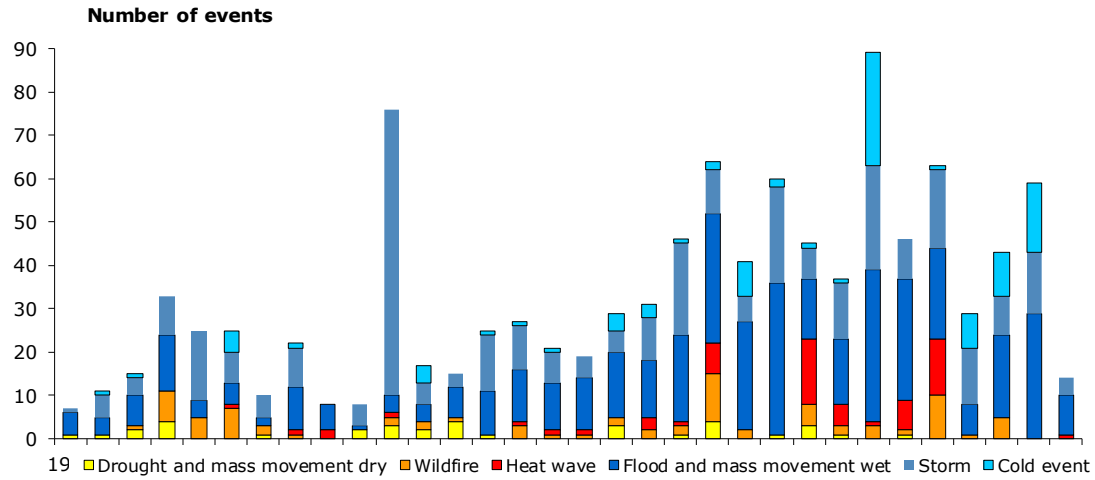

Figure 0.4: Climate-related disasters in EEA

Source: EEA, 2012

4.8 Acidification of the Oceans

The elevated level of CO2 causes acidification in the oceans synthesis of atmospheric CO2 leads to the augmentation of carbonic acid in the marine environment. Furthermore, acceleration in acidification may pose serious dangers for the calcifications of marine life, which plays a crucial role in the ontogeny of shells and skeletons of sea organisms (Guinotte, 2008).

Millions of people around the world win their bread from sea organisms, and any disruption and change in it caused by ocean acidification will threaten their food supply. Thus, the dream of human well-being and a sustainable ecosystem can only be materialised when all ingredients of the planet, including marine life, are preserved.

4.9 How do Financial Services Contribute to the Climate Crisis? (Evidence from the Literature)

Regarding climate change, financial institutions play an intricate role as they contribute to both the crisis and the solutions. Below are the brief outlines of how they contribute to the climate crisis.

4.10 Financing Fossil Fuel

Financial institutions make a bloodline of all developmental and construction projects by providing funds, still, they have a long-lost historical track record of conferring massive amounts in fossil fuel sources. Which are the giant contributors to greenhouse gas emissions as scientists believe. Fossil financing includes investing in oil, gas and coal, exacerbating the climate crisis. Underestimating the dangers associated with these financings aggravates the emissions as fossil fuel companies may fail to account for the impacts of their operations (al F. e., 2020). An awful tragedy is that even though the UN set clear principles for financial institutions regarding climate-resilient finance, there has been a far-reaching cleavage between the theories and practices of many national and international financial institutions and insurance companies. Many reputable financial institutions and insurance companies scorn these instructions and persistently pump huge amounts of financing and insurance corporations grant coverage to businesses that present acute dangers to the environment. Moreover, these companies use enticing and innovative advertising methods to attract consumers. According to reliable reports, even after the Paris Agreement pact was signed in four years the leading financial institutions contributed $1.9 trillion to fossil fuel businesses (Rainforest Alliance, 2019).

4.11 Facilitating Deforestation-Related Activities

Deforestation-related activities include legal or illegal logging, mining, digging out tunnels, unnecessary building construction, production of paper, palm oil, soy, and cattle (WWF., 2023), is yet another way in which financial services exacerbate the climate crisis. These activities seriously deteriorate carbon sinks and biodiversity (Njora, 2022). In addition, financial services that encourage unsustainable consumer behaviour by financial services may contribute to the climate crisis. Numerous consumer credit cards and auto loans, for instance, facilitate the acquisition of goods and services with more significant environmental impact, such as single-use plastic commodities and vehicles.

4.12 Risk Exposure:

The current financial system is relatively vulnerable to various physical and economic risks of climate change. This risk can cause a rise in loan default rates, decrease asset values, and affect the stability of financial institutions (Lagarde, 2020).

To conclude, due to a large number of available literature-based sheds of evidence from academic research, surveys and reports issued by eminent scholars and institutions, and climate-related litigations, the contribution of financial institutions is no longer a myth. However, by neglecting the principles for responsible banking, the acronym UNPRB, and persistently funding business activities, such as deforestation and pumping a huge amount into conventional business entities. The reports say that enticing offers for credit cards and auto loans with enchanting slogans against nominal instalments are, in fact, deliberate tools to promote the behaviour of extravagance and unsustainable projects. The 2020 report by the Carbon Tracker Initiative believes that financial institutions across the globe disregard climate risk and deliberately do not disclose the ecological price of their funded project to their investors. That is why many climate-concerned lawsuits have initiated litigations against financial institutions in several countries (Setzer, 2022).

CHAPTER V

ROLE OF ISLAMIC FINANCE IN CLIMATE REMEDIATION- (ROLE OF ISLAMIC FINANCE ARCHITECTURE INSTITUTIONS IN CLIMATE REMEDIATION)

This chapter is designated to a critical analysis of the involvement of Islamic financial architectural institutions in climate change, including how they perceive it and how they respond to it. Concurrently, each institution's historical context, goals, mission, vision, acknowledgement of sustainable development objectives, memorandum of understanding, collaboration with global stakeholders and climate-related organizations (if available), and green initiatives will be emphasized.

5.1 Introductory Note

This subchapter will deal with the AAOIFI (AAOIFI, n.d.) perspective on climate-related challenges, in addition to the institution's chronological history, objectives, mission, vision, comprehension of sustainable development goals, memorandum of understanding, collaboration with international stakeholders, climate-related organizations (if available), and environmentally conscious efforts.

5.1.1 Chronological Overview of AAOIFI

AAOIFI has the prestige of being the primary Islamic financial architecture institution among its counterparts as it was founded in Algiers on February 26, 1990, on 1st Safar 1410 AH with the name of Financial Accounting Organization for Islamic Banks and Financial Institutions Authority and ratified by several political, scholarly, and economist personalities, and thereafter officially recognized as an international, independent, non-profit legal entity in Bahrain on March 27, 1991, AD (AAOIFI, n.d.).

The institution AAOIFI is a globally acknowledged yet public-spirited institution whose chief pursuit is to foster the worldwide Islamic finance industry while setting guidelines and ensuring that the financial institutions' operations are Shariah-

compliant. AAOIFI published a total of 100 standards for helping Islamic financial institutions in the disciplines of Shariah, accounting, auditing, ethics, and governance. The central banks and regulatory authorities of more than 45 nations around the world have recognized AAOIFI, which has a small number of institutional members, including accounting and auditing firms and law firms.

All significant Islamic financial institutions worldwide currently adopt the AAOIFI standards.

5.1.2 Vision

AAOIFI strives for Islamic financial procedures to be standardized and harmonized. with the primary goal of Offering the foundational knowledge required for financial institutions to function

Prepare reports on the performance of financial institutions considering Islamic principles. (AAOIFI, n.d.).

5.1.3 Ambition and Aspiration

AAOIFI has a range of core objectives and goals, some of which are enumerated below: Fostering the process: To solidify the auditing, accounting, and governance process in Islamic financial institutions and abiding the Shari'ah principles and rules accompanied by international norms and practices. (AAOIFI, n.d.).

Maintaining full Shari’ah compliance: AAOIFI envisions the Islamic finance industry to completely adhere to Shari'ah conventions and ethical values while offering services that are consistent with international norms and practices.

Permeating public awareness: Insufficient public awareness and knowledge about the Islamic financial system are among the fundamental impediments to the blooming of Islamic finance. Many Muslims, precisely business professionals and even Islamic banks’ personnels still need to have a deep understanding of the Islamic economic and financial system. This challenge eventually affects the industry's performance and public reputation.

AAOIFI aims to bridge this gap by spreading accurate knowledge and public awareness. Therefore, AAOIFI arranges various educational programs, such as

publications, scholarly discussions, seminars, webinars, reports, news bulletins, and exams.

a. Formulating Shari'ah standards: Formulating Shari'ah standards for both auditing and governance to maintain the Shariah, the ethical framework of transactions undertaken in Islamic financial institutions, and to comply with global standards and practices. In this context, AAOIFI has so far produced one hundred Shariah standards that encompass all aspects, including accounting, auditing as well as governance field.

b. Establishing ethical code: Since one of the primary elements of the Islamic financial system is a commitment to ethical values, the AAOIFI develops codes of ethics to assure adherence to ethical standards in Islamic finance.

c. Establishing comprehensive Shari'ah standards that encompass all business: AAOIFI further aspirates for formulating comprehensive Shari'ah standards which can encompass all kinds of business such as investment, insurance etc., taking into account the opinions of the Institution's Sharia Advisory and the Sharia Board members of the Central Bank, and ensuring integration to the greatest extent possible, as well as fatwas. To ensure the adherence between the Fataws, Shari'ah board's opinions and Islamic financial institutions' applications.

d. Collaborating with other institutions: Convincing proper regulatory agencies, Islamic financial institutions, and other financial institutions providing Islamic financial services, as well as accounting and auditing firms, to follow AAOIFI criteria in all transactions.

e. preparing competent people. To promote Islamic banking and prepare competent individuals, AAOIFI conducts professional growth programs equips them with resources, and cultivates their talents to work professionally for the enhancement of accounting, auditing, governance, and Shari'ah compliance by conducting the testing and certification.

f. AAOIFI's Role in Sustainable Economic Development and Environmental Resilience Finance

g. A detailed examination of the available literature, such as Shari'ah, and governance standards reflects that AAOIFI closely monitors the current market dynamics.

h. exactly what is being addressed in terms of ecological considerations. Furthermore, the organization is focused on responsible financing. AAOIFI issued Governance Standard 7 (GS 7) 'Corporate Social Responsibility, Conduct, and Disclosure for Islamic Financial Institutions' in April 2009 (Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), 1991).

5.1.4 Climate-Related Initiatives

Regarding the climate-related initiatives, so far, AAOIFI has taken the following steps:

Signing MoU with Responsible Finance & Investment Foundation (RFI)

In March 2021, AAOIFI executed an MOU with the well-known climate-concerned organisation RFI. The association plays a leading role in incorporating responsible financing and investment into the Islamic finance industry. the AAOIFI Secretariat and RFI authorities, under Blake Goud's direction (AAOIFI, n.d.). According to the AAOFIFI secretariat, several sitings have been held between esteemed institutions under the supervision of RFI CEO Blake Goud, aiming at advancing the synthesized efforts for the integration of the spirit of responsible financing and Islamic finance.

Various themes were discussed during these sessions, including listed below:

a. A comprehensive definition of sustainable finance
b. Features that distinguish sustainable financing from its counterparts
c. Potential role of Islamic finance in sustainable financing
d. Required disclosure characteristics for sustainable financing (AAOIFI, n.d.).

The first draft of the Preliminary Study was submitted to the relevant Working Group and the Board after thoughtful deliberation of the recommendations offered.

Ibtahal Shamali, Head of Corporate Governance (Governance Manager) of the Capital Markets Authority of Kuwait, chairs the Governance Standard Working Group on Sustainable Financing. It has 18 members from more than eight countries, including the United Kingdom, the United States, Turkey, Kuwait, Syria, Malaysia, Pakistan, and Bahrain (International Islamic Financial Market, n.d.).

5.1.5 Governance Standard

AAOIFI recently took another key step towards responsible finance and sustainable development by embarking on the necessary measures to release a new governance standard, which is likely to be handed down as part of a series of standards next year. On February 15, 2022, the preliminary study of the upcoming standard was handed over to the Working Group for Responsible Financing Standard. The standard has been named 'Responsible Finance. by the consensus of the honourable members. Since the standard contains the word responsibility," which stipulates responsibility and accountability in both this world and the hereafter, the term " responsible finance" has been unanimously adopted (Jassim, 2023).

To support the notion of responsible finance AAOIFI started taking practical initiatives, like setting up theoretical foundations and constituting a subsidiary institution, namely the Governance and Ethics Board. (AGEB)

The board has commenced its first meeting preceding its preliminary and departmental process on March 24th and 25th, 2020. During the sitting, several practical initiatives have been endorsed including calling upon the full employment of principles of responsible finance set by the AAOIFI. Moreover, several other advanced steps have been taken, including the execution of an MOU with RFI in 2021. Furthermore, a preview version of the standard will be presented in June 2023, and after the detailed assessment and approval process of the AGEB and the working group, the standard for responsible finance will be issued, by the end of 2024 (Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), 1991). Regarding the climate-concerned initiatives, some international stakeholders have acknowledged Islamic finance work. For instance, the Asian Development Bank stated that several Islamic financial architects, notably AAOIFI,

have a high level of awareness and determination on climate hazards which is - particularly since the 2015 Paris Agreement- progressively being reflected in its finance (Asian Development Bank., June 1, 2023).

To sum up it is fair to state that a detailed assessment of the AAOIFI's climate policy yields the following outcomes:

a. AAOIFI recognizes sustainable development and climate-resilient finance.
b. AAOIFI started taking some practical initiatives whose particulars and features have previously been mentioned.
c. A full-fledged standard will have been designed to integrate sustainable development and climate-resilient finance into Islamic finance.
d. Considerable funds have been allocated to accomplish these targets.

5.2 Islamic Financial Services Board (IFSB) and Climate Change

The Islamic Financial Services Board's analysis of climate-related issues will be covered in this subchapter, along with the institution's historical background, goals, mission, vision, acknowledgement of sustainable development objectives, memorandum of understanding, cooperation with international stakeholders, climate-related organizations (if available), and green initiatives.

5.2.1 Historical Background

As the international standard-setting body, the institution IFSB was established on November 3, 2002, in Kuala Lumpur, Malaysia. The institution ambitions to constitute a healthy, prudent, and transparent continuation of the Islamic finance industry, including banking, capital markets, and insurance matching both the Shariah principles and international norms and criteria. Catering for the Shari'ah-compliant financial system is the only component that distinguishes the IFSB from its counterpart (Islamic Financial Services Board (IFSB), 2024,). Islamic Financial Services Board).

The IFSB has 80 regulatory and supervisory authorities, 10 international intergovernmental organizations, and 97 market players (financial institutions, service providers, chambers of commerce, and stock exchanges) functioning in 57 jurisdictions as of December 2022.

Under the Malaysian Law, act 2002, The IFSB gains all the privileges and immunities which have been conferred upon any other international institution (Islamic Financial Services Board (IFSB), 2024,). Islamic Financial Services Board).

Since its inception -as a financial architecture-, IFSB has published 36 Shariah Standards, Guiding Principles, and Technical Notes that have been implemented by various participatory banks in different countries throughout the world.

Apart from that, IFSB makes concerted attempts to raise public understanding of the Islamic financial system through conferences, seminars, and published materials, and to remove impediments in this manner. It also guides the Islamic financial system to address new issues posed by evolving circumstances (Islamic Financial Services Board (IFSB), 2024,). Islamic Financial Services Board).

5.2.2 Vision and Aims.

The IFSB standards-setting authority looks to set up prudent and efficient business practices for the Islamic financial industry while adhering to the Shari'ah tenets and international norms. The following points summarise the IFSB's precise vision (Islamic Financial Services Board (IFSB), 2024,). Islamic Financial Services Board).

5.2.3 International Recognition

The IFSB's goal is for the Islamic financial system to be globally acknowledged and regarded as an appropriate replacement for traditional finance. According to Shari'ah requirements and international circumstances.

5.2.4 Endurance and Consistency

IFSB's mission is to set up a framework for the Islamic financial industry that aligns Islamic finance with global best practices, hence facilitating concurrency and regularity in multiple geo-locations. The IFSB envisions to introduce Islamic finance to a broader segment of the population. They should also be confident that the IFSB is fully dedicated to integrating financial operations with climate-resilient and sustainable policies to preserve future generations through novelty, creativity,

and prudence. And to reduce C2 emissions to a bare minimum by restricting financial operations to environmentally favourable corporations. Various IFSB endeavours can serve as evidence of this (Islamic Financial Services Board (IFSB), 2024,). Islamic Financial Services Board).

5.2.5 Moral and Social Responsibility

The IFSB envisions financial inclusion and gains that meet ethical and social responsibilities. Ensure present financial growth and progress without jeopardizing future generations.

To carry out such objectives, the IFSB leaves no stone unturned by publishing standards, guidelines, and technical notes in multiple aspects such as banking, capital markets, and Takaful (a Shari'ah-compliant alternative to conventional insurance), with an eye toward these efforts will serve as a foundation for a sustainable, inclusive, responsible, and efficient financial system.

5.2.6 Initiatives for Responsible Finance and Sustainable Development

The Islamic Financial Services Board (IFSB) is primarily a standard-setting body for Islamic finance in compliance with international norms, requirements, and Shariah instructions, under an overall review of the available literature It has not, however, disregarded the climate crisis, which has now become a critical issue in financial, commercial, political, and humanitarian aspects. The IFSB considers that the challenge of sustainable development and climate resilience is more significant and essential for Islamic finance than it is for the traditional financial system. Because the only thing that constitutes the foundation and rationale for Islamic finance is devotion to ethical principles and values. On the other hand, from an Islamic perspective, Allah Almighty has given mankind power as stewardship over the world's resources, hence the financial industry is bound to recognize such a responsibility from a Shariah perspective. (Ahmed J. , 2016). The initiatives listed below reflect the IFSB's contributions in the fields of sustainable development and climate resilience.

5.2.7 Academic and Intellectual Guidance for Islamic Financial Institutions:

The IFSB has issued valuable standards that offer academic and intellectual guidance to Islamic financial institutions to facilitate the incorporation of considerations related to the environment, society, and governance (ESG) into their' financing activities. These principles will instil in both Islamic financial institutions and clients the significance of focusing on sustainable development rather than short-term returns on their investments. This will help all of humanity, including financial institutions and clients. (IFSB, 2023).

5.2.8 Technical Assistance for Enhancing Islamic Finance's Inclusiveness:

The IFSB published several technical notes to improve the Islamic financial system's inclusiveness. It strives to overcome the issues that the Islamic financial system faces while also achieving the broader goals of sustainable development.

The following notes have been published on the following dates:

Table 0.1: Technical assistance for enhancing Islamic finance's inclusiveness

NO	Initiative/s	Date	Nature of the initiatives
1	Technical Notes	August 2023	Technical Note on Sharī`ah-compliant Liquidity Risk Management Tools
2	Technical Notes	June 2022	Technical Note on Recovery and Resolution for Institutions Offering Islamic Financial Services
3	Technical Notes	December 2019	Technical Note on Financial Inclusion and Islamic Finance
4	Technical Notes	December 2016	Technical Note on Stress Testing for Institutions Offering Islamic Financial Services (IIFS)

Furthermore, the IFSB has made the following additional efforts to integrate sustainable development and climate-resilient financing into its corporate structure.

5.2.9 Collaboration with Global Organizations For Sustainable Development:

To promote both sustainable development and climate resilience in the financial sector, the IFSB has taken the encouraging step of engaging -in knowledge sharing and policy-making -with international organizations and institutions working for both sustainable development and climate resilience. Hence, the IFSB's partners in this regard include the United Nations, the World Bank, and regional financial standard-setting bodies. (IFSB, 2023).

5.2.10 MOU with INCEIF

To assess the performance of regulators and market players regarding climate-concerned finance, IFSB and INCEIF have signed an MOU in 2022. Furthermore, both institutions pronounced their determination to collaborate in advancing the performance of regulators and market actors regarding Islamic green finance. Additionally, both institutions agreed on accelerating their efforts to introduce an innovative initiative to fill the cleavage between Islamic finance and climate-resilient and sustainable development. Hoping that this initiative will enhance the path for Islamic finance to act as Maqasid-oriented, inclusive and eco-friendly finance. Therefore, a variety of well-known personalities, such as Professor Kabir Hassan (IFSB) and Professor Abdul Hamid (INCEIF) have been tasked with the chairmanship of this program (Ahmed J. , 2016).

5.2.11 Providing an Institutional and Monitoring Architecture

IFSB interacts with several regulatory bodies to equip Islamic financial institutions with an organisational and supervisory framework. To make essential revisions and modifications to existing standards in considering developing economic shifts and to combine sustainable development and climate mitigation with financial operations (IFSB, 2023).

After a detailed evaluation of IFSB's available documents regarding climate-related policy, the study concluded that:

a) IFSB recognises the importance of sustainable development and climate-resilient fiancé.

b) IFSB took some advanced steps to promote sustainable development and integrate it into Islamic Finance such as setting up standards, issuing climate-related guidelines and cooperating with globally recognised climate-concerned organisations.
c) Greening Islamic capital market: via this initiative, the IFSB aspires to support the Islamic capital market and Islamic project financing to issue the green Sukuk and clean projects whose proceeds will eventually be allocated for clean and green projects. (IFSB, 2023).

5.3. The International Islamic Finance Market's (IIFM) Perspective on Climate Change

This section will address the International Islamic Financial Market (IIFM) perspective on climate-related challenges and the institution's chronological sketch, objectives, tasks, and vision. It will also examine the institution's comprehension of sustainable development objectives, collaboration with other eco-stakeholders (if any), and environmentally friendly initiatives.

5.3.1 Chronological Outlines

IIFM is one of the permanent standard-setting bodies devoted to preparing institutional architecture for Shari'ah-compliant contracts and products. The institution's history dates back to 2002, when it was set up as a non-profit seeking entity for Islamic financial infrastructure development by the Bahrain Central Bank, Islamic Development Bank, Bank Indonesia, Malaysian Central Bank (Negara), Central Bank of Sudan, and Brunei Darussalam, Central Bank, under royal decree 23. The Central Bank of Bahrain has hosted the institution since its inception. (IIFM, n.d.).

The IIFM enjoys a wide range of membership from more than nine distances, including governmental authorities, Islamic financial institutions, policy-making apexes, and local and global stakeholders like Kuwait Finance House, Dubai Islamic Bank, Saudi National Bank, GFH Financial Group, Standard Chartered Sadiq, Bank ABC Islamic, National Bank of Kuwait, and BNP. They conferred their faculties to the smooth progress of the International Financial Market (IIFM). Moreover, several regulatory authorities, public organisations, Islamic banks, and

regional and international institutions such as DIFC, the National Banks of Kazakhstan, and the State Bank of Pakistan (IIFM, n.d.).

5.3.2 Vision and Mission

The institution envisions enabling an active and well-regulated trading and capital flow of Shariah-compliant financial contracts and instruments on a global scale. Furthermore, the institution's mission and vision can be summarized in the following points: The institution aimed to offer national and international trading infrastructure, innovation, precise and translucent knowledge, and effectively regulated standards and guidelines, and to promote the integration of the Islamic finance industry with mainstream international markets. With the consent of the IIFM Shariah Board, financial records, product certifications, and relevant guidance notes that are consistent with both international standards and Shariah tenets. To capture market perspectives, concept papers on certain subjects are being developed in collaboration with other Islamic finance sector stakeholders.

Special conferences, training sessions, and round table events are being held to raise awareness regarding IIFM standards. Conducting hands-on seminars for professionals to enhance their skills (IIFM, n.d.).

5.3.3 IIFM and Climate Change:

IIFM concedes the climate crisis and adheres to efforts devoted to promoting endurable progress and climate resilience. followed by combining environmental concerns into financing policy. Many green and ecologically conscious ventures speak to this.

As part of its annual Sukuk Report, IIFM has produced an exclusive section on environmental protection from the Islamic perspective. It is abundantly obvious that the issue of safeguarding the natural world is not only economical and business premises, but also an unambiguous mandate of the Qur'an and the Sunnah, which we as Muslims are obligated to fulfil.

Under the Qur'anic approach, the entire universe is Allah's trust, (*Amanah*) thus any form of corruption is entirely forbidden. Corruption is not confined to pecuniary

one; it encompasses anything destructive to people, vegetation, wildlife, or other species. Extravagant use of divine favours or squandering them so drastically in a way that they become a cause of agony for others is yet another type of corruption on Earth. (*Fasad filard*)

The Prophet of Islam- May peace and salutations of Allah be upon him- drove a novel approach, making us all accountable for all we possess, in addition to emphasizing that you will be held accountable for those possessions, just like a monarch of his realm.

The article cited well-known prophetic hadith. If the day of judgement arrives when you have a plant shot in your hands and it would be possible to plant it before that hour arrives, you should do so. The following are the key features of Islam's environmental preservation technique, according to the article.

1. Preventing degradation
2. Strengthening sharecropping
3. Increasing agricultural activities
4. Preventing Environmental triggers such as cutting down trees.
5. Eliminating hazardous compounds Restrictions on any form of water pollution.

The number of green Skuk has been increasing rapidly in recent years. According to the Islamic Finance Council UK, more than 100 green sukuk worth US$50 billion have been issued in 2022 year (REFINITIV, November 20, 2023). Among the top Sukuk that deserve mention are Social Sukuk, Sustainability Sukuk, Sukuk linked to sustainability or the SDGs, Blue Sukuk, and Sukuk Transition. (REFINITIV, November 20, 2023). As an architecture institution, the International Islamic Finance Market (IIFM) designs the skeleton and fundamental features of the contract and frameworks for financial operations.

Moreover, the IIFM also drew guidelines for green sukuk issued in 2019, The IIFM is a devoted entity for establishing a contractual framework for financial activities,

instruments, and products to enhance them with Shari'ah principles and global norms. Following instructions issued for Green Sukuk-related cases:

a) Natural Features of Green Projects

b) Green project evaluation procedure.

c) Green Sukuk reporting criteria.

This proves that the international Islamic financial market not only comprehends the climate catastrophe but is also aware of its demands and strives to meet them.

A comprehensive assessment of the available data of IIFM pertaining to the climate crisis yields many positive conclusions, including:

Recognition of SDGs and climate crisis and valuing the need for transition

setting up standards and guidelines to promote the climate finance notion

Spreading knowledge and awareness among the segments of society.

However, the following aspects require some minor changes:

Climate risk integration

climate disclosure.

Answering this need, the study will present a financing model that complies with both the Shari'ah and climate requirements.

5.4. General Council for Islamic Banks and Financial Institutions (CIBAFI) and its Perspective Regarding the Climate Challenges.

This section will talk about the perspective of the General Council for Islamic Banks and Financial Institutions (CIBAFI) on climate-related issues, along with the institution's historical background, goals, mission, and vision; understanding of sustainable development objectives; memorandum of understanding; cooperation with international stakeholders; climate-related organisations (if available); and ecologically conscious initiatives.

5.4.1 Historical Background

CIBAFI was established in 2001 as a non-commercial, globally recognized, and OIC-affiliated Islamic Finance Industry Architecture Institution by the most prominent Islamic financial institutions, including the Islamic Development Bank (ISDB). The organization was founded on 18 Safar 1422 H, Corresponding to 12 May 2001, by royal edict number 30 of the Highness of Bahrain Salman bin Hamad Bin Eissa Al Khalifa Amir of the State of Bahrain via delegation.

CIBAFI also happens to be the world's largest and most prominent global Islamic financial organization, with over 170 Islamic banks, financial institutions, and other organizations from over 70 countries as affiliates. (CIBAFI, 2022).

5.4.2 Mission and Vision

The CIBAFI aspires to preserve and promote Islamic financial values, principles, and international financial norms through proactive initiatives that will drive the Islamic financial services industry forward. It also maintains the universal principles of Islam in the realm of finance, such as social fairness, risk sharing, profit and loss sharing, and adherence to the Shariah. (CIBAFI, 2022).

