Delhi Metropolitan Education
Affiliated to GGSIP University, New Delhi & Approved by Bar Council of India

RESEARCH ARTICLE
doi: 10.53361/dmejm.v5i01.02

Green Finance as Propeller to Sustainable Development in India

Anuradha Sahu[1], Shweta Khatri[2*]

[1]Ex-Associate Professor, Management Department, DPG Institute of Technology, Gurugram, Haryana, India
[2]Assistant Professor, Management Department,FORE Academy of Management Education Gurugram, Haryana, India

ARTICLE INFO

Correspondence:
sahuanuradha06@gmail.com
Ex-Associate Professor, Management Department, DPG Institute of Technology, Gurugram, Haryana, India

Dates:
Received: 15-01-2024
Accepted: 20-03-2024
Published: 12-07-2024

Keywords:
Green finance, Sustainable development goals, Sustainability, Indian government, Regulatory authorities, Financial institutions.

How to Cite:
Sahu, A., Khatri, S. (2024) Green Finance as Propeller to Sustainable Development in India. DME Journal of Management, 5(1), 9-17. doi: 10.53361/dmejm.v5i01.02

Abstract

The requirement for utilizing renewable energy sources and eco-friendly practices has significantly expanded in consideration of the problems associated with environmental deterioration and an abrupt decrease in the quality and availability of natural resources. The United Nations has also urged businesses to switch from fossil fuels to renewable and ecologically sustainable methods. To accomplish the Sustainable Development Goals, several nations have commenced the shift from economic expansion to green productivity strategies, such as green finance and green innovation. The focus of the corporate sector is now on greening the business processes to address environmental sustainability challenges. Green finance represents an innovative financial approach embraced by financial institutions that combines environmental conservation with economic gains. The primary objective of this research is to assess the role of green finance in propelling India towards sustainability and to analyse the efforts of the Indian government, regulatory authorities, and financial institutions in promoting green financing through diverse initiatives to achieve sustainability. A qualitative approach has been used to provide in-depth insights and explore the complexities of the issue. Additionally, the research also focused on exploring the various challenges encountered in the realm of green finance, while also contemplating the prospective pathways and strategies that could shape the future trajectory of green finance in India.

INTRODUCTION

Since the 1960s, the global ecological crisis and resource depletion, including global warming, climate change, and environmental degradation, have risen to the top of the list of urgent issues that need to be addressed. Food scarcity, degradation of the environment, and resource depletion are just a few of the problems, the globe is currently facing (Jiakui et al., 2023). We need to prioritize sustainable practices and invest in renewable energy sources to resolve these issues. We also need to reduce our consumption of resources and find ways to conserve and protect natural ecosystems. Finally, we need to create economic incentives for businesses to adopt more sustainable practices. To achieve the same, the United Nations has established 17 Sustainable Development Goals (SDGs), such as Climate Action, Affordable and Renewable

Energy, and Life on Land (UNDP, 2021). Even though multiple efforts and commitments have been made by nations to confront environmental challenges, CO2 emissions have risen by 60% since the signing of the United Nations convention on climate change in 1992 (IEA, 2022), and 2020 was one of the top three warmest years on record. This highlights the necessity for constructive measures toward clean and eco-friendly production activities.

Considering this situation, The United Nation has also urged businesses to switch from fossil fuels to renewable and ecologically sustainable methods. To achieve the SDGs, several countries have begun the transition from economic growth to green productivity practices, such as green finance, green innovation, etc (Jiakui et al., 2023).

To attain its Nationally Determined Contributions[1] objectives and Panchamrit goals, India has vowed to reduce its emissions intensity by 33-35% by the year 2030, below levels recorded in 2005. Additionally, there is a commitment to expand the usage of renewable energy (RE) to represent 40% of installed electric power capacity by the year 2030. The government of India has estimated that approximately US$ 4.50 trillion (US$ 450 million annually) will be necessary over the next decade to fulfil the targets for both renewable energy and urban sustainability (CPR-2023).

