INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE & MANAGEMENT

IJRCM

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

Indexed & Listed at:

Ulrich's Periodicals Directory ©, ProQuest, U.S.A., Cabell's Directories of Publishing Opportunities, U.S.A., Google Scholar, Indian Citation Index (ICI), J-Gage, India [link of the same is duly available at Inflibnet of University Grants Commission (U.G.C.)], Index Copernicus Publishers Panel, Poland with IC Value of 5.09 (2012) & number of libraries all around the world.

Circulated all over the world & Google has verified that scholars of more than **7835 Cities** in **197 countries/territories** are visiting our journal on regular basis.

Ground Floor, Building No. 1041-C-1, Devi Bhawan Bazar, JAGADHRI – 135 003, Yamunanagar, Haryana, INDIA

http://ijrcm.org.in/

CONTENTS

CALL FOR MANUSCRIPTS

We invite unpublished novel, original, empirical and high quality research work pertaining to the recent developments & practices in the areas of Computer Science & Applications; Commerce; Business; Finance; Marketing; Human Resource Management; General Management; Banking; Economics; Tourism Administration & Management; Education; Law; Library & Information Science; Defence & Strategic Studies; Electronic Science; Corporate Governance; Industrial Relations; and emerging paradigms in allied subjects like Accounting; Accounting Information Systems; Accounting Theory & Practice; Auditing; Behavioral Accounting; Behavioral Economics; Corporate Finance; Cost Accounting; Econometrics; Economic Development; Economic History; Financial Institutions & Markets; Financial Services; Fiscal Policy; Government & Non Profit Accounting; Industrial Organization; International Economics & Trade; International Finance; Macro Economics; Micro Economics; Rural Economics; Co-operation; Demography: Development Planning; Development Studies; Applied Economics; Development Economics; Business Economics; Monetary Policy; Public Policy Economics; Real Estate; Regional Economics; Political Science; Continuing Education; Labour Welfare; Philosophy; Psychology; Sociology; Tax Accounting; Advertising & Promotion Management; Management Information Systems (MIS); Business Law; Public Responsibility & Ethics; Communication; Direct Marketing; E-Commerce; Global Business; Health Care Administration; Labour Relations & Human Resource Management; Marketing Research; Marketing Theory & Applications; Non-Profit Organizations; Office Administration/Management; Operations Research/Statistics; Organizational Behavior & Theory; Organizational Development; Production/Operations; International Relations; Human Rights & Duties; Public Administration; Population Studies; Purchasing/Materials Management; Retailing; Sales/Selling; Services; Small Business Entrepreneurship; Strategic Management Policy; Technology/Innovation; Tourism & Hospitality; Transportation Distribution; Algorithms; Artificial Intelligence; Compilers & Translation; Computer Aided Design (CAD); Computer Aided Manufacturing; Computer Graphics; Computer Organization & Architecture; Database Structures & Systems; Discrete Structures; Internet; Management Information Systems; Modeling & Simulation; Neural Systems/Neural Networks; Numerical Analysis/Scientific Computing; Object Oriented Programming; Operating Systems; Programming Languages; Robotics; Symbolic & Formal Logic; Web Design and emerging paradigms in allied subjects.

Anybody can submit the **soft copy** of unpublished novel; original; empirical and high quality **research work/manuscript** ***anytime*** in ***M.S. Word format*** after preparing the same as per our **GUIDELINES FOR SUBMISSION**; at our email address i.e. infoijrcm@gmail.com or online by clicking the link **online submission** as given on our website (***FOR ONLINE SUBMISSION, CLICK HERE***).

GUIDELINES FOR SUBMISSION OF MANUSCRIPT

1. **COVERING LETTER FOR SUBMISSION:**

DATED: _____

THE EDITOR

IJRCM

Subject: **SUBMISSION OF MANUSCRIPT IN THE AREA OF_____.**

(e.g. Finance/Mkt./HRM/General Mgt./Engineering/Economics/Computer/IT/ Education/Psychology/Law/Math/other, please specify)

DEAR SIR/MADAM

Please find my submission of manuscript titled '_____' for likely publication in one of your journals.

I hereby affirm that the contents of this manuscript are original. Furthermore, it has neither been published anywhere in any language fully or partly, nor it is under review for publication elsewhere.

I affirm that all the co-authors of this manuscript have seen the submitted version of the manuscript and have agreed to inclusion of their names as co-authors.

Also, if my/our manuscript is accepted, I agree to comply with the formalities as given on the website of the journal. The Journal has discretion to publish our contribution in any of its journals.

NAME OF CORRESPONDING AUTHOR	:
Designation/Post*	:
Institution/College/University with full address & Pin Code	:
Residential address with Pin Code	:
Mobile Number (s) with country ISD code	:
Is WhatsApp or Viber active on your above noted Mobile Number (Yes/No)	:
Landline Number (s) with country ISD code	:
E-mail Address	:
Alternate E-mail Address	:
Nationality	:

* i.e. Alumnus (Male Alumni), Alumna (Female Alumni), Student, Research Scholar (M. Phil), Research Scholar (Ph. D.), JRF, Research Assistant, Assistant Lecturer, Lecturer, Senior Lecturer, Junior Assistant Professor, Assistant Professor, Senior Assistant Professor, Co-ordinator, Reader, Associate Professor, Professor, Head, Vice-Principal, Dy. Director, Principal, Director, Dean, President, Vice Chancellor, Industry Designation **etc**. ***The qualification of author is not acceptable for the purpose***.

