

Sustainable Finance Beyond Green Bonds: Emerging Sustainable Finance Instruments for India's Green

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ABSTRACT

Traditionally, expansion in emerging economies such as India has come at the cost of environmental damage and climatic change. In recent years, concerns with sustainability and climate threats have intensified, highlighting the need for alternative development strategies. In this respect, green finance has been recognized as a pivotal mechanism for fostering sustainable economic growth by directing financial flows towards environmentally responsible and climate-friendly enterprises. This article analyses the role, difficulties and prospects of green finance in Indian economy.

The secondary data utilised in this qualitative study is derived from diverse sources, including official reports, policy documents, and the latest research on sustainable and eco-friendly finance. It highlights the relevance of green finance in India for development of renewable energy, sustainable infrastructure, climate smart agriculture, rural development and expansion of environmentally sustainable financial instruments, including green bonds and investments based on Environmental, Social, and Governance (ESG) criteria.

Government policies, regulatory frameworks, and institutional support have further strengthened the green finance ecosystem in the country. Besides this, the study identifies several issues like lack of awareness, low financial access, regulatory vacuum, absence of standardized credit ratings and high transaction costs that are hampering the growth of green financing in India.

However, despite these limitations, green financing presents a significant opportunity to help facilitate India's transition to a carbon-efficient and sustainable development path. To harness the promise of green finance, India must expand policy support, improve institutional coordination and enhance private sector participation.

Keywords: sustainable finance, renewable energy, green bonds, Indian economy, climate change

INTRODUCTION

The current economic climate, which includes falling incomes, is a direct and steady line for economic growth, and alleviating poverty is a prerequisite for this. Most importantly, traditional methods have led to exploitation of the natural environment and increased environmental change, thereby affecting and interfering with future generations' ability to meet their own needs. Development now has the goal of ecological resilience, and large sums are needed to implement climate change policies. India has committed to achieve 17 goals under the United Nations Sustainable Development Goals (SDGs) have been recognised, Intended Nationally Determined Contributions (INDCs) have been submitted in compliance with the provisions of the Paris Agreement.

India requires a substantial investment of at least USD 2.5 million to reduce its GHG emissions of greenhouse gases by 2030. The contribution of the public sector is insufficient for investment. To reach our 2030 targets, a collection of 17 sustainable development goals requires large-scale investment collaboration from the private sector. The idea of green finance has recently gained prominence as an effective strategy for achieving sustainability, embraced by governments and financial institutions globally. To promote investment in environmentally sustainable initiatives, green finance facilitates funding from both public and private sectors for sustainable projects. It pertains to financial strategies and investments aimed at environmental conservation, energy efficiency, and the mitigation of climate change's detrimental impacts.

Green finance has been structured in such a way that, through appropriate financial instruments such as debt and equity, projects that are not only financially effective but also play a significant role in protecting the environment can be encouraged. It is a market-based investment system that aims to promote effective use of environmental programs in business policies and financial decisions. In addition, government initiatives for environmental and sustainable development will require large-scale investments in the next two decades. Although government financial intervention plays an important role, in the current era, private sector involvement and investment demand have become prominent.

Consequently, the environmentally friendly economy remains an emerging form of financial expansion that is driven by the principle of “green” This has been accomplished through the reduction of environmental pollution, promotion of green technology, and increasing investor consciousness to encourage environmentally conscious investment to achieve economic sustainability and growth. Green finance is an investment led by the market force.

What Is Green Finance?

Green financing is the financing of ecologically beneficial projects. It promotes programs such as pollution control, waste management, protection of forests and wildlife, and solar and wind energy. Its primary aim is to lower carbon emissions and foster sustainable development. “Green finance can be bank loans, investments, bonds and grants from governments and private firms to achieve a cleaner and healthier future.

Green Finance Definition and Development

India’s green finance journey has evolved from early government-led environmental initiatives to a strong market-led approach where private sector investment is at the center. So, we must invest in green projects, like renewable energy and repair climate change. A few financial instruments and policies critical for India’s aspirations for sustainable growth have been introduced over the last few years, which have allowed strengthening of institutional support and regulatory frameworks (Ministry of Finance, 2024-25).