In accordance with the development of the economies, "Green Finance" has evolved over time. Green finance is an emerging concept that is progressively integrating into the worldwide financial framework. It encompasses various financial activities such as products or services designed to enhance environmental sustainability (Chhaochharia, 2021). These activities consist of an array of loans, debt instruments, and investments aimed at promoting the advancement of eco-friendly projects or mitigating the climate impact of conventional projects, or a fusion of the two (Bhatnagar & Sharma, 2022). These financial tools provide opportunities for investors to allocate their capital towards environmentally friendly projects while also generating financial returns (Yu et al., 2021).

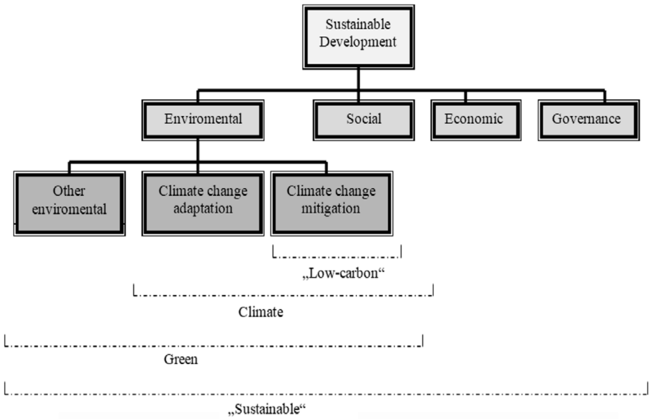
By mobilizing green finance, we can promote sustainable development, while also protecting our planet from the effects of climate change (Desalegn & Tangl, 2022) Green finance can help fund projects that promote renewable energy, energy efficiency, and other measures that reduce emissions and limit the effects of climate change (N. Kumar & Initiative, 2018). Green finance can achieve this by providing capital to companies that are actively involved in developing green technologies. These technologies aim to reduce greenhouse gas emissions and other harmful pollutants, ultimately mitigating the adverse effects of climate change (Chhaochharia, 2021). This shift towards green finance is driven by a growing understanding of the interconnectedness between the economy, the environment, and social well-being.

Green finance, an innovative financial tool, plays a pivotal role in promoting sustainable business models. Its emphasis has moved from wealth maximization for shareholders to value generation for stakeholders. Achieving this objective requires the formulation and implementation of appropriate strategies, which ensure environmental sustainability. The encouragement of companies to invest in green technologies and practices is a key principle of green finance, leading to the reduction of greenhouse gas emissions. Additionally, it provides financial support for projects and initiatives that promote environmental conservation and sustainability. Ultimately, green finance has the potential to revolutionize the global economy and pave the way for a more sustainable future. The Indian government, along with regulatory authorities and financial institutions, plays a vital role in promoting green finance to attain sustainability. This study explores the measures and initiatives undertaken by these entities to encourage sustainable investments and drive the transition towards a greener economy in India.

LITERATURE REVIEW

The existing literature regarding business and finance primarily centres on green finance policies and sustainability as a means of alleviating the

1. Nationally Determined Contribution is a strategy for reducing emissions and preparing for the effects of climate change. The Paris Agreement requires each Party to set up an NDC and to update it every five years.



Source: United nations environment program, 2016.

Figure 1: Climate finance, green finance and sustainable finance

negative impacts of climate change and promoting a more comprehensive and sustainable economy that can withstand climate-related risks (Srivastava et al., 2020). Green finance is viewed as a novel concept that can effectively address contemporary environmental challenges and facilitate the transition towards sustainability (Giganti, P. & Falcone, 2022). Various theoretical perspectives and methodologies have been employed to explore the potential of green financing in addressing global environmental concerns (Dziwok & Jäger, 2021).

To promote economic transformation and maintain competitiveness, governments globally are taking steps to encourage the development of green finance. Green financial innovation effectively allocates financial resources to improve the development of the green industry (Niyazbekova et al., 2021) Furthermore, excluding the decrease of pollution and emissions of greenhouse gases, green finance has an advantageous impact on environmental quality (Wang & Wang, 2021). The building of eco-friendly financing requires cooperation amongst government bodies, financial institutions, businesses, and clients. Governments should enhance regulation, reduce supervision costs, and increase compensation for consumer pollution (Chen & Chen, 2021). In general, government regulations are crucial for enhancing sustainability and balancing economic growth in the green finance sector (Niyazbekova et al., 2021)(Lanqi & Yanli, 2021). Scholars and policymakers are increasingly focusing on green finance as a means of promoting environmental preservation, climate change mitigation, and sustainable development (Akomea-Frimpong et al., 2022). Desalegn and Tangl (2022) also suggested that future research should investigate how green finance and green investment can be purposively leveraged to stimulate green growth.

