Volume 22 Issue 23
Originally issued as B5



Global Journal of Management and Business Research: B
Economics and Commerce
Volume 22 Issue 5 Version 1.0 Year 2022
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

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GJMBR-B Classification: DDC Code: 418.02 LCC Code: P305



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Sustainable Green Finance Practices and Application in Commercial Banks: A Phenomenological Study

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Abstract- As a new practice in finance, world communities are incorporating environmental, social and governance (ESG) interests into our financial practice terming it as Green Finance. ESG`s core concept and the United Nations Sustainable Development Goals 2030 help spread this west evolved concept to developing countries. Nepal, a developing country in need of foreign funding, seems to have succumbed to green finance practices as it has become one of the fundamental goals of key economic players such as the World Bank and the IMF. This qualitative research tried to explore the present positioning of Nepalese commercial banks regarding incorporation of the concepts of green finance in their financial planning, decision making and operation by collecting data through seven semi structured interviews with commercial bankers. Findings are analyzed under different themes i.e. understanding of green finance, common green finance practices and challenges faced while implementing it. This study concluded that green finance being a nascent concept is superficially understood, is practiced just to meet the minimum NRB guidelines, has economical and operational constraints, and needs rational amendments in guidelines for local acceptance yielding desired outcomes.

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I. Introduction

Environmental issues caused by constantly increasing CO2 emissions have become a global concern (Schumacher et al., 2020). In order to address this universal concern, authorities are making intensive efforts to amplify environmental awareness, cutback economic carbonization, excogitate risks associated with climate change, and curtail the knocks of excessive carbonization (Hafner et al., 2020). Responding to these concerns, world communities have agreed an Agenda 2030 to achieve sustainable development by diverting to sustainable green investment from carbon-dense investment (Tolliver et al., 2020). Huge attention has been paid towards discounting CO2 emissions and global warming as a result of greenhouse gases (Mahat et al., 2019). To subjugate these worries, financial system must be innovated to pay more diligence to environmental protection and economic growth to ensure sustainable development (Guild, 2020). The transformation to 'low carbon' or 'environment-friendly' financial activities demands novel financing because classical or mainstream financing instruments are not well-equipped to preserve the environment and to coddle for the needs of a small but expanding green economy (Dikau and Volz, 2021). Therefore, advocates of a green economy have put forward 'green finance' as one of the feasible way-out to fulfill the financing demands of individuals, institutions and public-authorities involved in programs and actions to ensure the sustainable preservation of environment (Mohd and Kaushal, 2018).

Green finance is concerned with the transformation of system aiming at conservation and up-gradation of environment, conservation of energy, green investment and green financing, greener movement and transportation, and green financial orientation via sustainable project development, optimal use of resources and environment solicitous actions (Tolliver et al., 2020). The core idea of green finance is comprehensively different from traditional finance. Green finance strongly focuses on sustainable economic development by innovatively participating in environmental conservation (Falcone, 2020). In addition to reducing carbon emission, the incorporation of concept of green finance can also be supportive in mitigating climate risk, improving the quality of community life, and effective shift to zero-carbon; helping in fulfillment of broad CSR responsibilities of companies (Kemfert et al., 2020).

Comprehensive support and involvement of all the stakeholders including government, society, financial institutions, and all the major economic players is basic necessity for effective practice and implementation of green financial system (Al Ahbabi and Nobanee, 2019). Government can play leading role in this regard by adopting new and supportive policies, updating and enhancing green financial laws, speeding institutional reforms, and mediating global cooperation to form an efficient green financial system (Peng et al, 2018). Hu et al, (2020) stresses the importance of financial institutions by stating that they can support sustainable development by effective green credit funding.

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Sustainable finance has been a hot topic in recent years and will continue to be so for years to come. As a blossoming practice in the field of finance, it stressfully considers the environmental, social and governance (ESG) interests in financial planning, decision making and operation. Green finance, a major subset of sustainable finance, is considered to be one of the unquestionable tools for achievement of sustainable development goals.

Green finance, in its broadest sense, refers to the collection and use of funds for projects that save the environment while providing lenders or investors with a reasonable return (Berensmann and Lindenberg, 2019). Increased financial flows from financial institutions to businesses engaged in environmental preservation initiatives and other activities that contribute to the achievement of the Sustainable Development Goals are the purpose of green finance (Lee and Baral, 2017). Green finance is becoming more important in the banking sector as a result of efforts to protect banks and society at large against unpredictable future economic issues (Ziolo et al. 2019).The transition to 'low carbon' or 'environment-friendly' economic activities requires novel financing because traditional or mainstream financing instruments are not designed to preserve the environment and to cater for the needs of a small but growing green economy (Dikau, 2021)

The paper commences with a background section that attempts to clarify the study's setting while stressing the issue presented, the context of the investigation, and the research questions underpinning the remaining discussion. A survey of the relevant literature on green finance and related products will come after that section. The methodology section describes the sample selection process as well as how the in-depth banker interviews were planned and carried out. The findings are widely discussed in the analysis part in three separate themes related to commercial bankers' understandings, practices, and difficulties with green finance. The summary of the results and suggestions for further research are presented in the conclusion section.