5.4.3 Strategic goals of CIBAFI

The following four strategic goals can depict the mission and vision of CIBAFI:

1. Ensuring adherence of business operations to Shari'ah canons through providing an inclusive and adequate legal skeleton.
2. Encouraging Islamic finance institutions to execute their financial operations in sustainable and innovative ways.
3. Setting up standards that carry the spirit of sustainable development and innovation in addition to complying with Shari'ah rules.
4. Conducting research and analysis on various operations of Islamic finance and providing data and insights for industry participants to make timely and informed financial decisions.CIBAFI also arranges educational workshops, seminars, and training for professionals involved in the Islamic finance industry. Furthermore, CIBAFI recognizes climate change as a significant global challenge and strongly

supports policies that align with international endeavours to reduce the impact of climate change to a zero-carbon economy (CIBAFI, 2022). The assessment shows that CIBAFI endorses the conclusions and recommendations of the Paris Conference 2015 and rigorously supports the notion of sustainable development and climate-resilient finance. Likewise, CIBAFI established a special committee (the Sustainability Working Group (SWG) to promote and advocate sustainability and innovation not only in the institution's financial practices but also in the whole Islamic finance industry. This committee is responsible for furnishing climate-related guidelines and coordination with local and global stakeholders. In its sustainability guidelines for Islamic banks, CIBAFI particularly focused on the integration of ESG into their financial operations and elaborated in graphs and diagrams (CIBAFI, 2022). A comprehensive analysis of Islamic finance architecture institutions yields that these institutions are super net and clear regarding ecological problems long before the appearance of the SDGs notion. And this determination stems from their theoretical foundations, and ethical responsibilities as the preservation of human life, religion, race, wealth, and progeny enacted to the basic objectives of Shari'ah Law. No doubt, the Paris Agreement of 2015 added more value to the concept. Islamic finance architecture institutions' vital role has widely been acknowledged by many esteemed institutions, including the UN, Asian Development Bank, and IMF. Moreover, Islamic finance architecture institutions are making every effort to integrate SDGs into the Islamic finance industry's funding policy. Therefore, IFAI establishes standards, and guidelines, and issues special decrees about ecological problems. IFSB's sustainable initiatives, CIBAFI's strategic plan 2022-25, and AAOIFI's upcoming standard on responsible finance serve as clear examples of this commitment.

CHAPTER VI

ROLE OF ISLAMIC FINANCIAL INSTITUTIONS IN CLIMATE REMEDIATION

This chapter will critically analyze the performance on climate change of 18 Islamic banks from nine OIC countries over the last six financial years 2015-2021.

6.1 Meezan Bank (Pakistan)

Table 6.1(see the appendix) depicts Pakistan's leading Islamic bank Meezan's green-to-net financing ratio. Being a crucial barometer of the Bank's financial performance, the given data illustrates Bank Meezan's unwavering dedication to climate-compliant finance. According to Figure 6.1, The green-to-net financing ratio experienced considerable growth from 2015 to 2017 and hit 8.54 per cent in the first quarter of the financial year 2017. Furthermore, the capital adequacy ratio (CAR) over the identical time frame implies that the bank has solidified its financial footing and enjoyed a robust increase in the capital to Risk (Weighted) Assets Ratio (CRAR). For instance, Bank Meezan's Capital adequacy journey began at 10.98 per cent in the first quarter of the financial year 2015 and remained constant during all four quarters. With the commencement of the financial year 2016, it is boosted to 12.91%. During the financial year 2017, the bank experienced a minimal trivial in its capital adequacy where it descended to 12.89%. in the first quarter of 2018, the capital adequacy of Meezan Bank again started flying as began at 14.55% and this ratio continued the same ratio to the next year. At the start of 2019, it was again boosted to 16.58% staying the same during all quarters. The financial year 2020 saw a significant increase in Bank Meezan's capital adequacy ratio as it took off from 17.82% but later in 2021 it saw a very slight decline by lowering to 17.81%. This strapping capital adequacy helped the bank to devote a sophisticated amount of its resources to climate-compliant initiatives. However, despite the ever-increasing Capital Adequacy Ratio, the Green to Net Financing Ratio precipitously dropped after 2017, hitting a lower rate of 0.33% in Q1 of 2019. It could have stemmed either from a potential change in strategic policy or from the Bank likely influenced by other external circumstances. However, in 2021, green-to-net

financing strived to rise as it returned to 7.77% while it was 0.37%, 0.36, and 0.34% in 2020. This improvement in capital adequacy ratio hints that the bank is altering its emphasis on green finance aligned with the Bank's intentional objectives.

Figure 6.2 provides a summary of the absolute numbers in USD for net financing and green financing. The data shown in Table 6.1 further implies that even though there has been a significant increase in overall net financing in the following financial years- The bank has allocated a higher amount for green financing. This tendency illustrates Meezan Bank's commitment to climate-compliant financing. Moreover, Figure 6.1 and Table 6.1 (which is also shown in fossil to net financing as a diminishing trend from 2015 to 2021) show that Meezan Bank is deliberately narrowing its contributions to fossil fuel operations. Fossil to net ratio which has started its journey from the ratio of 0.82% in the first quarter of the financial year 2015, is dramatically dropped to a lower level of 0.24% by Q4 2021.

The shrinking circle of the Bank's contribution to fossil fuels likely reveals that the Bank is striving to cope with the global endeavours to lessen contribution in the carbon-emitting business and foster strengthening climate-compliant initiatives by gradually switching its financial direction from supporting fossil fuels.

Figure 6.2 provides a comparative insight into the absolute amount in USD designated for fossil funding and total net financing. It shows that despite the bank's success in collecting a higher number of resources, the funds dedicated to fossil fuel financing either remained the same or decreased during the identical period. For instance, fossil financing started at 11,787 in 2015, while the funding net was 1,439,350 USD. At the end of the selected period, fossil fuel financing reached 12,456, while the funding net jumped to 3,253,893. The total deposits of the bank reached 3,1843.926. However, this increase in the total deposits and net financing and the decline in fossil fuel indicates that the Bank is purposefully prioritising climate-compliant financing over conventional and gradually shifting its paradigm towards sustainability.

Furthermore, Table 6.1. shows that during the selected period the Bank Meezan has strengthened its financial position but also increased the number of branches as well as there has been a general upward tendency in the ratio of net financing to gross deposits, which peaked in Q4 2018 at 65.26%. The continuously growing focus on climate-compliant financing and the decline in fossil financing is another indicator of the Bank's successful divergence in its financing portfolio towards more climate-compliant projects. The data about capital adequacy reveals that the bank has enjoyed robust financial stability throughout the period.

In summary, the thorough assessment of the data shows that the Bank Meezan made some fundamental modifications in its investment policy for fossil fuels and climate-compliant initiatives and dynamically responded to both internal growth and external market conditions between 2015 and 2021. The data further confirms that despite having a minimal slump experienced by the Bank in its green financing, the bank soon after took back its distinguished position on climate-compliant finance. Consequently, this strategical shift in financing policy towards climate-compliant financing enables Meezan Bank to cope with national and internal norms and standards of responsible financing, as demonstrated by the enduring reduction in fossil finance. (see the appendix)

6.2 Bank Islami (Pakistan)

Table 6.2 (see the appendix) lists the important financing ratios for the analysis of green financing over the given period, with an emphasis on the green-to-net financing ratio. An important metric for assessing Bank Islami's dedication to sustainable finance is this ratio, which is displayed in Figure 6.3. Given the bank's emphasis on environmentally friendly initiatives, trends analysis indicates that this ratio may experience phases of rise or drop. In general terms, an increase in the green-to-net financing ratio means that more of the bank's overall funding is going toward eco-friendly projects. The capital adequacy ratio, which shows the bank's capacity to bear the possible risks connected with such investments, is frequently steady or increasing in tandem with this growth. For instance, Table 6.2 expanding capital adequacy ratio and rising net financing from green sources imply that Bank

Islami is leveraging its sound financial standing to enhance the scope of its green financing offerings.

The average interest rate trend is a significant factor in green finance as well. Lower average interest rates, as shown in Table 6.2, might be a sign of better terms for borrowing money, which would promote funding for green initiatives. The absolute values for net financing and green financing in USD are displayed in Figure 6.3, which supports this study. Further evidence of the Bank's growing commitment to sustainable finance comes from the direct correlation between the green-to-net financing ratio in Figure 6. 4 and the absolute rise in green financing in Figure 6. 4. Periods in which the absolute and ratio values of green financing rise suggest that Bank Islami is not only augmenting its green financing relative to total financing but also making considerable inroads into its green financing in absolute terms.

As seen in Figure 6. 4. and described in detail in Table 6.2., the fossil-to-net financing ratio, on the other hand, illustrates the Bank's financing strategy for fossil fuels. It indicates that Bank Islami is progressively lowering its exposure to funding fossil fuels, lowering carbon emissions, and supporting clean energy sources if this ratio exhibits a downward trend over time In line with worldwide trends. Decreases in the fossil-to-net financing ratio suggest a planned strategy for gradually phasing out investment in fossil fuels, especially when taken with the declining absolute fossil financing in Figure 6. 4.

The average interest rate trend is a significant factor in green finance as well. Lower average interest rates, as shown in Table 6.2., might be a sign of better terms for borrowing money, which would promote funding for green initiatives.

The absolute values for net financing and green financing in USD are displayed in Figure 6. 4, which corroborates this study.

Further evidence of the Bank's strengthening commitment to sustainable finance comes from the direct correlation between the green-to-net financing ratio in Figure 6.3. and the absolute rise in green financing in Figure 6. 4. Bank Islami is expanding its green financing both in absolute terms and concerning total financing; periods

in which both the ratio and the absolute values of green financing show an increase in this regard are indicative of this trend.

On the other hand, the Bank's financing strategy for fossil fuels is reflected in the fossil-to-net financing ratio, which is presented in Figure 6. 4 and is explained in Table 6.2., Should this ratio exhibit a downward trend over time, it suggests that Bank Islami is progressively decreasing its exposure to funding from fossil fuels. compliant with international movements to support sustainable energy sources and lower carbon emissions. Decreases in the fossil-to-net financing ratio suggest a planned strategy for gradually phasing out investment in fossil fuels, especially when taken with the declining absolute fossil financing in Figure 6. 4.

For instance, Table 6.2's dramatic drop in the fossil-to-net financing ratio combined with an improvement in the capital adequacy ratio may indicate that Bank Islami is allocating its capital to more secure and long-term assets. Reallocating funds from fossil fuel initiatives that carry significant risk and may not be sustainable. Further discouraging fossil fuel funding could come from falling average interest rates, as Table 6.2 illustrates. This is because banks might decide to direct their resources into industries with fewer associated risks and longer-term sustainability.

These financing adjustments are set in context by the larger financial patterns of Bank Islami, as displayed in Table 6.2. For instance, a consistent rise in the ratio of net financing to total deposits (as seen in Figure 6. 4), particularly in times of rising total deposits, suggests that banks are capitalizing on their deposit base and growing their financing operations. It would be highly suggestive that Bank Islami is actively coordinating its growth plan with sustainable finance principles if this expansion is congruent with a rise in green financing and a fall in fossil financing. These financing adjustments are set in context by the larger financial patterns of Bank Islami, as displayed in Table 6.2. For instance, a consistent rise in the ratio of net financing to total deposits (as seen in Figure 6. 4), particularly in times of rising total deposits, suggests that the bank is increasing the scope of its financing operations and making efficient use of its deposit base. This expansion would strongly imply that Bank Islami is actively coordinating its growth plan with

sustainable finance principles if it is congruent with a rise in green financing and a fall in fossil financing.(see the appendix)

6.3 Bank Nizwa (Oman)

A clear image of Bank Nizwa's green-to-net financing ratio (i.e., the percentage of the bank's overall financing devoted to green projects) may be obtained from the green financing data (Table 6.3, see the appendix) While it is relatively low, the green-to-net financing ratio shows a consistent, if not accelerating, trend between 2015 and 2021. The ratio improves progressively, reaching 0.08% by Q4 2021 from 0.02% in Q1 2015. Figure 6.5 also illustrates this pattern, which indicates that although Bank Nizwa is expanding its funding for green projects, the growth is not particularly significant. Since the bank balances sustainable finance with other financing goals, it is reasonable to assume that the modest rise in green financing results from this approach. Nevertheless, this conclusion is supported by Figure 6.6, which gives absolute numbers for net financing and green financing in USD. Even if the bank's total net financing and deposit growth continue, the comparatively small amount allotted to green financing represents the bank's steady tilt towards green efforts. The slight upward shift of the green line in Figure 6.6 indicates that bank leverage is rising. However, this could be attributed to early adoption of green financing or factors other than the state of the market adopting a cautious strategy for initiatives in his portfolio. Conversely, the fossil-to-net financing ratio of Bank Nizwa, as presented in Table 6.3 and Figure 6.5, exhibits no discernible fluctuations over time. Still, it does stay larger than the green-to-net financing ratio. There has been no change in the fossil-to-net financing ratio since it began at 0.80% in Q1 2015 and ended at 0.86% in Q4 2021. This consistent pattern implies that Bank Nizwa's engagement in finance related to fossil fuels has been constant. The minor rising trend, however, suggests that the Bank has not drastically decreased its fossil financing, nor has it raised it aggressively. Figure 6.5 offers an additional dissection of absolute values by comparing USD figures for fossil finance to net financing and total deposits. Fossil fuel funding is larger than green project financing, which is indicative of Bank Nizwa's greater involvement in the conventional energy industry.

The capital adequacy ratio, which is illustrated in Table 6.3 and Figure 6.5, indicates that Bank Nizwa has become more capable of withstanding possible losses and preserving its financial stability. It shows an upward trend from 12.50% in 2015 to 15.50% in 2021. This rising percentage indicates that the bank is fortifying its capital structure, which may facilitate larger investments in environmentally friendly initiatives as its ability to absorb risk increases. Notwithstanding its improved capital position, the bank may still be hesitant to commit substantial resources to green projects, as seen by the comparatively sluggish growth of green finance. Table 6.3. and Figure 6.5 illustrates the total expansion of Bank Nizwa over the period examined, highlighting larger financial trends. The ratio of net financing to total deposits, which has been constant at 95%, shows how well the bank has used its deposit base to finance operations. Moreover, a phase of expansion and heightened financial activity is indicated by the rising lines in Figure 6.6, which depict the consistent growth in total deposits and net financing. It appears that sustainability has not yet been integrated into the bank's growth strategy, despite this growth given its comparatively small commitment to green financing.(see the appendix)

6.4 Al-Izz Islami Bank (Oman)

Assessment of the bank's commitment to environmentally sustainable projects

Table 6.4. (see the appendix) can be estimated using Al Izz Islami's gross-to-net financing ratio. This ratio looks to vary between 2015 and 2021, indicating how much attention the bank has devoted to green finance. Starting at 5.00% in Q1 2015, the ratio varies but usually decreases, reaching 2.81% in Q4 2021. Despite having previously committed a significant portion of its resources, this discrepancy indicates that the bank's commitment to green initiatives has decreased. This pattern is well seen in Figure Figure 6.5, which displays the bank's consistent but decreasing allocation to green finance as a percentage of its total financial activity. The green-to-net financing ratio line remains reasonable, with only slight alterations.

Al Izz Islami Bank has shifted its strategic focus, as seen by the dropping ratio (Figure Figure 6.5), despite its overall net financial expansion. Figure 6.6 shows absolute USD statistics for net financing and green financing, which support this assertion. The green line appears relatively flat, indicating that green financing has not kept up with the substantial rise in net financing shown by the red line's upward trend. This discrepancy suggests a cautious or developing attitude toward sustainable finance, even if the Bank has expanded the scope of its financing operations overall. Growth in green financing has also been sluggish. However, as illustrated in Figure 6.5 and Table 6.4, Al Izz Islamic Bank's gross-to-net financing ratio has been dropping, particularly between Q4 2021 and Q1 2015, when it reached its peak of 22.50 per cent. Up to 9.32%: An intentional transition away from fossil fuel-based projects, consistent with global patterns toward reduced funding for carbon-intensive sectors of the economy. Figure 6.5 depicts an examination of fossil financing's absolute values. Banks continue to spend heavily on fossil financing despite a decrease in the fossil-to-net financing ratio, showing a stable absolute value. Figure 6.6's steady green line for the fossil finance sector illustrates how the Bank is broadening its portfolio even if fossil fuels continue to be a significant source of funding. The bank's financial stability and resilience to losses are demonstrated by the capital adequacy ratio, which is displayed in Table 6.4 and Figure 6.5.

Throughout this period, the ratio has fluctuated dramatically, beginning at 20.13% in Q1 2015, rising to 21.32% in Q2 2017, and stabilizing at around 13.33% by 2021. High capital adequacy in the beginning stages reflects the bank's financial stability. AA buffer zone eases more active funding for investments in fossil fuels and renewable energy. The Bank might have adopted a more conservative posture as the ratio dropped, which would account for the drop in green funding and the stabilization of fossil fuel financing. The overall financial trends are depicted in Figure 6.6 wherein net financing and total deposits have experienced a notable increase. The continuous increase in these numbers indicates that Al Izz Islamic Bank has expanded its financial operations over time, as shown in Figure 6.5 The

bank is effectively utilizing its reserves for financing operations, as evidenced by the net financial ratio of gross deposits, which, while high, has remained relatively stable. Even with this expansion, the moderate increase in green financing and the significant decrease in the fossil-to-net financing ratio calls for a shift in strategy. A broader movement towards sustainability has overtaken the Bank's initial focus on green projects, as evidenced by a high green-to-net financing ratio. At the same time, overall growth and fossil fuel investment have slowed.(see the appendix)

6.5 Abu Dhabi Islamic Bank

Abu Dhabi Islamic Bank's net financing ratio has been maintained at 0.00% throughout the period, indicating that the bank did not devote any resources to green financing projects throughout these years. The underfunding of green initiatives may be the result of a deliberate choice to focus on alternative sources of funding or a potential aversion to participating in industries deemed high-risk or low-yield. This approach contrasts sharply with the expanding global focus on sustainability, as more and more financial institutions are adding environmentally friendly initiatives to their portfolios (Refer to Table 6.6 in the appendix).

However, despite being relatively modest, the fossil-to-net-financing ratio demonstrates ongoing activity, rising to 0.43% by Q4 2021. As illustrated in table 6.5. and bolstered by Figure 6.7.

This ratio, while modest, indicates a consistent commitment to fossil fuel financing. Financial performance data further supports the Bank's long-standing emphasis on well-established energy industries, as evidenced by the persistence of fossil finance. The absolute dollar amount dedicated to fossil fuel financing, which remains consistent throughout the period, suggests that the Bank has reserved a component of its portfolio for these projects, even as global trends change toward green investment.

Abu Dhabi Islamic Bank appears to have a solid financial foundation that is consistent with its investment objectives, as evidenced by the capital adequacy

ratio, which has been steady and robust over time, ranging from 14.14% to 19.57%. Capable of taking up possible dangers.

This financial stability may have allowed the bank to maintain its focus on fossil financing, where returns are more predictable than in the emerging green finance industry (as illustrated in Figure 6.11)

The ratio of net financing to total deposits is dropping, from the 80s in 2015 to around 80% by 2021. This decline could reflect a more conservative approach to financing than the bank's rising deposit base. The dropping ratio could also reflect a strategic decision to keep more liquidity, potentially in response to market conditions or as a precautionary measure, which may have affected the bank's limited involvement in green projects. Interest rate trends remained largely consistent, with modest changes ranging from 1.00% to 2.50%, likely supporting sustained borrowing and lending activity. Though the bank continued to focus on its usual areas, these rates did not seem to significantly shift financing toward environmentally friendly projects.(see the appendix)

6.6 Dubai Islamic Bank

Dubai Islamic Bank's financial data from 2015 to 2021, as shown in Table 6.6 and Figures 6.9 and 6.10 (see the appendix) confirm a strategy that is laboriously based on traditional banking, with little diversification into green or fossil fuel financing. Table 6.6 shows the lack of allocation for green financing, with the green-to-net financing ratio maintained at 0.00% throughout all quarters. Figure 6.9, where the green line denoting the green-to-net financing ratio stays stable at zero, additionally illustrates the ongoing decline in green financing. This implies that Dubai Islamic Bank decided to stay away from green initiatives during the analysis period in favour of more selected and possibly less volatile investments in the developing and potentially more volatile green finance sector.

This implies that Dubai Islamic Bank made a deliberate decision to shun green projects during the analysis period rather than moving into the growing and potentially volatile green financing industry for more established and perhaps safer assets.

Similarly, the fossil-to-net financing ratio has remained consistent at 0.00% throughout the period, as shown in Table 6.6 and Figure 6.9. This implies that the bank has made a deliberate decision to forgo funding the fossil fuel industry, adhering to a cautious finance approach that stays away from industries carrying large environmental and reputational risks. In the absence of a meaningful commitment to green financing, a bank's portfolio's lack of fossil finance may be interpreted as a sign of its dedication to sustainability and risk management.

The consistency of the bank's capital adequacy ratio, which fluctuates within a limited range of 16% to 18.50% as shown in Table 6.8 and Figure 6.9, indicates a sound financial foundation. This ratio demonstrates a bank's ability to tolerate prospective losses while remaining financially healthy, which presumably explains its cautious attitude toward new investments. Stable capital adequacy demonstrates the bank's emphasis on keeping a strong financial foundation, which may lead it to

pursue higher-risk opportunities in industries such as green finance or fossil fuels. The net financial ratio of gross deposits, as shown in Table Table 6.9 and Figure 6.9, fluctuates slightly but remains around 80% for most of the period. This percentage shows that the bank is financing operations efficiently with its reserves, even though these operations are mostly focused on conventional sectors rather than fossil or green ventures.

The constant ratio demonstrates a balanced approach to liquidity and financing management, ensuring that the bank can satisfy its financial obligations without straying into unfamiliar or volatile territory. Figure 6.10 depicts the bank's financial performance, which has shown consistent growth in both net financing and total deposits over time. However, the total lack of green and fossil finance in these numbers demonstrates the bank's conservative approach. The red line represents net financing, and the purple line represents total deposits, both of which show an increase, but there are no comparable lines for green or fossil finance, confirming the bank's typical portfolio. (see the appendix)

6.7 Al-Rajhi Bank (Saudi Arabia)

The financial performance of Saudi Arabia's leading Islamic Bank, Al-Rajhi, between 2015 and 2021, as exhibited in Table 6.7 and Figures Figure 6.11 and Figure 6.12, (see the appendix) shows the bank's strategic focus, particularly providing in-depth insights into green and fossil fuel financing. Figure 6.11 reveals that Al-Rajhi Bank did not dedicate any of its financing to green initiatives over the period with a ratio of 0.00%. This implies an intentional decision to forgo green funding, implying that the bank either did not prioritise sustainable finance during this period or chose to divert resources elsewhere. Table 6.7 shows no green financing values in the bank's financial portfolio, indicating that sustainability measures were not given top billing during this period.

Conversely, as seen in Figure 6.11, the fossil-to-net financing ratio remained significant throughout the period, peaking at 23.99% in Q1 2020.

The consistent rise in this ratio over the years suggests that Al Rajhi Bank has maintained a strong concentration on fossil fuel financing. The data in Table 6.7, which show that fossil fuel-related programs receive a consistent and significant amount of funding, support this. This shows that the Bank has prioritized traditional energy investments, which is likely consistent with its previous focus on sectors with greater and higher expected returns. Figure 6.11 depicts a moderate fluctuation in the capital adequacy ratio, which ranged from 16.22 per cent in prior years to 20% by 2021. This consistent and increasing capital adequacy implies that the bank is heavily invested in fossil fuel financing. Al-Rajhi Bank was well-positioned to bear the accompanying risks. Despite the upward tractor of international concerns regarding the climate crisis, Al-Rajhi Bank focused solely on investing in traditional financial activities, like fossil fuel.

The net financial ratio of total deposits, as depicted in Figure 6.11, varied substantially, precisely during the financial year 2018, when there was a substantial decline followed by a subsequent recovery. It denotes periods of strategic change or reaction to external economic conditions, which may reflect a shift in the bank's approach to managing its finances.

The ratio's recovery in subsequent years shows a return to a more aggressive financing approach, which may be linked to the bank's emphasis on fossil fuel projects, as indicated by the fossil-to-net financing ratio.

Figure 6.12 describes the entire financial performance, including changes in net financing, green financing, fossil financing, and total deposits. Sharp swings in net financing, particularly the 2018 fall, correspond to changes in total deposits, demonstrating a close link between these two variables. The continuous green line reflecting fossil funding demonstrates the bank's ongoing commitment to this industry. The absence of a green financing line signifies that the bank has chosen to keep its focus on fossil fuels rather than move towards sustainable finance. According to Table 6.7. and Figure 6.11, interest rates influenced the bank's funding decisions. Interest rates fluctuated little, peaking at 3.00% in 2019, which may have impacted the bank's financing activities. However, it didn't seem that these interest

rate reductions had any impact on the Bank's continued emphasis on fossil fuel financing. (see the appendix)

6.8 Al-Jazira (Saudi Arabia)

Al Jazeera's financial record, as stated in Table 6.8 and shown in Figure 6.13 and Figure 6.14 provides a thorough picture of the bank's approach to financing, notably green and fossil. As shown in Figure 6.14, (see the appendix) the green-to-net financing ratio has stayed constant at 0.00%, showing that Al Jazira has allocated no resources to green financing efforts. The lack of green finance indicates that the bank deliberately avoided investing in environmentally friendly projects. Al Jazira's financial record is as stated in Table 5.2.8. and shown in Figure 6.13 and Figure 6.14 offers a comprehensive insight into the bank's approach to financing, notably green and fossil. As shown in Figure 6.14, the green-to-net financing ratio has stayed constant at 0.00%, showing that Al Jazira has allocated no resources to green financing efforts. The lack of green finance depicts that the bank intentionally sidestepped financing climate-compliant projects.

Table 6.8 affirms the absence of financing green initiatives, as the table of green finance entries has remained empty, verifying the supposition that climate-compliant initiatives were not comprised of the bank's strategic preferences. Likewise, the fossil-to-net financing ratio continued to be at 0.00% across the period, as shown in Figure 6.13 , which denotes that Al Jazira remained perpetual in avoiding fossil fuel-related ventures as well.

The lack of fossil financing in the Bank's portfolio is shown in Table 6.8 shows a persistent decision to forestall activities with significant climate consequences, maybe in the precise perspective of dropping carbon footprints. Figure 6.14 describes the steady enhancement in capital adequacy ratios over time, from 13.79 per cent in 2015 to more than 22 per cent in 2021. Potent capital adequacy may have provided the bank with the financial permanency it involved in discovering new investment preferences, but data indicate it opted to persist with conventional as a substitute. The ratio of total deposits to net financing remained steady, floating

around 75-85% during the period, as illustrated in Figure 6.13 . This ratio implies that the bank has employed its reserves realistically, even though the bank persisted in supporting conventional grounds of funding rather than shifting to ecologically sustainable projects. Furthermore, the stable ratio in addition denotes a rational method of liquidity management.

Figure 6.14 displays the bank's financial performance, holding net financing and total deposits developments. The red line characterizes net financing, while the purple line represents total reserves; both denote steady expansion, specifically in the next segment of the period. Nevertheless, the absence of green and fossil finance lines divulges that the bank's portfolio was predominantly centred on conventional financing behaviour, with no variation in the emerging or sinking trades. Table 6.8 and Figure 6.13 illustrate that interest rates stayed pretty low and secure, with reasonable swings stretching between 1.00% and 3.00%. This low interest rate is presumed to initiate a promising atmosphere for the bank's sound financial activity. Yet they did not figure to persuade the bank to spread into green or fossil fuel initiatives, as the bank persisted in centring on its standing business.

6.9 Qatar Islamic Bank

Figure 6.15 (see the appendix) infers that Qatar Islamic Bank's net financing ratio has persisted at 0.00% throughout the period, demonstrating that the bank has not been involved in any green financing initiatives. This absence of green finance reveals that the bank decides not to accentuate climate-compliant projects, possibly due to an inclination for conventional financing routes or a conviction that climate-compliant are dependable with the bank's strategic objectives.