Green finance is gaining popularity in India and is viewed to advance ethical business practices and the country's economic growth. Green financing tools like green bonds, serves to drive the expansion of green sectors, technological advancements, and novel financial prospects, thereby contributing to excellence in the realms of economy, society, and the environment. The utilization of green bonds, specifically, has experienced notable advancement and plays a pivotal part in the transition towards renewable energy sources, in alignment with SDGs and efforts to combat climate change. Financial organizations, specifically banks, have a significant responsibility in driving sustainable development by emphasizing funding for environmentally friendly ventures, decreasing carbon footprints, and encouraging inclusive economic progress (D. P. Kumar & Verma, 2021). The financial industry in India has likewise adopted green banking practices such as creating sustainable products, implementing eco-friendly internal policies, and executing eco-friendly corporate social responsibility initiatives (Sharma & Choubey, 2022). Despite this, there remain challenges to address, like encouraging eco-conscious funding and ensuring the effective implementation of sustainable banking practices. More research and policy interventions are necessary to enhance the contribution of banks and financial institutions in green financing for a sustainable future (Ahuja, 2015) (John, 2019).

Recent studies in the realm of green finance include climate finance for adaptation (Hall, 2017) as well as the significance of green bonds (Maltais & Nykvist, 2021). However, the literature fails to sufficiently address the obstacles associated with scaling finance at the rapid rate demanded by sustainability transitions. The finance sector has ability to serve as a strong driver for transitioning economies and societies towards sustainability. The literature on green financing has yet to delve into how the finance sector is expected to bring about comprehensive system-wide transformations in the functioning of our economies, and what kind of governance is necessary to expedite investments. This issue requires more attention, especially in developing countries like India.

The focus of this study is to explore the role of green finance as one of the core components of sustainability transitions in broader economic activities. It will concentrate on how challenges endure, including a significant funding disparity, inadequate focus on safeguarding environment by financial establishments, the necessity for enforcement actions to ensure polluters are held liable for their duties, and hindrances such as technological constraints, storage dilemmas, and financial obstacles.

METHODOLOGY

The research is characterized by its descriptive nature and relies on secondary data sourced from various governmental reports released by the Government of India, as well as other articles published on the topic of green finance. Utilizing qualitative methods, the data was gathered and scrutinized to pinpoint prevailing trends within the realm of green finance in India. The outcomes of the research depicted a considerable advancement by the government in green finance, yet underscored the existence of areas with potential for enhancement. An array of policies and endeavours aimed at fostering green finance were identified within the Indian context, encompassing tax benefits and regulatory actions designed to stimulate investments in environmentally friendly projects. Moreover, the study accentuated the significance of involving stakeholders and boosting public awareness as crucial components of green finance.

DISCUSSION

At the 27th United Nations Conference of Parties (COP) in Egypt, India emphasized the necessity of enhancing financial flows to emerging nations to bolster their endeavours in tackling and adjusting to climate change. After the COP, the Indian Government undertook significant measures to attract private sector funds to address its own requirements. India unveiled its inaugural sovereign green bond valued at INR 80 billion (equivalent to $980 million) on January 25, 2023 (BFSI-2023). Following this, on February 9, 2023, the Government of India declared the issuance of an additional INR 80 billion ($968 million) in sovereign green bonds. These sovereign green bonds symbolize India's dedication to expanding renewable energy output and diminishing its carbon intensity by endorsing expenses for renewable energy and the electrification of transportation systems.