Green Bonds and Sustainable Finance

Sustainable finance in India has evolved from green bonds to ESG funds, sustainability linked loans, green deposits and blended finance. “These tools are there to invest in renewable energy, sustainable infrastructure and climate-smart agriculture.” The enhanced regulatory regimes, ESG disclosures and policy innovation are a sign of commitment towards inclusive and sustainable economic growth and increasing prospects of public and private sector engagement (Climate Policy Initiative 2024; Sharma & Roy 2021).

Emerging Instruments of Sustainable Finance in India

Innovative sustainable finance instruments in India include ESG focused mutual funds, performance linked sustainability linked loans, green deposits and blended finance initiatives. Green bonds have continued to be of importance, especially in the infrastructure and clean energy sectors, with regulatory frameworks and increased investor awareness driving higher recognition. These instruments offer a route to channel funds to projects that are aligned with India’s climate goals and sustainability targets (Ministry of Finance, 2024–25; Dhoot & Awate, 2021; Climate Bonds Initiative, 2025).

REVIEW OF LITERATURE

Shukla, G. P., Panday, P., & Sharma, P. (2026). This study systematically identifies, ranks and categorises the challenges for sustainable financing in India using interpretative structural modelling (ISM) and MICMAC analysis. The barriers identified by previous research and practitioners include the perception of high risk and low return, political barriers, lack of knowledge on the subject, and regulatory and governance issues. Such barriers have become major challenges to the effective implementation of sustainable finance initiatives and green finance. Hierarchical relationships among these barriers were developed using the ISM approach and the barriers were classified based on driving power and dependence using MICMAC analysis. The results indicate that time constraints, complexity, and no reliable information database are the major barriers for others. This chapter discusses some of the important initiatives and policy interventions responsible for India becoming the leader in sustainable finance. Agrawal, S. S., & Mukti, S. K. (2025). The study provides practical advice to policymakers and financial institutions on addressing the above-mentioned major challenges and promoting green finance. This is an important contribution as it outlines the opportunities and challenges in integrating principles of sustainability in the selection of financial decisions.

This chapter discusses the functions of corporations, financial entities, and regulatory authorities in advancing sustainable investment practices to promote long-term economic prosperity while mitigating environmental and social risks. Regulatory agencies have formulated several regulations and frameworks to prove the government's seriousness in protecting the environment and enabling the transition to a green economy. This chapter offers practical recommendations for stakeholders to harness the potential of sustainable finance to foster a more resilient and inclusive Indian economy. Kumari, K. G. S., Mukthar, K. P. J., & El Raghani, G. N. (2024).

This paper discusses the basics of finance, how it aids in the climate change, ways to mitigate carbon footprints of the economies, what happens to the assets related to carbon, how to deal with risks, how to use renewable energy and how to achieve sustainable economic growth. Green finance is important for the future. We need to know more about green finance and its aid to us. Green finance can make a difference to the world, and we should know more about it. Chowhan, S. S., & Sharma, M. (2024).

This should be a collaborative effort involving all levels of government, corporate, and non-profit sectors, and the general public. It maximizes green finance while minimizing existing barriers. The study identifies policy gaps, the need for more stakeholder engagement, innovation opportunities for financial instruments and a way forward for India to accelerate green finance. More research is required to understand the impact of technology on green finance and the role of green finance in India's commitment to climate targets set in international agreements. Green finance funds sustainable development activities. The aim is to mobilise more funds from public and private sources for projects that will bring benefits to society and the environment simultaneously. Green financing is sourced from green Sovereign, green banks, and so on. Rashid, F., & Ullah, A. (2023). This article seeks to analyse the implementation of green financing for sustainable development objectives in Bangladesh and to delineate the related challenges. Which prevents sustainable development and opportunities that will provide assistance to the financial institutions of our nation.