Table 6.9 validates this, as there are no documented climate-compliant quantities, indicating an absence of bank contribution in climate-compliant projects. Likewise, the ratio of net financing to fossils remained at 0.00% during the period, as displayed in Figure 6.16, representing that the Bank did not finance fossil fuel projects. The lack of energy sector financing, as seen in Table 6.9 exhibits a contemplated preference to withhold away from industries accompanied by severe ecological hazards, which could steer wider international associations from carbon-

intensive sectors. Nevertheless, it similarly underlines that the bank has not employed its financing fuels to finance green or fossil fuel projects, favouring a more restrained or conventional approach. Figure 6.16 proves the capital adequacy ratio, which has progressively expanded throughout the period and is estimated to become stable at around 18.90% to 19.50% in 2021. This enhancement in assets adequacy proves the bank's breeding financial elasticity, denoting that Qatar Islamic Bank is concentrating on determining a robust financial footing to successfully govern risks. Notwithstanding the enriched capacity to sustain latent losses, the bank chose not to delve into green or fossil finance, hypothetically opting for strengthening above discovering new capital spending prospects. Figure 6.16 shows a substantial and constant net financing ratio for total deposits, which commonly outdoes 300%. This extraordinary ratio indicates that the bank is achieving a good advantage in its funds for financing activities, even if they are, however, in the conventional financing field. The strength and elevated level of this ratio symbolize a conventional attitude to liquidity management, confirming that the bank preserves its constant position without getting new risks coupled with green or fossil finance. Figure 6.15 illustrates Qatar Islamic Bank's whole financial enactment, which constantly expands net financing and total deposits. The red line for net funding and the purple line for total deposits both specify a steady expansion, representing that the bank is concentrating on consolidating its primary financing business. Nonetheless, the deficiency of any green or fossil finance lines features the bank's tactic of concentrating on prevailing financial segments and sidestepping expansion into new ones.(see the appendix)

6.10 Masraf Al Rayan (Qatar)

According to Table 6.10 and Figures 6.17 and 6.18,(see the appendix) Masraf Al Rayan's financial performance from 2015 to 2021 reflects a deliberate effort heavily rooted in traditional financing, with no allocation towards green or fossil fuel projects. The Green to Net Financing Ratio consistently remains at 0.00% throughout the entire period, as shown in Figure 6.17. This indicates that Masraf Al

Rayan did not engage in any green financing activities during these years. The absence of green financing, as confirmed by the data in Table 6.10, suggests that the bank did not prioritize sustainability projects or possibly saw limited opportunities or returns in this sector that aligned with its strategic goals.

Similarly, the Fossil to Net Financing Ratio also remains at 0.00% throughout the period, as indicated in Figure 6.17. This shows that the bank avoided investments in fossil fuel-related projects, reflecting a strategy that neither supports green initiatives nor engages in traditional energy sectors. This conservative approach may imply a preference for safer, more established investment avenues or a focus on sectors with lower environmental impact.

The Capital Adequacy Ratio, as shown in 6.17, fluctuates slightly but remains robust, increasing from around 18.54% in 2015 to 21.15% by the end of 2021. This steady capital adequacy suggests that the bank kept a strong financial position throughout the period, capable of absorbing risks but choosing not to venture into either green or fossil financing. The consistent capital adequacy ratio underlines the bank's focus on maintaining financial stability rather than exploring new, potentially riskier sectors.

The Net Financing to Total Deposits Ratio, depicted in Figure 6.18, shows significant fluctuations, particularly in 2015, where the ratio exceeded 1000%, before stabilizing in the later years. This extraordinarily high ratio in the earlier period writes down an aggressive financing strategy, possibly reflecting a high degree of leverage or a focus on maximizing the use of deposits for financing activities. However, the ratio stabilizes around 900-1000% in the following years, showing a more controlled and balanced approach to financing, ensuring that the bank’s liquidity is managed effectively without overextending its financial commitments. Figure 6.18 illustrates the overall financial performance of Masraf Al Rayan, showing steady growth in net financing and total deposits over the years. The red line representing net financing and the purple line for total deposits both exhibit a consistent upward trend, particularly in the latter part of the period. However, the absence of green and fossil financing lines further confirms that the

bank's portfolio remained concentrated on traditional financing activities, with no diversification into these sectors.(see the appendix)

6.11 Kuwait Finance House

A critical review of the financial performance of Kuwait Finance House between the financial years 2015 and 2021, - as has been highlighted in Table 6.11, Figure 6.19. and Figure 6.20 (see the appendix) reveals a concentrated focus on primitive financing, where the bank is not involved in green or fossil fuel initiatives.

Figure 6.19 denotes that the green-to-net financing ratio remained at 0.00% across the period. The assessment shows that the Kuwait Finance House did not dedicate any assets to climate-compliant projects. Rather, the bank chose to continue with conventional forms of investment to obtain higher earnings bearing low risk. Likewise, the fossil-to-net financing ratio remained persistent at 0.00% the whole time, as it has been displayed in Figure 6.19 which explicitly states that the Bank sidestepped financing fossil fuel projects. Furthermore, the lack of fossil financing in Table 6.11 suggests a purposeful choice to refrain from being involved in businesses that are not in line with the climate circumstances. To this extent, it could have been a positive sign that the bank was not involved in climate-deteriorating activities, but simultaneously, there has not been evidence that indicates its contribution to climate-friendly financing as well. Figure 6.19 shows that the bank enjoyed a constant capital adequacy ratio throughout the time, yet a slight change occurred ranging from 16.67% in 2015 to around 17.69% in 2021. The constant stability indicates that the bank occupies a robust financial status that enables it to easily absorb any kind of risks. Even though the bank enjoyed an established position during the specified period it did not allocate any funds for green financing, which indicates that the primitive attitude of investing in traditional modes of business is still prevailing at the decision-making level.

The net financing ratio of total deposits, as highlighted in Figure 6.20, implies that, despite a minor reduction the ratio fundamentally remained consistent over time. Ranging between 68% and 80% indicates that the bank consciously employed its deposits for financing purposes. Furthermore, avoiding new investment areas and keeping the ratio

persistent suggests that the bank preserved its liquidity effectively, guaranteeing the balance and alignment between its financing strengths and financial commitments. Figure 6.20 provides an overall picture of the Kuwait Finance Houses, with continuous development in net financing and total deposits throughout time.

Both the red and purple lines standing for net financing and total deposits denote continuous growth and expansion in the bank's main operations. Notwithstanding, the lack of green and fossil financing lines reveals that concentration on conventional financing operations is still a prevailing trend for the bank. (see the appendix)

6.12 Boubyan Bank(Kuwait)

Table 6.12. and Figures 6.21 and 6.22 (see the appendix) depict the financial performance of Bobuyan Bank over six years (2015-2021). The assessment of this track record demonstrates that the bank is still concentrating on a conservative approach regarding financing encompassing green and fossil fuel projects. According to Figure 6.21, the bank’s green-to-net-financing ratio does not change from 0.00%. it means the bank purposefully sidestepped supporting climate-compliance projects. The data is further strengthened by Table 6.12 Figure 6.21 as no green finance amounts have been recorded. This reveals that investing in conventional ways of finance is more favourable for the bank to avoid the potential hazards and low profits associated with climate-compliant projects. Similarly, Figure 6.22 shows that the fossil-to-net financing ratio remains constant at 0.00% throughout the duration. It implies that the Bank did not invest in fossil fuel projects, which could be a deliberate policy to avoid sectors with high environmental concerns. Table 6.12 Figure 6.22 shows no record of fossil finance, it could have been an indicator that underlines the bank's cagey perspective to pre-empt its business from any potential hazard of climate scrutiny or future regulatory issues. The bank’s capital adequacy remained consistent as it has been depicted in Figure 6.22, with a slight change throughout the period as it swung between 17.04% in 2015 and 16.40% in 2021, signifying that the bank has consistently upheld a durable capital footing. Even though the bank did experience ventures into innovative financing projects, its capital adequacy implies that the bank could have

managed any potential risk posed by green or fossil fuel ventures. Rather, the bank remained stuck in conventional business moods. Hovering between 80 and 95%, the net financial ratio of gross deposits remained rightly high and constant throughout the period as illustrated in Figure 6.22. This proves how well Boubyan Bank employed its deposits to sustain its financial events. The ratio's permanence proves that the bank has efficiently managed its liquidity and ensured that its financing activities are as well linked with its deposit as it does not compel it to compromise its financial commitments. Figure 6.22 reveals that there has been a considerable improvement and increase in the financing and deposits of the bank Boubyan. The red line for net financing and the purple line for total deposits both point to a persistent advancement precisely after 2018. In a nutshell, despite the bank refraining from financing any uprising novel initiative, such as clean energy sources, there has been considerable expansion in the bank's core financing activities. (see the appendix)

6.13 Bank Syariah Indonesia

Being an essential indicator as it can depict the bank's overall financing of green projects, the green-to-net financing ratio it succeeded in increasing during the selected financial period of 2015 to 2021, showing the Bank's great focus on climate-compliant finance. Commencing at 0.70% in Q1 2015, the green-to-net financing ratio progressively expands to 5.24% by Q4 2021, as evident in Figure 6.23, where the green line representing the green-to-net financial ratio specifies an increase precisely after 2017. The growth in this ratio shows that Bank Syariah Indonesia has steadily devoted a larger number of its finances to climate-compliant initiatives.

This data is further strengthened by Figure 6.24, (see the appendix) which displays an absolute sum of green financing (denoted by the green line) growing, although at a dim ratio, precisely near the conclusion of the financial year. The constant growth of green finance suggests that the Bank prioritises climate-compliant initiatives as part of its foundational financial policy.

In comparison, Table 6.13 and Figure 6.24 depict the fossil-to-net financing ratio which gives an insight into the bank's involvement in fossil fuel-related projects. The ratio starts at 1.04% in Q1 2015 and turns around throughout time, declining to 12.28% in Q4 2021 before touching 4.53% in Q4 2017. The increasing trend in fossil finance from 2015 to 2017 discloses an experienced tactic in which the Bank initially grew its funds in fossil fuels before gradually reducing its dependence on them. Furthermore, the absolute number of fossil financing has been shown in Figure 6.24, proves this observation. The green line rising upward stands for fossil financing, revealing that the bank's investment in fossil energy sources has significantly increased in recent years also matching with the peak in the fossil-to-net financing ratio. However, this line begins to drop after a while, implying a potentially significant change in the Bank's financing policy under which the bank might curtail fossil fuel investments to favour more climate-compliant alternatives. Figure 6.23 and Table 6.13, shed light on the bank's capital adequacy ratio which has varied from 12.50% in Q1 2015 to 13.70% in Q4 2017, and then stayed constant at 20.21%, which writes down the bank's aptitude to absorb potential losses and imitates its financial constancy. Based on the bank Syariah Indonesia's capital adequacy and financial performance during the financial year 2017, it is reasonable to presume that the bank has enhanced its policies towards climate-compliant projects and is willing to support more and more climate-friendly ventures. Moreover, Figure 6.24 depicts the net financing to total deposits ratio, indicating a crucial measure that the Bank has succeeded in efficiently employing its deposits for financing activities. As the bank receives more deposits compared to previous years. This ratio decreases severely from 88.12% in Q1 2015 to 95.23% in Q4 2021, advising a more restrained attitude to financing. This pattern might write down a determined choice to withhold extra liquidity, perhaps in retort to distinctive market circumstances or a conventional method of financing throughout uncertain times.

Figure 6.24 points out broader financial trends, revealing that the bank has succeeded in expanding its net financing and total deposits over time. Both the red line (which stands for net financing) and the purple line (which represents total

deposits) illustrate a substantial rise-up tendency, establishing that Bank Syariah Indonesia's financial ventures have been full-fledged substantially. The bank's aptitude to grow its financing and deposits, as well as its gradual enhancement in green finance, figure out a balanced method to progress and climate remediation. Despite the immense popularity of the climate notion and significant advancement in the bank's financing operations, there has been a negligible improvement in green finance. It reveals that the Bank's financing strategy is still stuck to the conventional approach and the climate-compliant projects have partially been supported. By the end of the period, there was a decline in bankrolling fossil fuels, showing that the Bank was beginning to observe the global trend of sinking carbon emissions and participating more in climate-compliant projects. Figure 6.24 shows that over the evaluation period, net financing and total deposits have enlarged progressively, observing a prominent distinction between the purple line, which stands for total deposits, and the red line, which symbolises net funding. (see the appendix)

6.14 Bank Muamalat Indonesia

A critical assessment of the financial performance expanded over 6 years of bank Muamlat leads the study to explore that the green-to-net financing ratio initially began to show substantial movement in 2018, reaching 8.31% in Q1 2018 and growing progressively to 12.41% by Q4 2021. This signifies that, since then, the bank has started contributing to climate-compliant projects, writing down a foundational shift in the bank's financing strategy towards climate-compliant financing. The gradual increase in the absolute rise in green finance, as shown in Figure 6.26, arises at zero and progressively expands, advocating that banks have become a fundamental part of the portfolio since 2018. During this period, the bank's capital adequacy ratio has shown constant efficiency even though a robust increase has occurred, reaching 23.76 per cent by 2021, affording the mandatory financial constancy to sustain this growth focus on climate-compliant initiatives.

On the contrary, since 2018, there has been substantial growth in fossil financing, starting from zero but soon reaching 2.91. per cent in Q4 2021, as can be seen in

the fossil-to-net financing ratio. Furthermore, in conjunction with green financing programs, the bank also broadened its scope to finance fossil fuel sources during the identical framework. Figure 6.25 (see the appendix) provides insights into the total data for fossil funding, which exemplifies this tendency and reflects considerable improvement during 2018.

The Net Financing to total deposits ratio measures the total financial condition of the bank Muamalat which has altered radically during this time. After facing instability for a considerable period, the ratio had a dramatic fall in 2020, which might be because of either calculated alteration or maintenance. The Bank supported robust growth in its total deposits aside from variations in net financing concerning deposits, as seen by the increasing trend in the total deposits line in Figure 6.25 This growth in deposits created a solid platform for the bank's expanded involvement in both green and fossil financing. The gradual drop-in interest rates over this period suggests that borrowing has become more appealing, which could lead to a rise in financing for both fossil and green projects. In keeping with its dual approach to development, the Bank's strategy strikes a balance between taking advantage of opportunities in the fossil fuel sector and staying committed to environmentally conscious finance. (see the appendix)

6.15 May Bank Malaysia Islamic Bank

Table 6.15 (see the appendix) depicts Maybank Islamic Malaysia’s financial performance during the selected financial years of 2015 to 2021. According to the data presented, the bank strategically focused on both climate-compliant and fossil-fuel financing. Both the green-to-net-financing ratio and the fossil-to-net-financing ratio can be crucial indicators of the bank’s attitude towards resource allocation for both sectors. Figure 6.28 shows the green-to-net financing ratio during the selected financial years, which illustrates the Bank's diminished but gradual and persistent commitment to climate-compliant initiatives. This ratio, which initially seems to be obscure but with the passage of time occupied a noticeable value precisely in the later years. Indicating the bank’s commitment to devote a substantial sum of resources to climate-compliant ventures. The expanding percentage implies that the

bank has allocated a larger fragment of its whole deposits to support climate-compliant projects. According to Figure 6.28, the noticeable growth in the absolute value of green financing proves that Maybank Islamic Malaysia is purposefully adopting the prevailing pattern and progressively incorporating climate resilience into its financial operations. Behind this auspicious paradigm shift, however, there could have been several incentives including legal restraints, market requirements and being motivated by the strategic internal axis.

A comparative analysis of Figure 6.27's fossil-to-net financing ratio reveals that in its earlier financial periods, the Bank previously focused on fossil fuel investments, allocating a good sum of its deposits for conventional areas of financing. Nevertheless, any potential decline in this ratio would have been an indicator of an intentional change in the bank's financing policy. Figure 6.27can be evidence of it as the figure illustrates the definite sum invested in fossil fuel sources. The decline in the sum allocated for fossil fuel over time demonstrates that the bank deliberately curtails fossil fuel financing, which is coherent with precise inclinations toward climate-compliant ventures in the financial industry. Figure 6.27 displays the bank's capital adequacy ratio demonstrating the bank's capability to absorb any potential loss and aptitude to support any innovative risk-bearing project including climate-compliant projects.

Figure 6.27, Net Financing of Total Deposits, shows that the bank was able to make good use of its deposits. The high and stable ratio of deposits could have been a sign of customers' trust in the bank and its ability to support both green and fossil initiatives, depending on what the bank had planned to do. Finally, as exemplified in Figure 6.27, interest rate change over the selected financial years affects the bank's financing endeavours as the enlarged financing for both fossil fuel and climate-compliant projects could have stemmed from lower interest rates, which typically allure the borrowing. The interest rate plays a key role in the bank's preference between fossil and green sources next to its strategic priorities in varying economic environments. How these dynamics interact points out Maybank Islamic

Malaysia's upward prominence on dramatic an equilibrium between conventional investing and climate-compliant practices (see the appendix)

6.16 CIMB Islamic Bank

Table 6.16 and Figure 6.29 (see the appendix) provide a holistic picture of CIMB Islamic Bank's net financing ratio, indicating that the bank has allocated a considerable amount of its funds for climate-compliant projects, even though this ratio was zero before 2018. However, the percentage reached 8.73% in Q1, which could have been a positive sign of the bank's strategic shift towards climate-compliant financing. This change suggests that the CIMB Islamic Bank has started closely matching with the international tendency towards supporting climate-friendly investment.

The increasing trend in green financing is also confirmed by the absolute statistics in Figure 6.29, which indicate a clear increase in the quantity of green financing over time, indicating the bank's strong commitment to these projects.

In contrast, the Fossil to Net Finance Ratio, as shown in Figure 6.30, illustrates the bank's continued involvement in fossil fuel finance, which fluctuated over time. The ratio rose to 17.57% in the first quarter of 2021, reflecting a heavy emphasis on fossil fuel investments at the time. Unlike green financing, fossil fuel financing activities began earlier, demonstrating that CIMB Islamic Bank has historically focused on fossil fuels. However, as green financing became more prominent in the bank's portfolio, fossil fuel investments remained significant, as evidenced by the major allocations in the financial performance statistics in Figure 6.30 5.16.2. Table 6.16 and Figure 6.30 5.16.2 exhibit capital adequacy ratios, which help contextualise these changes in funding techniques. This ratio steadied at roughly 18 percent by 2018, showing that the bank's financial situation remained robust, potentially providing it with the confidence to grow its green finance efforts. This steady capital sufficiency shows that CIMB Islamic Bank had low-risk financing options for both fossil fuel and green projects, indicating that it was well-equipped to withstand possible losses from green investments. The net financing ratio of total

deposits, as illustrated in Figure 6.30, measures a bank's efficiency in using its deposit base for financing activities.

This percentage remained relatively high, reaching over 80% at times, demonstrating that the bank successfully transferred deposits to green and fossil finance activities. However, swings in this ratio, notably a reduction in later years, indicate a potential shift towards more conservative financial measures. This shift could be affected by a strategic choice to reallocate resources in response to changing economic conditions or market dynamics.

Ultimately, bank financing practices were significantly influenced by interest rate changes, as Table 6.16 and Figure 6.30 illustrate. Interest rates have gradually fallen in recent years, making borrowing more appealing and potentially expanding both green and fossil funding. The bank's capacity to capitalise on advantageous lending conditions is shown in the increase in its financing activities in various sectors, proving its adaptability to a changing economic climate. (see the appendix)

6.17 Kuveyt Turk Participation Bank (Türkiye)

Table 6.17 (see the appendix) reflects the financial performance of Türkiye's leading Islamic bank, namely, KuveytTurk Participation Bank, between the relevant financial years (2015 to 2021). The table paints a complicated balance of the dedication of the respective banks for both conventional fossil fuel and green financing. According to the table, all designated financial metrics, including the Green to Net Financing Ratio and Fossil to Net Financing Ratio, total deposits and capital adequacy reflect a holistic picture of the Bank's theoretical orientation throughout time. According to the table, there has been a significant growth in the green-to-net financing ratio, which could have been a positive sign of Kuveyt Turk Katilim Banka's breeding support for climate-compliant finance. The considerable attraction to climate-compliant projects could have been either a greater comprehension of the significance of the climate issue or driven by national and international climate-tendency orientation. The green-to-net financing ratio began Initially at 6.42 per cent in 2015, writing down a first shift in the direction of the relevant bank.

But by the end of the financial year 2016, the bank had dramatically increased its deposits towards green finance and the ratio had hit 7.01%. The significant growth in the absolute sum allocated for climate-compliant projects as could have been seen in the financial performance data validates the respective bank's purposeful decision and constant commitment to supporting climate-compliant initiatives. On the other hand, the fossil-to-net financing ratio remained at 0.00% throughout the identical period, implying Kuveyt Turk Participation Bank has intentionally sidestepped financing fossil fuel projects. Withdrawing from such a prevailing and lucrative investment is worth considering. Furthermore, regarding capital adequacy-which makes the backbone of any financial institution- the Kuveyt Turk Participation Bank enjoyed significant growth in its capital adequacy ratio stabilizing at roughly 21% by 2020. Increasing capital adequacy means that the bank is not only able to absorb any potential risk that stems from investing in novel projects including clean energy ventures, but also has enough resources to support more and more climate-compliant businesses. The net financing of gross deposits, which usually declined during the identical period implies the bank's cautious approach to financing. Unstable interest rates affect the bank's operations. In Turkey, the interest rate remained quite unpredictable during the identical period, as it began at 7.50 in 2015 reached 8.00 % in the 4th quarter of the financial year and remained steady in 2016 and 2017. At the beginning of the financial year 2018, the interest rate started dramatically flying as it jumped directly to 24%. With the commencement of the first quarter of 2019, the interest rate has amazingly dropped to 12 % but in 2020 it again flew to 17% which declined to 14% in 2021 which again flew to 16% by the end of October 2021.(see the appendix)

6.18 Albaraka Participation Bank (Türkiye)

Albaraka Türk Participation Bank's financial performance can be assessed through Table 6.18 Along with Figure 6.33 and Figure 6.34, the data reveals that the respective has opted for a cautious but constant approach to climate-compliant financing, as displayed in its green-to-net financing ratio, and complete evasion of fossil fuel investments, mirrored in its fossil-to-net financing ratio (Table 6.18 Along with Figure 6.33 and Figure 6.34).

The designated amount for green-to-net financing is (albeit) modest yet its consistency can be a positive sign of the bank's robust commitment to climate-compliant finance. The bank's green-to-net financing ratio started at 1.75% in 2015 and remained consistent then slightly increased to 2.46% in Q3 2018, before stabilizing at 1.41% by the end of 2021. Following this trend, the bank proves its commitment and dedication to green financing. The financial performance data shows that the bank's commitment to climate-compliant finance, even though constant but less improved in green finance, shows that there are still some fundamental obstacles to climate-compliant finance in the country. For instance, the bank started its green finance journey at 1.75 % in 2015 which later reached 2.33% in the next year, 2017. Then it dropped to 1.45 and remained stable throughout the financial year of 2017. 2018 did bring a minor improvement to it and elevated to 2.46 and 2019 could barely bring it to 2.75 but in 2020 it declined again to 1.31% and then to 1.31% in 2021. It means the green finance ratio has stuck on a certain number across the identical period with minimal variation. On the other hand, the fossil-to-net financing ratio remained stuck at 0.00% during the selected financial years as well, writing down the bank's full sidestepping from fossil fuel finance. It could add more weight to the Bank's calculated choice to completely disregard fossil fuels and fundamental diversion from conventional energy sources.

Figure 5.2.35 sheds light on Albaraka Participation Bank's (Türkiye) participation bank's capital adequacy ratio which enabled the bank to diversify its funds from fossil to green projects. Albaraka Participation Bank's (Türkiye) capital adequacy ratio saw a minor velocity during the identical period as it ranged from 13.46% to 17.10% as it started at 15.27 in 2015 and remained constant during all quarters of the financial year. The first quarter of 2016 pulled it to 13.46% which has been uplifted in the first quarter of 2017 to 17.10 %. Albaraka Participation Bank (Türkiye) has experienced a slight decline in its capital adequacy during the financial year 2018 to 14.70% which has again hit 15.00% in 2019 which again dropped to 13.50 % in 2020. The beginning of 2021 could add .1% to Albaraka Participation Bank's (Türkiye) capital adequacy elevating it to 14.90 %. The nutshell is that Albaraka Participation Bank (Türkiye) enjoyed robust capital adequacy,

which made it capable of absorbing investment risks and confidently devoting its resources to green projects besides having a generally conventional perspective.

The net financing ratio of gross deposits of Albaraka Participation Bank (Türkiye) continued relatively balanced but experienced a minor leaning towards the end of the period. The net financing's constant ratio, often greater than 90%, writes down that the bank has effectively employed its reserves to support various commercial operations. Such cautious use of reserves probably stems from the bank's conviction of preserving robust liquidity, apparently as a risk management instrument during times of economic flux. Interest rates albeit affect the bank's financial operations. Nevertheless, in Turkey the interest rate kept on changing during this period as it began at 7.50 in 2015 at the starting point but ended up at 16% by the end of October 2021, passing through 8.00 %, 24%,12 %,17% and 14%.

6.19 Analysis and Findings

In this subsection, all the above-mentioned Islamic banks' performance regarding climate change will be assessed.

Before assessing the financial performance of Islamic financial institutions, it is prudent to look at them from the perspective of metrics that have been set by the study. The study discovers that the central banks of the selected nine countries meet the metrics including recognition of SDGs, green initiatives, and collaboration with international climate-concerned organizations, as has been depicted in the table below:

Table: 0.1. Green Financing Metrics

S. No	Country	Rec. of SDGs	Initiatives	Count. laws	Intel. Collaboration	Ref.
1	Pakistan	√	√	√	UNDP, GCF, W.B. GEF, ADB	(Anjum & Majeed, 2020)
2	Oman	√	√	√	GCF, UNFCCC, W. B	(Nair, 2024)
3	United Arab Emirates	√	√	√	UNDP, GCFC, GCF	(UAE, 2022)
4	Saudi Arabia	√	√	√	GCF, IRENA,	(IRENA, 2024, July 29)
5	Qatar	√	√	√	GCF, GEF, UNF, GDA	(Mofa Qatar, 2024)
6	Kuwait	√	√	√	UNDP, GEF	(UNDP, 2023)
7	Malaysia	√	√	√	UK, PACT, JC3	(SDGs for Malaysian states. (n.d.)., 2023)
8	Indonesia	√	√	√	GCF, KINETIK, CPI	(Siregar & Rusiadi, N., & Efendi, N. B., 2022)
9	Turkey	√	√	√	KfW, W.B.CFA	(TSKB., n.d.)

The assessment finds that among the Islamic financial institutions, CIMB (Malaysia) Islamic stands tall as one of the few Islamic financial institutions that significantly Tooke care to integrate climate resilience into its strategic policies. Since 2018, CIMB Islamic Bank has dramatically increased its emphasis towards climate-compliant financing. The bank, with its gross-to-net financing ratio jumping to 8.73% in Q1 2018 shows that the bank is eager to make some profound modifications in its business paradigm and committed to cater environmental sustainability. Both the theoretical foundations and practical response for them enable the bank to cope with globally recommended tendency to promote climate-compliant financing. Therefore, the Bank CIMB Islamic could be regarded as first position among its counterpart Islamic financial institutions.

Leading Pakistan Islamic bank Meezan and Maybank Islamic Malaysia could have been granted the second third position with regard to climate-compliant financing. Both Meezan and Maybank Islamic are showing a gradual improvement in their green-to-net funding ratio over the identical period, albeit lesser than CIMB Islamic Bank. The assessment shows that both banks started allocating a considerable sum of their resources to climate-compliant projects, demonstrating a relatively nascent but increasing dedication to integrating climate-considerations into their business paradigm. The analysis further results that there has been a widespread tendency across Islamic financial institutions to put an end or at least a limit on fossil fuel financing. According to data, CIMB Islamic Bank's fossil-to-net financing ratio varied with the time peaked in Q1 2021, but simultaneously a progressive shift away from a robust dependence on fossil fuel investments has also been observed. It implies that the bank is enjoying a dual approach that syndicates traditional energy sector financing along with flourishing green finance prospects. Many other Islamic financial institutions, including Al Jazeera (Saudi Arabia), Boubayan Bank (Kuwait), Qatar Islamic Bank, and Bank Al Rayan, Qatar, continued a 0.00% gross-to-net financing ratio during the selected period. This reveals that these banks purposefully choose not to support fossil fuels, probably due to the environmental and regulatory dangers. However, it is crucial to note that the sidestepping of fossil fuel funding does not always mean an increase in green financing, rather it could have been regarded as a sign of a vigilant or traditional approach centred on traditional sectors.