NOTES:

a) The whole manuscript has to be in ***ONE MS WORD FILE*** only, which will start from the covering letter, inside the manuscript. ***pdf. version is liable to be rejected without any consideration***.

b) The sender is required to mention the following in the **SUBJECT COLUMN of the mail**:

New Manuscript for Review in the area of (e.g. Finance/Marketing/HRM/General Mgt./Engineering/Economics/Computer/IT/ Education/Psychology/Law/Math/other, please specify)

c) There is no need to give any text in the body of the mail, except the cases where the author wishes to give any **specific message** w.r.t. to the manuscript.

d) The total size of the file containing the manuscript is expected to be below **1000 KB**.

e) Only the **Abstract will not be considered for review** and the author is required to submit the **complete manuscript** in the first instance.

f) ***The journal gives acknowledgement w.r.t. the receipt of every email within twenty-four hours*** and in case of non-receipt of acknowledgment from the journal, w.r.t. the submission of the manuscript, within two days of its submission, the corresponding author is required to demand for the same by sending a separate mail to the journal.

g) The author (s) name or details should not appear anywhere on the body of the manuscript, except on the covering letter and the cover page of the manuscript, in the manner as mentioned in the guidelines.

2. **MANUSCRIPT TITLE: The title of the paper should be typed in **bold letters**, **centered** and **fully capitalised**.

3. **AUTHOR NAME (S) & AFFILIATIONS: Author (s) **name**, **designation**, **affiliation** (s), **address**, **mobile/landline number** (s), and **email/alternate email address** should be given underneath the title.

4. **ACKNOWLEDGMENTS: Acknowledgements can be given to reviewers, guides, funding institutions, etc., if any.

5. **ABSTRACT: Abstract should be in **fully Italic printing**, ranging between **150** to **300 words**. The abstract must be informative and elucidating the background, aims, methods, results & conclusion in a **SINGLE PARA**. ***Abbreviations must be mentioned in full***.

6. **KEYWORDS: Abstract must be followed by a list of keywords, subject to the maximum of **five**. These should be arranged in alphabetic order separated by commas and full stop at the end. All words of the keywords, including the first one should be in small letters, except special words e.g. name of the Countries, abbreviations etc.

7. **JEL CODE: Provide the appropriate Journal of Economic Literature Classification System code (s). JEL codes are available at www.aeaweb.org/econlit/jelCodes.php. However, mentioning of JEL Code is not mandatory.

8. **MANUSCRIPT: Manuscript must be in ***BRITISH ENGLISH*** prepared on a standard A4 size ***PORTRAIT SETTING PAPER***. *It should be free from any errors i.e. **grammatical**, **spelling** or **punctuation.** It must be thoroughly edited at your end*.

9. **HEADINGS: All the headings must be bold-faced, aligned left and fully capitalised. Leave a blank line before each heading.

10. **SUB-HEADINGS: All the sub-headings must be bold-faced, aligned left and fully capitalised.

11. **MAIN TEXT:**

THE MAIN TEXT SHOULD FOLLOW THE FOLLOWING SEQUENCE:

INTRODUCTION

REVIEW OF LITERATURE

NEED/IMPORTANCE OF THE STUDY

STATEMENT OF THE PROBLEM

OBJECTIVES

HYPOTHESIS (ES)

RESEARCH METHODOLOGY

RESULTS & DISCUSSION

FINDINGS

RECOMMENDATIONS/SUGGESTIONS

CONCLUSIONS

LIMITATIONS

SCOPE FOR FURTHER RESEARCH

REFERENCES

APPENDIX/ANNEXURE

The manuscript should preferably be in ***2000 to 5000 WORDS***, But the limits can vary depending on the nature of the manuscript.

12. **FIGURES & TABLES:** These should be simple, crystal **CLEAR**, **centered**, **separately numbered** & self-explained, and the **titles must be above the table/figure**. **Sources of data should be mentioned below the table/figure**. *It should be ensured that the tables/figures are referred to from the main text*.

13. **EQUATIONS/FORMULAE:** These should be consecutively numbered in parenthesis, left aligned with equation/formulae number placed at the right. The equation editor provided with standard versions of Microsoft Word may be utilised. If any other equation editor is utilised, author must confirm that these equations may be viewed and edited in versions of Microsoft Office that does not have the editor.

14. **ACRONYMS:** These should not be used in the abstract. The use of acronyms is elsewhere is acceptable. Acronyms should be defined on its first use in each section e.g. Reserve Bank of India (RBI). Acronyms should be redefined on first use in subsequent sections.

15. **REFERENCES:** The list of all references should be alphabetically arranged. ***The author (s) should mention only the actually utilised references in the preparation of manuscript*** and they may follow Harvard Style of Referencing. **Also check to ensure that everything that you are including in the reference section is duly cited in the paper**. The author (s) are supposed to follow the references as per the following:

- All works cited in the text (including sources for tables and figures) should be listed alphabetically.
- Use (**ed.**) for one editor, and (**ed.s)** for multiple editors.
- When listing two or more works by one author, use --- (20xx), such as after Kohl (1997), use --- (2001), etc., in chronologically ascending order.
- Indicate (opening and closing) page numbers for articles in journals and for chapters in books.
- The title of books and journals should be in italic printing. Double quotation marks are used for titles of journal articles, book chapters, dissertations, reports, working papers, unpublished material, etc.
- For titles in a language other than English, provide an English translation in parenthesis.
- ***Headers, footers, endnotes*** *and* ***footnotes*** *should* ***not be used*** *in the document****.*** However, **you can mention short notes to elucidate some specific point**, which may be placed in number orders before the references.

PLEASE USE THE FOLLOWING FOR STYLE AND PUNCTUATION IN REFERENCES:

BOOKS

- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

CONTRIBUTIONS TO BOOKS

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

JOURNAL AND OTHER ARTICLES

- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–23

UNPUBLISHED DISSERTATIONS

- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

ONLINE RESOURCES

- Always indicate the date that the source was accessed, as online resources are frequently updated or removed.