This study explores the need for improving the sustainability of the financial system, the significance of financial governance in addressing the electricity crisis, and the opportunity for renewable energy to solve the electricity crisis. Ozili, P. K. (2023). The importance and promotion of green finance have been at the core of critical discussions in policy forums. They offer intuitive policy enquiries for environmentalists considering sustainability. This chapter outlines and discusses different policy views on the promotion of green finance. The issuance of a green finance policy is very important to help mainstream green finance into traditional financing, I think. Leadership in the private sector and industry Co-promotion by the state and private sectors. Additionally, recommendations were proposed to advance green finance for post-Covid recovery, including the greening of the financial system, mitigating risks associated with green infrastructure projects to entice investors, and imposing penalties on financiers of environmentally detrimental business activities. Taneja, S., Kaur, S., & Özen, E. (2022).

This paper reviews the progress of green finance worldwide with particular focus on India. It discusses the development of green finance in India with a special emphasis on the sustainability framework, its importance,

and steps taken by the Government of India. We analyse public awareness and funds (bank loans and bond issuances) for green initiatives with different data sources. While there has been an increase in public awareness and better financial options in India, our results indicate that eliminating asymmetric information via the use of sophisticated information management systems and motivating stakeholders to work together would enable more environmentally sustainable and economically viable long-term growth. The post-COVID-19 environment and the growing climate challenges have emphasized the necessity of sustainable financing to accelerate progress, as evidenced by the funding gap for sustainable development goals.

The study investigates the international and Indian development of green finance. The paper discusses the development of Ecological Finance in India, sustainability framework, role of green finance and initiatives of the Government of India. We looked at different data sources to understand public awareness and financial opinions about green initiatives.

The findings reveal that although knowledge and funding opportunities have increased in India, skewed data can be reduced through better data management systems and enhanced stakeholder cooperation, which can provide avenues for more sustainable and environmentally friendly long-term economic growth. The post COVID 19 environment and growing environmental problems have highlighted the need for faster growth through sustainable financing, as is evident from the existing financial gap for sustainable development goals. That is why investors, investees, middlemen, and policy makers need to learn to work together better and with greater urgency. Ravichandran, S., & Roy, M. (2022).

Apart from enabling India and deprived countries to accomplish green financing can assist in fulfilling the Sustainable Development Goals (SDGs) and in advancing funds to meet Nationally Determined Contribution (NDC) commitments under the Paris Agreement. We will get environmental sound results by financing the greening of the industry and eventually the nation will have a green growth. Different countries may have different ways of implementing green financing and different legislative frameworks. By 2007, CSR was considered a necessity for NBFCs and SCBs in India. The NAPCC was launched in 2008 to address climate change policy and mitigation. "Sovereign green bonds will be issued in the next fiscal year, the finance minister announced in the Union Budget 2022. State Government Bonds (SGBs) can be a vehicle to raise additional financial resources to support India's commitment to achieving net zero carbon emissions by 2070. Ozili, P. K. (2022).

The findings suggested that green finance can contribute substantially towards environmental protection, social welfare, and alleviating the negative impacts of climate change. However, there are several challenges in the field such as lack of knowledge on green finance, inconsistent definitions, inconsistent government policies and ineffective incentives for financial institutions and investors willing to make investments in climate change mitigation. Particular case studies highlight the probability of success and significance of a green startup. The provision of green finance is making government initiatives greener and Indian startups are seizing this opportunity to take up sustainable entrepreneurship, researchers have found. India has been following green project financing for some years now and several reforms have been introduced in the financial sector to adopt environmentally sustainable practices. Businesses are engines of the economy, and it is essential to adopt sustainable practices to achieve carbon neutrality. Ansari, M. K., & Anand, Y. (2022).

Sustainable finance is the provision and efficient allocation of capital for social purposes and for economically and environmentally meaningful projects and activities. The idea includes such important elements as green finance, ecological finance, and carbon-neutral finance. Green finance is an important means to achieve the goal of low-carbon and sustainable development, and it is an effective link between economic development, environmental protection, and the financial industry. Moreover, green finance is an important tool for the development of a sustainable economy by providing investment in environmentally friendly projects. But financing environmentally important projects in Indian economy continues to be a perennial challenge.