Investments in these areas hold particular significance as they accounted for approximately 41% of India's greenhouse gas emissions in 2019 and are projected to contribute to two-thirds of emissions by 2050 as the economy expands (BFSI-2023). The allocation of green bond proceeds to renewable energy will facilitate the deployment of well-established renewable energy technologies (primarily solar power, followed by wind and small hydro) and foster the exploration and advancement of new technologies like tidal energy. This stands as a crucial step in supporting India's transition in the energy sector, given that coal currently dominates the country's energy landscape, meeting 55% of its energy demands.

Various project classifications eligible for financing from the sovereign green bond encompass renewable energy, sustainable water and waste management, energy efficiency, green constructions, climate change adaptation, sustainable administration of natural resources and land use, as well as the preservation of terrestrial and aquatic biodiversity.(Kaur & Gobindgarh, 2023) The proceeds from the bonds will not support expenditures involving the extraction, production, and distribution of fossil fuels or those reliant on fossil-fuel sources for energy. Indian green bond issuances have totalled $21 billion as of February 2023.

Significance of Green Finance

Green finance serves as a mechanism to facilitate the financing of the shift towards a more environmentally sustainable economy (Gupta, 2023). This mechanism plays a crucial role in diminishing greenhouse gas emissions, enhancing energy efficiency, and encouraging sustainable investment. Furthermore, it has the capacity to generate economic prospects and contribute to the alleviation of poverty.

Encourages technology diffusion and eco-friendly infrastructure

Investing in environmentally friendly technologies, such as clean energy, can reduce costs and accelerate technology diffusion thereby presenting an opportunity for a country to advance towards eco-efficient infrastructure. Governments must construct infrastructure to improve resource management, promote competitiveness, and attract private-sector funding to domestic green markets.

Enhances competitiveness

The transition of low carbon green growth from its current voluntary status to a mandatory approach could be driven by the mounting pressures associated with climate change and other environmental and economic challenges. The expansion of green finance at present will yield a competitive edge in anticipation of more stringent environmental regulations.

Enhanced value

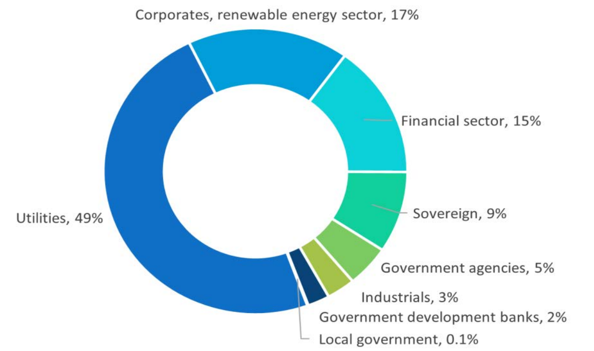
Businesses, organizations, and corporations can enhance their portfolio by highlighting and promoting their involvement in green finance, thereby gaining a competitive advantage, and attracting investors and customers who prioritize environmental sustainability.

Boosts the economy

Governments that advocate for green finance can shield their societies from future resource scarcity by establishing and supporting local markets for alternative resources and technologies. They can also explore new markets with significant potential for job creation, further boosting their economic outlook. Given their focus on maximizing the well-being of present and future generations, governments find green financing mechanisms appealing as they support projects and initiatives with long-lasting benefits.

Green Finance Initiatives In India

- The implementation of the Perform Achieve and Trade (PAT) Scheme by the government is aimed at reducing carbon emissions in 13 energy-intensive sectors.
- The government has authorized Foreign Direct Investment (FDI) of up to 100 percent in the renewable energy sector through the automatic route to attract foreign capital.
- The government has eliminated inter-State Transmission System (ISTS) charges for the sale of solar and wind power projects between states to promote renewable energy. Provisions have been made for Renewable Purchase Obligation (RPO) and the establishment of Renewable Energy parks.
- The government of India is executing the Production Linked Incentive (PLI) Scheme to enhance manufacturing capacity of High Efficiency Solar PV Modules to Giga Watt (GW) scale.
- National Green Hydrogen Mission has been announced. The Mission aims to position India as a leading centre for Green Hydrogen and its derivatives production, use, and export on a global scale.
- India's Nationally Determined Contribution (NDC) under the Paris Agreement includes specific targets such as reducing the emissions intensity of its Gross Domestic Product (GDP) by 33-35% by 2030 compared to 2005 levels and achieving 40% of cumulative electric power from non-fossil fuel sources by 2030.
- An initiative was launched to disseminate the message of not burning biomass and instead using it for bioenergy conversion across 20 districts of Punjab, Haryana, and Uttar Pradesh using Bio CNG-driven vans.
- The Indian Rupee (INR) witnessed a significant year-over-year (YOY) upsurge of 2454%, amounting to USD12.7 billion. A substantial portion of this increase originated from ReNew Power, a clean energy corporation, through an INR640 billion (USD7.8 billion) loan. Additionally, India made its debut in the sovereign green bond market with four correlated transactions valued at INR260 billion (USD3.1 billion). These bonds were specifically allocated to support clean energy initiatives within the country. The issuance and sale of these bonds were a