WEBSITES

- Garg, Bhavet (2011): Towards a New Gas Policy, Political Weekly, Viewed on January 01, 2012 http://epw.in/user/viewabstract.jsp

ADDRESSING CLIMATE RISKS IN BANGLADESH'S FINANCIAL SYSTEM: EVALUATING THE GREEN FINANCING INITIATIVES OF BANGLADESH BANK

Md. SERAJUL ISLAM
ASST. PROFESSOR
DEPARTMENT OF BUSINESS ADMINISTRATION
CHATTOGRAM CANTONMENT PUBLIC COLLEGE
BAIZID BOSTAMI - 4210, CHATTOGRAM CANTONMENT, CHATTOGRAM, BANGLADESH

ABSTRACT

This paper examines the green financing initiatives undertaken by Bangladesh Bank, the central bank and financial regulator of Bangladesh. Bangladesh is highly vulnerable to climate change due to its geographical location and population density. The paper highlights the need to address climate risks in the financial sector and emphasizes the potential long-term impacts of climate change on the economy. The study explores the various green financing initiatives implemented by Bangladesh Bank, starting from the issuance of Environmental Risk Management guidelines in 2011 to the establishment of the Sustainable Finance Policy in 2020. These initiatives aim to promote sustainable financing practices, incentivize investments in climate-resilient projects, and support the transition to a low-carbon economy. Limited access to finance, particularly for smaller projects and rural areas, remains a challenge. The study also reviews empirical studies from developed countries on the effectiveness of green financing in addressing climate change. The findings indicate mixed results, with some studies showing a reduction in carbon emissions and shifts in lending practices towards low-carbon industries, while others suggest limited impact on emissions reduction. Based on the analysis, the paper provides recommendations for strengthening green financing initiatives in Bangladesh.

KEYWORDS

Bangladesh bank, climate risks, green financing, sustainable financing, climate-smart financial policies.

JEL CODES

Q54, G28, O44, G21, Q56.

INTRODUCTION

Climate change poses significant threats to financial systems worldwide. In 2015, Mark Carney, former Governor of the Bank of England, highlighted three channels through which climate change shocks can impact financial stability (Carney, 2015). In recent years, central banks and financial regulators have recognized the need to address climate risks and incorporate them into their policy frameworks (Demekas & Grippa, 2021). This recognition stems from the realization that climate change can have widespread and long-lasting effects on the economy and the financial sector (Abdullah et al., 2022).

Bangladesh, a low-lying delta country with a high population density, is particularly vulnerable to climate change. Rising sea levels, frequent cyclones, and erratic rainfall patterns pose significant risks to its agricultural sector and overall economic stability (The World Bank, 2016). These challenges also extend to neighboring countries such as India, Myanmar, Nepal, Pakistan, Thailand, the Philippines, and Vietnam, which face similar climate risks. The Intergovernmental Panel on Climate Change stresses that uncontrolled urbanization and climate-induced migration aggravate the climate change threat in Bangladesh (Hasan & Macdonald, 2021).

Despite impressive economic growth, Bangladesh remains exposed to the impacts of climate change. The COVID-19 pandemic further highlighted the vulnerability of the economy, but the country is now on a path to recovery (The Ministry of Finance, 2021). Bangladesh aspires to achieve middle-income country status, necessitating careful environmental management amidst rapid industrialization and development.

The economic losses stemming from climate risks in Bangladesh and neighboring countries have been substantial. Over the past two decades, Bangladesh has experienced significant financial losses equivalent to 37% of its GDP per unit, mirroring similar trends in neighboring countries (Global Climate Risk Index, 2021). The need for climate change mitigation and adaptation is reflected in the estimated infrastructure gap of USD 26.2 trillion in developing Asia from 2016 to 2030, with a significant portion earmarked for climate-related projects (Ra & Li, 2018).

LITERATURE REVIEW

Bangladesh, situated in a low-lying delta with a significant portion of its land below sea level, is one of the most densely populated countries in the world (The World Bank, 2016). This geographical vulnerability makes Bangladesh highly susceptible to the consequences of climate change. The country experiences a range of climate risks, including rising sea levels, extreme weather events such as cyclones and floods, and changing rainfall patterns. These hazards pose significant challenges to Bangladesh's agricultural sector, which plays a crucial role in the country's economy and supports the livelihoods of millions of people. Moreover, the population density exacerbates the impact of climate risks on human well-being and socio-economic systems (Eckstein et al., 2021).

According to the "Long-Term Climate Risk Index," which ranks countries based on their exposure and vulnerability to climate-related hazards, Bangladesh ranks seventh globally (Eckstein et al., 2021). Over the past two decades, the country has witnessed numerous climate-related events, including cyclones, floods, and storm surges, which have resulted in loss of lives, displacement of communities, and extensive damage to infrastructure and ecosystems. These events not only have immediate humanitarian consequences but also have long-term economic implications for the country and its neighbors (Chowdhury et al., 2022).

Neighboring countries, including India, Myanmar, Nepal, Pakistan, Thailand, the Philippines, and Vietnam, also face similar climate risks due to their geographical proximity and shared vulnerability. Climate change poses additional challenges for these countries, including agricultural disruptions, water scarcity, increased disease prevalence, and the risk of climate-induced migration. The Intergovernmental Panel on Climate Change (IPCC) identifies uncontrolled urbanization and climate-induced migration as key factors contributing to the climate change threat in Bangladesh and the region (Hasan & Macdonald, 2021).

Efforts to address climate risks in these countries require collective action, information sharing, and the implementation of adaptive measures to mitigate the impacts of climate change. As a result, central banks and financial regulators, such as Bangladesh Bank, are increasingly recognizing the need to incorporate climate risks into their policy frameworks and support green financing initiatives to promote sustainable development and enhance resilience to climate change (Chowdhury et al., 2023).

Despite impressive economic growth, Bangladesh remains vulnerable to the impacts of climate change. The COVID-19 pandemic further highlighted the country's economic vulnerabilities, leading to a contraction in various sectors, including manufacturing, agriculture, and services. However, Bangladesh is now on the path to recovery and is expected to improve rapidly (The Ministry of Finance, 2021).

Bangladesh has set ambitious goals to achieve middle-income country status and accelerate its socio-economic development. This requires significant social, economic, and technological transformations, driven by investments in infrastructure, industry, and human capital. However, rapid industrialization and development can contribute to environmental degradation and exacerbate the impacts of climate change (Chowdhury, 2022).

Climate change has already caused significant economic losses in Bangladesh and other vulnerable countries. Over the past two decades, Bangladesh has experienced substantial financial losses equivalent to 37% of its GDP per unit, primarily attributed to climate-related events (Global Climate Risk Index, 2021). The impacts of climate change, including crop failures, infrastructure damage, and disruptions to supply chains, have direct implications for the country's economic stability and development prospects.

