International Journal for Research in Engineering Application & Management (IJREAM)
ISSN : 2454-9150 Vol-11, Issue-01, Apr 2025

Challenges and Prospects of Green Finance in India

Dr. AMUTHA R.

Assistant Professor, Department of Commerce, Sree Narayana College Kannur, India.

Abstract - Climate change and environmental damage due to human activity is now an accepted fact. Thankfully, investors and financial organizations across the world have finally recognised the importance of redefining our financial policies and investing in sustainable technologies consonance with the 2030 Sustainable Development Agenda of the United Nations.

Broadly, green financing comprises financing of green investments, public green policies, and the green financial system. While the typical green investment targets are climate change adaptation, renewable energies, energy efficiency, renewable energies, and other climate change mitigation (e.g. reforestation), in its larger scope extension, it can include waste processing and recycling, biodiversity protection, water sanitation, industrial pollution control etc. This paper examines the scope and status of green financing in the country, and the opportunities available for climate action and sustainable growth in the COVID-19 hit India.

Key Words: Financial Flows, Green Finance, Green Recovery, Sustainable Development Goals.

I. INTRODUCTION

Then concept of green finance has become central to all discussions on sustainable economic growth everywhere. The much acclaimed rapid economic growth among nations has always been at the cost of environment and ecology. This is particularly so among the advanced nations, as technological backwardness restrict the rest of the nations to exploit the environment for their economic growth. Climate change and environmental damage due to human activity is now a universally accepted fact. Dwindling natural resources, degraded environment and rampant pollution are hazardous to public health and pose challenges to the sustainable economic growth. In order to protect and substantially improve the environment, therefore, nations around the world have been increasingly focusing on the use of eco-friendly technologies. However, it requires appropriate policy measures, incentive structure, and funding mechanism for increased allocation of funds towards setting up or adopting environmentally sustainable projects. It is in this context that green financing emerges as an essential component of financial planning process. This paper seeks to contribute to the ongoing discourse by:

II. RESEARCH OBJECTIVES

1) To analyse the key challenges hindering the growth of green financing in India.
2) To evaluate the potential opportunities for promoting green financing in various sectors in India.
3) To assess the role of green financing in achieving India's Sustainable Development Goals, particularly in the context of post-COVID–19 recovery.
4) To investigate the policy measures and financial instruments needed to scale up effective green financing mechanism in India.

III. METHODOLOGY

This research employs a qualitative, descriptive research approach to examine the challenges and prospects of green financing in India. The study is primarily based on the analysis of secondary data sources.

The secondary data used in this research was collected from a variety of sources, including:

- Reports and publications from governmental and regulatory bodies (e.g., Securities and Exchange Board of India (SEBI), Reserve Bank of India (RBI), Ministry of Finance, Government of India)
- Reports and publications from international organizations (e.g., United Nations)
- Academic research papers and journals
- Industry reports and analyses (e.g., Climate Policy Initiative (CPI), Council on Energy, Environment, and Water (CEEW))
- News articles and other publications

The data collected from these secondary sources was analyzed using descriptive and comparative methods. This involved:

 DOI : 10.35291/2454-9150.2025.0041

- Synthesizing information to provide an overview of the current state of green financing in India.
- Identifying and categorizing the key challenges and opportunities in the sector.
- Drawing logical inferences and conclusions based on the available evidence.

This study is subject to the limitations inherent in secondary data analysis. These include:

- Potential biases in the original data sources
- Variations in data collection methodologies
- The possibility of incomplete or outdated information

Sustainable Development Goals and Green Financing

The need for a rethinking on investment policies is made imperative among nations with the recognition of the Sustainable Development Agenda 2030 of the United Nations. The UN hopes to achieve many of its seventeen Sustainable Development Goals (SDGs) from the implementation and effective monitoring of Green Financing in the member countries. UN Environment has been working with countries, financial regulators and finance sector to align financial systems to the 2030 sustainable development agenda – to direct financial flows to support the delivery of the SDGs. The focus of green financing is, thus, to reengineer the financial policies by freeing funds from conventional industries, and channelizing it to the green and environment friendly sectors. It is desired that the capital allocated today will shape ecosystems and the production and consumption pattern of tomorrow.