In particular, raising the financing required to reach the target of 175 GW of renewable energy by 2022 is viewed as a major requirement and a key challenge. Financing renewable energy projects in India has always been a challenge due to high capital costs, lack of access to adequate debt financing and short-term nature of loans. The document is structured as detailed below. The document recognises the importance of Green Finance. The

second section examines the measures enacted by the Government of India and their impact on the Indian economy in this context. Third section examines the diverse challenges confronting the Indian economy. The final section presents concluding observations on the future of India's green investments.

Dhoot, P., & Awate, S. (2021). Conducted a descriptive study entitled "Green Financing: An Emerging Form of Sustainable Development in India," This study explored the range of green finance products and services in the Indian financial markets and studied the existing trend of green finance in India. The study was based on secondary data obtained from several reports and websites of financial institutions. The study's findings revealed that the green finance market in India is still in its infancy and has not successfully drawn a significant number of investors. Moreover, existing market practices, regulatory oversight, and financial regulations are imposing significant obstacles to the effective implementation of green finance instruments.

The study utilised descriptive and analytical secondary data. The findings revealed that the Indian green finance market is still in its infancy and has not attracted a significant number of investors. The study emphasized the need for a strong and effective framework to make green financial products more attractive to investors. At the same time, the current market practices, regulatory oversight, and lack of financial incentives are hindering the effective performance of these financial instruments. Therefore, promoting awareness and sensitization about green finance among investors and consumers is the need of the hour. Conferences, journalistic articles, and seminars are potent instruments to spread the need for green products and energy efficient technologies for future generations as the market for such products is driven by socially responsible consumers. Jain, S. (2020).

The researchers of this study focused on contemporary trends, possibilities, difficulties, and diverse investment prospects in green finance in India. The study also looks at the progress so far from initiatives launched by the Indian government. The analysis says India must contribute more on the infrastructure funding and must focus more on green finance for achieving the sustainable development goal. Charles, G., & Philip, B. (2020).

In recent years, our nation has prioritised economic development and GDP, neglecting environmental change, and sustainable development. Currently, the world is confronting environmental pollution and climate change. In the present era, it has become very important to address the issues of environmental change, reduce environmental pollution, and promote a balanced and harmonious relationship between man and Nature is essential for the environmentally friendly growth of the international economy and society. In this context, green finance has emerged as a significant and contemporary financial concept. Sustainable finance comprises two components: "green" and "finance", that reflect the interrelationship between environmental protection and financial activities. Green finance is considered an innovative financial system which tries to balance environmental conservation, economic development, and lucrative investments. The researcher has studied the initiatives taken by the Indian government and the progress made, along with evaluating the latest trends, opportunities, challenges and other sources of investment relating to green finance in India. The analytical findings suggested that India needs to focus on green finance to reach sustainable development goals. Specifically, augmenting the allocation of financial resources for establishment of infrastructure and environmentally friendly projects is essential to put the country on a path to long-term sustainable economic growth. Charles, G., & Philip, B. (2020).

Nowadays, our nation prioritises economic growth and GDP over sustainable development and changes to the environment. Recent climate change and environmental pollution have affected every region of the globe. For the sake of humanity's long term economic and social wellbeing, it is never too late to combat environmental degradation and climate change while simultaneously working to bring about a balance between humans and the natural world. Being composed of the contentious terms "green" and "finance" the phrase "green finance" entwines two such concepts. A new financial model that aims to balance environmental protection with economic development and profit is green finance. An examination of green finance in India, including its current state, potential, obstacles, and investment opportunities, the principal objective of this research. In this report also evaluates actions done and results achieved by the Indian government. Jha, B., & Bakhshi, P. (2019).

Cleaner, more inclusive, and environmentally beneficial economic growth is possible through green financing. The goal of augmenting financial support for environmentally friendly development innovation from public, private, and nonprofit sectors is accomplished. The United Nations Environment Programme (UNEP)

acknowledges the importance of green finance and has been orchestrating national financial systems to channel financial resources towards the sustainable development goals established for 2030. Green financing in India faces a number of obstacles, which the study details and offers solutions to. The data used in this analysis comes from secondary sources, including reports released by the Indian government and other Indian institutions and banks both public and private, this descriptive study offers an extensive analysis of the topic. Mohd, S., & Kaushal, V. K. (2018).