Source: World Bank with data from Bloomberg

Figure 2: Green bond amounts issued in India by type of issuer

collaborative effort involving the State Bank of India, the Reserve Bank of India, and the National Bank for Agriculture and Rural Development. Furthermore, these bonds were officially listed on the National Stock Exchange of India (BFSI-2023).

- The Indian government is planning to augment green bond issuances by 50% to approximately INR. 24,000 crores in the financial year 2024. The capital amassed will be allocated towards funding qualified environmentally friendly initiatives across nine classifications, which encompass renewable energy, energy efficiency, eco-friendly transportation, adaptation to climate change, sustainable water and waste administration, prevention and regulation of pollution, eco-conscious infrastructures, sustainable supervision of natural resources and land utilization, as well as conservation of terrestrial and aquatic biodiversity (BFSI-2023).

Major Role Players

Role of indian government

The pivotal role of the Indian government as the primary policymaker is evident in its proactive measures to advance green finance and sustainability. Primarily, the government has implemented a range of fiscal incentives and subsidies to stimulate investments in renewable energy, energy efficiency, and other eco-friendly endeavours. These incentives encompass tax exemptions, grants, and low-interest loans, effectively alleviating the financial constraints associated with green projects (TOI-2023).

Furthermore, regulatory frameworks and standards have been put in place by the government to champion sustainable practices. Notably, the mandate for corporate social responsibility (CSR) expenditure for corporations serves as a catalyst for directing financial resources towards environmental preservation and sustainability efforts. Moreover, initiatives like the Green India Mission and the National Action Plan on Climate Change have been introduced to furnish a comprehensive blueprint for sustainable development and green financing within the nation.

Role of regulatory authorities

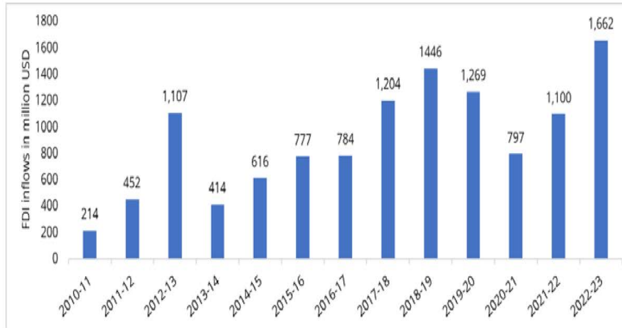
Regulatory bodies in India, notably the Reserve Bank of India (RBI) and the Securities and Exchange Board of India (SEBI), wield significant influence in driving the agenda of green finance. These authorities have laid down guidelines and regulations that prompt financial institutions to prioritize investments with sustainability at their core. For instance, the RBI has mandated guidelines necessitating banks to factor in environmental risks when making lending decisions and disclose their involvement in environmentally susceptible sectors (Sharma & Choubey, 2022).

Conversely, SEBI has enforced the disclosure of environmental, social, and governance (ESG) factors by publicly listed companies. This directive enhances transparency and empowers investors to make well-informed decisions based on the sustainability performance of corporations. These regulatory directives ensure the integration of green finance into the operational framework of the financial sector, aligning investments with environmental imperatives.