Climate risks not only impose direct costs on countries but also create an infrastructure gap in developing Asia. A study estimated that between 2016 and 2030, there will be an infrastructure investment gap of USD 26.2 trillion in developing Asia, of which a significant portion will be required for climate change mitigation and adaptation (Ra & Li, 2018). Bridging this infrastructure gap and building climate resilience will require substantial investments in green infrastructure, renewable energy, climate-smart agriculture, and resilient urban planning.

In 2015, Bangladesh Bank renamed its Green Banking and CSR unit as the Sustainable Finance Department to align with the global focus on sustainability and social inclusion. In December 2020, the department issued a comprehensive Sustainable Finance Policy, aligned with the United Nations Sustainable Development Goals (SDGs) and other national and international strategies. This policy has guided banks and financial institutions in addressing environmental, social, and governance (ESG) issues in their portfolios and credit management. As a result, all banks and financial institutions have established their Sustainable Finance Units (Chowdhury and Humaira, 2023).

The government of Bangladesh, along with other stakeholders such as the Ministry of Finance, Ministry of Environment, Forest, and Climate Change, Ministry of Commerce, and Ministry of Industries, plays an active role in promoting sustainable finance. The stakeholders provide macro-level suggestions and support the Sustainable Finance Department in developing policies and guidelines. Stakeholders include the Chittagong Stock Exchange, Dhaka Stock Exchange, Bangladesh Association of Banks, Sustainable and Renewable Energy Development Authority, Bangladesh Institute of Bank Management, and the National Security Board and Security Exchange Commission (Chowdhury, 2023).

Ehlers et al. (2020) found no clear evidence that issuing green bonds leads to a reduction in carbon intensities at the firm level over time. Their findings indicated that the impact of green bonds depends on the types of firms involved. While financial firms, particularly banks, are the least carbon-intensive, their investments are heavily concentrated in carbon-intensive industries. This suggests that although green bonds are being issued, the investments of financial firms may not necessarily contribute to carbon reduction efforts.

Another study by Delis et al. (2018) examined the lending practices of banks towards carbon-intensive, particularly fossil fuel, firms. Their findings showed that banks do not significantly increase loan spreads for fossil fuel firms. However, they found evidence that after the signing of the 2015 Paris Agreement, banks started raising loan spreads for fossil fuel firms that are highly vulnerable to climate policy risks. This suggests that the awareness of climate-related risks and international climate change initiatives may influence lending practices towards carbon-intensive industries.

Furthermore, Reghezza et al. (2021) documented a decrease in loan shares to polluting firms by European banks after the signing of the 2015 Paris Agreement. This indicates a shift in the banks' lending practices to reduce exposure to polluting industries.

In terms of sustainable investing, Elmalt et al. (2021) found weak evidence that higher environmental, social, and governance (ESG) investments lead to a reduction in emissions growth for investor-owned firms. Their results suggest that ESG investment does not necessarily translate into lower carbon footprints for companies. Bolton and Kacperczyk (2020) proposed that increasing the cost of equity for polluting firms could be an alternative to carbon pricing for environmentally-minded investors. De Hass et al. (2021) examined the impact of credit constraints on green investments by firms. They found that credit-constrained firms are less likely to engage in green investment, but better green management reduces emissions. This suggests that providing easier access to credit and improving green management practices can facilitate green investments and reduce emissions.

Several central banks in advanced countries have conducted stress tests to assess the impact of climate change on their financial systems. The findings from these stress tests reveal the exposure of banks and insurers to physical and transition risks related to climate change (Chowdhury and Khan, 2023).

IMPORTANCE OF THE STUDY

The importance of this study lies in evaluating the green financing initiatives implemented by Bangladesh Bank. It is crucial to assess the effectiveness of these initiatives in addressing climate risks and promoting sustainable development. Understanding the impact and challenges associated with green financing can inform policymakers, financial institutions, and stakeholders on how to further enhance and refine these initiatives. This study contributes to the existing literature on green finance in Bangladesh and provides insights for other developing countries facing similar challenges.

STATEMENT OF THE PROBLEM

The problem addressed in this study is the limited access to and effectiveness of green financing in Bangladesh. Despite the implementation of various initiatives by Bangladesh Bank, there are obstacles preventing the seamless integration of sustainable development practices into the financial sector. These obstacles include limited awareness among clients, insufficient incentives for financial institutions, and the need for stronger regulations. This study aims to identify and evaluate these challenges and provide recommendations for improving green financing practices.

OBJECTIVES OF THIS STUDY

The objectives of this study are as follows:

a) Assess the effectiveness of green financing initiatives implemented by Bangladesh Bank.
b) Identify and analyze the challenges associated with green financing in Bangladesh.
c) Evaluate the impact of green financing on addressing climate risks and promoting sustainable development.
d) Provide recommendations for enhancing the effectiveness and accessibility of green financing in Bangladesh.

DEVELOPMENT OF HYPOTHESES

The following hypotheses will be tested in this study:

H1: The green financing initiatives implemented by Bangladesh Bank have positively contributed to addressing climate risks and promoting sustainable development.

H2: The limited access to green financing in Bangladesh is primarily due to the lack of awareness and incentives among clients and financial institutions.

H3: Stronger regulations, incentives, and collaboration with international organizations can improve the effectiveness of green financing in Bangladesh.

RESEARCH METHODOLOGY

This study will employ a mixed-methods research approach. It will involve quantitative analysis of data collected from financial institutions and clients using surveys and interviews. Additionally, qualitative analysis will be conducted through a comprehensive review of existing literature and policy documents. The data will be analyzed using appropriate statistical methods and qualitative content analysis.

DISCUSSION

Bangladesh has made commendable progress in the field of green and sustainable financing, positioning itself in the "Advancing" sub-stage of the "Implementation" stage according to the Sustainable Banking and Finance Network (SBFN) Progression Matrix. This places it alongside Vietnam, while China and Indonesia are in the advanced "Consolidating" stage among Asian countries (SBFN, 2022). The success of Bangladesh's green financing policies and guidelines has been recognized globally in the Reserve Bank of India (RBI) Bulletin, indicating its positive impact and relevance in the region.