The world economy faces three major problems in the current period of technological progress: ecological shift, energy restrictions, and financial crises. This is because financial improvement means, in itself, costs to countries such as environmental degradation. Green finance represents the conduit for the fulfilment of an agreement between the economy and the natural atmosphere. Green finance is studying financial assistance for sustainable development that diminishes the overall emissions of ozone depleting substances and air pollutants. The nation's economic enhancement can be achieved by augmenting green investments in agriculture, sustainable architecture, environmental security, and other eco-friendly initiatives. Soundarrajan, P., & Vivek, N. (2016). This paper aims to analyse green finance and assess its effectiveness in Indian industries for alleviating environmental degradation due to carbon emissions in the atmosphere.

Green finance is defined as market-oriented lending or investment which incorporates environmental considerations into risk assessment or uses environmental incentives to shape corporate behavior. This paper discusses the current trends, future prospects and challenges in the emerging Indian green finance. Green investment builds public health and social equity, diminishes environmental risk and preserves ecological integrity.

The Significance of Green Bond in The Indian Economy

The Function of Green Bond in Infrastructure Advancement in India, public sector financial institutions have augmented their funding for green and sustainable infrastructure. (Ministry of Finance. Ministry of Finance Annual Report 2024 25. India Infrastructure Finance Company Limited (IIFCL) has implemented a Green Bond Framework and an ESG and Sustainability Financing Framework to finance environmentally sustainable infrastructure projects. Also, the report states that the IIFCL has set a strategic goal to allocate about 50 per cent of its incremental lending of ₹1 lakh crore to green infrastructure projects by 2030 which would also include sectors such as electric mobility, green hydrogen and other climate friendly infrastructure initiatives. These investments result in capital formation, long term infrastructure development and directly contribute to India's economic growth while ensuring environmental sustainability (MoF, 2025).

Green Finance and Its Contribution to Renewable Energy

Annual Report provides strong evidence that green finance is the engines for renewable energy growth in India. The Sustainable Financing Programme has provided financial exposure of Rs 1,398.60 crore to green sectors like solar energy, wind energy and cleantech projects. Besides, renewable energy lending has been brought under the Priority Sector Lending (PSL) guidelines which will make it easier and cheaper for banks to lend to clean energy projects. Priority sector lending crosses Rs 35 lakh cr in Sept. Most of it was for loans for renewable energy projects. The more money flows, the cleaner energy can be developed, the more energy security, the less dependence on fossil fuels. (MoF 2025).

NABARD is leading a funding mechanism for eco-finance, through Environmental Finance for Sustainable Agriculture and Rural Development, for better sustainability in the rural and agricultural sectors. Under the Rural Infrastructure Development Fund (RIDF), loans worth Rs 5.72 lakh crore have been sanctioned mainly for irrigation, watershed management, and rural infrastructure projects. Under Micro Irrigation Fund (MIF), Rs. More than 21 lakh hectares of agricultural land have been covered, and Rs 4,719 crores have been sanctioned for the scheme. "These investments will also contribute to developing the rural economy and increasing agricultural productivity through enhanced water efficiency, climate resilient agriculture and sustainable rural development (MoF, 2025).

Green Finance and Jobs

The report indicated that green finance has the potential to generate employment through investments in renewable energy, sustainable infrastructure, and rural development initiatives.

Investments in solar and wind energy projects, irrigation infrastructure and green technologies generate direct and indirect employment in construction, operation, maintenance and related services. Institutional financing for the expansion of the green sector is supported by inclusive growth and job creation, particularly in rural and semi urban regions (MoF, 2025). “Green and sustainable finance is commercially viable and financially sound with regard to financial stability,” the Annual Report says. Largest lender to green infrastructure, IIFCL, posted a record post tax profit of Rs 1,552 crore and gross NPA of around 1.25 per cent. Moreover, most of the assets (~92%) were of high asset quality rated A/AA/AAA. Green finance would consequently facilitate the attainment of environmental objectives and improve the resilience and stability of the pecuniary system (MoF, 2025).