Role of financial institutions

Financial entities, encompassing banks, non-banking financial companies (NBFCs), and development finance institutions, assume a pivotal role in channelling capital towards green ventures. Serving as intermediaries between investors and green project proponents, these institutions facilitate the infusion of funds into sustainable initiatives. They proffer specialized financial instruments like green bonds, green loans, and green insurance to incentivize investments in environmentally conscious projects (Maltais & Nykvist, 2021).

Furthermore, financial institutions are progressively integrating ESG criteria into their risk assessment paradigms. This strategic move enables them to scrutinize the environmental and societal ramifications of potential investments, ensuring that only sustainable projects secure funding. By embracing sustainable lending practices, financial institutions contribute to the expansion of the green finance sphere and advocate for sustainable development.



Source : Ministry of commerce and industry

Figure 3: Foreign direct investment (in million USD) to Non- conventional energy in india

Challenges To Green Finance

Developing nations encounter the hurdle of restricted technology access, as well as inadequate expertise and awareness (Mohd & Kaushal, 2018). Furthermore, potential investors might exhibit reluctance towards investing in developing countries due to political and macroeconomic uncertainties. Also, the absence of environmental and social protections may also discourage investors (Philip, 2020). The dearth of investments can be particularly harmful to developing countries, given that green growth plays a crucial role in poverty alleviation and sustainable development. To tackle this challenge, developing nations must concentrate on following barriers and establish a conducive environment for private investment in green growth.

Structural barrier

companies must be able to identify, measure, and manage foreign exchange risk to ensure the success of their green investments. Failure to do so could lead to financial losses or even the complete failure of their green initiatives. Companies should develop strategies to manage foreign exchange risk, such as hedging or investing in currency derivatives. They should also track currency movements and evaluate the impact of foreign exchange risk on their green investments. Finally, companies should regularly review their foreign exchange risk exposure and adjust their strategies accordingly.

Supporting infrastructure facilities

The successful implementation of green finance necessitates the enhancement of the supporting infrastructure to catalyse market growth. This enhancement involves fortifying credit rating agencies, establishing green investment banks, and fostering financial markets specialized in green investments. Furthermore, the existence of supportive policies, such as tax incentives or subsidies, is necessary for fostering green investments. Lastly, investors must have access to green finance products to fully leverage the potential of green finance.

Inaccessibility to capital and limited awareness

A deficiency in capital accessibility poses a hurdle to the advancement of green finance. The insufficiency of funds can frequently be attributed to restricted availability of capital from conventional channels like financial institutions and banks. To draw in more capital, financial support is necessary for green finance endeavours. This necessity arises from the lack of awareness among investors regarding the potential profits from green ventures. Furthermore, the expenses linked with green investments tend to be higher compared to traditional investments, thereby posing a challenge for financial entities in terms of financing.

Regulatory and policy frameworks

The lack of clear delineation in green finance policies and regulations results in ambiguity for businesses and investors, rendering comprehension and adherence to the regulations challenging. This obscurity also impedes the assessment of the efficacy of green finance policies.

Directions for future actions

Based on the above analysis, it is evident that a substantial increase in green finance allocation by the Government is imperative to ensure India attains the Panchamrit goal. India necessitates about Rs. 162.5 trillion by 2030 for NCDs and Rs. 716 trillion to attain net zero emissions by 2070 (BFSI-2023)(Kaur & Gobindgarh, 2023).

- While public finance has significantly contributed to augmenting green finance inflows, enhanced participation of the private sector is indispensable. To accomplish this, public finance must progressively engage in mobilizing private finance. Moreover, international finance entities like DFIs, philanthropic organizations, among others, need to take on a more substantial role in directly supporting India's green transition and mobilizing private finance.
- Furthermore, despite an overall increase in financial flows to sectors focusing on mitigation, a large portion of these flows is concentrated in specific sectors with higher market maturity levels. To mobilize sectors with earlier stages of maturity such as decentralized energy sources and EVs, additional policy backing and investment mobilization are essential.
- Incentivizing green infrastructure projects through budgetary mechanisms like Capital subsidies or interest subsidies could significantly boost the economy. Therefore, establishing a robust policy framework is crucial for facilitating green financing.
- While there is a high level of anticipation surrounding government initiatives, such as incentives like tax breaks aimed at promoting low-carbon technologies and the provision of policy backing for green finance tools, it is crucial for private entities to integrate internal carbon pricing and promote the investment in environmentally friendly technologies.
- As processes evolve, green finance and various investment mechanisms will establish uniform definitions and frameworks for measurement as processes become more refined. Technological progress in emissions monitoring, stricter reporting mandates, and enhanced governance practices will contribute to increased transparency regarding companies' environmental commitments. Consequently, this will bolster investor trust and address apprehensions pertaining to deceptive environmental claims.