However, despite the impressive policies and frameworks in place, the banking sector in Bangladesh still faces risks and vulnerabilities. Challenges such as non-performing loans, inadequate credit information, poor governance, lengthy legal procedures, and financial scams persist (Khairunnessa, Vazquez-Brust, & Yakovleva, 2021). The COVID-19 pandemic has further exacerbated these challenges, impacting the financial system and the performance of green financing schemes. To address these issues, Bangladesh Bank needs to prioritize strategies for accelerating green growth and ensure effective implementation of sustainable finance measures.

One significant bottleneck in the system is the mobilization of funds by banks and financial institutions to potential investors. Intermediary organizations play a crucial role in connecting green projects with appropriate funding. Strengthening the coordination between intermediaries and Bangladesh Bank is essential to identify and mobilize green projects and ensure their proper utilization. The establishment of a Sustainable Financing Forum, involving government authorities, banks, financial institutions, intermediaries, and potential borrowers, could facilitate collaboration and knowledge sharing, leading to increased investment in green projects.

TABLE 1: GREEN FINANCE DISBURSEMENTS IN BANGLADESH

Year	Total Disbursements (BDT Billion)	Share of Total Bank Advances (%)**
2011	0.2	0.01
2012	0.72	0.03
2013	0.95	0.04
2014	1.28	0.05
2015	2.70	0.10
2016	15.64	0.57
2017	20.34	0.74
2018	22.28	0.81
2019	25.03	0.89
2020	33.4	1.19
2021	40.43	1.45
2022	52.27	1.89

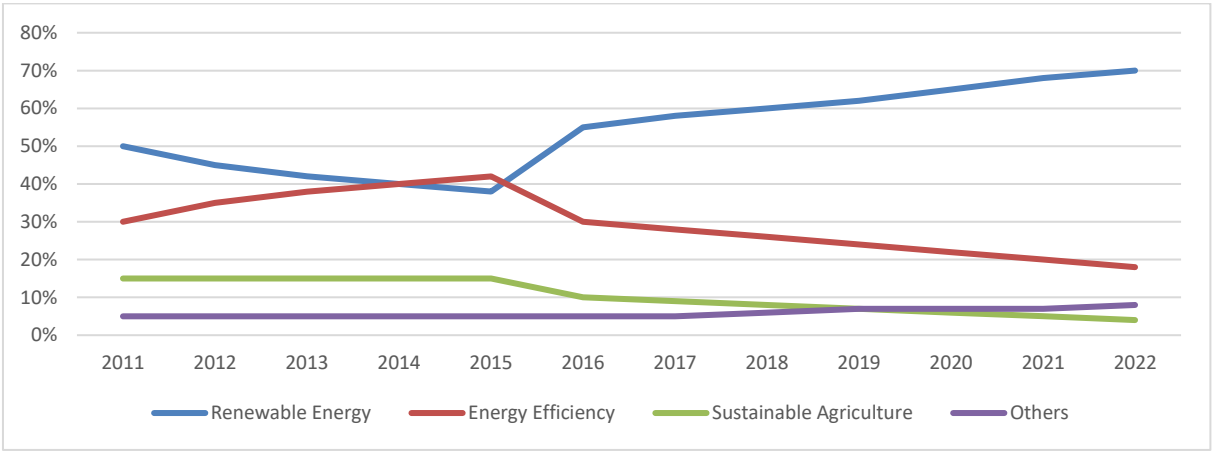
Source: Bangladesh Bank and Bangladesh Institute of Development Studies

The historical data presented in Table 1 illustrates a gradual yet significant growth in green finance disbursements in Bangladesh. Initially, in 2011, the disbursements were minimal, barely making an impact. However, as the years progressed, a remarkable shift occurred. By 2022, green finance had expanded nearly fourfold, accounting for almost 2% of total bank advances—a notable increase from its initial share of merely 0.01%. This upward trend signifies Bangladesh's increasing dedication to mitigating climate risks and fostering a greener economy.

It is important to acknowledge that this growth has not occurred without its challenges. While the share of green finance in total bank advances has been steadily rising, it still falls short of the recommended 5% benchmark. Moreover, there are concerns regarding limited access to finance, particularly for smaller projects and rural areas. Despite these obstacles, the consistent surge in disbursements indicates that Bangladesh is heading in the right direction, nurturing its green finance initiatives into a promising future.

To gain deeper insights into the efficacy of existing green financing measures and identify areas for improvement, it is beneficial to focus on sector-specific breakdowns and project distribution.

FIGURE 1: SECTOR-WISE BREAKDOWN OF GREEN FINANCE DISBURSEMENTS. SOURCE: BANGLADESH BANK AND BANGLADESH INSTITUTE OF DEVELOPMENT STUDIES



This analysis can offer a comprehensive understanding of how effective the current initiatives have been and highlight potential areas for enhancement. As Bangladesh continues its journey towards addressing climate change concerns, it is crucial to maximize the potential of green finance, ensuring it becomes a robust, inclusive mechanism that propels the nation towards a sustainable future. Figure 1 depicts a sector-wise breakdown of green finance disbursements in Bangladesh from 2011 to 2022. The data reveals significant trends in sector allocations over the years. The percentage of disbursements for renewable energy projects consistently increases, starting at 50% in 2011 and reaching a peak of 70% in 2022. This highlights a strong emphasis on renewable energy initiatives in the country. Energy efficiency projects also see steady growth, with disbursements ranging from 30% in 2011 to 18% in 2022. Sustainable agriculture projects maintain a relatively stable allocation of 15%, indicating consistent investment in this sector. The "Others" category, representing a variety of sectors, demonstrates consistent disbursements at 5%, albeit with slight increases to 6% in 2018 and 8% in 2022. This sector-wise breakdown offers valuable insights into the distribution of green finance and informs an analysis of the effectiveness and priorities in Bangladesh's green financing efforts (Ahmad et al., 2020)