Overall, the analysis determines that although the significance of green financing is obtaining a boomed acknowledgement across the globe, and even some financial institutions have begun integrating climate considerations into their strategic decisions, many institutions are still passing through the early phases of this paradigm. CIMB Islamic Bank, and to a lesser extent Meezan Bank and Maybank Malaysia Islamic, are at the forefront of incorporating climate-compliant financing into their portfolios, while other Islamic financial institutions from the selected OIC countries have either continued with concentrating on a conventional pattern or are guardedly discovering climate-compliant finance. Furthermore, the performance of both Turkish banks (Kuveyt-Türk participation & Albaraka Türk) seems to be satisfactory, as both have refrained from involvement with non-climate compliant financing, such as traditional energy sources, and implemented sustainable development and climate-resilient finance programs. Even though the sum set aside for green finance is not large, it is nevertheless a positive development in the case of zero fossil financing if it maintains that way.

Conversely, a considerable number of Islamic financial institutions have avoided or curtailed fossil fuel financing, showing an industry-wide trend toward less dependence on carbon-intensive investments. However, refraining away from supporting fossil fuels does not always mean an improvement in green financing, as many Islamic financial institutions chose to endure conventional means of financing, most probably due to risks of qualms, fewer commercial incentives or uncertainties in the green finance sector. Moreover, the new paradigm, i.e., advocating for climate-compliant financing gradually minimizing the support of fossil fuel projects is winning a higher attraction in the financial sector, with a few institutions leading the way. However, for many Islamic financial institutions, the way to lead with traditional financing is an integral part of their portfolios. However, the dramatically changing world and the growing emphasis on catering for climate-compliant initiatives, such as clean energy resources sustainable development and climate-resilient economic systems make to predict that the future of financial institutions seems to be fast heading toward sustainability, although the rate and depth of this revolution vary significantly between the financial institutions.

6.20 Proposed Maqasid-oriented Climate Risk Assessment Model for Islamic Financial Institutions

The proposed climate risk assessment (CRAM) model for Islamic banks incorporates climate risk management within the standard Islamic banking financing framework, guaranteeing that financial operations and products adhere to Shariah principles and environmental sustainability. The goal is to incorporate climate risk assessments into a bank's credit risk management system. Climate risk should be considered at all stages of the financing lifecycle, including strategy development, underwriting, and portfolio management. This assures that all financial transactions are not only Shariah compliant, but also aligned with environmental sustainability goals. The standards of environmental health and safety guidelines are easily accessible at the World Bank Group International Finance Corporation (IFC, n.d.).

The model's detailed description is provided below:

6.20.1 Modus Operandi:(PREPARATION PHASE)

A firm approaches an Islamic financial institution to get finance. Therefore, what care Islamic financial institutions should take to make their financing in line with both the Shari'ah principles and Maqasid al-Shari'ah? (climate goals)

When applying for finance from an Islamic financial institution, the procedure typically involves various steps to ensure that the project meets the Shari'ah principles and aims as follows:

1st Step: Submission of Application for Finance

The financing process will start with the submission of an application form that holds the client's details, like his name, ID, address, and the nature of the financing required etc. The form may also include some other information such as sources of income, police records and other relevant financial information that could help to ensure a safe process of payoff. To continue the process the application should be accurately filled in and sent.

2nd Step: Preliminary assessment

After receiving the application, a first assessment is carried out by the credit officer (Relationship Manager/ Team Leader) who goes to the customers' premises and even visits the factory site to find out their financial activities. The credit officer asks for various requirements, including the purpose of financing, financial statement, volume of orders etc. The purpose of this evaluation is to assess the client's eligibility for the required financing. The assessment includes a general review of the documents that show the client's income, current debts borrowed from other institutions, and overall financial strength to figure out whether the client meets the bank's standards for financing. The assessment confirms that the client can meet compensation obligations without compromising his financial stability.

The credit officer should also ask for disclosure of the environmental safety measures that the client follows. The Islamic Bank ask for an environmental certificate and asks related questions to ensure that all the environmental safety standards have been met for example the chemically contaminated water has not been directed towards a river, canal, or sea etc. On completion of the checklist, the credit officer will prepare a credit proposal as per the bank's prescribed format.

3rd Step: Preparing credit proposal

After completing all the documents and providing them to the bank, the credit officer will prepare a credit proposal and make an obligatory rating according to the bank's internal rating procedure. The department will evaluate the proposal, which typically includes all the prerequisites. However, Islamic financial institutions should integrate climate compliance into their credit assessment checklist. The risk management may ask for climate compliance certificates from a third party. The checklist varies based on the nature of the business and project. The nutshell is that every Islamic financial institution should have a comprehensive climate risk safety checklist or manual. The guidelines have already been mentioned.

4th step: Risk and environmental safety Assessment

The credit proposal is now undergoing a critical assessment conducted by the risk assessment committee. The committee evaluates the applicant's creditworthiness and may

check various documents, including financial statements, business plans, and market potential. The financial institution may ask for collateral, which could have been a piece of inventory equipment or net cash.

If any deficiency is still found, the client should be asked to fulfil it in a certain period. Rightfully, it may put an added burden on the financial institution, such as arranging the climate assessment courses for the institution's staff, especially Shari'ah advisors, etc. but on the other hand, it will also have a good impact on the reputation and business of the financial institution.

To respond to this extra burden, the government should create a climate audit institution following the norms of each country's Securities Exchange Commission To ensure transparency and a competitive environment, these institutions should be privatized and duly regularised. The institutions should have environmental engineers, scientists, chemical industry specialists' experts, and other required people; all these corporations should conduct ecological studies and upload the reports to the digital system. Consequently, any finance-seeking client should be asked for a climate-compliant certificate from any of the recognized climate audit institutions in the respective country. Moreover, the Islamic financial institution may levy some added provisions, such as if the said institutions allowed 10% of omission for a certain project, the Islamic finance institution can decrease it to a margin of 8%. However, in the countries where climate audit institutions are yet to be established, Islamic financial institutions should exercise their diligence to ensure climate compliance and strictly care about the checklist that will be provided.

5th step: Shari'ah assessment

The proposal will then be sent to the Shari'ah committee for review. The Shari'ah committee will evaluate the proposal from the Shari'ah perspective and approve or ask for some modifications. In this stage again the added condition should be stipulated as part of Shari'ah compliance, the Shari'ah committee should also check whether the project meets the criteria of climate compliance or not as catering for human life, rather human race and

wealth are not merely a financial issue but rather its sustainability has been enlisted to Shari'ah objectives (Maqasid Al-Shariah).

6th step: approval process:

After a thorough assessment of the proposal the bank management either approves the financing or rejects it. In case of approval of the finance, the Islamic financial Institutions issue approval letter containing all the terms and conditions such as amount of finance and financial and environment risk mitigation.

7th step: legal documentation

In this phase, the bank and the client enter into a legal agreement with the nature and type of finance. For instance, in the case of Musharakah financing, there will be a Musharakah contract, and in the case of a lease, there will be an Ijarah contract, etc.

8th step: Disbursement of the funds

Upon acceptance of the finance offered by the Islamic financial institution and completion of the necessary steps, funds are disbursed as per the terms and conditions.

9th step finance monitoring and recovery:

In this step, the financial institution ensures that the client maintains the relationship according to the terms and conditions; for instance, in an *Ijara* contract, the lessee takes proper care of the assets and pays the rent and designated ratio of the price properly, and *in Musharakah* or *Mudarabah* contracts, the client runs the venture in line in the best of mutual interest. Moreover, during this period, to ensure environmental sustainability, the Islamic financial institution will monitor the venture by asking for environmental safety certificates, third-party verification, self-verification, and whatever is suitable.

10th step: Closure and final statement

Once all payments have been made, the financing is considered closed, and the client receives a final statement from the Islamic financial institution affirming that all obligations have been settled.

6.20.2 Checklist for Climate Risk Assessment:

Environmental factors are often compromised in Islamic financial institutions when assessing credit risk, which can profoundly affect the client's ability to pay off its dues and the overall credibility of the institution. Here are some environmental factors that Islamic financial institutions should consider when evaluating credit and environmental risk.

A. Climate Change: Climate change implies long-term changes in temperatures and weather trends (UNA, 2024). Such temperature and weather trends pose severe threats to certain businesses, like agriculture farming apparel etc. Natural disasters: Natural disasters include extreme weather events such as floods, droughts, Unseasonal rain, and hurricanes. It can pose a physical risk for the financial institution and the client. (Marco, 2024). Natural disasters: Natural disasters include extreme weather events such as floods, droughts, Unseasonal rain, and hurricanes. It can pose a physical risk for the financial institution and the client. (The evolution of ESG Factors in Credit Risk Assessment, 2024).
B. Transitional risk: Transitional risk refers to the risk of shifting the business paradigm to a low-carbon business, it can be met by companies that heavily rely on fossil energy resources or high-carbon generating processes. Companies that fail to update their business models timely will face a sharp cost increase and a decline in their revenues. It may lead to affecting the credit profile (ESG Compliance Guide 2024)
C. Regulatory and legal risk: These risks can pose a problem for companies that are yet to transition into their business model while working in countries where the government is conscious about implementing climate laws. This includes government fines, straining the business limits, cancelling the license, and litigation costs. It will have negative effects on the institutions' performance and increase business risk (Marco, 2024). Regulatory and legal risk Regulation and legal risk can pose a problem for companies that are yet to transition their business model while working in countries where the government is conscious about implementing climate laws. This includes government fines, straining the business limits, cancelling the license, and litigation costs. It will have negative effects on the institutions' performance and increase credit risk (Marco, 2024)

6.20.3 Checklist for Environmental Impact Assessment

Though safeguarding the businesses from environmental risk is significant for the viability of the project, a holistic approach makes it imperative to observe the opposite side of the picture that a firm is creating an impact on the environment. So, such risks could be mitigated through the climate-compliance financing model. Despite the dire need for a crystal-clear framework for environmentally friendly financing, a comprehensive checklist has yet to be developed. However, some UN-supervised organizations and initiatives (Marco, 2024) have set up guidelines to support sustainable and eco-friendly financing. The checklist outlined in this study has been formulated by finding the commonalities across these organizations and initiatives. The study expects that by considering this checklist Islamic financial institutions would contribute to achieving sustainable development and climate-resilient finance. Apart from Shari'ah compliance, when financing a project, the Islamic finance institute should check the following added points:

6.20.4 Compliance and Audit of Holistic Environment Assessment Model

A. Compliance with the ESG standard

The first thing an Islamic financial institution should care about (apart from Shari'ah compliance) is the project's coherency with globally recognized environmental, social, and governance (ESG) standards. It encompasses the project's potential impacts on the environment, society, and government practice. ESG refers to the set of guidelines to measure financial institutions' and businesses' environmental and social impacts and to help them integrate sustainability into their commercial practices. Compliance with this standard is attracting investors who cater for the environmental fa (Canovate., 2024).

B. Transparency and disclosure

The Bank should also be conscious of the project's transparency and disclosure. This means that the bank or the person concerned should have easy access to the fundamental structure and necessary information about the project. This will help the bank ensure the transparent disbursement of the funds and expected financial and environmental outcomes and make the project in line with the Taskforce on Climate-related Financial Disclosure

(TCFD) standards (ESG Compliance Guide 2024). The standard helps businesses to stay informed about the climate-related financial risks and opportunities. This standard usually emphasizes four important aspects including governance, strategy, risk management and metrics and targets (TCFD, 2023).

C. Third-party verification

The bank should ask for third-party verification for the project and an independent, critical, and impartial assessment certificate issued by a competent person/ institution. (ESG Compliance Guide 2024)

D. Stakeholders' engagement

The evaluation officer must ensure the stakeholders are on board in the climate risk assessment process. This includes engaging the representatives of the local communities, climate experts and investors with insights and accelerating the cooperation on climate-resilient decisions (Watkiss, 2020).

E. Monitoring and Evaluation System

The evaluation officer should ensure that there is a robust monitoring and evaluating framework to check the implementation of climate-related guidelines and principles and check their effectiveness from time to time (environment.nsw.gov.au, 2021).

F. Compliance with local, regional and global climate standards

The climate risk monitoring officer should ensure that the project is in line with the local, regional and international norms and climate standards set by various stakeholder institutions. It is expected that by systematically ensuring these points the officer can enhance the resilience of the project against the climate effects.

6.20.5 Check List for Climate Compliance: A Case of Leather Industry Discrete Analysis

We presume that a firm engaged in the leather tannery business approaches an Islamic financial institution for financing. The process of leather tannery requires a high quantity of water as it can dispose of 30 litres per kilogram of leather. Also, this industry, precisely the tanning process, generates a huge quantity of waste material. Therefore, innovative tools to overcome these environmental hazards, including water management, reduction of pollution, proper recycling systems and closed-loop wastewater, are vital (Sophia, 2024). Therefore, the Bank management should ensure these precautions before approving the financing proposal.

A. Water management

Waste of water should be stopped because it uses a lot of water. Secondly, the water that is used should be directed in the proper direction, not towards any river, canal, sea, people or agricultural land. This means that it damages the underground water table.

B. Chemical Management

While tanning the leather, some industries use some chemicals which potentially pose serious risks for both human life and the environment such as Chromium.

The European Union has banned the use of this chemical precisely its hexavalent form (Cr (VI) (Mag, 2019) Therefore, risk management should ensure that the business strictly follows regulations regarding chemical usage and compliance with SOPs and prefers climate-compliant alternatives (Sophia, 2024).

C. Sustainable practice certificate

The management should ask the client to present a sustainable practice certificate (e.g., ISO 14001) to enhance marketability while confirming devotion to environmental standards.

The leather industry typically uses the following chemicals that pose a severe threat to the environment and human life. Islamic financial institution should strictly check their standardized limits to ensure that the financing is Shari'ah and Maqasid compliant. The

details of the chemicals, their usage, limits and environmental hazards are provided as follows:

1. Formaldehyde

   The chemical Formaldehyde is used to preserve leather and prevent decay. According to researchers, Formaldehyde is a known carcinogen that can cause breathing issues. Its limit varies from region to region. However, according to the U.S. Occupational Safety and Health Administration (OSHA), the quantity of 0.75 ppm over an 8-hour workday is permissible exposure limits (AIHA, 2023)

2. Lead

   The substance Lead is often used in dyes and finishes which is a toxic substance and can accumulate in the environment, posing serious health risks, specifically to children. According to the U.S. Environmental Protection Agency (EPA), the lead levels in drinking water should not surpass the limit of 0.015 mg/ (Manich, A., Et al, 2017)

3. Mercury

   The chemical Mercury has Historically been used for tanning processes. The research says that this substance is highly toxic and can bioaccumulate in water bodies, causing serious health problems both for wildlife and humans. The World Health Organization (WHO) sets a limit of 0.006 mg/L for mercury in drinking water. (Ghezzi, L., et al, 2022)

4. Sodium Sulfide

   This chemical is used to remove the hair process of hides. According to scientific research, the chemical sodium sulfide can be harmful to marine life if it is drained into water bodies. Even though there has not been a globally specified limit; however, drained water treatment standards usually insist on levels below 1 mg/L before discharge. (TFL, Information on Restricted Substances - TFL. (n.d.).)

5. Chlorinated Paraffins

   The chemical Chlorinated paraffin is highly used as a fire retardant. These substances are harmful to wildlife as these pollutants can accumulate in the environment. The European Union is phasing out chlorinated paraffin under REACH regulations as it remains

permanently in the environment. (TFL, Information on Restricted Substances - TFL. (n.d.).)

6. Volatile Organic Compounds (VOCs)

These are the emissions discharged with the frequent use of solvents, adhesives, and dyes in the leather industry. Studies confirm that VOCs contribute to air pollution and can cause breathing issues and other health problems (Chen, Xiaowei et al, 2023). The EPA has advised limits for specific VOCs; for example, formaldehyde emissions should not exceed 0.1 ppm for indoor air quality standards. Moreover, manufacturing companies employ various types of synthetic dyes. Several scientific research confirmed that these man-made dyes are toxic and the water bodies, if not treated properly such synthetic compounds, should have limits according to their chemical natures, even some of them should have been banned and others could have been used under certain conditions. Islamic financial institutions should have an updated environmental safety checklist for different companies and ensure their implementation with due diligence. Either by asking for a third-party certification or monitoring by its environmental risk management officers.

Figure 0.1: Maqasid Oriented Model

Concluding Remarks and Recommendations

Findings

Despite being nascent, Islamic finance became one of the fastest-growing financial systems. As of 2023, functioning in 105 countries Islamic finance total worth reached $ 3.9 trillion which is expected to cross $5.95 in 2026. (Domat, Chloe., 2024) Besides the Muslim world, Islamic finance has also managed to captivate the attraction of clients in many non-Muslim countries, including the United States of America, The United Kingdom, Australia, the Philippines, Luxemburg, South Africa, Hong Kong, Thailand and Singapore. (Guido., January 23, 2024.)

Islamic Finance is the Best Option for Catering for the Climate

The study found that Islamic finance's theoretical foundations are fully in line with and supportive of sustainable development and climate resilience, as catering to the planet and its inhabitants is adopted as SDGs, which is annexed to the primary objectives of Shari'ah (Maqasid al-Shari'ah). Furthermore, Islamic finance has a significant potential to contribute to climate remediation. Moreover, it seems to be the downside that although Islamic finance theoretical foundations put a great emphasis on preserving human life, race, intellect and wealth it is yet to be reflected in the practical response of Islamic financial institutions. Rather there has been a gap between the theory and practice of Islamic finance. This gap stems from various vacuums that need to be properly addressed. The following lines will explore the reasons behind this gap:

Limited Awareness and Understanding

Many Islamic banks are in the very initial stage of integrating eco-friendly policies into Islamic finance and have yet to recognise and properly assess the potential effects of climate change on their financing operations. This constraint hampers effective climate action and widens the gap between the theoretical foundations of Islamic finance and its practical response. (Raeni et al, 2022)

Legal Challenges

Even though many central banks in various countries have put considerable effort into promoting eco-friendly financing, the prevalent legal framework seems inadequate in supporting and incentivizing eco-friendly financing. In some countries, even though there are laws and regulations for adopting eco-friendly financing, these laws are not binding, have some loopholes, or carry no consequences for institutions not catering to climate change. The absence of penalties for violating climate compliance contributes to the slow adoption of eco-friendly financing. (Hiller, Bradley et al, 2023)

Durability of Sustainable Projects

Environmentally sustainable projects are long-term and comparatively require more time and funds to approach a viable state. For developed countries and institutions, it makes no big deal but for such nascent institutions like Islamic financial institutions it can pose a real risk. On the other hand, the prevalence of short-term profit-oriented financing tools like *Tawarruq*, *Murabaha* and in some banks buy-back (Bey *al-inah*), overshadowed the long-term and sustainable green projects. Hence, clients are reluctant to invest in projects that may not yield immediate returns.

Nascence of the Notion

Even though the underlying principles for sustainable development and climate resilience- such as social equity, justice, sources efficiency, and environmental preservation- are intrinsic to Islamic finance, the current shape of eco-related notion is comparatively nascent and has not been long since it debuted after the Paris Agreement 2015. Thus, to be fully enforced and emerge as an integral part of mainstream financing.

Political and Financial Resistance

A big chunk of the Islamic finance industry relies on the Middle East, precisely the Gulf Cooperation Countries (GCC), as of 2023, the Middle East accounts for approximately 74.4 per cent of the total worth of Islamic finance. (Global Finance Magazine, 2024). Since these countries mainly rely on fossil fuel trade, primarily oil and gas. Islamic finance institutions are compelled to finance the same projects regardless of their preference.

(Akkaş, Erhan. , 2017). Thus, any attempt at a new paradigm might lead them to encounter political and financial resistance. (FinanceAsia, October 1, 2024).

The Islamic finance architecture institutions should mitigate this cleavage by designing a comprehensive framework that certifies the global norms for responsible financing and the Shari'ah principles and objectives.

Recommendations:

A comprehensive mechanism should be developed to incorporate sustainable development and climate resilience into Islamic finance. This framework should be outlined according to ethical and socially responsible finance guidelines, universal principles, international norms, and the Shari'ah objectives. This goal can be achieved by organising training programs, seminars, workshops, and public awareness campaigns.

In addition to an awareness campaign to support sustainable development and climate-resilient finance, the central bank should establish clear guidelines and integrate climate risk into the framework of all financial institutions, particularly Islamic ones. The UN's principles for responsible banking can be used.

The central bank can set some incentives for the institutions that finance climate-resilient projects, such as preferential profit rates and capital requirements. The financial institution should encourage the clients who invest a certain amount in eco-friendly projects; the bank will offer them a preferential profit rate and gifts or organize free tours abroad for them, including the Hajj or Umra.

The central government should diligently cooperate with international climate-focused organizations and benefit from their best experiences and practices regarding the enforcement of climate policies. This collaboration will pave the way to align the Islamic financial institutions practice with international practices and climate goals. If a financial institution does not comply with climate-related rules and regulations with no plausible excuse the central bank can tackle this issue in the following ways:

Fines and penalties: The central bank can impose financial penalties and fines on the banks that deliberately violate climate-related rules and regulations. Since monetary fines are

not Shari'ah compliant the central bank can force the bank to designate a certain amount for benevolent purposes.

The central bank can put a restriction on violating the bank's operations like expanding their activities, opening new branches or partaking in certain financial activities until they make sure they follow the climate rules.

The central bank can also increase the reporting requirements of banks that do not follow climate-related rules and regulations and increase their administrative burden until they return to the climate policies.

The central bank should compel the individual banks to disclose their non-climate compliance activities to the public precisely the clients, and if they fail to do so the central bank can disclose it.

Despite issuing several notices and adopting all the above-mentioned ways if a bank/s is still reluctant to employ the climate rules and regulations the central bank can revoke its banking license on probation or a permanent basis.

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APPENDIXES

Appendix I Banks' Green financing performance data sheets

Table: 0.1 Green financing performance Meezan Bank (Pakistan)

Year	Quarter	Number of Branches	Average Interest Rate (%)	Capital Adequacy (%)	Green To Net Financing Ratio	Fossil To Net Financing Ratio	Net Financing to Total Deposits Ratio	Net Financing (USD 000)	Green Financing (USD 000)	Fossil Financing (USD 000)	Total Deposits (USD 000)
2015	Q1	430	8.00%	10.98%	5.78%	0.82%	37.44%	1,439,350	83,157	11,787	3,843,926
	Q2	482	8.00%	10.98%	5.86%	0.90%	33.25%	1,417,745	83,084	12,758	4,264,245
	Q3	494	6.00%	10.98%	5.43%	0.90%	36.38%	1,514,057	82,276	13,605	4,162,089
	Q4	551	6.00%	10.98%	4.08%	0.69%	43.99%	1,976,846	80,631	13,669	4,493,533
2016	Q1	551	6.00%	12.91%	4.75%	0.65%	42.92%	1,918,464	91,073	12,393	4,470,069
	Q2	551	5.75%	12.91%	4.24%	0.62%	44.96%	2,147,400	91,073	13,346	4,775,818
	Q3	551	5.75%	12.91%	4.28%	0.67%	44.52%	2,127,807	91,160	14,313	4,779,948
	Q4	571	5.75%	12.91%	3.07%	0.54%	55.23%	2,975,456	91,247	15,926	5,387,047
2017	Q1	571	5.75%	12.89%	8.54%	0.46%	56.74%	2,987,819	255,078	13,849	5,266,157
	Q2	571	5.75%	12.89%	7.88%	0.46%	57.12%	3,230,657	254,592	14,776	5,655,516
	Q3	571	5.75%	12.89%	7.46%	0.45%	58.96%	3,409,727	254,350	15,238	5,783,158
	Q4	601	5.75%	12.89%	6.36%	0.36%	62.39%	3,801,168	241,690	13,668	6,092,197
2018	Q1	601	6.00%	14.55%	6.10%	0.36%	61.70%	3,633,192	221,777	13,193	5,888,819
	Q2	602	6.50%	14.55%	6.22%	0.39%	57.33%	3,340,097	207,710	13,180	5,826,166
	Q3	610	7.50%	14.55%	5.72%	0.39%	62.01%	3,539,471	202,376	13,644	5,708,165
	Q4	660	10.00%	14.55%	4.92%	0.32%	65.26%	3,708,861	182,460	12,010	5,683,625
2019	Q1	601	10.25%	16.58%	0.33%	0.32%	64.19%	3,556,055	11,758	11,519	5,539,827
	Q2	602	12.25%	16.58%	0.34%	0.35%	57.48%	3,265,143	11,020	11,471	5,680,171
	Q3	689	13.25%	16.58%	0.35%	0.38%	56.36%	3,023,106	10,442	11,509	5,363,979
	Q4	760	13.25%	16.58%	0.33%	0.43%	52.95%	3,175,404	10,503	13,544	5,997,293
2020	Q1	774	13.25%	17.82%	0.37%	0.38%	50.94%	3,012,355	11,198	11,465	5,913,308
	Q2	798	7.00%	17.82%	0.37%	0.40%	45.77%	2,917,327	10,720	11,585	6,374,509
	Q3	802	7.00%	17.82%	0.36%	0.41%	44.95%	2,942,148	10,553	12,005	6,545,887
	Q4	815	7.00%	17.82%	0.34%	0.44%	40.86%	3,203,325	10,988	13,980	7,840,191
2021	Q1	825	7.00%	17.81%	7.77%	0.38%	41.84%	3,253,893	252,971	12,456	7,776,100
	Q2	835	7.00%	17.81%	7.12%	0.37%	41.62%	3,626,672	258,345	13,356	8,713,184
	Q3	849	7.00%	17.81%	6.72%	0.36%	44.94%	3,610,750	242,795	13,150	8,034,409
	Q4	902	9.75%	17.81%	5.36%	0.24%	52.07%	4,402,358	235,886	10,528	8,454,625