II. Problem Statement

Developing nations like Nepal are having a difficult time dealing with the effects of climate change on the environment. For instance, Nepal is reportedly one of the nations, most susceptible to climatic variations, which have harmed natural ecosystems and made life more difficult for the populace. In order to address the financial needs of people, businesses, and governments engaged in initiatives and activities that sustainably protect the environment, green finance is being explored as a potential alternative (Mohd and Kaushal, 2018). The majority of industrialized economies today largely employ this developed and refined western financial theory. Stressful encouragement is being given for developing economies to imitate developed ones.

The recommendations were presented in 2018 by Nepal Rastra Bank with the aim of encouraging and using sustainable financing. Following that, all BFIs were urged to apply sustainable finance principles to their operations and decision-making. The phrase "Green Finance" is then widely used in the financing sector in Nepal. Commercial banks, which make up more than 80% of the financial sector in Nepal, have been hailed as pioneers in the adoption and use of sustainable (Green) financing. This is a new phenomenon that requires advanced knowledge and work to be implemented successfully (Volz, 2018). The question of whether or not this issue has been correctly grasped has been the key question. There seemed limited or minimum research regarding understandings and proper applications of this western driven phenomenon in the context of developing economies like Nepal. In line with this concern, this research has tried to address the following research questions:

- How has green finance been understood in Nepalese commercial banks?
- What are the common practices undertaken by Nepalese commercial banks?
- What is the existing and future potential challenges prevailing in the field of green finance as faced by commercial banks?

III. Literature Review

Green finance has been defined in different ways. There seems a not significant difference between the definitions purposed by various scholars. Green finance, according to Lindenberg (2014), is the funding of both governmental and private green investments. Green finance, according to Ozili (2021), is the funding of initiatives that advance environmental sustainability while producing economic returns. Green finance is defined by Wang and Zhi (2016) as financing that combines economic growth and environmental preservation. As according Lindenberg (2014), green finance includes all investments in products and services that benefit the environment as well as investments in initiatives that lessen harm to the environment and the climate. Green finance also refers to the investment in governmental policies that support the implementation of environmental conservation projects or initiatives to lessen environmental damage. (Lindenberg, 2014). Green finance, according to Bahl (2012), is the funding of projects that lessen pollution as well as environmentally beneficial activities and green technologies. The concept of acquisition and use of cash, for environmental-friendly projects, while providing lenders or investors the reasonable return on their investment is known as "green financing" (Berensmann and Lindenberg, 2019). Popularly referred to as "green

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banking," this term describes the environmentally friendly steps that banks have made to decrease external carbon emissions and lower their day-to-day carbon footprint (Jain, 2013).

Empirical researches have concretely pointed out many novel benefits of green finance, while advocating its incorporation in financial practices. Green financing encourages inclusive economic expansion (Wang and Wang, 2020). Green project investments can lower carbon emission levels in the short- and long-term (Li et al, 2021). Investors in the corporate and treasury markets benefit from green financing's benefits of diversity (Reboredo, 2018). Funding for fossil fuel operations that are harmful to the environment and the climate can be decreased by increasing green financing (Sachs et al, 2019a, Ozili, 2022a). Green financing is significant due of its alleged advantages. Long-term, green financing encourages the development of smart cities (He et al, 2020).

Banks, institutional investors, research organizations, government organizations, central banks, financial regulators, international financial institutions, and universities are the primary forces driving the growth and development of green finance (Berensmann and Lindenberg, 2016). As demonstrated by Volz (2017), the financial system can be made greener by central banks using a variety of tools and policy instruments. Discount policy, reserve requirements, capital requirements, open market operations, foreign exchange intervention, macroprudential policies, risk guidance, central bank communication, and international collaboration among central banks are some potential instruments that might be utilized by central banks. Government agencies in European nations often focus on creating an environment that is conducive to green projects, while the European Investment Bank (EIB) plays a vital role in financing renewable energy projects and energy efficiency improvement projects throughout Europe (Wang and Zhi, 2016).

The microeconomic challenges to green finance, according to Berensmann and Lindenberg (2016), include issues with internalizing environmental externalities, information asymmetry issues, a lack of analytical capacity, a hazy definition of "green," a maturity mismatch between short-term and long-term green investments, the relatively short time horizon of savers and investors, and an ineffective coordination between financial and environmental sectors. The biggest obstacles in the subject of green finance include the difficulty in analyzing green finance, the lack of uniformity in evaluating corporate greenness, the imprecise definition of corporate greenness, and the absence of green data (Gilchrist et al, 2021).High transaction for green certification and monitoring plays a significant role in curtailing the growth of green investment vehicle(Schletz et al 2020).