TABLE 2: NUMBER AND AVERAGE LOAN SIZE OF GREEN PROJECTS FINANCED

Year	Number of Green Projects	Average Loan Size (BDT Million)
2011	12	16.67
2012	35	20.57
2013	51	18.63
2014	72	17.78
2015	115	23.48
2016	287	54.41
2017	352	57.76
2018	405	55.05
2019	451	55.49
2020	528	63.22
2021	615	65.67
2022	735	71.05

Source: Bangladesh Bank and Bangladesh Institute of Development Studies

Table 2 provides a comprehensive overview of the number and average loan size of green projects financed in Bangladesh from 2011 to 2022. The data reveals significant trends and patterns in green project financing over the years. The number of green projects shows a remarkable increase, starting at 12 in 2011 and steadily rising to 735 in 2022. This indicates a growing interest and commitment towards green initiatives in the country. Additionally, the average loan size for these projects also displays a consistent upward trend. Beginning at BDT 16.67 million in 2011, the average loan size gradually increases to BDT 71.05 million in 2022. This suggests a willingness to provide substantial financial support for larger-scale green projects. These findings reflect a positive evolution in the financing landscape, demonstrating a growing capacity to fund and support environment-friendly initiatives in Bangladesh. The information presented in this table serves as a valuable indicator of the progress and effectiveness of green finance efforts in the country (Bikker and Spierdijk, 2008).

Incentivizing banks and financial institutions to support green projects, specific measures should be put in place. Foreign banks operating in Bangladesh, such as HSBC and Standard Chartered Bank, follow stricter global policies and guidelines, making their financing activities more robust and aligned with the targets set by Bangladesh Bank. Marketing these incentives effectively to potential borrowers is crucial to attract more investment in green projects and foster sustainable development.

The development of the capital market for green bonds in Bangladesh is still in its early stages. While green bonds hold promise, research suggests that other factors, such as firm-level green ratings, may have a more significant impact on transitioning to a low-carbon economy. Therefore, attention should be given to identifying climate-resilient infrastructure projects and exploring climate finance initiatives that can contribute to enhancing the country's sustainable development goals.

To strengthen its international connections, Bangladesh Bank should study standardized institutional frameworks and practices implemented by other countries and explore partnerships and associations that can enhance the country's sustainable finance framework. Learning from global best practices and collaborating with international institutions can provide valuable insights and guidance for further enhancing green financing initiatives in Bangladesh.

It is worth considering the integration of digital currency and the adoption of polymer banknotes, as done by other central banks, to contribute to environmental sustainability and ensure efficient monitoring of financial systems. These technological advancements can help reduce the environmental footprint associated with traditional currency production and circulation, while also enhancing the efficiency and transparency of financial transactions (Bose et al., 2012).

While Bangladesh has made commendable progress in the field of green financing, there are challenges and areas for improvement. Strengthening coordination, incentivizing financial institutions, developing the capital market for green bonds, and studying global best practices can further enhance Bangladesh Bank's efforts in promoting sustainable finance and addressing climate risks. By prioritizing these strategies and capitalizing on opportunities for innovation and collaboration, Bangladesh can continue driving its transition towards a low-carbon, climate-resilient economy.

POLICY FORMULATIONS

Regulatory Authority: Strengthen regulations for green financing and establish clear criteria for identifying and categorizing green projects. Implement reporting requirements and auditing mechanisms to monitor compliance.

Financial Institutions: Introduce incentives like preferential interest rates and tax benefits for green loans and investments. Enhance capacity building programs for staff and develop specialized loan products for different sectors.

Clients: Raise awareness through targeted marketing campaigns, financial literacy programs, and workshops. Provide support for clients in preparing and implementing green project proposals.

Tax Authority: Offer tax incentives and establish clear guidelines for tax deductions or favorable treatment for green investments.

Social Organizations and NGOs: Collaborate to raise awareness, monitor policy implementation, and mobilize funding for community-led green projects.

Other Relevant Stakeholders: Foster collaboration between industry associations, research institutions, academia, and international organizations. Develop public-private partnerships and monitor policy effectiveness through regular evaluation.

CONCLUSION

In recent years, central banks across the globe have recognized the importance of addressing climate change and its potential impact on the stability of the banking sector. The "greening" of monetary policy, which allows central banks to prioritize green firms and sustainability, is a crucial step towards achieving sustainable economic growth. This chapter has provided a comprehensive analysis of the green financing policies implemented by Bangladesh Bank; the central bank of a country highly vulnerable to climate change. Several key takeaways emerge from this analysis. Firstly, the growing concern of non-performing loans and poor governance indicates the potential unpreparedness of Bangladeshi banks and insurers in dealing with the financial risks associated with climate change. To assess the banks' vulnerability to climate-related risks, conducting climate stress tests can provide valuable insights and help prepare for potential financial fallout. Secondly, while Bangladesh Bank has established comprehensive green financing policies, their effectiveness depends on banks and financial institutions effectively mobilizing funds for green projects. Intermediary organizations play a crucial role in connecting green projects with appropriate funding sources. Collaborating with organizations such as IDCOL and NGOs can facilitate the financing of green projects and ensure their proper implementation. Thirdly, the direct and indirect benefits of green loans are evident. Local banks can learn from foreign banks about incentivizing green loans in the most efficient manner. By following the practices of foreign banks, local banks can effectively promote and support green initiatives in the country. Lastly, it is essential for Bangladesh Bank to align its green policies with a focus on strengthening climate preparedness, adaptation, and mitigation activities. Initiatives such as climate finance should be given careful consideration to ensure adequate funding and support for climate-resilient projects.

LIMITATIONS

There are certain limitations to this study. Firstly, the sample size for surveys and interviews may be limited, which may affect the generalization of findings. Secondly, the study may face challenges in accessing accurate and comprehensive data on the impact of green financing initiatives. Lastly, time and resource constraints may limit the depth of analysis in some areas.