Taxonomy of 'Green' and the Indian Dilemma

The need for a robust taxonomy of the word 'green' in the context of sustainable development plans is very important for the market players to weigh their investment risks, manage the portfolio, and to evaluate the achievements in terms of sustainable goals. Lack of clarity has always stood as an obstacle in finding out what assets and projects qualify as green for the purpose of scaling up effective green financing in India. According to SEBI, funds are classified as 'green' only if the funds raised are utilized for eight broad categories of investments including renewable energy, clean transportation, sustainable water management, biodiversity conservation, etc. (Chen, J.,2020). But the methodology of raising green funds in India is not as refined as that is followed in European countries. The international practice of labelling a fund as 'green' requires that;

i. the project should contribute to any one of the six environmental objectives, such as: climate change mitigation, climate change adaptation, sustainable use of water and marine resources, transition to a circular economy, waste prevention and recycling, pollution prevention and control, and protection of healthy ecosystems.

ii. it should not do any significant harm to the other five objectives; and

iii. it should comply with minimum standards. The complementarity between the SEBI guidelines and the international regulations on the taxonomy, allows India also to classify green funds under international standards.

Need to Upscale Green Finance

It has been now identified that the current scope and extent of green finance is grossly insufficient to mitigate the effects of climate change in India. These points to the need for enhancing green finance across all low carbon sectors of the economy, such as, offshore and onshore wind, hydropower, other renewable energy and energy efficient lighting and vehicles that contribute to the nation's GDP. It is estimated that every year, India requires at least USD 170 billion to finance its actions to tackle climate change but right now the total annual green investments has only been about USD 19 billion on an average. In a statement, Mahua Acharya, Asia Director of Climate Policy Initiative (CPI), said that the "report shows the significant potential of renewable energy and other green technologies to fuel India's economy." [2] (Mahua Acharya, 2020)

Limitations of India's Green Financial Market

(i) Financial Gap

India is at a critical juncture of scaling green financial securities in tandem with its sustainable development objectives, and to transform itself as a role model for other growing economies by protecting its environment and ecology. Though, finance is the critical success factor and the main propellant in this endeavour, it is also the limiting factor of the sustainable financial market. Reports say that though right policy settings and decent incentive structures to address the stakeholder interests have been developed, they are hardly sufficient to evoke the required green investments in the country. According to the GOI, the country requires more than USD 2.5 trillion between 2015 and 2030, for accomplishing the targeted sustainable development, but unfortunately, only a small portion of this requirement can be raised from the domestic market.[3] (Government of India, 2015). The post-COVID-19 market scenario shows that fund mobilisation will be a major hindrance in the green recovery options of India. Naturally, this will demand innovations that cut across banking, insurance, investments and capital market instruments.

(ii) Viability of Green Bonds

Green bonds issued in India are unattractive both in terms of cost and revenue. The Council on Energy,

 DOI : 10.35291/2454-9150.2025.0041

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Environment, and Water (CEEW) has found that Indian companies, in general, show lethargy towards issuing green bonds mainly due to the negligible pricing advantages it renders to the domestic issuers.[4] (Dutt et al., 2019) The cost competitiveness of the green bonds is also very low in India. This is evident from the reports of the IMF, when it stated that green bonds are neither a low cost financing tool nor they are cost effective when compared to the issuance of regular bonds in the country.[5] (RBI, 2019). Moreover, the issuing authority, issue procedure, bond functioning, and return aspects of the green bonds in India do not differ in any way from those of the traditional bonds. To make things worse, the issue procedure casts additional legal responsibilities on them since the proceeds of green bonds are earmarked towards the usage for environmental-friendly projects only.

(iii) Deficiencies of Financial Market Participants

To overcome the above limitations, and to meet India's sustainable development goals in the post-COVID-19 socio- economic order, a large variety of green capital instruments and mechanisms are inevitable. Conventionally, in India, the financial market is regulated and controlled by five authorities, such as the SEBI, the RBI, Ministry of Corporate Affairs, Ministry of Economic Affairs, and the Financial Sector Development Council of India. As green debt securities come under the regulation of SEBI, it reserves the right and responsibility to improve the performance of the capital market, which is construed as "snake-pit, lacking in fairness and integrity, prone to speculative excess, and showing scant regard for the interests of small investors" [6] (Gaba, 2020). Unfortunately, SEBI could not cope with the new market situations, thus leaving the investors in the Indian market still misguided, and the desired market liquidity unattained.