CONCLUSION

Green finance plays a significant role in paving the path towards a sustainable future in India by offering essential financial backing for projects that are environmentally sustainable. It serves as a potent instrument for addressing pressing environmental concerns while also generating profits. An in-depth understanding of the fundamentals and benefits of green finance is imperative for investors, businesses, and individuals looking to align their financial decisions with environmental sustainability. This research emphasizes the significance of green finance as a driver for sustainability. The combination of governmental initiatives, private sector involvement, and enhanced technological optimization is propelling the expansion of green finance within the nation. However, the current level of investment in green finance falls short of achieving the sustainable development objective. The Indian government must establish a well-defined green investment strategy that takes a long-term, holistic approach to the economy. Furthermore, green finance policies and regulations need to be transparent and explicit to attract potential investors. The implementation of green finance concepts should aim to appeal to both domestic and international investors.

In conclusion, India possesses immense potential to establish the necessary green infrastructure for supporting green finance by surmounting barriers and raising awareness among corporate stakeholders to foster more sustainable development. The adoption of green finance offers numerous advantages to India, such as advancing sustainable development, lowering carbon emissions, and enhancing energy security. It is anticipated that India will persist in prioritizing green finance and intensifying its endeavours to unfold a sustainable and greener future.

REFERENCES:

Ahuja, N. (2015). Green banking in India: A Review of Literature. *International Journal for Research in Management and*

Pharmacy, *4*(1), 11–16. www.raijmr.com

Akomea-Frimpong, I., Adeabah, D., Ofosu, D., & Tenakwah, E. J. (2022). A review of studies on green finance of banks, research gaps and future directions. *Journal of Sustainable Finance and Investment*, *12*(4), 1241–1264. https://doi.org/10.1080/20430795.2020.1870202

Bhatnagar, S., & Sharma, D. (2022). Evolution of green finance and its enablers: A bibliometric analysis. *Renewable and Sustainable Energy Reviews*, *162*(April), 112405. https://doi.org/10.1016/j.rser.2022.112405

Chen, X., & Chen, Z. (2021). Can green finance development reduce carbon emissions? Empirical evidence from 30 Chinese provinces. *Sustainability (Switzerland)*, *13*(21), 1–18. https://doi.org/10.3390/su132112137

Chhaochharia, M. (2021). Green Finance in India: Progress and Challenges. *Research Journal of Humanities and Social Sciences*, *January*, 223–226. https://doi.org/10.52711/2321-5828.2021.00039

Desalegn, G., & Tangl, A. (2022). Enhancing Green Finance for Inclusive Green Growth: A Systematic Approach. *Sustainability (Switzerland)*, *14*(12). https://doi.org/10.3390/su14127416

Dziwok, E., & Jäger, J. (2021). A Classification of Different Approaches to Green Finance and Green Monetary Policy. *Sustainability*, *13*(21), 11902. https://doi.org/10.3390/su132111902

Giganti, P. & Falcone, P. M. (2022). *Scaling Up of Green Finance in a Post-COVID-19 Era: A Sustainability Transition Perspective and Policy Insights.* (I. Gok (Ed.) (Ed.)). https://doi.org/https://doi.org/10.4018/978-1-7998-8501-6.ch004

Gupta, V. (2023). *Fostering Green Finance towards Sustainable Development Practices in India Fostering Green Finance towards Sustainable Development Practices in India Corresponding Author : Varsha Gupta Abstract*. *October*.