SCOPE FOR FUTURE RESEARCH

This study opens up several avenues for future research. Further research can explore the long-term impacts of green financing on climate resilience and sustainable development in Bangladesh. Additionally, more in-depth investigations can be conducted to identify specific barriers and facilitators of green financing implementation. Comparative studies across different countries can also provide valuable insights into best practices and lessons learned in promoting green finance.

REFERENCES

1. Abdullah, M.N., Chowdhury, E.K. & Tooheen, R.B. (2022). Determinants of capital structure in banking sector: a Bangladesh perspective. SN Bus Econ. 2, (190). https://doi.org/10.1007/s43546-022-00370-8
2. ADBI Working Paper 814, 30. Retrieved from Asian Development Bank Institute.
3. Ahmad, N., Naveed, A., Ahmad, S., & Butt, I. (2020). Banking sector performance, profitability, and efficiency: a citation-based systematic literature review. Journal of Economic Surveys, 34(1), 185-218.
4. Antara, N. F. (2021, June 03). Budget FY22: Around Tk25,125cr budget proposed to tackle climate change. Dhaka, Dhaka, Bangladesh. Retrieved from https://archive.dhakatribune.com/business/economy/2021/06/03/budget-fy22-around- tk25-125cr-budget-proposed-to-tackle-climate-change
5. Bangladesh Bank (BB). (2020). (BB) Annual Report 2019-2020. Dhaka: Bangladesh Bank. Retrieved from https://www.bb.org.bd/pub/annual/anreport/ar1920/full_2019_2020.pdf

6. Bangladesh Bank Circulars. (2022, May 23). Mediaroom Circulars. Retrieved from Bangladesh Bank: https://www.bb.org.bd/en/ index.php/mediaroom/circular
7. Bangladesh Bank. (2011, January 01). Environmental Risk Management (ERM) Guidelines for Banks and Financial Institutions in Bangladesh. ERM Regulation Guideline, 43. Dhaka, Dhaka, Bangladesh: Bangladesh Bank. Retrieved from https://www.bb.org.bd/aboutus/regulationguideline/jan302011erm.pdf
8. Bangladesh Bank. (2020-2021). Sustainable and Inclusive Banking - Chapter 6. In B. Bank, Annual Report (p. 18). Dhaka: Bangladesh Bank. Retrieved from file:///C:/Users/Shehtaz/Desktop/Book/full_2020_2021.pdf
9. Bank of England. (2022, April 25). Climate Change. Retrieved from Bank of England: https://www.bankofengland.co.uk/climate-change
10. Banque de France (2021) A first assessment of financial risks stemming from climate change: The main results of the 2020 climate pilot exercise. No. 122-2021.
11. Berlin: Germanwatch e.V. Retrieved from www.germanwatch.org/en/cr
12. Bikker, J. A., & Spierdijk, L. (2008). How banking competition changed over time. Discussion Paper Series/Tjalling C. Koopmans Research Institute, 8(04).
13. Bolton, P, and M T Kacperczyk (2021), "Global pricing of carbon-transition risk", NBER Working Paper No. 28510. https://www.nber.org/papers/w28510
14. Bose, N., Capasso, S., & Andreas Wurm, M. (2012). The impact of banking development on the size of shadow economies. Journal of Economic Studies, 39(6), 620-638.
15. Carney, M. (2015). Breaking the tragedy of horizon–climate change and financial stability. Speech at Lloyd's of London.
16. Carney, M. (2015, September 29). Breaking the tragedy of the horizon - climate change and financial stability - speech by Mark Carney. (L. o. London, Interviewer) Retrieved from https://www.bankofengland.co.uk/-/media/boe/files/speech/2015/breaking-the- tragedy-of-the-horizon-climate-change-and-financial- stability.pdf?la=en&hash=7C67E785651862457D99511147C7424FF5EA0C1A
17. Chowdhury E.K, & Khan I.I. (2023). Reactions of Global Stock Markets to the Russia–Ukraine War: An Empirical Evidence, Asia-Pacific Financial Markets, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1007/s10690-023-09429-4
18. Chowdhury E.K, Khan I.I, Dhar B.K. (2023). Strategy for implementing blockchain technology in accounting: Perspectives of stakeholders in a developing nation. Business Strategy & Development, 6 (3), 477-490. https://doi.org/10.1002/bsd2.256
19. Chowdhury, E. K. (2023). Do weather patterns effect investment decisions in the stock market? A South Asian perspective, Journal of Asset Management, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1057/s41260-023-00334-z
20. Chowdhury, E. K. (2023). Is the Application of Blockchain Technology in Accounting Feasible? A Developing Nation Perspective. In Abedin, M.K., Hajek, P. (eds.) Cyber Security and Business Intelligence Innovations and Machine Learning for Cyber Risk Management (pp. 46-64). Routledge. https://doi.org/10.4324/9781003285854
21. Chowdhury, E. K., & Humaira, U. (2023). The Russia–Ukraine conflict and investor psychology in financial markets. Economic Affairs, 43(3), 388-405. https://doi.org/10.1111/ecaf.12596
22. Chowdhury, E. K., & Humaira, U. Transformation of investor attitude towards financial markets: A perspective on the Russia–Ukraine conflict. International Social Science Journal. 1–23. https://doi.org/10.1111/issj.12470
23. Chowdhury, E. K., Dhar, B. K., Thanakijsombat, T., & Stasi, A. (2022). Strategies to determine the determinants of financial performance of conventional and Islamic commercial banks: Evidence from Bangladesh. Business Strategy & Development, 1–19. https://doi.org/10.1002/bsd2.207
24. Delis, M., Greiff, K., & Ongena, S. (2018, May 15). Being Stranded on the Carbon Bubble? Climate Policy Risk and the Pricing of Bank Loans. SSRN, 65. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3178099
25. Demekas, M. G., & Grippa, P. (2021, December 17). Financial Regulation, Climate Change, and the Transition to a Low-Carbon Economy: A Survey of the Issues.
26. Eckstein, D., Künzel, V., & Schäfer, L. (2021). GLOBAL CLIMATE RISK INDEX 2021.
27. Ehlers, T., Mojon, B., & Packer, F. (2020). Green bonds and carbon emissions: exploring the case for a rating system at the firm level. Basel: BIS. Retrieved from https://www.bis.org/publ/qtrpdf/r_qt2009c.pdf
28. Elmalt, D., Igan, D., & Kirti, D. (2021). Limits to Private Climate Change Mitigation. London: Centre for Economic Policy Research. Retrieved from https://cepr.org/active/publications/discussion_papers/dp.php?dpno=16061#
29. Global Climate Risk Index. (2021). Retrieved from https://www.cfainstitute.org/en/programs/climate-risk-valuation-investing?
30. Hasan, M., & Macdonald, G. (2021, September 13). How Climate Change Deepens Bangladesh's Fragility. Analysis and Commentary. 2301 Constitution Avenue NW, Washington D.C., United States of America: United States Institute of Peace. Retrieved from https://www.usip.org/publications/2021/09/how-climate-change-deepens- bangladeshs-fragility
31. Hasan, S., & Macdonald, L. (2021). Climate outlook for South Asia: A review. Journal of South Asian Development, 16(3), 292-314.
32. Khairunnessa, F., Vazquez-Brust, D., & Yakovleva, N. (2021). A Review of the Recent Developments of Green Banking. Basel: MDPI. doi:https://doi.org/10.3390/
33. Ra, K., & Li, J. (2018). Financing sustainable development in Asia and the Pacific: Addressing infrastructure gaps for a resilient future. ADB Briefs No. 87, Asian Development Bank.
34. Reghezza, A., Altunbas, Y., Marques-Ibanez, D., d'Acr, C. R., & Spaggiari, M. (2021). Do banks fuel climate change? Frankfurt: European Central Bank. Retrieved from https://www.ecb.europa.eu/pub/pdf/scpwps/ecb.wp2550~24c25d5791.en.pdf
35. SBFN. (2022). Bangladesh Country Progress Report - Supplement to the 2021 Global Progress Report of the Sustainable Banking and Finance Network. Washington D.C: IFC and SBFN. Retrieved from https://sbfnetwork.org/wp- content/uploads/pdfs/2021_Global_Progress_Report_Downloads/2021_Country_Progres s_Report_Bangladesh.pdf
36. Sustainable Finance Department (SFD). (2022, May 24). Sustainable Finance Department. Retrieved from Bangladesh Bank : https://www.bb.org.bd/en/index.php/about/deptdtl/61#:~:text=Sustainable%20Finance%2 0Department%20was%20established,FIs%20through%20efficient%20and%20effective
37. The Ministry of Finance. (2021). Chapter One: Macroeconomic Situation. In F. D. Finance, Bangladesh Economic Review 2021 (p. 10). Dhaka, Bangladesh: FInance Division. Retrieved from https://mof.portal.gov.bd/sites/default/files/files/mof.portal.gov.bd/page/f2d8fabb_29c1_ 423a_9d37_cdb500260002/10.%20Chapter-01%20Eng%20Eng-21.pdf
38. The World Bank. (2016). Bangladesh - Climate Change and Development in Bangladesh. Retrieved from https://www.worldbank.org/en/news/video/2017/06/07/climate-change-impacts-in-bangladesh#:~:text=Bangladesh%20is%20among%20the%20most,the y%20have%20found%20innovative%20solutions.
39. The World Bank. (2016, October 9). Bangladesh: Building Resilience to Climate Change. Retrieved from The World Bank: https://www.worldbank.org/en/results/2016/10/07/bangladesh-building-resilience-to- climate-change.print.
40. UNEP FI. (2020). UNEP FI Annual Overview 2020. Geneva: United Nations Environmental Programme Finance Initiative. Retrieved from https://www.unepfi.org/wordpress/wp-content/uploads/2021/07/2020-Annual- Overview.pdf
41. Volz, U. (2018, March). Fostering Green Finance for Sustainable Development in Asia.