Possibilities of Green Finance in India

Green finance has become a significant way to channel financial resources to environmentally sustainable projects as a way of promoting sustainable economic growth. There exists a large scope for green finance in the Indian context due to increasing environmental concerns, policy commitments to climate change mitigation and rising demand for sustainable infrastructure in the country. India is pursuing an ambitious plan to expand renewable energy with significant investments in solar, wind, hydro and green hydrogen projects. Green finance extends long-term financing opportunities to these sectors through green bonds, green loans, and blended finance mechanisms. This will provide a conducive environment for investors and help India to move towards a low carbon economy.

Sustainable Urbanisation and Infrastructure Development

The rapid urbanisation in India has led to the demand for sustainable transport, green buildings, waste management system and water conservation projects. Green finance has huge investment opportunities to fund climate resilient infrastructure like metro rail projects, electric mobility, smart cities, and energy efficient buildings.

Smart Climate Agriculture & Rural Development

Indian agriculture is vulnerable to climate. “There is scope for green finance for climate smart agriculture, organic farming, efficient irrigation systems and use of renewable energy in rural areas. These investments are boosting agricultural production, enhancing environmental sustainability, and rural livelihoods. New green financial instruments are being created, which brings new opportunities for financial institutions and investors. India’s growing participation in the international green bond market signals rising investor confidence and provides various avenues for funding sustainable projects. (Green financial instruments (green bonds, sustainability linked loans, ESG funds and green deposits) India can also tap into international sources of climate finance such as development banks, global climate funds and multilateral institutions.

This could include concessional finance, risk sharing mechanisms, and technical assistance to de risk investment and to scale up the pipeline of green projects. Government policies, regulatory guidance and national climate commitments underpin the Indian green finance ecosystem. Policies for renewables, sustainable finance frameworks and ESG disclosures are increasing transparency and investor confidence and thus creating new avenues for green finance. Innovation and ESG in private sector have translated into growing private sector participation in ESG linked investment, green fintech innovation and impact investment. Companies are embedding sustainability targets into their financial planning, and opportunities are being created in green equity, venture capital and sustainable supply chain finance.

Difficulties In Indian Green Financing

The following factors have made green financing difficult in India: On the one hand, green finance provides great opportunities for promoting sustainable development in India; on the other hand, there are many challenges

that need to be overcome: Challenges for green financing in India are as follows: Green finance in India faces several key challenges, which are as follows: Lack of Information The investors and the other financial institutions are not aware of the market due to the limited information about the green financing available in the market.

Some investors are not mindful of the benefits that they can receive from environmentally sustainable investments. Some financial institutions may not have the expertise or capacity to conduct the necessary analysis of such activities.

Financial Exclusion

The declining challenge of green financing in India is the limited capacity to offer such environmentally efficient and financially viable schemes. There's only a little cash available for such projects at the moment. There are several commercial and government bodies that offer green financing.

Regulatory Challenges

India does not have a single law to govern the operations of green finance, nor is there a regulatory body that governs it. This can create confusion and skepticism about the real purpose of green activities, and this can deter investors and financial institutions from entering.

Research Gap in Existing Literature

There's growing interest in sustainable finance but there are still major research gaps in India. While several studies have examined the potential and challenges of green bonds and related instruments, there is limited empirical analysis of the effectiveness of emerging financial products like ESG funds, blended finance and sustainability-linked loans. Moreover, the literature often points to issues such as regulatory fragmentation, data asymmetry, and the lack of standardised credit ratings, but few pragmatic solutions are provided to these issues. The role of technology and fintech in driving green finance adoption is also insufficiently investigated. Most importantly, the dynamics of stakeholder engagement, especially between the public and private sectors, are not yet analysed in detail. Bridging these gaps is critical for developing holistic policies and accelerating India's transition to a low-carbon and sustainable economy.