Source: Author's Analysis of the Bank's Six-Year (2015-2021) Balance Sheet

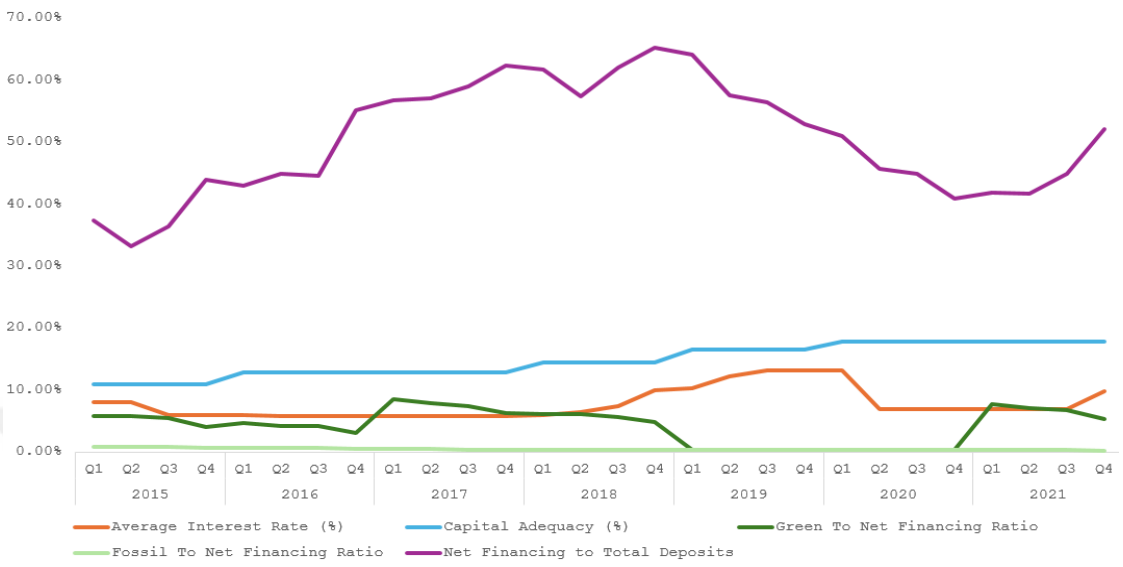

Figure 0.1: Meezan Bank Green Finance Ratio

Source: Author

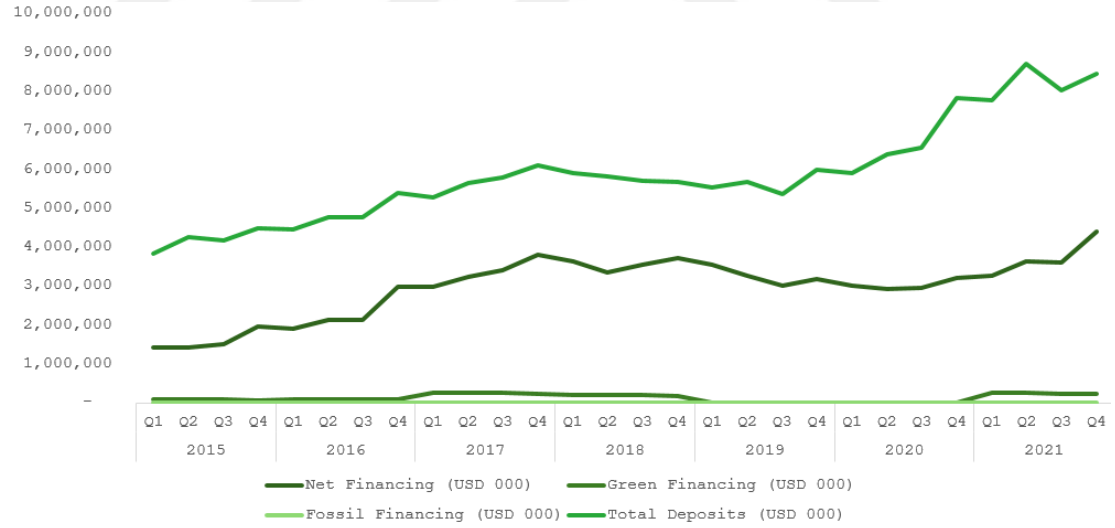

Figure 0.2: Net to Green Finance Meezan Bank

Table: 0.2 Green financing performance of Bank Islami (Pakistan)

Year	Quarter	Number of Branches	Average Interest Rate (%)	Capital Adequacy (%)	Green To Net Financing Ratio	Fossil To Net Financing Ratio	Net Financing to Total Deposits Ratio	Net Financing (USD 000)	Fossil Financing (USD 000)	Green Financing (USD 000)	Total Deposits (USD 000)
2015	Q1	213	0.98%	12.34%	0.29%	0.03%	44.77%	410,533	103	1,176	917,078
	Q2	317	0.98%	12.34%	0.83%	0.02%	40.75%	565,247	121	4,700	1,386,984
	Q3	317	0.97%	12.34%	0.84%	0.02%	39.40%	555,625	109	4,654	1,410,224
	Q4	317	0.95%	12.34%	0.69%	0.02%	45.46%	662,631	125	4,561	1,457,696
2016	Q1	317	0.95%	13.43%	0.64%	0.02%	52.07%	717,172	110	4,578	1,377,355
	Q2	317	0.95%	13.43%	0.59%	0.02%	54.81%	776,443	136	4,578	1,416,669
	Q3	317	0.95%	13.43%	0.59%	0.02%	52.51%	777,062	119	4,583	1,479,712
	Q4	321	0.96%	13.43%	0.62%	0.02%	50.40%	743,236	150	4,587	1,474,686
2017	Q1	322	0.96%	14.68%	0.32%	0.01%	62.42%	948,610	123	3,014	1,519,671
	Q2	322	0.95%	14.68%	0.32%	0.01%	59.73%	931,842	139	3,008	1,560,070
	Q3	322	0.95%	14.68%	0.30%	0.01%	63.85%	1,002,854	131	3,005	1,570,536
	Q4	330	0.90%	14.68%	0.26%	0.01%	66.47%	1,078,326	147	2,856	1,622,166
2018	Q1	330	0.88%	15.10%	0.18%	0.01%	70.00%	1,070,470	119	1,882	1,529,303
	Q2	330	0.82%	15.10%	0.20%	0.01%	60.91%	864,297	125	1,762	1,418,873
	Q3	330	0.80%	15.10%	0.20%	0.01%	62.00%	872,927	115	1,717	1,407,918
	Q4	330	0.72%	15.10%	0.18%	0.01%	64.20%	857,965	121	1,548	1,336,421
2019	Q1	330	0.72%	14.95%	0.35%	0.01%	60.22%	829,949	107	2,901	1,378,180
	Q2	330	0.67%	14.95%	0.34%	0.01%	55.16%	796,334	110	2,719	1,443,598
	Q3	330	0.64%	14.95%	0.32%	0.01%	58.26%	794,179	99	2,576	1,363,243
	Q4	334	0.64%	14.95%	0.31%	0.01%	57.59%	847,424	114	2,591	1,471,554
2020	Q1	340	0.64%	16.10%	0.18%	0.01%	52.91%	843,637	99	1,531	1,594,544
	Q2	340	0.61%	16.10%	0.17%	0.01%	59.09%	863,593	105	1,466	1,461,445
	Q3	340	0.60%	16.10%	0.18%	0.01%	52.97%	809,073	99	1,443	1,527,336
	Q4	343	0.63%	16.10%	0.18%	0.01%	46.15%	813,512	117	1,503	1,762,600
2021	Q1	342	0.62%	14.15%	0.35%	0.01%	53.26%	951,152	103	3,375	1,785,779
	Q2	343	0.64%	14.15%	0.38%	0.01%	47.20%	912,981	116	3,447	1,934,122
	Q3	340	0.60%	14.15%	0.35%	0.01%	50.33%	930,392	104	3,240	1,848,592
	Q4	340	0.58%	14.15%	0.30%	0.01%	52.55%	1,052,127	114	3,147	2,002,253

Source: Author's Analysis of the Bank's Six-Year (2015-2021) Balance Sheet

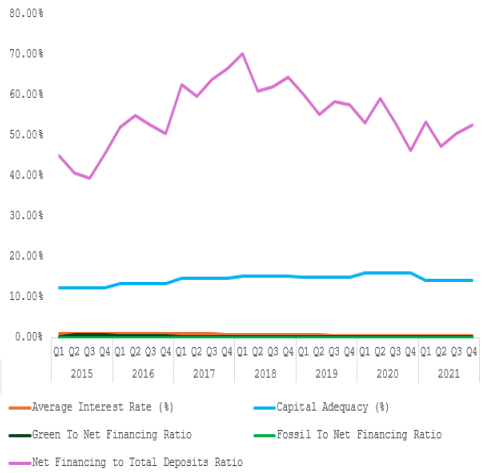

Figure 0.3: Green Financing Ratio Bank Islami

Source: Author

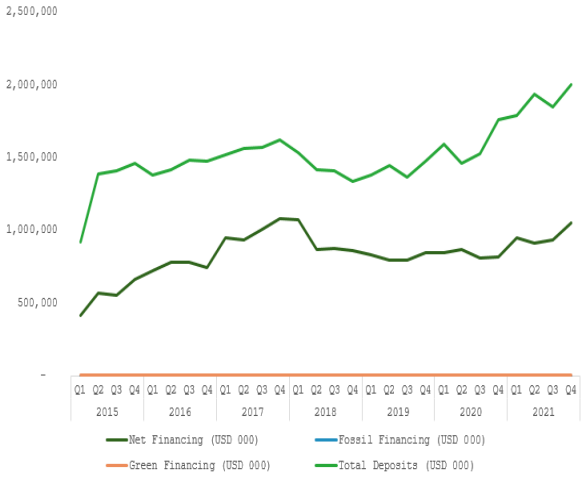

Figure 0.4: Green to Net Financing Bank Islami

Source: Author

Table: 0.3 Green financing performance of Bank Nizwa (Oman)

Year	Quarter	Number of Branches	Average Interest Rate (%)	Capital Adequacy (%)	Green To Net Financing Ratio	Fossil To Net Financing Ratio	Net Financing to Total Deposits Ratio	Net Financing (USD 000)	Green Financing (USD 000)	Fossil Financing (USD 000)	Total Deposits (USD 000)
2015	Q1	12	1.00%	12.50%	0.02%	0.80%	95.33%	1,618,842	389	12,980	1,698,103
	Q2	12	1.00%	12.50%	0.03%	0.83%	95.20%	1,636,087	441	13,499	1,718,518
	Q3	12	1.00%	12.50%	0.03%	0.83%	95.21%	1,657,144	493	13,759	1,740,441
	Q4	12	1.00%	12.50%	0.03%	0.84%	95.12%	1,675,604	545	14,018	1,761,498
2016	Q1	13	1.00%	13.00%	0.04%	0.84%	95.04%	1,694,064	597	14,278	1,782,554
	Q2	13	1.00%	13.00%	0.04%	0.85%	94.95%	1,712,524	649	14,538	1,803,610
	Q3	13	1.00%	13.00%	0.04%	0.85%	95.01%	1,733,580	701	14,797	1,824,666
	Q4	13	1.00%	13.00%	0.04%	0.86%	95.06%	1,754,610	753	15,057	1,845,722
2017	Q1	14	1.00%	13.50%	0.05%	0.85%	95.11%	1,775,436	805	15,057	1,866,778
	Q2	14	1.00%	13.50%	0.05%	0.85%	95.02%	1,793,896	857	15,316	1,887,835
	Q3	14	1.00%	13.50%	0.05%	0.86%	94.94%	1,812,356	909	15,576	1,908,891
	Q4	14	1.00%	13.50%	0.05%	0.86%	95.00%	1,833,412	961	15,836	1,929,947
2018	Q1	15	1.00%	14.00%	0.05%	0.85%	95.05%	1,854,468	1,012	15,836	1,951,003
	Q2	15	1.00%	14.00%	0.06%	0.86%	95.10%	1,875,524	1,064	16,095	1,972,059
	Q3	15	1.00%	14.00%	0.06%	0.86%	95.16%	1,896,580	1,116	16,355	1,993,115
	Q4	15	1.00%	14.00%	0.06%	0.87%	95.21%	1,917,637	1,168	16,614	2,014,172
2019	Q1	16	1.00%	14.50%	0.06%	0.86%	95.26%	1,938,693	1,220	16,614	2,035,228
	Q2	16	1.00%	14.50%	0.06%	0.86%	95.31%	1,959,749	1,272	16,874	2,056,284
	Q3	16	1.00%	14.50%	0.07%	0.86%	95.35%	1,980,805	1,324	17,134	2,077,340
	Q4	16	1.00%	14.50%	0.07%	0.87%	95.40%	2,001,861	1,376	17,393	2,098,396
2020	Q1	17	1.00%	15.00%	0.07%	0.86%	95.45%	2,022,917	1,428	17,393	2,119,452
	Q2	17	1.00%	15.00%	0.07%	0.86%	95.49%	2,043,974	1,480	17,653	2,140,508
	Q3	17	1.00%	15.00%	0.07%	0.87%	95.53%	2,065,030	1,532	17,912	2,161,565
	Q4	17	1.00%	15.00%	0.08%	0.87%	95.58%	2,086,086	1,584	18,172	2,182,621
2021	Q1	18	1.00%	15.50%	0.08%	0.85%	95.62%	2,107,142	1,635	17,912	2,203,677
	Q2	18	1.00%	15.50%	0.08%	0.85%	95.66%	2,128,198	1,687	18,172	2,224,733
	Q3	18	1.00%	15.50%	0.08%	0.86%	95.70%	2,149,254	1,739	18,432	2,245,789
	Q4	18	1.00%	15.50%	0.08%	0.86%	95.74%	2,170,311	1,791	18,691	2,266,845

Source: Author's Analysis of the Bank's Six-Year (2015-2021) Balance Sheet

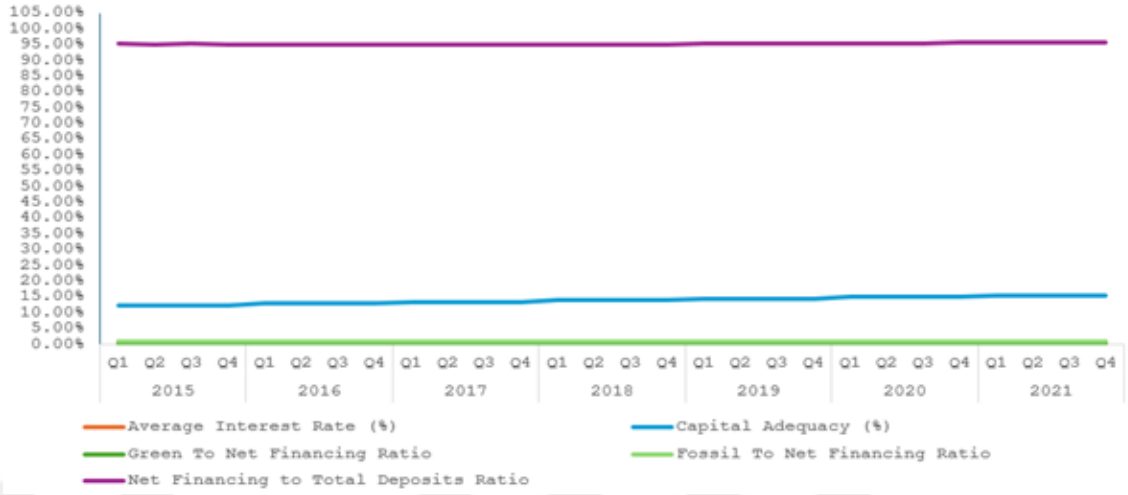

Figure 0.5: Green to Net Financing Bank Nizwa

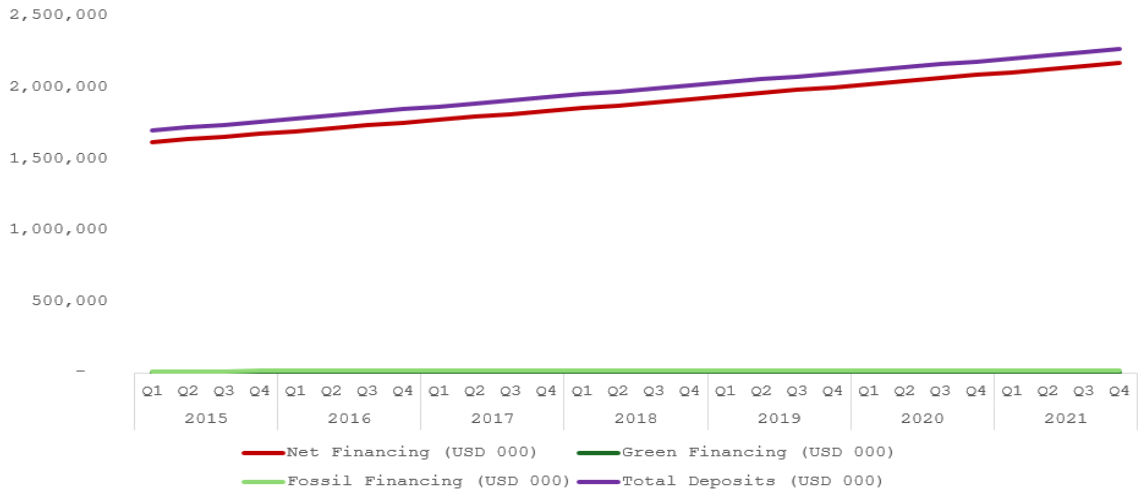

Figure 0.7: Net Financing Bank Nizwa

Table: 0.4 Green financing performance of Al-Izz Islami Bank (Oman)

Year	Quarter	Number of Branches	Average Interest Rate (%)	Capital Adequacy (%)	Green To Net Financing Ratio	Fossil To Net Financing Ratio	Net Financing to Total Deposits Ratio	Net Financing (USD 000)	Green Financing (USD 000)	Fossil Financing (USD 000)	Total Deposits (USD 000)
2015	Q1	5	1.00%	20.13%	5.00%	22.50%	200.00%	259,600	12,980	58,410	129,800
	Q2	6	1.00%	20.13%	4.73%	20.45%	200.00%	285,560	13,499	58,410	142,780
	Q3	6	1.00%	20.13%	4.50%	18.75%	200.00%	311,520	14,018	58,410	155,760
	Q4	6	1.00%	20.13%	4.31%	17.31%	200.00%	337,480	14,538	58,410	168,740
2016	Q1	7	1.00%	19.00%	4.14%	17.50%	200.00%	363,440	15,057	63,602	181,720
	Q2	7	1.00%	19.00%	4.00%	16.33%	200.00%	389,400	15,576	63,602	194,700
	Q3	7	1.00%	19.00%	3.88%	15.31%	200.00%	415,360	16,095	63,602	207,680
	Q4	7	1.00%	19.00%	3.76%	14.41%	200.00%	441,320	16,614	63,602	220,660
2017	Q1	8	1.00%	21.32%	3.67%	14.72%	200.00%	467,280	17,134	68,794	233,640
	Q2	8	1.00%	19.41%	3.58%	13.95%	200.00%	493,240	17,653	68,794	246,620
	Q3	8	1.00%	18.92%	3.50%	13.25%	200.00%	519,200	18,172	68,794	259,600
	Q4	8	1.00%	16.67%	3.43%	12.62%	200.00%	545,160	18,691	68,794	272,580
2018	Q1	9	1.00%	14.88%	3.36%	12.95%	200.00%	571,120	19,210	73,986	285,560
	Q2	9	1.00%	14.01%	3.30%	12.39%	191.67%	597,080	19,730	73,986	311,520
	Q3	10	1.00%	14.51%	3.25%	11.88%	184.62%	623,040	20,249	73,986	337,480
	Q4	10	1.00%	15.27%	3.20%	11.40%	178.57%	649,000	20,768	73,986	363,440
2019	Q1	10	1.00%	14.63%	3.15%	11.73%	173.33%	674,960	21,287	79,178	389,400
	Q2	10	1.00%	15.27%	3.11%	11.30%	168.75%	700,920	21,806	79,178	415,360
	Q3	11	1.00%	14.59%	3.07%	10.89%	164.71%	726,880	22,326	79,178	441,320
	Q4	11	1.00%	14.41%	3.03%	10.52%	161.11%	752,840	22,845	79,178	467,280
2020	Q1	11	1.00%	13.33%	3.00%	10.83%	157.89%	778,800	23,364	84,370	493,240
	Q2	12	1.00%	12.46%	2.97%	10.48%	155.00%	804,760	23,883	84,370	519,200
	Q3	12	1.00%	14.59%	2.94%	10.16%	152.38%	830,720	24,402	84,370	545,160
	Q4	12	1.00%	13.51%	2.91%	9.85%	150.00%	856,680	24,922	84,370	571,120
2021	Q1	13	1.00%	15.27%	2.88%	10.15%	147.83%	882,640	25,441	89,562	597,080
	Q2	13	1.00%	15.27%	2.86%	9.86%	145.83%	908,600	25,960	89,562	623,040
	Q3	18	1.00%	13.33%	2.83%	9.58%	200.00%	934,560	26,479	89,562	467,280
	Q4	18	1.00%	13.33%	2.81%	9.32%	200.00%	960,520	26,998	89,562	480,260

Source: Author's Analysis of the Bank's Six-Year (2015-2021) Balance Sheet

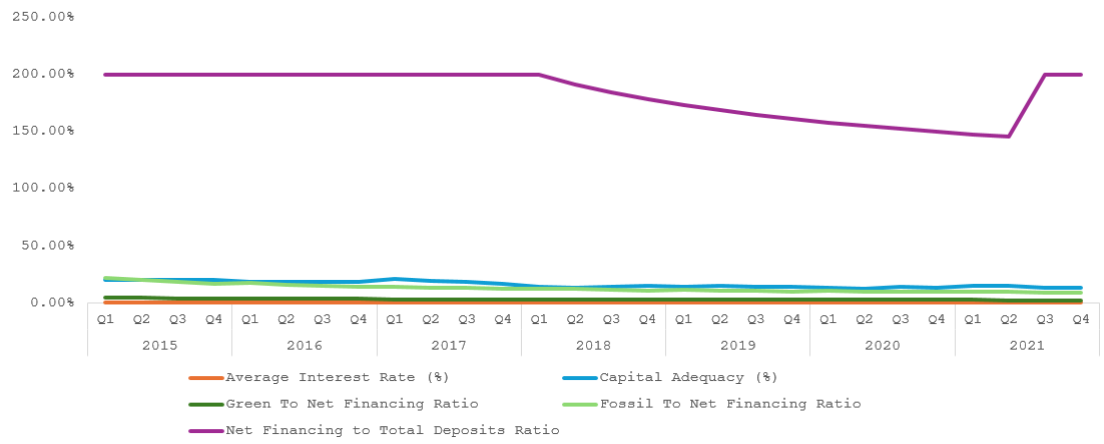

Figure 0.8: Green Financing ratio Bank Al-Izz Islami

Source: Author

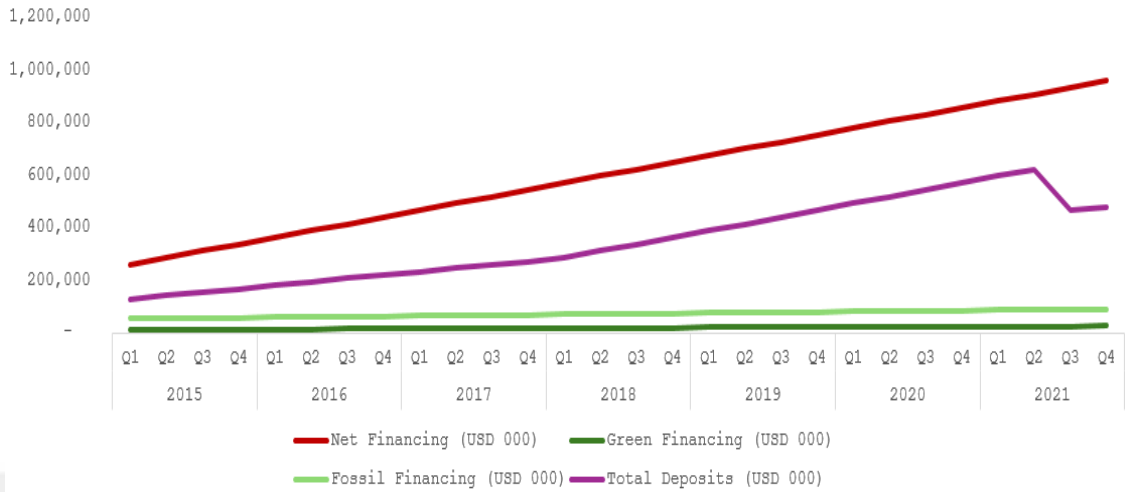

Figure 0.6: Green to Net Financing Bank Al-Izz Islami

Source: Author

Table: 0.5 Green financing performance of Abu Dhabi Islamic Bank

Year	Quarter	Number of Branches	Average Interest Rate (%)	Capital Adequacy (%)	Green To Net Financing Ratio	Fossil To Net Financing Ratio	Net Financing to Total Deposit Ratio	Net Financing (USD 000)	Green Financing (USD 000)	Fossil Financing (USD 000)	Total Deposits (USD 000)
2015	Q1	88	1.00%	14.74%	0.00%	0.06%	82.56%	19,706,822	-	12,709	23,869,770
	Q2	88	1.00%	14.01%	0.00%	0.06%	83.67%	20,309,822	-	12,709	24,273,654
	Q3	88	1.00%	14.70%	0.00%	0.06%	86.37%	21,047,496	-	12,709	24,369,027
	Q4	88	1.00%	15.14%	0.00%	0.06%	82.59%	21,363,278	-	12,709	25,865,711
2016	Q1	82	1.00%	15.24%	0.00%	0.10%	81.58%	21,338,014	-	20,758	26,156,534
	Q2	82	1.00%	14.59%	0.00%	0.10%	81.83%	21,712,495	-	20,758	26,532,776
	Q3	82	1.00%	15.03%	0.00%	0.10%	79.73%	21,423,559	-	20,758	26,869,334
	Q4	82	1.00%	15.25%	0.00%	0.10%	79.15%	21,310,769	-	20,758	26,924,728
2017	Q1	82	1.25%	15.85%	0.00%	0.24%	76.57%	21,072,408	-	50,329	27,521,696
	Q2	82	1.25%	15.61%	0.00%	0.24%	76.73%	20,915,001	-	50,329	27,256,989
	Q3	82	1.25%	16.28%	0.00%	0.24%	77.51%	20,928,554	-	50,329	27,001,104
	Q4	82	1.25%	16.71%	0.00%	0.24%	76.53%	20,852,761	-	50,329	27,248,943
2018	Q1	82	1.75%	16.02%	0.00%	0.10%	74.92%	20,865,732	-	20,758	27,849,708
	Q2	82	2.00%	16.83%	0.00%	0.10%	75.68%	20,865,732	-	20,758	27,570,676
	Q3	82	2.50%	16.45%	0.00%	0.10%	77.74%	20,865,732	-	20,758	26,840,011
	Q4	82	2.50%	16.09%	0.00%	0.10%	78.36%	21,437,778	-	20,758	27,357,969
2019	Q1	82	2.50%	17.53%	0.00%	0.06%	77.67%	21,293,213	-	12,709	27,415,947
	Q2	82	2.50%	18.33%	0.00%	0.06%	79.05%	21,496,368	-	12,709	27,194,374
	Q3	82	2.50%	18.84%	0.00%	0.06%	78.95%	21,590,287	-	12,709	27,347,063
	Q4	82	2.50%	18.88%	0.00%	0.06%	79.98%	22,100,274	-	12,709	27,630,593
2020	Q1	82	2.50%	18.08%	0.00%	0.22%	80.29%	21,626,882	-	46,645	26,935,139
	Q2	82	2.50%	18.18%	0.00%	0.21%	83.12%	22,337,450	-	46,645	26,874,928
	Q3	82	2.50%	18.35%	0.00%	0.21%	82.61%	22,671,599	-	46,645	27,444,608
	Q4	82	2.50%	19.40%	0.00%	0.21%	82.36%	22,727,346	-	46,645	27,595,675
2021	Q1	82	1.50%	19.20%	0.00%	0.43%	80.61%	22,638,193	-	96,268	28,084,321
	Q2	82	1.50%	19.05%	0.00%	0.42%	79.59%	22,806,621	-	96,268	28,653,550
	Q3	82	1.50%	19.74%	0.00%	0.42%	78.89%	23,002,474	-	96,268	29,156,605
	Q4	82	1.50%	18.57%	0.00%	0.40%	80.51%	24,046,960	-	96,268	29,866,786