Hall, N. (2017). What is adaptation to climate change? Epistemic ambiguity in the climate finance system. *International Environmental Agreements: Politics, Law and Economics*, *17*(1), 37–53. https://doi.org/10.1007/s10784-016-9345-6 https://ieefa.org/resources/ieefa-india-sovereign-green-bond-major-step-greening-public-expenditure https://bfsi.economictimes.indiatimes.com/budget/union-budget-2023/budget-2023-analysis-of-green-finance-and-roadmap-ahead/97469374 https://www.climatebonds.net/files/reports/cbi_sotm23.pdf https://www.climatepolicyinitiative.org/wp-content/uploads/2022/08/Landscape-of-Green-Finance-in-India-2022-Full-Report.pdf https://ieefa.org/resources/ieefa-green-bonds-are-driving-cost-effective-finance-clean-energy-india https://www.unep.org/regions/asia-and-pacific/regional-initiatives/supporting-resource-efficiency/green-financing https://timesofindia.indiatimes.com/us

Jiakui, C., Abbas, J., Najam, H., Liu, J., & Abbas, J. (2023). Green technological innovation, green finance, and financial development and their role in green total factor productivity: Empirical insights from China. *Journal of Cleaner Production*, *382*(November 2022), 135131. https://doi.org/10.1016/j.jclepro.2022.135131

John, B. (2019). *A conceptual paper analyzing the need for a specialized development financial institution for fostering Green Projects in India* . 6(12), 229–231.

Kaur, M., & Gobindgarh, M. (2023). Future perspective of green finance in india. *Multidimensional Research in Commerce and Management*, *3*(2), 28–37.

Kumar, D. P., & Verma, S. (2021). Roll of Green Banking in Economic Development. *International Journal of Applied Research*, *7*(7S), 30–35. https://doi.org/10.22271/allresearch.2021.v7.i7sa.8658

Kumar, N., & Initiative, C. B. (2018). Moving from Growth to Development : Financing. *Research Gate*, 98–115.

Lanqi, S., & Yanli, L. (2021). On the Mechanism of Green Economy and Green Finance. *International Journal of Frontiers in Sociology*, *3*(14), 75–79. https://doi.org/10.25236/ijfs.2021.031416

Maltais, A., & Nykvist, B. (2021). Understanding the role of green bonds in advancing sustainability. *Journal of Sustainable Finance and Investment*, *11*(3), 233–252. https://doi.org/10.1080/20430795.2020.1724864

Mohd, S., & Kaushal, V. K. (2018). Green Finance: A Step towards Sustainable Development. *MUDRA : Journal of Finance and Accounting*, *5*(01). https://doi.org/10.17492/mudra.v5i01.13036

Niyazbekova, S., Jazykbayeva, B., Mottaeva, A., Beloussova, E., Suleimenova, B., & Zueva, A. (2021). The Growth of "green" finance at the global level in the context of sustainable economic development. *E3S Web of Conferences*, *244*. https://doi.org/10.1051/e3sconf/202124410058

Philip, B. (2020). Green finance : Recent drifts , confrontation and prospect green finance : recent drifts , confrontation and prospect opportunities for sustainable. *Mukt Shabd Journal*, *9*(4), 1854–1865.

Sharma, M., & Choubey, A. (2022). Green banking initiatives: a qualitative study on Indian banking sector. *Environment, Development and Sustainability*, *24*(1), 293–319. https://doi.org/10.1007/s10668-021-01426-9

Srivastava, A. K., Dharwal, M., & Sharma, A. (2020). Green financial initiatives for sustainable economic growth: A literature review. *Materials Today: Proceedings*, *49*(xxxx), 3615–3618. https://doi.org/10.1016/j.matpr.2021.08.158

Wang, X., & Wang, Q. (2021). Research on the impact of green finance on the upgrading of China's regional industrial structure from the perspective of sustainable development. *Resources Policy*, *74*(November), 102436. https://doi.org/10.1016/j.resourpol.2021.102436

Yu, C. H., Wu, X., Zhang, D., Chen, S., & Zhao, J. (2021). Demand for green finance: Resolving financing constraints on green innovation in China. *Energy Policy*, *153*(September 2020), 112255. https://doi.org/10.1016/j.enpol.2021.112255