Now, in India, the credit rating for green bonds and other green financial instruments is restricted. This can go a long way in making it hard for investors to comprehend the risks of such products and so they will be reluctant to invest. High transaction costs There can be high costs associated with green financial transactions through screening and use of experts. This could help a small, streamlined scheme to have a look in and get shots of Green Finance.

Purpose and Scope of the Review Paper

The main aim of this review paper is to critically review the landscape of sustainable finance in India beyond the conventional green bonds. The scope includes the exploration of new financial instruments such as ESG funds and sustainability-linked loans as well as the functions of government policies, regulatory frameworks, and principal stakeholders. This paper reviews secondary data from policy documents, official reports, and academic research to assess the role of sustainable finance in sectors such as renewable energy, climate-smart agriculture, and rural development. The intention of the review is to provide insights into the existing challenges and emerging opportunities, to help policymakers, financial institutions and investors and to help shape effective strategies to build an active green finance ecosystem in India.

Research Methodology

This study employs a qualitative research methodology and extensive review of secondary data sources. Data were collected through government official reports, policy documents, academic papers and conference publications, and from recent empirical research on sustainable finance in India and similar emerging economies.

We adopted a thematic analysis approach to identify trends, challenges, and opportunities in the green finance sector. The review aimed to bring together knowledge about policy frameworks, financial instruments, and the role of stakeholders. The methodology helps to provide a comprehensive and balanced understanding of the present scenario and future prospects of sustainable finance in India by including evidence from multiple and credible sources.

DISCUSSION

The results of this study show how important green finance is for India to develop in a way. We have made some progress with the introduction of bonds and some rules to control them, but we still have problems like people not knowing much about the market gaps in rules and high costs when we do transactions. To make finance green we need to work with the government making policies for private companies coming up with new ideas and countries working together to make it happen. This talk shows that we need to have the standards open and honest and use technology like fintech to get over the problems and make new chances. We need to get all the people involved to work make the rules clearer and think about sustainability when we make financial decisions so that green finance in India can really take off. Green finance is very important, for India. We need to focus on green finance to make it work. green finance in India.

FINDING

This review shows that despite India's progress in developing its green finance ecosystem, challenges remain. Government initiatives and institutional support have allowed growth in areas like renewable energy, sustainable infrastructure, and rural development. However, barriers of lack of public awareness, financial accessibility, and regulation impede wider adoption. With new financial products and increased participation from the private sector, exciting avenues for growth are opening up. The findings suggest that improved policy coherence, standardised frameworks and targeted awareness campaigns can help green finance act as a powerful catalyst for India's transition to a resilient and sustainable economy.

CONCLUSION

The results of this study show that green bonds can substantially contribute to sustainable economic growth in India by integrating environmental concerns into financial decision-making processes. Traditional growth models have led to environmental degradation and climate change. Anticipated sustainable development pathways in India. Green finance serves as an effective mechanism to mobilise financial resources for environmentally sustainable projects through both the public and commercial sectors working together. The paper showcases the immense potential of green finance in India for the development of renewable energy, Sustainable Infrastructure, Climate Smart Agriculture, Rural Development and the proliferation of green financial products like green bonds and ESG based investments.

Government initiatives, norms for priority sector lending, sovereign green bonds and institutional support from NABARD, IIFCL etc. have further developed the green finance ecosystem and facilitated investment into green and sustainable projects. The study identifies several challenges that are hindering the growth of green finance in India such as lack of awareness, limited financial access, regulatory shortcomings, absence of standardised credit ratings and high transaction costs.

There are opportunities, but there are also challenges. So, green finance is not flowing. To deal with these issues, the country needs to improve efficiency of scaling green financing, strengthen risk assessment mechanisms, raise awareness, and improve regulatory frameworks and institutional coordination. Research suggests that India has tremendous potential in green finance to catalyse extensive economic growth and overall environmental sustainability.

However, a more robust financial ecosystem, greater support from policymakers and improved contribution from the private sector are all needed for green finance to help India accomplish its sustainable development goals and make its economy more resilient and inclusive.

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