Source: Author's Analysis of the Bank's Six-Year (2015-2021) Balance Sheet

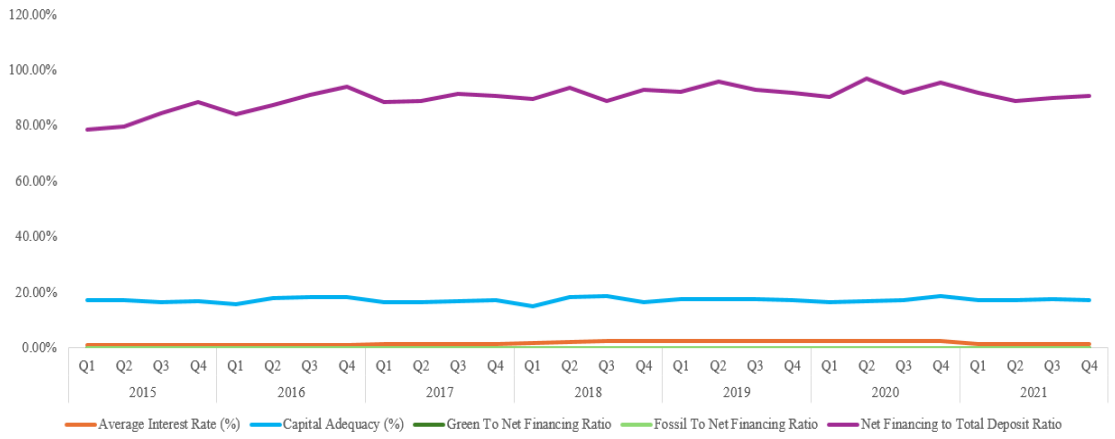

Figure 0.7: Green Financing Ratio Dubai Islamic Bank

Source: Author

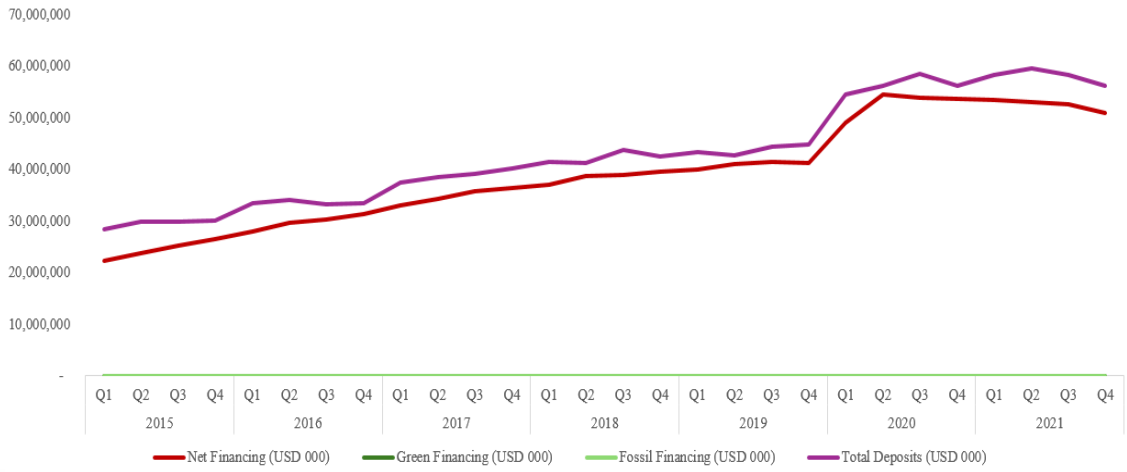

Figure: 0.8: Green to Net Financing Dubai Islamic Bank

Source: Author

Table: 0.6 Green Financing Performance Al-Rajhi Bank Saudi Arabia

Year	Quarter	Number of Branches	Average Interest Rate (%)	Capital Adequacy (%)	Green To Net Financing Ratio	Fossil To Net Financing Ratio	Net Financing to Total Deposit Ratio	Net Financing (USD 000)	Green Financing (USD 000)	Fossil Financing (USD 000)	Total Deposits (USD 000)
2015	Q1	70	2.00%	16.22%	0.00%	0.00%	59.55%	1,111,171	-	-	1,865,928
	Q2	70	2.00%	16.22%	0.00%	0.00%	66.62%	1,243,071	-	-	1,865,928
	Q3	70	2.00%	16.22%	0.00%	0.00%	93.21%	1,739,246	-	-	1,865,928
	Q4	70	2.00%	16.22%	0.00%	0.00%	98.45%	1,837,080	-	-	1,865,928
2016	Q1	70	2.00%	16.22%	0.00%	0.00%	67.68%	1,111,171	-	-	1,641,827
	Q2	70	2.00%	16.22%	0.00%	0.00%	75.71%	1,243,071	-	-	1,641,827
	Q3	70	2.00%	16.22%	0.00%	0.00%	105.93%	1,739,246	-	-	1,641,827
	Q4	70	2.00%	16.22%	0.00%	0.00%	111.89%	1,837,080	-	-	1,641,827
2017	Q1	70	2.00%	16.22%	0.00%	20.64%	59.55%	1,111,171	-	229,324	1,865,928
	Q2	70	2.00%	16.22%	0.00%	18.45%	66.62%	1,243,071	-	229,324	1,865,928
	Q3	70	2.00%	16.22%	0.00%	13.19%	93.21%	1,739,246	-	229,324	1,865,928
	Q4	70	2.00%	16.22%	0.00%	12.48%	98.45%	1,837,080	-	229,324	1,865,928
2018	Q1	70	2.25%	21.94%	0.00%	19.61%	83.97%	1,343,152	-	263,377	1,599,600
	Q2	70	2.50%	21.94%	0.00%	19.22%	80.41%	1,370,549	-	263,377	1,704,432
	Q3	70	2.75%	21.94%	0.00%	18.60%	87.06%	1,415,886	-	263,377	1,626,304
	Q4	70	3.00%	21.94%	0.00%	0.00%	0.00%	-	-	263,377	-
2019	Q1	70	3.00%	24.62%	0.00%	19.83%	84.24%	1,282,907	-	254,337	1,523,004
	Q2	70	2.75%	24.62%	0.00%	20.14%	82.90%	1,262,645	-	254,337	1,523,004
	Q3	70	2.50%	24.62%	0.00%	19.59%	100.32%	1,298,028	-	254,337	1,293,854
	Q4	70	2.25%	24.62%	0.00%	17.81%	93.21%	1,427,790	-	254,337	1,531,748
2020	Q1	70	1.00%	18.54%	0.00%	19.90%	98.26%	1,277,964	-	254,337	1,300,645
	Q2	70	1.00%	18.54%	0.00%	19.73%	98.41%	1,289,395	-	254,337	1,310,195
	Q3	70	1.00%	18.54%	0.00%	19.72%	98.67%	1,290,034	-	254,337	1,307,363
	Q4	70	1.00%	18.54%	0.00%	18.88%	97.89%	1,347,464	-	254,337	1,376,520
2021	Q1	70	1.00%	20.44%	0.00%	23.29%	94.64%	1,342,802	-	312,765	1,418,892
	Q2	70	1.00%	20.44%	0.00%	23.05%	95.87%	1,357,032	-	312,765	1,415,472
	Q3	70	1.00%	20.44%	0.00%	22.57%	85.38%	1,385,927	-	312,765	1,623,328
	Q4	70	1.00%	20.44%	0.00%	19.65%	92.33%	1,591,631	-	312,765	1,723,848

Source: Author's Analysis of the Bank's Six-Year (2015-2021) Balance Sheet

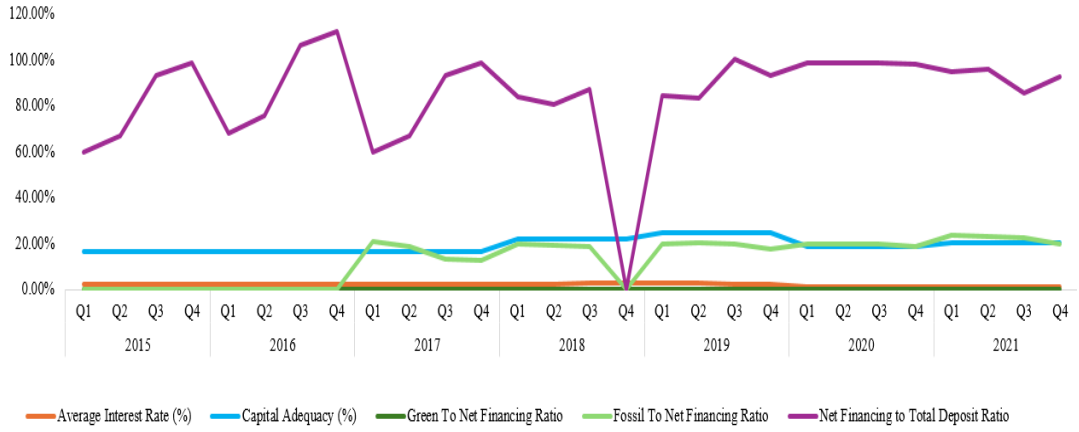

Figure 0.9. Green Financing Ratio Al-Rajhi Bank Saudi Arabia

Source: Author

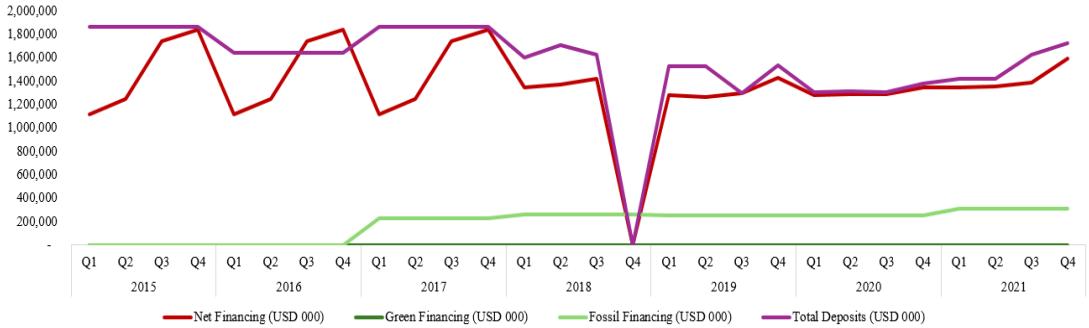

Figure: 0.10: Green to Net Financing Al-Rajhi Bank

Source: Author

Table: 0.7 Green Financing Performance Al-Jazira

Year	Quarter	Number of Branches	Average Interest Rate (%)	Capital Adequacy (%)	Green To Net Financing Ratio	Fossil To Net Financing Ratio	Net Financing to Total Deposit Ratio	Net Financing (USD 000)	Green Financing (USD 000)	Fossil Financing (USD 000)	Total Deposits (USD 000)
2015	Q1	74	2.00%	13.79%	0.00%	0.00%	75.95%	10,896,740	-	-	14,348,097
	Q2	74	2.00%	13.79%	0.00%	0.00%	75.39%	11,232,366	-	-	14,898,263
	Q3	74	2.00%	13.79%	0.00%	0.00%	76.40%	11,243,548	-	-	14,716,475
	Q4	74	2.00%	13.79%	0.00%	0.00%	77.81%	11,403,428	-	-	14,656,215
2016	Q1	74	2.00%	15.31%	0.00%	0.00%	75.83%	11,515,709	-	-	15,185,627
	Q2	74	2.00%	15.31%	0.00%	0.00%	76.51%	11,702,329	-	-	15,295,843
	Q3	74	2.00%	15.31%	0.00%	0.00%	78.61%	11,515,709	-	-	14,648,919
	Q4	74	2.00%	15.31%	0.00%	0.00%	72.31%	11,223,512	-	-	15,520,343
2017	Q1	74	2.00%	20.94%	0.00%	0.00%	82.25%	10,922,956	-	-	13,279,974
	Q2	74	2.00%	20.94%	0.00%	0.00%	83.33%	10,922,956	-	-	13,108,657
	Q3	74	2.00%	20.94%	0.00%	0.00%	82.39%	10,910,958	-	-	13,243,650
	Q4	74	2.00%	20.94%	0.00%	0.00%	81.40%	10,910,958	-	-	13,404,212
2018	Q1	74	2.25%	27.46%	0.00%	0.00%	81.09%	10,868,990	-	-	13,404,212
	Q2	74	2.50%	27.46%	0.00%	0.00%	81.97%	10,986,918	-	-	13,404,212
	Q3	74	2.75%	27.46%	0.00%	0.00%	78.78%	10,879,759	-	-	13,810,973
	Q4	74	3.00%	27.46%	0.00%	0.00%	78.95%	10,903,111	-	-	13,810,973
2019	Q1	74	3.00%	24.62%	0.00%	0.00%	88.91%	12,279,943	-	-	13,810,973
	Q2	75	2.75%	24.62%	0.00%	0.00%	88.91%	12,279,943	-	-	13,810,973
	Q3	75	2.50%	24.62%	0.00%	0.00%	88.91%	12,279,943	-	-	13,810,973
	Q4	75	2.25%	24.62%	0.00%	0.00%	82.42%	13,776,573	-	-	16,714,965
2020	Q1	75	1.00%	23.50%	0.00%	0.00%	78.39%	13,103,448	-	-	16,715,020
	Q2	76	1.00%	23.50%	0.00%	0.00%	80.74%	13,776,573	-	-	17,062,400
	Q3	78	1.00%	23.50%	0.00%	0.00%	78.79%	13,863,200	-	-	17,595,600
	Q4	78	1.00%	23.50%	0.00%	0.00%	79.35%	14,386,003	-	-	18,129,866
2021	Q1	78	1.00%	22.00%	0.00%	0.00%	87.72%	14,709,557	-	-	16,769,154
	Q2	78	1.00%	22.00%	0.00%	0.00%	90.44%	15,169,722	-	-	16,773,905
	Q3	79	1.00%	22.00%	0.00%	0.00%	87.10%	15,579,922	-	-	17,886,648
	Q4	79	1.00%	22.00%	0.00%	0.00%	79.64%	16,645,031	-	-	20,901,440

Source: Author's Analysis of the Bank's Six-Year (2015-2021) Balance Sheet

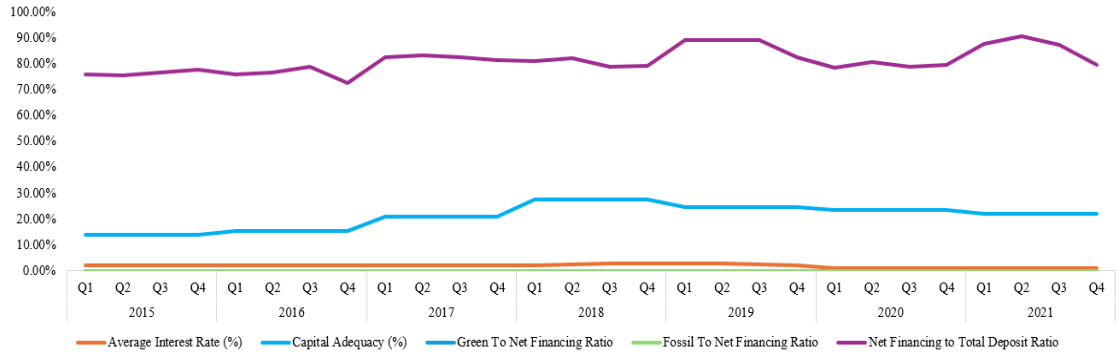

Figure 0.11: Green Net to Financing Al-Jazira Saudia Arabia

Source: Author

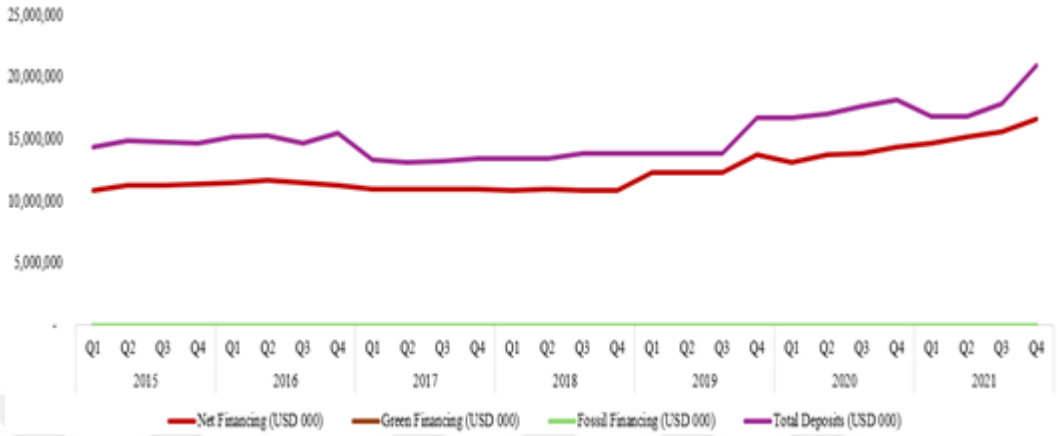

Figure 0.12. Green Financing Ratio Al-Jazira Saudia Arabia

Source: Author

Table: 0.8 Green Financing Performance Qatar Islamic Bank

Year	Quarter	Number of Branches	Average Interest Rate (%)	Capital Adequacy (%)	Green To Net Financing Ratio	Fossil To Net Financing Ratio	Net Financing to Total Deposit Ratio	Net Financing (USD 000)	Green Financing (USD 000)	Fossil Financing (USD 000)	Total Deposits (USD 000)
2015	Q1	32	4.50%	14.10%	0.00%	0.00%	281.91%	17,720,435	-	-	6,285,750
	Q2	32	4.50%	14.10%	0.00%	0.00%	334.91%	21,051,763	-	-	6,285,750
	Q3	32	4.50%	14.10%	0.00%	0.00%	358.62%	22,541,718	-	-	6,285,750
	Q4	32	4.50%	14.10%	0.00%	0.00%	381.21%	23,962,063	-	-	6,285,750
2016	Q1	28	4.50%	16.70%	0.00%	0.00%	381.90%	25,022,256	-	-	6,551,975
	Q2	28	4.50%	16.70%	0.00%	0.00%	404.90%	26,528,940	-	-	6,551,975
	Q3	28	4.50%	16.70%	0.00%	0.00%	405.08%	26,540,818	-	-	6,551,975
	Q4	28	4.50%	16.70%	0.00%	0.00%	411.63%	26,969,923	-	-	6,551,975
2017	Q1	30	4.75%	17.30%	0.00%	0.00%	390.94%	27,337,712	-	-	6,992,758
	Q2	30	4.75%	17.30%	0.00%	0.00%	430.95%	30,135,090	-	-	6,992,758
	Q3	30	4.75%	17.30%	0.00%	0.00%	389.99%	27,270,852	-	-	6,992,758
	Q4	30	4.75%	17.30%	0.00%	0.00%	403.14%	28,190,522	-	-	6,992,758
2018	Q1	31	4.75%	18.80%	0.00%	0.00%	416.09%	28,748,584	-	-	6,909,202
	Q2	31	4.75%	18.80%	0.00%	0.00%	398.66%	27,543,964	-	-	6,909,202
	Q3	31	4.75%	18.80%	0.00%	0.00%	422.98%	29,224,730	-	-	6,909,202
	Q4	31	5.00%	18.80%	0.00%	0.00%	406.41%	28,079,651	-	-	6,909,202
2019	Q1	30	5.00%	19.50%	0.00%	0.00%	380.95%	29,204,855	-	-	7,666,247
	Q2	30	5.00%	19.50%	0.00%	0.00%	383.28%	29,383,434	-	-	7,666,247
	Q3	30	4.75%	19.50%	0.00%	0.00%	383.28%	29,383,434	-	-	7,666,247
	Q4	30	4.75%	19.50%	0.00%	0.00%	407.64%	31,250,987	-	-	7,666,247
2020	Q1	23	4.50%	19.40%	0.00%	0.00%	385.93%	31,315,200	-	-	8,114,284
	Q2	23	2.50%	19.40%	0.00%	0.00%	380.07%	30,839,575	-	-	8,114,284
	Q3	23	2.50%	19.40%	0.00%	0.00%	383.19%	31,093,309	-	-	8,114,284
	Q4	23	2.50%	19.40%	0.00%	0.00%	403.14%	32,712,207	-	-	8,114,284
2021	Q1	23	2.50%	18.90%	0.00%	0.00%	381.79%	34,375,868	-	-	9,003,764
	Q2	23	2.50%	18.90%	0.00%	0.00%	387.64%	34,902,337	-	-	9,003,764
	Q3	23	2.50%	18.90%	0.00%	0.00%	387.82%	34,917,980	-	-	9,003,764
	Q4	23	2.50%	18.90%	0.00%	0.00%	391.80%	35,277,068	-	-	9,003,764

Source: Author's Analysis of the Bank's Six-Year (2015-2021) Balance Sheet

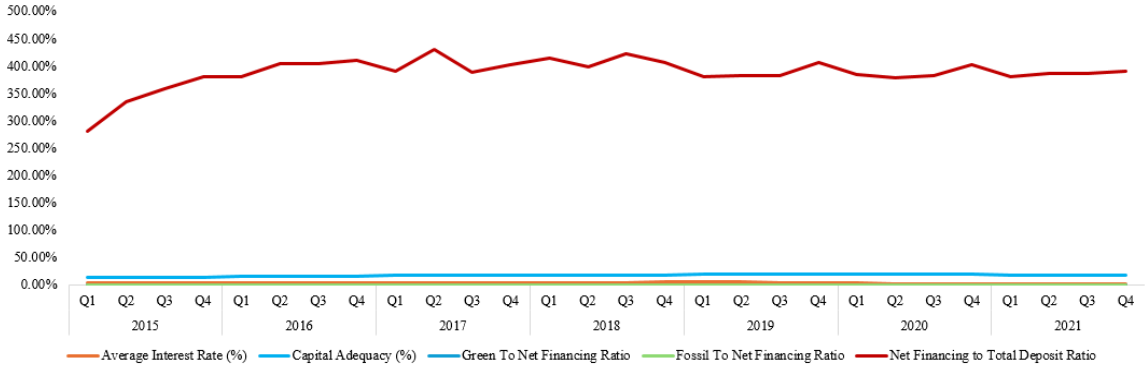

Figure: 0.13: Green Financing Ratio Qatar Islamic

Source: Author

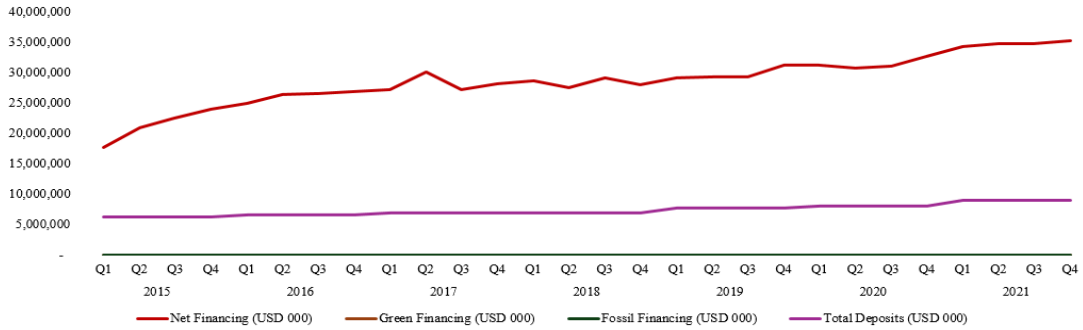

Figure 0.14: Green Financing Ratio Qatar Islamic Bank

Source: Author

Table: 0.9 Green Financing Performance Masraf Al Rayan

Year	Quarter	Average Interest Rate (%)	Capital Adequacy (%)	Green To Net Financing Ratio	Fossil To Net Financing Ratio	Net Financing to Total Deposit Ratio	Net Financing (USD 000)	Green Financing (USD 000)	Fossil Financing (USD 000)	Total Deposits (USD 000)
2015	Q1	4.50%	18.54%	0.00%	0.00%	1092.86%	17,256,949	-	160,384	1,579,062
	Q2	4.50%	18.54%	0.00%	0.98%	1007.61%	16,346,420	-	160,384	1,622,299
	Q3	4.50%	18.54%	0.00%	0.97%	1022.58%	16,479,338	-	160,384	1,611,553
	Q4	4.50%	18.54%	0.00%	0.94%	1006.85%	17,104,795	-	160,384	1,698,836
2016	Q1	4.50%	18.85%	0.00%	0.02%	1026.48%	17,976,320	-	3,556	1,751,250
	Q2	4.50%	18.85%	0.00%	0.02%	1127.96%	17,654,580	-	3,556	1,565,173
	Q3	4.50%	18.85%	0.00%	0.02%	1011.19%	18,400,855	-	3,556	1,819,721
	Q4	4.50%	18.85%	0.00%	0.02%	642.08%	18,580,923	-	3,556	2,893,854
2017	Q1	4.75%	19.46%	0.00%	10.05%	914.21%	18,547,046	-	1,863,995	2,028,756
	Q2	4.75%	19.46%	0.00%	9.98%	991.20%	18,670,186	-	1,863,995	1,883,585
	Q3	4.75%	19.17%	0.00%	9.91%	1013.34%	18,813,689	-	1,863,995	1,856,598
	Q4	4.75%	19.32%	0.00%	9.41%	1088.94%	19,806,890	-	1,863,995	1,818,912
2018	Q1	4.75%	18.84%	0.00%	1.06%	956.07%	19,864,725	-	210,299	2,077,751
	Q2	4.75%	18.75%	0.00%	1.05%	1104.31%	20,079,247	-	210,299	1,818,261
	Q3	4.75%	19.04%	0.00%	1.03%	1059.34%	20,445,599	-	210,299	1,930,036
	Q4	5.00%	19.23%	0.00%	1.06%	992.79%	19,825,230	-	210,299	1,996,927
2019	Q1	5.00%	19.52%	0.00%	1.73%	979.56%	20,845,737	-	360,630	2,128,072
	Q2	5.00%	19.45%	0.00%	1.75%	1029.66%	20,549,424	-	360,630	1,995,745
	Q3	4.75%	19.70%	0.00%	1.74%	1046.25%	20,759,022	-	360,630	1,984,140
	Q4	4.75%	20.27%	0.00%	1.75%	994.29%	20,559,700	-	360,630	2,067,770
2020	Q1	4.50%	19.89%	0.00%	0.00%	999.47%	21,776,034	-	320	2,178,755
	Q2	2.50%	19.70%	0.00%	0.00%	931.01%	21,457,138	-	320	2,304,727
	Q3	2.50%	19.52%	0.00%	0.00%	910.18%	22,191,044	-	320	2,438,100
	Q4	2.50%	20.31%	0.00%	0.00%	1012.52%	23,621,823	-	320	2,332,966
2021	Q1	2.50%	19.92%	0.00%	0.91%	1026.03%	25,081,523	-	228,505	2,444,510
	Q2	2.50%	20.29%	0.00%	0.91%	1089.68%	25,055,609	-	228,505	2,299,355
	Q3	2.50%	20.06%	0.00%	0.96%	1009.79%	23,903,722	-	228,505	2,367,209
	Q4	2.50%	21.15%	0.00%	0.69%	1314.17%	33,188,662	-	228,505	2,525,449