The scholar aligned with the idea that green finance, a nascent concept in the field of finance is concerned about proper incorporation of environment, social and governance interest in financing decision making and action. Researchers have concluded central banks and BFIs to be the major promoters of green finance. Nepal Rastra Bank has put forward the sustainable policy to be incorporated by BFIs. Convenience, applicability and acceptance of that policy need critical examination.

In conclusion the concept and the procedure of green finance are well driven by 'Public Interest Theory' focusing more on the public, social and environmental interest. Green finance seems to encourage financial institutions to trade off their 'Private Interest' of core profit with the Long term public interest of environment and climate conservation. Furthermore, most of the literatures are stressing the needs of green finance and pointing out the difficulties associated. Nepal, a climate change vulnerable country heavily depending on foreign financial involvement, can't avoid green finance paradigm. State of commercial banks, main economic pillar, in this regards needs exploration.

IV. Methodology

This research broadly aimed to explore the present-day story-line of green finance in Nepalese commercial banks. Due to the exploratory nature of the study, qualitative research approach has been adopted as this method allows capturing the detail information and eases the task of generating rational themes relating with the issue. Empirical data were collected conducting semi structured interviews.

a) Sample

We used purposive criterion sampling process identifying ten bankers serving at mid to high level in commercial banks. The respondents were selected based on the personal links choosing the bankers who are working in the commercial banks with minimum experience of five years and are constantly involved in financial decision making process i.e. serving at mid/ high level. While selecting the respondents we tried to incorporate various types of banks like state owned, joint venture and private banks.

b) Data Collection

After identifying the potential respondents, individual interviews were conducted to collect empirical data. A total of seven interviews were conducted (2 respondents from government owned bank; 2 from joint venture banks and 3 from private banks). All the interviews were conducted face to face in Nepali language. Basic ethical considerations were respected. Interviews were based on the open ended questions regarding green finance in commercial banks. Interviews lasted for 40 to 60 minutes in which respondents were

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freely allowed to express their understandings and thoughts. It allowed Interviewees be active insightful participants rather than being the mere subject of research. All the respondents readily agreed their interviews to be recorded.

V. Data Analysis

All the recorded interviews were well transcribed. Transcription was then followed by content analysis to identify and generate the research codes. Previous literatures were reviewed to explore the basics of green finance. Using the knowledge acquired from literature review, research themes were developed using the research codes in line with the research questions.

Following considerations are being maintained from the initiating point of research to ensure rigor and quality, and demonstrate trustworthiness.

- Prolonged engagement of researcher has been ensured to maintain credibility.
- Interviewee, rather than being the mere subject has been encouraged to be active insightful participants and the issue being noble has been helpful in this cause.
- Thick description (including voices, feelings and actions) has been given in the write up to ensure transferability of research.
- Constant reflection has been done to minimize researcher's personal biasness to maintain conformability of research.

VI. Findings and Discussion

In this section, findings are being discussed on the basis of the themes that emerged out of data analysis. All the codes generated after content analysis has been grouped and analyzed as following themes.

- Bankers' understanding of Green Finance.
- Green Banking practices undertaken by commercial banks
- Challenges faced during implementation of Green Finance.

a) *Understanding of Green Finance*

In general we found that commercial bankers' possess quite surficial knowledge regarding green finance. They seemed less aware about the true and in depth concept of green finance. Most of them thought green financial concepts deal with electronic banking, ATM services, paperless banking, and environment scanning during investment. The core concepts of green finance concerning around ESG issues seemed not being acquainted among them. These central player of financial sphere were found particularly unaware of need for technological linkage between financial planning and operation, need for constant greener innovation, and their responsibility of preserving the economy by funding greener projects. Some of them seemed to have strong negative thoughts regarding it.

"It is a mere western concept not applicable to us. Are we the one taking responsibilities on the environmental sustainability degraded by the developed economies who are purposing this concept? In addition, its implementation will establish competitive disadvantage in financial operation"

This was the view of a government banker. This showed the lack of readiness for change and hesitation of embracing constantly globalizing financial concept. Furthermore, only two out of seven participants talked about the issues of financial inclusion, social and governance interests, and SDGs. This indicated the lack of penetration of green financing concept among Nepalese bankers showing the trouble authorities woulf be facing ahead in implementing green financial policies.

b) *Green Banking Practices*

Sustainable Banking network (SBN), International Financial Corporation (IFC) partnered with NRB to formulate the policies regarding sustainable finance. NRB has purposed the sustainable finance framework and it has been in practice among Nepalese BFIs since 2018.