Post-pandemic Green Recovery Options for India

Any policy for recovery of green financing options in India should consider three important phenomena that have been impacting the country's economic progress in the recent past as in the current period. These are:

i) Climate changes, and the devastating environmental issues

ii) Covid-19 pandemic, and the economic and social fall-out

iii) Increasing need to intensify the accomplishment of SDGs

Such policies need to be focussed on an inclusive approach towards economic recovery that is both environmentally sustainable and economically progressive. Unlike before, the new approach should minimise the chances of "green washing", so that the green financing mechanism become more realistic, physically attainable and its outcomes complement the envisioned sustainable development goals.

The post-COVID-19 economic scenario in India is not conducive enough to embrace the current green investment attempts as such. It is not surprising that India also shares a part in the estimated 300 million people who fell into poverty, *[7]* (The Hindu, *12 June 2020*) and the 1.6 million who went jobless, *[8] (Yoshita Singh*, 2020) after the breakout of the pandemic. Given this, one can easily imagine the state's competency in successfully leading its climate action, when all the critical resources are at stake and the risks from global warming are alarming. However, opportunities opened up by the pandemic such as, restrictions on movement and the consequent air quality improvement, lower pollution rates, reduction in particulate matter, etc. offer some positive thoughts on de-linking greenhouse emissions from the economic growth process in the immediate future.

The immediate concern of countries across the world today is how to adopt growth strategies aimed at faster economic recovery, by leaving only minimum hardships to their citizens, subsequent to COVID-19 pandemic. Hence the strategy for economic growth will focus on "brown" stimuli instead of the prevailing "green". In India also, such actions will be reflected in the temporary slackening of green financing, and enhanced impetus on 'brown financing', a situation where activities that do not demonstrably contribute to climate change also enter in prioritising investments.

Obviously, the post-COVID -19 economic policy of Government of India had laid emphasis on structural reforms to agriculture, business and labour laws, to attract more investment for revitalising the economy. Due to this, the pace of accomplishing the SDGs may be lost temporarily, but it is justified for bringing back the economy in track, which is the immediate need of the hour.

Green Opportunities

India's commitment to climate action and development of renewable energy is undisputable. The country's proactive approach towards taxing carbon, heavy duties on motor fuels, withdrawal of subsidies on fossil fuel etc. are testimony to this. India is also a founder member of the International Solar Alliance, and had recently proposed to it the One Sun-One World-One Grid (OSOWOG) initiative. [9] (Tim Buckley, 2020) But on the practical side, these commitments for climate actions require huge finance also. The COVID-19 has already worsened the financial position of the country, and hence the conventional green

 DOI : 10.35291/2454-9150.2025.0041

finance opportunities involving large capital outlay are not feasible for India now. The challenge is to affect a trade-off between the financial scarcity and the green investments that ensure better living conditions for its population. In this context, investment sectors like agriculture, storage, solar energy, and transportation assumes paramount importance to India.

(i) Transportation

One of the prime areas where India can afford climate action with low finance is transportation sector. India has wide network of roads, with high passenger traffic. Closely associated with these are the growing urban population, and the use of personal vehicles in semi-urban and rural areas. Together, these factors will necessarily enhance the demand for petroleum products, higher fuel prices, and larger carbon emission. In these circumstances, India is pressed for a paradigm shift in its surface mobility, with the faster adoption of electric vehicles (EVs) that can result in positive health and environmental outcomes. A change in the transport modal from personal to public conveyance is also a desirable solution.

(ii) Energy Storage Systems

Energy storage systems (ESS) will be a feasible investment area in helping India's transition to greener technology. A recent study on energy storage says that by 2035, developing countries will constitute 80% of the global energy demand, while more than two-thirds of it will belong to renewable energy sector.[10] (Ajay Sawhney, 2019) Since the per capita energy demand is comparatively lower in India, there is an opportunity to develop storage systems with lower carbon footprint. Moreover, renewable energy has many positive implications for the rural economy, such as sustainable source, cost effectiveness, livelihood and employment argument, decentralised ownership, and wider application. Investment in ESS also causes start-ups and innovations in the eco-friendly battery manufacturing sector.

(iii) Renewable Energy

The post-COVID-19 energy sector in India demands replacing coal-fired power plants with renewable energy plants. A well-developed ESS will also respond to the changes in demand and supply conditions, and support the grid integration of renewable energy. Certain measures are already underway in India towards this end. Introduction of state-wise rooftop solar energy targets, domestic investment and incentives schemes, foreign investment and technical knowhow in renewable sector, etc. are a few among them. Besides, India can gradually replace the import of solar energy modules with local manufacture, levy higher import duty on solar cells, modules and inverters.[11] (Shashwat Mohanty, 2020). India has already launched skills development programmes such as Suryamitra, [12] targeting the rural youth to make them employable.