Source: Author's Analysis of the Bank's Six-Year (2015-2021) Balance Sheet

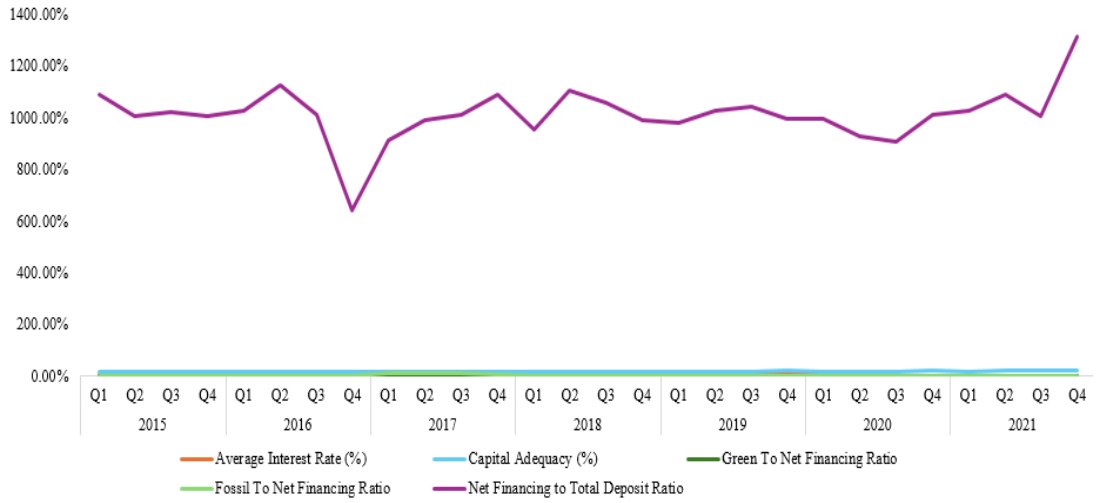

Figure 0.15: Green Financing Ratio Masraf Al Rayan

Source: Author

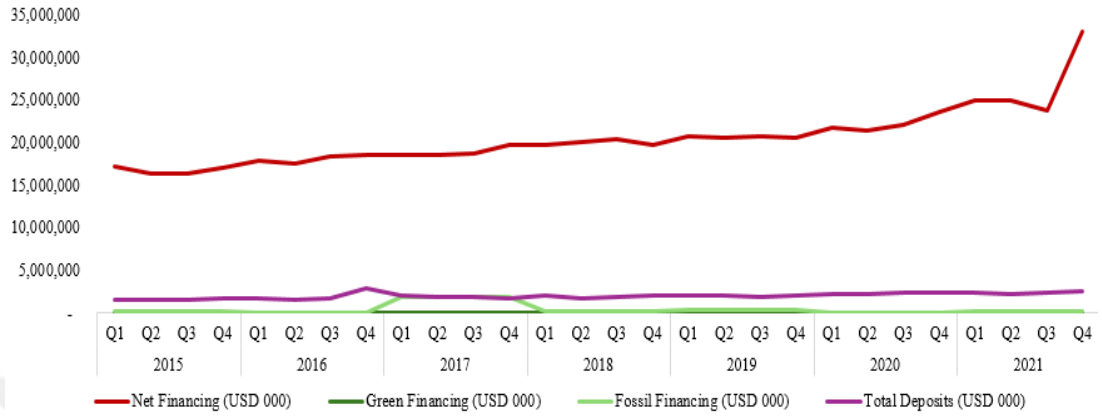

Figure 0.16: Green to Net Financing Masraf Al Rayan

Source: Author

Table: 0.10 Green Financing Performance Kuwait Finance House

Year	Quarter	Number of Branches	Average Interest Rate (%)	Capital Adequacy (%)	Green To Net Financing Ratio	Fossil To Net Financing Ratio	Net Financing to Total Deposit Ratio	Net Financing (USD 000)	Green Financing (USD 000)	Fossil Financing (USD 000)	Total Deposits (USD 000)
2015	Q1	450	2.00%	16.67%	0.00%	0.00%	75.18%	27,337,847	-	-	36,365,453
	Q2	450	2.00%	16.67%	0.00%	0.00%	74.08%	27,559,963	-	-	37,202,233
	Q3	450	2.00%	16.67%	0.00%	0.00%	73.09%	26,561,003	-	-	36,338,250
	Q4	450	2.00%	16.67%	0.00%	0.00%	74.98%	27,091,590	-	-	36,129,423
2016	Q1	481	2.00%	17.88%	0.00%	0.00%	76.00%	27,870,087	-	-	36,670,167
	Q2	481	2.00%	17.88%	0.00%	0.00%	75.52%	28,167,090	-	-	37,296,853
	Q3	481	2.00%	17.88%	0.00%	0.00%	77.30%	28,088,613	-	-	36,337,090
	Q4	481	2.00%	17.88%	0.00%	0.00%	76.68%	27,252,630	-	-	35,540,467
2017	Q1	481	2.25%	17.76%	0.00%	0.00%	77.52%	28,204,257	-	-	36,381,287
	Q2	481	2.25%	17.76%	0.00%	0.00%	78.35%	29,714,353	-	-	37,923,313
	Q3	481	2.25%	17.76%	0.00%	0.00%	80.03%	30,912,960	-	-	38,626,353
	Q4	481	2.25%	17.76%	0.00%	0.00%	79.47%	30,721,583	-	-	38,655,777
2018	Q1	515	2.75%	17.47%	0.00%	0.00%	80.73%	31,657,823	-	-	39,213,363
	Q2	515	3.00%	17.47%	0.00%	0.00%	80.03%	31,871,117	-	-	39,822,400
	Q3	515	3.25%	17.47%	0.00%	0.00%	79.68%	30,553,670	-	-	38,343,210
	Q4	515	3.50%	17.47%	0.00%	0.00%	79.67%	31,285,823	-	-	39,267,700
2019	Q1	515	3.50%	17.67%	0.00%	0.00%	76.09%	31,194,127	-	-	40,996,243
	Q2	515	3.00%	17.67%	0.00%	0.00%	71.96%	30,790,917	-	-	42,790,480
	Q3	515	2.75%	17.67%	0.00%	0.00%	70.63%	31,188,060	-	-	44,158,363
	Q4	515	2.75%	17.67%	0.00%	0.00%	68.89%	31,121,850	-	-	45,175,483
2020	Q1	516	2.50%	17.53%	0.00%	0.00%	68.61%	32,651,550	-	-	47,591,170
	Q2	516	2.00%	17.53%	0.00%	0.00%	67.62%	32,880,490	-	-	48,622,637
	Q3	516	1.75%	17.53%	0.00%	0.00%	67.92%	33,767,480	-	-	49,713,377
	Q4	516	1.75%	17.53%	0.00%	0.00%	70.17%	35,825,120	-	-	51,057,783
2021	Q1	516	1.75%	18.69%	0.00%	0.00%	71.00%	36,232,110	-	-	51,030,723
	Q2	516	1.75%	18.69%	0.00%	0.00%	70.28%	36,956,520	-	-	52,588,000
	Q3	516	1.75%	18.69%	0.00%	0.00%	70.86%	37,815,800	-	-	53,364,690
	Q4	516	1.75%	18.69%	0.00%	0.00%	71.57%	37,851,210	-	-	52,889,670

Source: Author's Analysis of the Bank's Six-Year (2015-2021) Balance Sheet

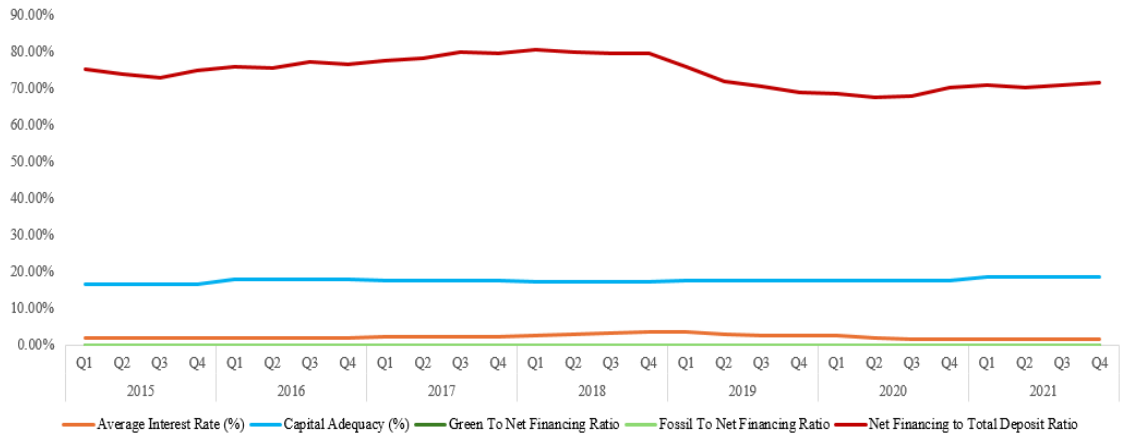

Figure 0.17: Green Financing Ratio Kuwait Finance House

Source: Author

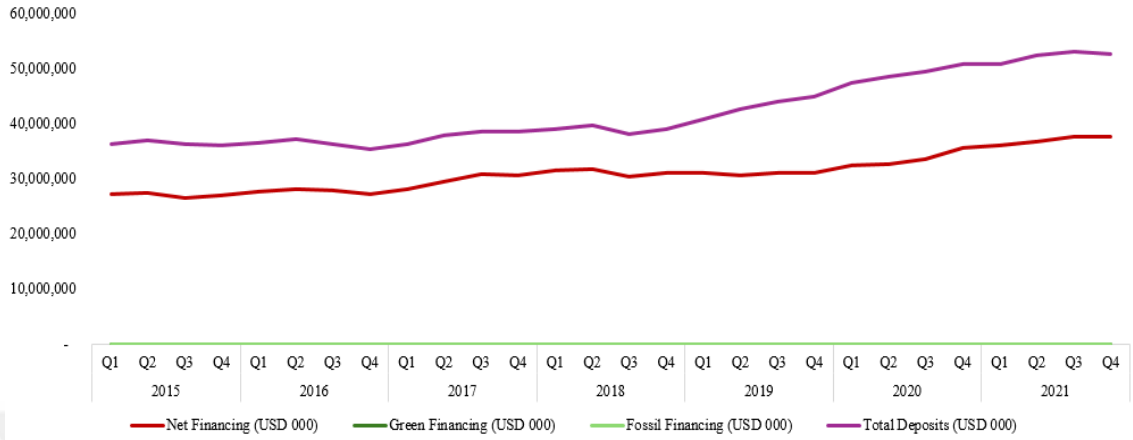

Figure 0.18: Green to Net Financing Kuwait Finance House

Source: Author

Table: 0.11 Green Financing Performance Boubyan Bank

Year	Quarter	Number of Branches	Average Interest Rate (%)	Capital Adequacy (%)	Green To Net Financing Ratio	Fossil To Net Financing Ratio	Net Financing to Total Deposit Ratio	Net Financing (USD 000)	Green Financing (USD 000)	Fossil Financing (USD 000)	Total Deposits (USD 000)
2015	Q1	32	2.00%	17.04%	0.00%	0.00%	84.46%	6,348,597	-	-	7,516,700
	Q2	32	2.00%	17.04%	0.00%	0.00%	88.13%	6,652,067	-	-	7,548,160
	Q3	32	2.00%	17.04%	0.00%	0.00%	89.69%	7,025,120	-	-	7,833,010
	Q4	32	2.00%	17.04%	0.00%	0.00%	90.53%	7,239,313	-	-	7,996,450
2016	Q1	37	2.00%	21.35%	0.00%	0.00%	86.52%	7,558,843	-	-	8,736,173
	Q2	37	2.00%	21.35%	0.00%	0.00%	84.60%	7,865,090	-	-	9,296,863
	Q3	37	2.00%	21.35%	0.00%	0.00%	85.10%	8,144,920	-	-	9,571,217
	Q4	37	2.00%	21.35%	0.00%	0.00%	85.46%	8,389,200	-	-	9,816,920
2017	Q1	40	2.25%	19.41%	0.00%	0.00%	84.97%	8,903,807	-	-	10,478,343
	Q2	40	2.25%	19.41%	0.00%	0.00%	87.47%	9,249,133	-	-	10,573,717
	Q3	40	2.25%	19.41%	0.00%	0.00%	86.35%	9,492,127	-	-	10,992,597
	Q4	40	2.25%	19.41%	0.00%	0.00%	84.64%	9,589,260	-	-	11,329,173
2018	Q1	42	2.75%	18.19%	0.00%	0.00%	85.45%	10,044,843	-	-	11,755,050
	Q2	42	3.00%	18.19%	0.00%	0.00%	88.42%	10,440,720	-	-	11,808,033
	Q3	42	3.25%	18.19%	0.00%	0.00%	88.98%	10,643,430	-	-	11,962,230
	Q4	42	3.50%	18.19%	0.00%	0.00%	87.67%	10,874,283	-	-	12,403,117
2019	Q1	43	3.50%	20.32%	0.00%	0.00%	89.74%	11,349,213	-	-	12,646,403
	Q2	43	3.00%	20.32%	0.00%	0.00%	88.96%	11,804,487	-	-	13,269,377
	Q3	43	2.75%	20.32%	0.00%	0.00%	88.67%	12,124,040	-	-	13,673,923
	Q4	43	2.75%	20.32%	0.00%	0.00%	88.01%	12,753,577	-	-	14,490,753
2020	Q1	43	2.50%	16.86%	0.00%	0.00%	96.23%	14,931,127	-	-	15,515,600
	Q2	43	2.00%	16.86%	0.00%	0.00%	95.74%	15,062,127	-	-	15,731,690
	Q3	43	1.75%	16.86%	0.00%	0.00%	91.75%	15,494,600	-	-	16,887,713
	Q4	43	1.75%	16.86%	0.00%	0.00%	94.43%	16,077,553	-	-	17,025,760
2021	Q1	43	1.75%	16.40%	0.00%	0.00%	94.24%	16,455,877	-	-	17,460,973
	Q2	43	1.75%	16.40%	0.00%	0.00%	95.11%	17,174,610	-	-	18,057,503
	Q3	43	1.75%	16.40%	0.00%	0.00%	97.49%	17,708,737	-	-	18,164,140
	Q4	43	1.75%	16.40%	0.00%	0.00%	98.12%	18,376,913	-	-	18,729,290

Source: Author's Analysis of the Bank's Six-Year (2015-2021) Balance Sheet

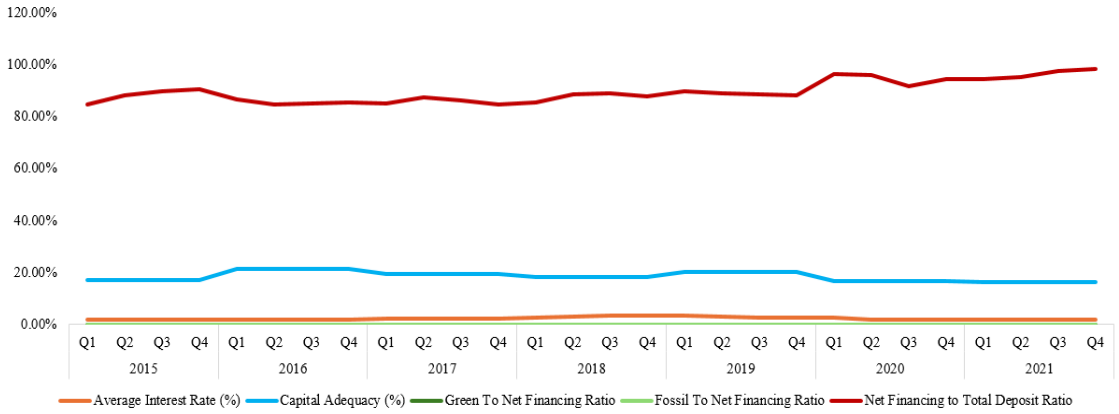

Figure 0.19: Green Financing Ratio Boubyan Bank

Source: Author

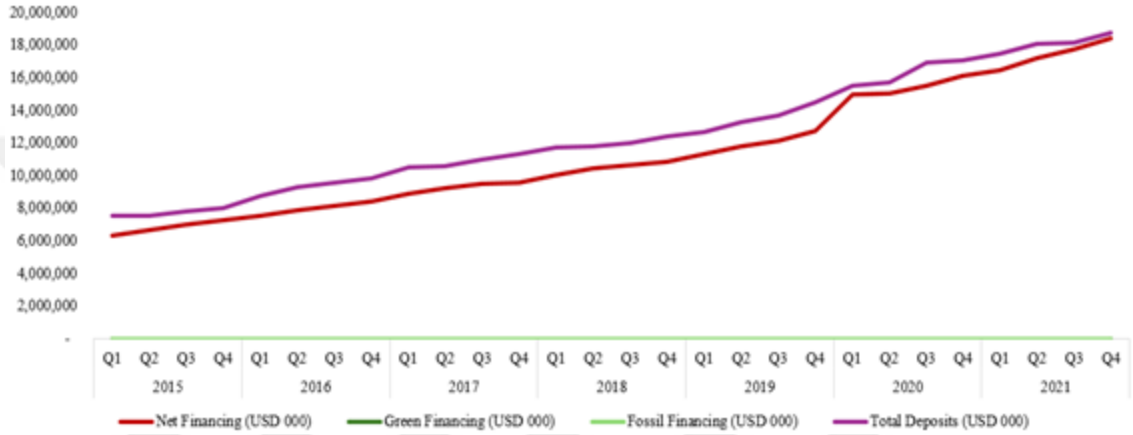

Figure 0.20: Green to Net Financing Boubyan Bank

Source: Author

Table: 0.12 Green Financing Performance Bank Syariah Indonesia

Year	Quarter	Number of Branches	Average Interest Rate (%)	Capital Adequacy (%)	Green To Net Financing Ratio	Fossil To Net Financing Ratio	Net Financing to Total Deposits Ratio	Net Financing (USD 000)	Green Financing (USD 000)	Fossil Financing (USD 000)	Total Deposits (USD 000)
2015	Q1	84	7.50%	12.50%	0.70%	1.04%	88.12%	1,100	8	11	1,248
	Q2	85	7.50%	12.60%	0.81%	1.36%	75.45%	1,100	9	15	1,458
	Q3	85	7.50%	12.70%	0.91%	1.63%	77.94%	1,039	9	17	1,333
	Q4	85	7.50%	12.80%	1.02%	1.91%	80.07%	1,140	12	22	1,424
2016	Q1	85	6.75%	12.90%	1.24%	2.41%	73.93%	1,092	14	26	1,477
	Q2	85	6.50%	13.00%	1.35%	2.70%	75.33%	1,124	15	30	1,493
	Q3	85	6.50%	13.10%	1.49%	3.04%	75.32%	1,129	17	34	1,498
	Q4	85	6.50%	13.20%	1.62%	3.38%	75.32%	1,106	18	37	1,469
2017	Q1	86	6.25%	13.30%	1.72%	3.64%	75.15%	1,137	20	41	1,513
	Q2	86	6.25%	13.40%	1.84%	3.94%	75.29%	1,144	21	45	1,520
	Q3	87	6.00%	13.50%	1.95%	4.24%	75.43%	1,131	22	48	1,499
	Q4	87	6.00%	13.60%	2.07%	4.53%	75.56%	1,142	24	52	1,512
2018	Q1	87	6.00%	13.70%	2.94%	6.49%	57.46%	838	25	54	1,459
	Q2	87	5.25%	13.80%	3.05%	6.79%	57.56%	822	25	56	1,427
	Q3	87	5.75%	13.90%	3.16%	7.06%	57.42%	792	25	56	1,380
	Q4	87	6.00%	14.00%	3.32%	7.47%	57.42%	833	28	62	1,451
2019	Q1	87	6.00%	14.10%	5.65%	12.77%	95.15%	523	30	67	550
	Q2	87	6.00%	14.20%	5.28%	12.01%	93.21%	590	31	71	633
	Q3	87	5.25%	14.30%	5.30%	12.09%	95.13%	612	32	74	644
	Q4	87	5.00%	14.40%	5.31%	12.17%	96.26%	643	34	78	668
2020	Q1	87	4.50%	14.50%	5.47%	12.58%	95.39%	556	30	70	583
	Q2	88	4.25%	14.60%	5.33%	12.30%	96.17%	678	36	83	705
	Q3	89	4.00%	14.70%	5.39%	12.47%	95.40%	677	36	84	709
	Q4	88	3.75%	14.80%	5.31%	12.33%	95.62%	750	40	92	784
2021	Q1	88	3.50%	14.90%	5.28%	12.29%	96.44%	752	40	92	780
	Q2	89	3.50%	15.00%	5.24%	12.23%	96.10%	794	42	97	827
	Q3	89	3.50%	15.10%	5.24%	12.26%	95.73%	827	43	101	864
	Q4	89	3.50%	15.20%	5.24%	12.28%	95.23%	849	44	104	891

Source: Author's Analysis of the Bank's Six-Year (2015-2021) Balance Sheet

Figure 0.21: Green Financing Ratio Bank Syariah Indonesia

Source: Author

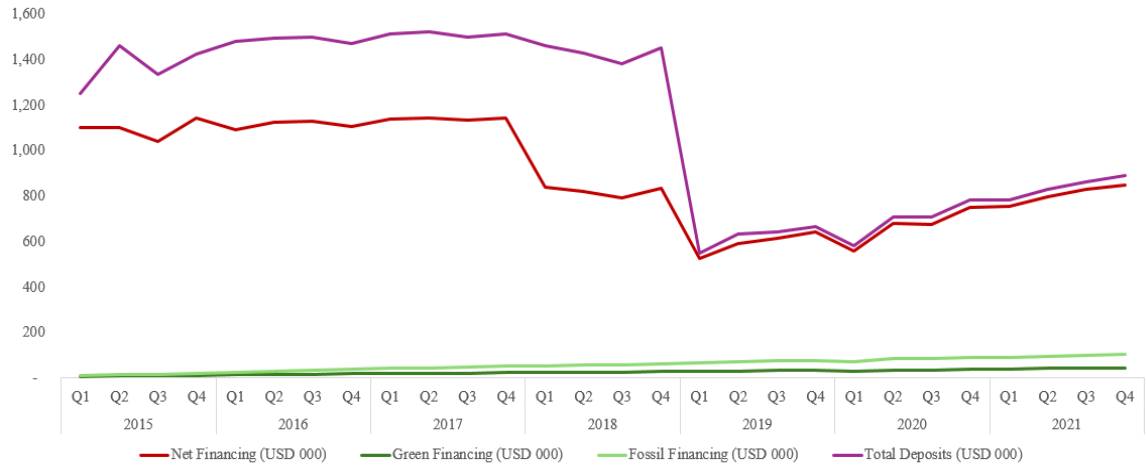

Figure 0.22: Green to Net Financing Bank Syariah Indonesia

Source: Author

Table: 0.13 Green Financing Performance Bank Muamalat Indonesia

Year	Quarter	Number of Branches	Average Interest Rate (%)	Capital Adequacy (%)	Green To Net Financing Ratio	Fossil To Net Financing Ratio	Net Financing to Total Deposits Ratio	Net Financing (USD 000)	Green Financing (USD 000)	Fossil Financing (USD 000)	Total Deposits (USD 000)
2015	Q1	200	7.50%	13.20%	0.00%	0.00%	88.12%	1,100	-	-	1,248
	Q2	210	7.50%	13.20%	0.00%	0.00%	75.45%	1,100	-	-	1,458
	Q3	212	7.50%	13.20%	0.00%	0.00%	77.94%	1,039	-	-	1,333
	Q4	212	7.50%	13.20%	0.00%	0.00%	80.07%	1,140	-	-	1,424
2016	Q1	212	6.75%	16.08%	0.00%	0.00%	73.93%	1,092	-	-	1,477
	Q2	220	6.50%	16.08%	0.00%	0.00%	75.33%	1,124	-	-	1,493
	Q3	223	6.50%	16.08%	0.00%	0.00%	75.32%	1,129	-	-	1,498
	Q4	225	6.50%	16.08%	0.00%	0.00%	75.32%	1,106	-	-	1,469
2017	Q1	254	6.25%	15.10%	0.00%	0.00%	75.15%	1,137	-	-	1,513
	Q2	254	6.25%	15.10%	0.00%	0.00%	75.29%	1,144	-	-	1,520
	Q3	254	6.00%	15.10%	0.00%	0.00%	75.43%	1,131	-	-	1,499
	Q4	254	6.00%	15.10%	0.00%	0.00%	75.56%	1,142	-	-	1,512
2018	Q1	254	6.00%	18.50%	8.31%	10.90%	76.87%	2,159	179	235	2,809
	Q2	256	5.25%	18.55%	8.24%	10.77%	78.30%	2,135	176	230	2,727
	Q3	258	5.75%	18.60%	8.37%	10.83%	78.31%	2,033	170	220	2,596
	Q4	260	6.00%	18.65%	8.45%	10.91%	78.11%	2,155	182	235	2,759
2019	Q1	450	6.00%	20.10%	0.00%	0.00%	96.83%	673	-	-	695
	Q2	455	6.00%	20.20%	0.00%	0.00%	96.73%	693	-	-	717
	Q3	460	5.25%	20.30%	0.00%	0.00%	96.69%	706	-	-	730
	Q4	465	5.00%	20.40%	0.00%	0.00%	96.67%	728	-	-	753
2020	Q1	248	4.50%	15.19%	31.81%	0.00%	35.73%	740	235	-	2,071
	Q2	248	4.25%	15.19%	31.81%	0.00%	35.73%	846	269	-	2,368
	Q3	248	4.00%	15.19%	31.81%	0.00%	35.73%	822	261	-	2,299
	Q4	248	3.75%	15.19%	31.81%	0.00%	35.73%	865	275	-	2,422
2021	Q1	255	3.50%	23.76%	12.03%	20.90%	37.84%	1,241	149	259	3,279
	Q2	257	3.50%	23.76%	12.13%	20.75%	38.37%	1,288	156	267	3,356
	Q3	259	3.50%	23.76%	12.27%	20.79%	38.69%	1,319	162	274	3,410
	Q4	260	3.50%	23.76%	12.41%	20.89%	39.04%	1,335	166	279	3,420

Source: Author's Analysis of the Bank's Six-Year (2015-2021) Balance Sheet

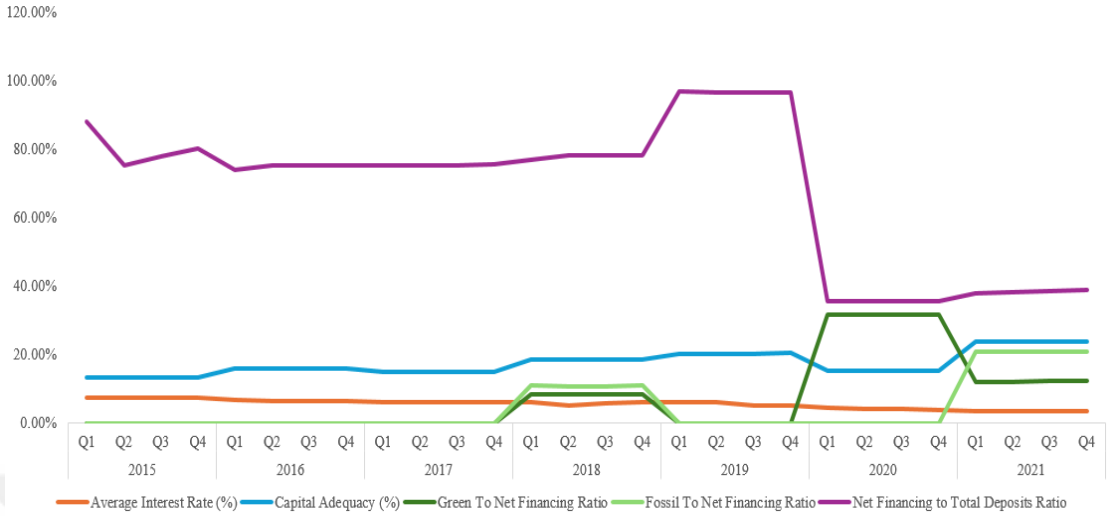

Figure 0.23: Green Financing Ratio Bank Muamalat Indonesia

Source: Author

Figure 0.24: Green to Net Financing Bank Muamalat Indonesia

Source: Author

Table: 0.14 Green Financing Performance May Bank Malaysia Islamic Bank

Year	Quarter	Number of Branches	Average Interest Rate (%)	Capital Adequacy (%)	Green To Net Financing Ratio	Fossil To Net Financing Ratio	Net Financing to Total Deposits Ratio	Net Financing (USD 000)	Green Financing (USD 000)	Fossil Financing (USD 000)	Total Deposits (USD 000)
2015	Q1	71	3.25%	14.00%	0.01%	0.67%	122.88%	12,534,171	1,168	84,240	10,200,330
	Q2	71	3.25%	14.20%	0.01%	0.63%	125.90%	12,505,538	1,137	78,323	9,932,886
	Q3	71	3.25%	14.40%	0.01%	0.65%	125.89%	10,731,175	969	70,122	8,524,121
	Q4	71	3.25%	14.60%	0.01%	0.69%	124.53%	11,019,000	997	75,628	8,848,418
2016	Q1	73	3.25%	14.80%	0.01%	0.70%	126.57%	12,217,026	1,105	85,140	9,652,296
	Q2	73	3.25%	15.00%	0.01%	0.71%	126.57%	11,648,792	1,054	82,410	9,203,352
	Q3	73	3.00%	15.20%	0.01%	0.72%	126.57%	11,445,175	1,035	82,178	9,042,480
	Q4	73	3.00%	15.40%	0.01%	0.73%	126.57%	10,625,972	961	77,418	8,395,253
2017	Q1	75	3.00%	15.60%	0.01%	0.71%	127.06%	11,181,184	933	79,100	8,799,656
	Q2	75	3.00%	15.80%	0.01%	0.72%	127.06%	11,497,819	960	82,502	9,048,849
	Q3	75	3.00%	16.00%	0.01%	0.70%	128.96%	12,079,969	976	85,032	9,367,132
	Q4	75	3.25%	16.20%	0.01%	0.71%	128.96%	12,489,113	1,009	89,133	9,684,393
2018	Q1	354	3.25%	22.55%	0.67%	0.73%	99.69%	13,016,821	87,053	95,275	13,057,825
	Q2	354	3.25%	22.55%	0.67%	0.74%	95.19%	12,474,262	83,165	92,250	13,104,420
	Q3	354	3.25%	22.55%	0.67%	0.75%	95.19%	12,235,932	81,576	91,694	12,854,051
	Q4	354	3.25%	22.55%	0.65%	0.74%	97.12%	12,441,876	81,306	92,593	12,811,435
2019	Q1	55	3.25%	15.60%	7.39%	192.12%	45.11%	49,735	3,675	95,550	110,250
	Q2	55	3.00%	15.70%	7.77%	16.99%	44.78%	50,058	3,888	8,505	111,780
	Q3	55	3.00%	15.80%	8.13%	17.22%	44.47%	49,847	4,055	8,586	112,095
	Q4	55	3.00%	15.90%	8.49%	17.45%	44.17%	51,516	4,374	8,991	116,640
2020	Q1	354	2.50%	18.63%	0.00%	0.18%	98.14%	4,904,957	-	8,740	4,998,084
	Q2	354	2.00%	18.68%	0.00%	0.00%	97.58%	5,000,924	-	-	5,124,740
	Q3	354	1.75%	18.65%	0.00%	0.00%	96.90%	5,150,205	-	-	5,315,029
	Q4	354	1.75%	18.68%	0.00%	0.00%	95.98%	5,267,497	-	-	5,488,365
2021	Q1	60	1.75%	16.00%	8.57%	19.05%	43.75%	50,820	4,356	9,680	116,160
	Q2	60	1.75%	16.10%	8.84%	19.07%	43.88%	51,923	4,589	9,902	118,335
	Q3	60	1.75%	16.20%	9.09%	19.09%	44.00%	52,800	4,800	10,080	120,000
	Q4	60	1.75%	16.30%	9.33%	19.11%	44.12%	53,888	5,030	10,299	122,145