Commercial banks' seemed to be following that framework and are focused merely on meeting the minimum criteria. All the banks have developed an exclusion list which prohibits them from financing extreme non-green projects. In addition they are content with generation of Environment and Sustainability rating of their investments.

As per one of the participants from a private bank, "We provide online banking facilities. Our bank has large number of ATM counters and we encourage our customers to use ATM cards. We allow our clients to open their accounts online. We even try to ensure financial inclusion during investment".

The surficial modern facilities like ATM services, mobile banking services, online account opening and usage, and general environmental scanning of the projects before investing are the most focused programs by the banks in the sake of going green. Most of the bankers' proudly consider the task of generation of environmental and sustainability score considering air emission, air quality, water use and conservation, solid waste management, working conditions, and community health as their major contribution in incorporating green finance. Financial planning and operation concerning environmental protection, reducing carbon emission, inclusion were not mentioned assertively during the interview showing that the word sustainable finance and green finance are merely used to show their alliance with this concept.

c) *Challenges faced during implementation of Green Finance*

All bankers were to some extent positive about endorsing green financing in their banking practices. They pointed out some challenges regarding its smooth

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implementation. Their insights somehow align with challenges indicated in green finance literatures.

Green finance is nascent phenomenon and it does not have fixed and universally accepted procedures and criteria. In Nepalese commercial bank there exist huge differences among stakeholders regarding the understanding of green financial principles and policies. Banking executives were highly concerned about Lack of creative talents, related to financial and environmental economics, required in developing green financial products. One of the banker from the joint venture bank express his frustrations regarding green financial practices as:

"Green financial investments comparatively yields low returns. The procedure itself is more time consuming, complicated and with higher transaction costs. We are forced to sacrifice our profits in the name societal interests and sustainability."

It shows deep seated cold-feeling of bankers towards green financial practices. In some instances during the interview I felt that Lack of funding readiness, insufficient technological capacity, ineffective resource use, and varying viewpoints on green finance transformation are the main issues encountered in this area.Furthermore, one of the participants from the government bank was highly critical regarding the huge decrease in the value of collateral after application of green finance standards.

VII. Conclusion

This was an exploratory qualitative research concerning green finance conducted by interviewing commercial bankers. The concept of green finance seemed to be gaining due respect and popularity in financial system. Environmental protection, climate change, social inclusion, and sustainable development continue to receive increasing global recognition, and in recent years, the interests in these issues have heightened in the banking industry. Nepalese commercial banks too are engaged in same highlighting the need of incorporating the green financial concepts in their planning and operation.

The promotion of green financing has stagnated despite the existence of green banking policy guidelines due to banks' and financial institutions' subpar management of green initiatives. In addition, the policy seemed highly influences by western practices. We feel it would be more fruitful if these policies were prepared incorporating local issue in this global phenomenon.

Some of bankers were rightly critical in pointing out the cost related with green finance and the competitive disadvantage it arose. To some extent we feel we developing world are forced to sacrifice our resource potential to neutralize the environmental hazards caused by decades long activities of developed world. There must be common meeting point where the development aims of the developing nations been given due recognition, financial support and technical assistance by developed countries.

Green finance as a phenomenon is very novel. It is sure to yield sustainable dividends incorporating social and environmental interest. But the huge transaction costs associated with green projects seemed overshadowing its advantages and making bankers hesitant accepting it. More simplification in its concepts, principles and procedure is needed to make it readily acceptable and economically viable.

VIII. Implication

The findings of this research are noteworthy for different stakeholders depending on their need as following:

- This research provides deeper understanding regarding what the green banking is and what actions the banks should undertake in order to create opportunities within this concept and identify challenges while incorporating it.
- It can be used as a resource for academics who wish to pursue additional research in this or similar fields, or it can be used as reading material for anybody with an interest in the subject.
- It assists bank policy makers in developing regulations connected to green banking practices by warning bankers about difficulties that will arise tomorrow so that they can reap the benefits of green banking, which is still believed to be in its infancy in Nepal.

IX. Future Research Opportunities

Future research should define the limits of governmental and private sector involvement in green funding. The boundaries of public and private sector involvement in green financing are currently a subject of scant research in the literature. Identification of the upper and lower limits of governmental and private sector involvement in green financing is necessary. Involving too many citizens in green financing could result in environmental policies being dominated by competing private interests..

The nexus between green, digital, and social finance should be thoroughly investigated in upcoming studies. Future research may also reveal further synergistic advantages of mixing social, digital, and green finance for a sustainable environment and society.

The ideal level of legislation to support green enterprises and promote green innovation must be investigated. Future research should determine how to effectively regulate while striking the correct balance between enforcing green regulations and fostering green innovation. One can also investigate how the difficult institutional and policy contexts impact the growth of green finance and investment markets in

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underdeveloped nations. Such studies ought to take into account the distinctive institutional and legislative constraints that apply to developing nations.

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