(iv) Green Investment Instruments

Another green financing option in the post-COVID-19 season will be the floating of Municipal Bonds by local and sub-state governing bodies. Since the fiscal ability of the States are constrained by the policy reforms such as GST, restructuring of Centrally Sponsored Schemes (CSS), etc., there is growing need for tapping local and independent fund raising opportunities for financing their operations. The issuance of Municipal Green Bonds assumes importance in this context. Unfortunately, India lacks a developed municipal bond market yet. To tap this resource fully, India may require financial as well as institutional reforms to equip the urban local bodies with more credit worthiness and borrowing powers.

(v) Green Start-ups

Complying with the norms for SDGs, green start-ups offer a big opportunity for green financing in post-COVID-19 economies. The most feasible areas of investments include waste management, sanitation, energy, agriculture, manufacturing, services, and R&D sectors. However, the performance of start-ups in India has not been satisfactory through the industries. Excepting certain sectors such as online media, food and health services, and education; most of the newly born start-ups had registered a scaling down of their operations in the immediate past. National Association of Software and Service Companies (NASSCOM) has reported that nine out of every 10 start-ups are facing a decline in revenues and up to 60 per cent face closure, subsequent to the pandemic.[12] (*Alnoor Peermohamed, 2020*)

(vi) Agriculture

With a view to make agricultural sector the most attractive avenue for investment in the post-COVID-19 economic scenario, a range of reforms has been implemented by the Government of India in the recent past. These reforms carry twin benefits: firstly, they comprehensively address the distortions in the supply chain of agricultural produce; and secondly, agriculture offers the shortest road map towards achieving the sustainable development goals. Three new bills drafted by the

 DOI : 10.35291/2454-9150.2025.0041

government aim to give greater freedom to farmers to directly sell their produce outside of the state mandis: (i) Farmer's Produce Trade and Commerce (Promotion and Facilitation) bill 2020; (ii) Farmer (Empowerment and Protection) Agreement of Price Assurance and Farm Services Bill, 2020; and the (iii) Essential Commodities (amendment) Bill, 2020.[13] The government, in the third tranche of the stimulus package, has announced the allocation of 1 lakh crore for the creation of infrastructure for agriculture such as cold storage.[14] Investment in agriculture has both economic and social implications. It employs more than 50% of the population and contributes about 18% to the GDP. Community farming, women empowerment, eco-friendliness, etc. are the other benefits accruing from agriculture. Considering all those, agriculture emerges as one of the best opportunities for green financing for the post-COVID-19 Indian economy.

IV. Conclusion

This study has examined the challenges and prospects of green financing in India, particularly in the context of the need for sustainable development and the disruptions caused by the COVID-19 pandemic. The analysis reveals that India faces significant hurdles in scaling up green finance, notably a substantial financial gap, limitations in the attractiveness and effectiveness of green bonds, and deficiencies among financial market participants.

Despite these challenges, the research also highlights key opportunities for advancing green financing in India. Sectors such as renewable energy, energy storage, transportation, and agriculture present promising avenues for green investments. Furthermore, instruments like municipal green bonds and support for green start-ups can play a crucial role.

Addressing the identified challenges and effectively leveraging these opportunities is crucial for India to align its financial policies with the UN's Sustainable Development Goals. While the COVID-19 pandemic has caused setbacks and necessitated a focus on economic recovery, it is imperative that India integrates green financing into its long-term growth strategy to ensure both environmental sustainability and economic progress.

Acknowledgment

With profound reverence, I extend my deepest gratitude to the Almighty, whose boundless grace and guidance have been the cornerstone of this endeavor. I am immensely grateful to Dr. Satheesh C. P., Principal, and the Management of Sree Narayana College, Kannur, for their unwavering support, invaluable resources, and kind permission, which facilitated the successful completion of this work. My heartfelt appreciation goes to the dedicated staff of the libraries at Kannur, Calicut, and Kerala Agricultural University, for their generous assistance and exceptional service. I am profoundly thankful to my family, friends, and some of my colleagues, whose steadfast encouragement and insightful suggestions have been instrumental in shaping this work. Finally, I extend my sincere appreciation to all those who, directly or indirectly, contributed to this journey. Though unnamed, your support is deeply valued and sincerely acknowledged.

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