Source: Author's Analysis of the Bank's Six-Year (2015-2021) Balance Sheet

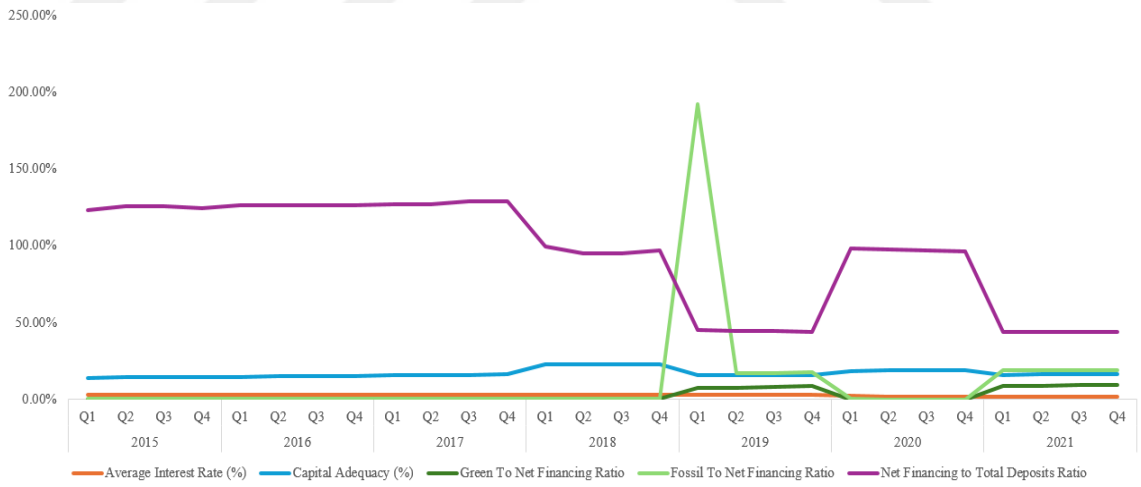

Figure 0.25: Green Financing Ratio May Bank Malaysia Islamic Bank

Source: Author

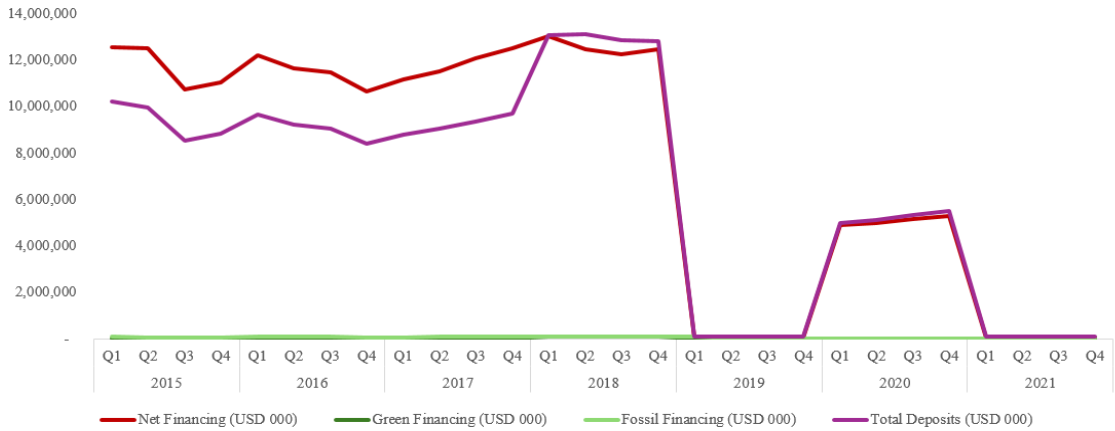

Figure 0.26: Green to Net Financing May Bank Malaysia Islamic Bank

Source: Author

Table: 0.15 Green Financing Performance CIMB Islam

Year	Quarter	Number of Branches	Average Interest Rate (%)	Capital Adequacy (%)	Green To Net Financing Ratio	Fossil To Net Financing Ratio	Net Financing to Total Deposits Ratio	Net Financing (USD 000)	Green Financing (USD 000)	Fossil Financing (USD 000)	Total Deposits (USD 000)
2015	Q1	20	3.25%	14.00%	0.00%	0.00%	78.02%	10,151,993	-	-	13,011,996
	Q2	20	3.25%	14.00%	0.00%	0.00%	76.57%	10,031,788	-	-	13,101,130
	Q3	21	3.25%	14.00%	0.00%	0.00%	77.24%	8,811,523	-	-	11,407,771
	Q4	22	3.25%	14.00%	0.00%	0.00%	77.28%	9,233,228	-	-	11,948,062
2016	Q1	22	3.25%	16.00%	0.00%	0.00%	77.71%	10,495,128	-	-	13,505,128
	Q2	23	3.25%	16.00%	0.00%	0.00%	78.13%	10,253,007	-	-	13,123,009
	Q3	23	3.00%	16.00%	0.00%	0.00%	78.53%	10,315,490	-	-	13,135,350
	Q4	24	3.00%	16.00%	0.00%	0.00%	78.92%	9,801,346	-	-	12,419,595
2017	Q1	24	3.00%	18.00%	0.00%	0.00%	79.29%	10,097,256	-	-	12,734,171
	Q2	25	3.00%	18.00%	0.00%	0.00%	79.65%	10,615,622	-	-	13,327,187
	Q3	25	3.00%	18.00%	0.00%	0.00%	80.00%	11,025,425	-	-	13,781,092
	Q4	26	3.25%	18.00%	0.00%	0.00%	80.34%	11,643,079	-	-	14,492,079
2018	Q1	200	3.25%	15.50%	8.25%	13.26%	85.84%	15,991,723	1,319,290	2,120,401	18,629,012
	Q2	200	3.25%	15.60%	8.26%	13.17%	86.24%	15,583,113	1,287,703	2,053,037	18,070,370
	Q3	200	3.25%	15.70%	8.73%	13.17%	87.23%	15,695,388	1,370,131	2,067,432	17,993,232
	Q4	200	3.25%	15.80%	8.71%	13.05%	87.87%	15,993,306	1,392,364	2,087,089	18,200,776
2019	Q1	46	3.25%	13.00%	7.41%	12.04%	69.68%	52,920	3,920	6,370	75,950
	Q2	46	3.00%	13.20%	7.56%	12.00%	70.31%	54,675	4,131	6,561	77,760
	Q3	47	3.00%	13.40%	7.66%	11.91%	71.21%	56,048	4,293	6,678	78,705
	Q4	47	3.00%	13.60%	7.76%	11.84%	72.06%	59,535	4,617	7,047	82,620
2020	Q1	48	2.50%	13.20%	7.45%	11.28%	74.60%	54,050	4,025	6,095	72,450
	Q2	48	2.00%	13.30%	7.50%	11.25%	75.00%	56,280	4,221	6,332	75,040
	Q3	49	1.75%	13.40%	7.55%	11.22%	75.38%	59,168	4,468	6,641	78,488
	Q4	49	1.75%	13.50%	7.60%	11.20%	75.76%	61,750	4,693	6,916	81,510
2021	Q1	50	1.75%	13.50%	7.84%	11.37%	76.12%	61,710	4,840	7,018	81,070
	Q2	50	1.75%	13.60%	7.88%	11.35%	76.47%	62,790	4,951	7,124	82,110
	Q3	51	1.75%	13.70%	7.92%	11.32%	76.81%	63,600	5,040	7,200	82,800
	Q4	51	1.75%	13.80%	7.96%	11.30%	77.14%	64,665	5,149	7,305	83,825

Source: Author's Analysis of the Bank's Six-Year (2015-2021) Balance Sheet

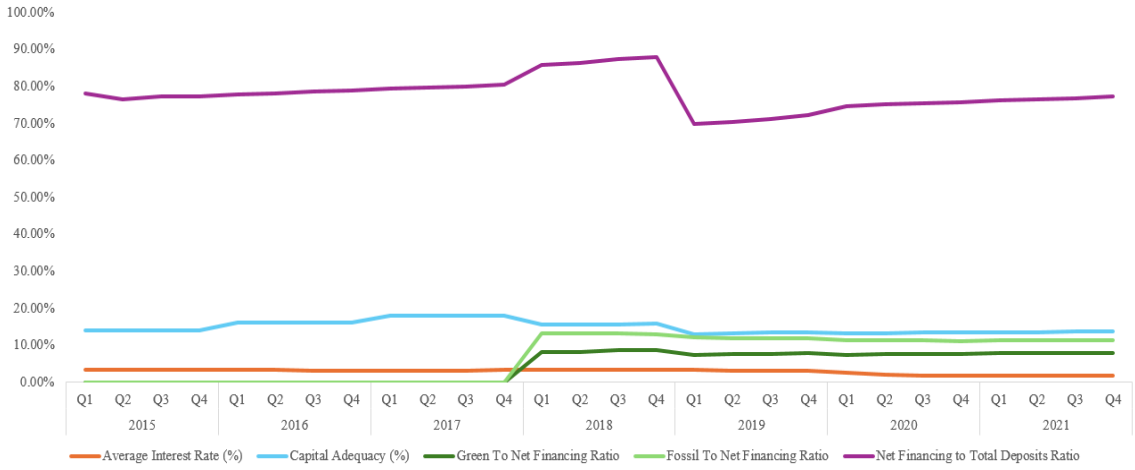

Figure: 0.27: Green Financing Ratio CIMB Islamic Bank

Source: Author

Figure 0.28: Green to Net Financing CIMB Islamic Bank

Source: Author

Table: 0.16 Green Financing Performance Kuveyt Turk Participation Bank

Year	Quarter	Number of Branches	Average Interest Rate (%)	Capital Adequacy (%)	Green To Net Financing Ratio	Fossil To Net Financing Ratio	Net Financing to Total Deposit Ratio	Net Financing (USD 000)	Green Financing (USD 000)	Fossil Financing (USD 000)	Total Deposits (USD 000)
2015	Q1	358	7.50%	14.23%	6.42%	0.00%	87.65%	2,336,084	149,958	-	2,665,274
	Q2	358	7.50%	14.23%	6.42%	0.00%	87.65%	2,327,268	149,392	-	2,655,216
	Q3	358	7.50%	14.23%	6.42%	0.00%	87.65%	2,083,534	133,746	-	2,377,136
	Q4	358	7.50%	14.23%	6.42%	0.00%	87.65%	2,112,076	135,578	-	2,409,700
2016	Q1	386	8.00%	18.19%	7.01%	0.00%	84.61%	2,257,323	158,172	-	2,668,004
	Q2	386	8.00%	18.19%	7.01%	0.00%	84.61%	2,234,973	156,606	-	2,641,589
	Q3	386	8.00%	18.19%	7.01%	0.00%	84.61%	2,227,621	156,091	-	2,632,899
	Q4	386	8.00%	18.19%	7.01%	0.00%	84.61%	1,918,405	134,424	-	2,267,426
2017	Q1	399	8.00%	17.32%	1.81%	0.00%	86.72%	2,403,677	43,455	-	2,771,617
	Q2	399	8.00%	17.32%	7.23%	0.00%	86.72%	2,485,621	179,747	-	2,866,104
	Q3	399	8.00%	17.32%	7.23%	0.00%	86.72%	2,464,616	178,228	-	2,841,883
	Q4	399	8.00%	17.32%	7.23%	0.00%	86.72%	2,296,427	166,065	-	2,647,949
2018	Q1	414	24.00%	17.22%	7.86%	0.00%	71.17%	2,560,890	201,297	-	3,598,404
	Q2	414	24.00%	17.22%	7.86%	0.00%	71.17%	2,445,650	192,239	-	3,436,476
	Q3	414	24.00%	17.22%	7.86%	0.00%	71.17%	2,159,514	169,747	-	3,034,416
	Q4	414	24.00%	17.22%	7.86%	0.00%	71.17%	1,852,765	145,635	-	2,603,391
2019	Q1	431	12.00%	19.32%	2.38%	0.00%	67.95%	2,802,157	66,617	-	4,123,821
	Q2	431	12.00%	19.32%	2.38%	0.00%	67.95%	2,616,325	62,199	-	3,850,339
	Q3	431	12.00%	19.32%	2.38%	0.00%	67.95%	2,644,011	62,857	-	3,891,083
	Q4	431	12.00%	19.32%	2.38%	0.00%	67.95%	2,519,587	59,899	-	3,707,974
2020	Q1	435	17.00%	21.26%	3.66%	0.00%	64.71%	3,203,162	117,226	-	4,950,283
	Q2	435	17.00%	21.26%	3.66%	0.00%	64.71%	2,864,277	104,824	-	4,426,557
	Q3	435	17.00%	21.26%	3.66%	0.00%	64.71%	2,614,221	95,672	-	4,040,112
	Q4	435	17.00%	21.26%	3.66%	0.00%	64.71%	2,656,386	97,215	-	4,105,275
2021	Q1	436	14.00%	23.05%	2.81%	0.00%	58.18%	4,163,074	117,016	-	7,156,052
	Q2	436	14.00%	23.05%	2.81%	0.00%	58.18%	3,650,696	102,614	-	6,275,307
	Q3	436	14.00%	23.05%	2.81%	0.00%	58.18%	3,570,415	100,358	-	6,137,309
	Q4	436	14.00%	23.05%	2.81%	0.00%	58.18%	2,603,239	73,172	-	4,474,797

(Türkiye)

Source: Author's Analysis of the Bank's Six-Year (2015-2021) Balance Sheet

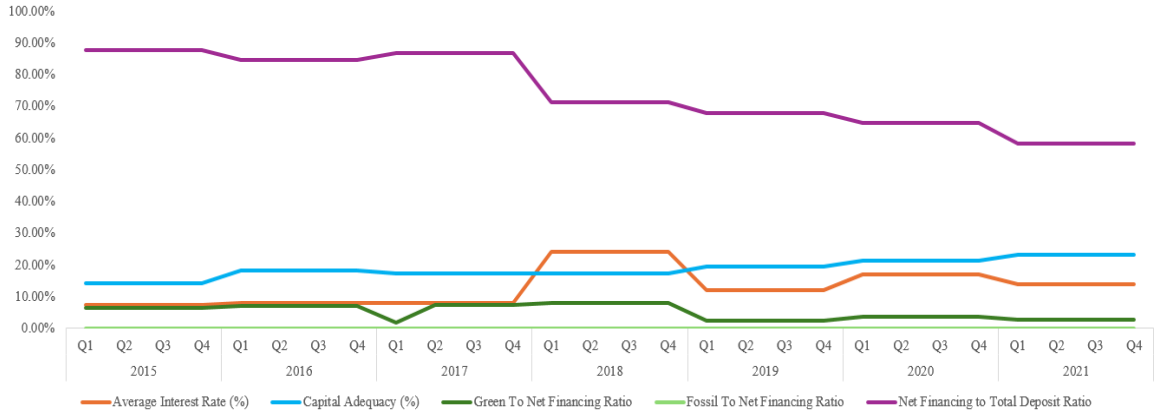

Figure 0.29: Green Financing Ratio Kuveyt Turk Participation Bank (Türkiye)

Source: Author

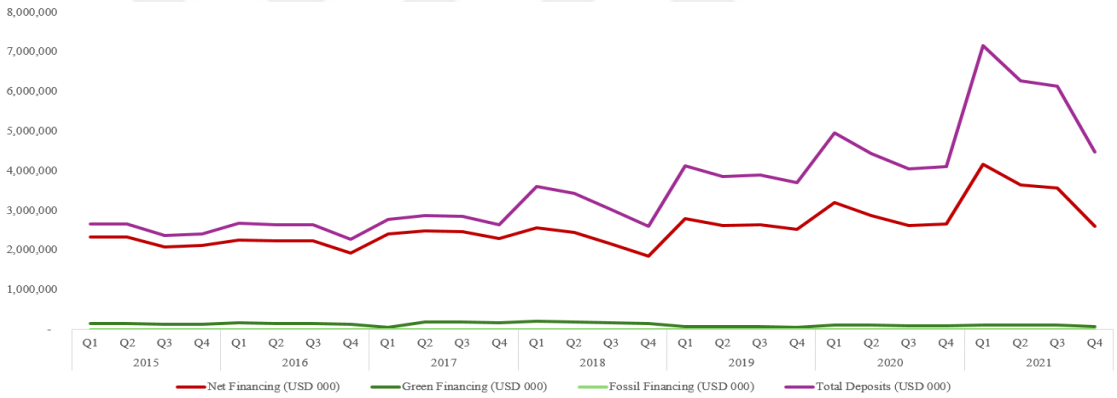

Figure 0.30: Green to Net Financing Kuveyt Turk Participation Bank (Türkiye)

Source: Author

Table: 0.17 Green Financing Performance Al Baraka Participation Bank (Türkiye)

Year	Quarter	Number of Branches	Average Interest Rate (%)	Capital Adequacy (%)	Green To Net Financing Ratio	Fossil To Net Financing Ratio	Net Financing to Total Deposit Ratio	Net Financing (USD 000)	Green Financing (USD 000)	Fossil Financing (USD 000)	Total Deposits (USD 000)
2015	Q1	213	7.50%	15.27%	1.75%	0.00%	91.21%	1,757,383	30,773	-	1,926,721
	Q2	213	7.50%	15.27%	1.75%	0.00%	91.21%	1,750,751	30,657	-	1,919,451
	Q3	213	7.50%	15.27%	1.75%	0.00%	91.21%	1,567,396	27,446	-	1,718,427
	Q4	213	7.50%	15.27%	1.75%	0.00%	91.21%	1,588,867	27,822	-	1,741,967
2016	Q1	213	8.00%	13.46%	2.33%	0.00%	94.33%	1,820,256	42,409	-	1,929,595
	Q2	213	8.00%	13.46%	2.33%	0.00%	94.33%	1,802,234	41,989	-	1,910,490
	Q3	213	8.00%	13.46%	2.33%	0.00%	94.33%	1,796,306	41,851	-	1,904,205
	Q4	213	8.00%	13.46%	2.33%	0.00%	94.33%	1,546,960	36,042	-	1,639,882
2017	Q1	220	8.00%	17.10%	1.45%	0.00%	96.63%	1,679,697	24,275	-	1,738,313
	Q2	220	8.00%	17.10%	1.45%	0.00%	96.63%	1,736,959	25,102	-	1,797,574
	Q3	220	8.00%	17.10%	1.45%	0.00%	96.63%	1,722,280	24,890	-	1,782,383
	Q4	220	8.00%	17.10%	1.45%	0.00%	96.63%	1,604,749	23,192	-	1,660,751
2018	Q1	230	24.00%	14.70%	2.46%	0.00%	91.48%	1,713,677	42,238	-	1,873,264
	Q2	230	24.00%	14.70%	2.46%	0.00%	91.48%	1,636,562	40,337	-	1,788,967
	Q3	230	24.00%	14.70%	2.46%	0.00%	91.48%	1,445,088	35,618	-	1,579,662
	Q4	230	24.00%	14.70%	2.46%	0.00%	91.48%	1,239,820	30,558	-	1,355,278
2019	Q1	230	12.00%	15.00%	2.74%	0.00%	77.04%	1,431,647	39,295	-	1,858,384
	Q2	230	12.00%	15.00%	2.74%	0.00%	77.04%	1,336,703	36,689	-	1,735,140
	Q3	230	12.00%	15.00%	2.74%	0.00%	77.04%	1,350,848	37,077	-	1,753,501
	Q4	230	12.00%	15.00%	2.74%	0.00%	77.04%	1,287,279	35,332	-	1,670,984
2020	Q1	228	17.00%	13.50%	1.37%	0.00%	81.48%	1,704,044	23,405	-	2,091,294
	Q2	228	17.00%	13.50%	1.37%	0.00%	81.48%	1,523,761	20,929	-	1,870,041
	Q3	228	17.00%	13.50%	1.37%	0.00%	81.48%	1,390,734	19,102	-	1,706,783
	Q4	228	17.00%	13.50%	1.37%	0.00%	81.48%	1,413,166	19,410	-	1,734,312
2021	Q1	229	14.00%	14.90%	1.41%	0.00%	65.00%	2,000,836	28,130	-	3,078,160
	Q2	229	14.00%	14.90%	1.41%	0.00%	65.00%	1,754,579	24,668	-	2,699,309
	Q3	229	14.00%	14.90%	1.41%	0.00%	65.00%	1,715,995	24,125	-	2,639,949
	Q4	229	14.00%	14.90%	1.41%	0.00%	65.00%	1,251,156	17,590	-	1,924,824

Source: Author's Analysis of the Bank's Six-Year (2015-2021) Balance Sheet

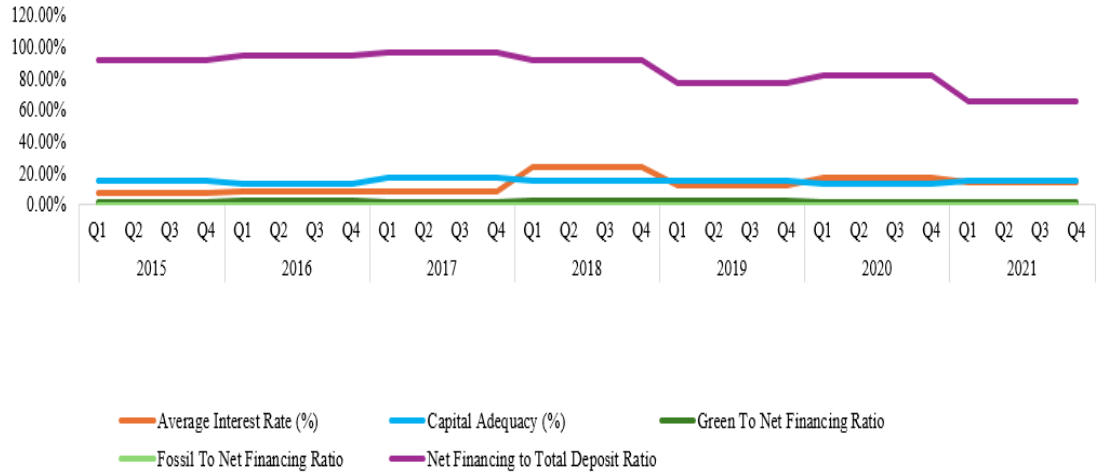

Figure 0.31: Green Financing Ratio Al Baraka Participation Bank (Türkiye)

Source: Author

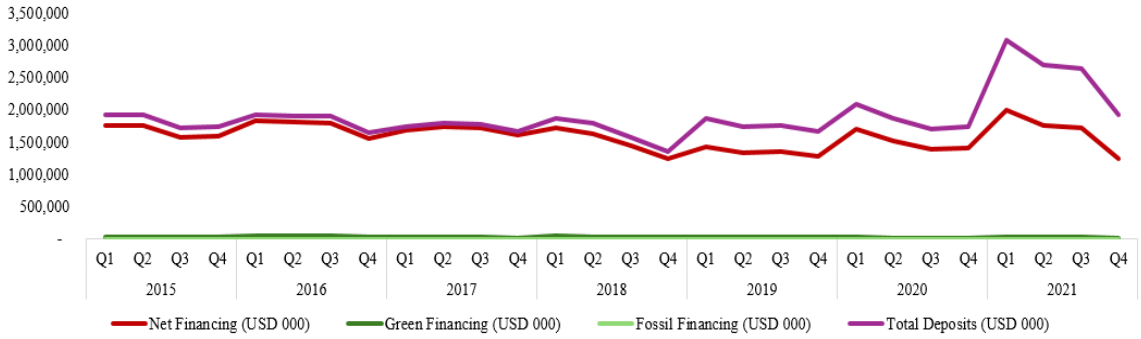

Figure 0.32: Green to Net Financing Al Baraka Participation Bank (Türkiye)

Source: Author

Appendix II CV

Muhamad Nezir KHAN

Education

- MS (MPhil) University of Istanbul, Turkey (2019)
- BS, (Additional) University of Tripoli, Lebanon (2018)
- Bachelor of History & Journalism, University of Sargodha, Pakistan (2010)
- B.A. Islamic and Arabic, Wifaq ul Madaris Al-Arabia, Karachi (2005)
- Certified Shari'ah Advisor & Auditor (CSAA) AAOIFI June 2022
- Certificate in Law Orientation (International Islamic University, Islamabad, Pakistan, 2020)
- Hifz-e-Quran, Darul-Uloom faz-e-am Samundri, Faisalabad, Pakistan (1999)
- Tajweed and Qiraat--Asherah, Darul-Uloom faz-e-am Samundri, Faisalabad, Pakistan (2000)

Professional Experience

- Shari'ah Advisor: Noor Invest Ltd., Tashkent, Uzbekistan
- Lecturer of Islamic Finance and Islamic Jurisprudence:
- Al-Bukhari Institute, Istanbul, Turkey (present)
- Lecturer: Islamic Studies Teacher at Istanbul, American school and college, Turkey (2020-2023)
- Lecturer: Islamic Shari'ah Commercial Law, Suffe waqf, Diyarbakir, Turkey
- Visitor lecturer: Studies of Hadith & Arabic language
- Dini Yüksek İhtisas Merkezleri (High Specialization Centers, religious minister affairs)

- Assistant lecturer: Quranic Studies
- Dicle University, Diyarbakir, Turkey
- Visitor lecturer: Arabic and English, Turgave Trust, Turkey
- Lecturer: Islamic Studies Pakistan College Muscat, Oman
- In-charge Mufti: Jamia Muhammadiyah Islamabad, Pakistan

Additional Information

Languages: Urdu/ Arabi/ English (Professional) /Turkish (Advanced) and Persian (Basic)

Publications:

- Inspirational Lessons from Seerat-un-Nabi (The life of the Prophet, Arabic to Urdu translation) (published in 2024)
- Rah-e-Tarbiat (The profound guidelines for grooming, Arabic to Urdu) (published in 2023)
- Ilmi Muskurahatain (Published in 2012)
- A Critical Review of Moududi's Tafseer (Arabic)
- Waqf and its role in achieving the objectives of Shari'ah
- Glimpses of Economic Thought of Muhammad bin Al-Hasan Al Shibani (English)
- Potential role of Islamic finance in CPEC (English)
- Tradability of Abstract Rights from The Perspective of Majella Al-Ahkam Al-'Adliyahh, The Ottoman Court Manual.