REQUEST FOR FEEDBACK

Dear Readers

At the very outset, International Journal of Research in Commerce & Management (IJRCM) acknowledges & appreciates your efforts in showing interest in our present issue under your kind perusal.

I would like to request you to supply your critical comments and suggestions about the material published in this issue, as well as on the journal as a whole, on our e-mail **infoijrcm@gmail.com** for further improvements in the interest of research.

If you have any queries, please feel free to contact us on our e-mail **infoijrcm@gmail.com**.

I am sure that your feedback and deliberations would make future issues better – a result of our joint effort.

Looking forward to an appropriate consideration.

With sincere regards

Thanking you profoundly

Academically yours

Sd/-
Co-ordinator

DISCLAIMER

The information and opinions presented in the Journal reflect the views of the authors and not of the Journal or its Editorial Board or the Publishers/Editors. Publication does not constitute endorsement by the journal. Neither the Journal nor its publishers/Editors/Editorial Board nor anyone else involved in creating, producing or delivering the journal or the materials contained therein, assumes any liability or responsibility for the accuracy, completeness, or usefulness of any information provided in the journal, nor shall they be liable for any direct, indirect, incidental, special, consequential or punitive damages arising out of the use of information/material contained in the journal. The journal, neither its publishers/Editors/ Editorial Board, nor any other party involved in the preparation of material contained in the journal represents or warrants that the information contained herein is in every respect accurate or complete, and they are not responsible for any errors or omissions or for the results obtained from the use of such material. Readers are encouraged to confirm the information contained herein with other sources. The responsibility of the contents and the opinions expressed in this journal are exclusively of the author (s) concerned.

ABOUT THE JOURNAL

In this age of Commerce, Economics, Computer, I.T. & Management and cut throat competition, a group of intellectuals felt the need to have some platform, where young and budding managers and academicians could express their views and discuss the problems among their peers. This journal was conceived with this noble intention in view. This journal has been introduced to give an opportunity for expressing refined and innovative ideas in this field. It is our humble endeavour to provide a springboard to the upcoming specialists and give a chance to know about the latest in the sphere of research and knowledge. We have taken a small step and we hope that with the active co-operation of like-minded scholars, we shall be able to serve the society with our humble efforts.

Our Other Journals