Green Bonds as A New Investment Tool for Sustainable Development in India

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Abstract
The present paper conceptualizes the meaning, need and importance of green bonds as an initiative towards investment tool and sustainable development in India. A green bond is a type of investment that provides financial support for particular projects related to sustainability issue of climate change and control. Indian Companies have incorporated investment in green bonds as a part of climate finance strategy. The ICMA issued principles of green bonds investment and voluntary process guidelines for issuing green bonds in 2021. The four principles are: use of proceeds, process for project evaluation and selection, management of proceeds and reporting. The SEBI has issued several rules for green bonds securities in India including disclosure requirements, monitoring and third-party review. The private bank of India i.e. Yes bank was the first issuer of green bonds in India in the year 2015. Indian green bond issuance has grasped a total of $21 billion as on February 2023. The scenario of sectoral share of green bond market in India for the year 2021 shows that the Utilities sector has more share of green bonds followed by corporates, Renewable Energy sector and Financials. The least share is with local government in India.

Keywords: Green Bonds, climate change and control, sustainable development, India.

Introduction
Green bonds are kind of investment in green initiatives to embark its esteemed presence in the global market where the biggest challenge is to fight against the climate change. In contemporary era where all countries focused unitedly towards improvement in eco-friendly initiatives, India stood firmly to cope with such challenges. India is the world's populated country with moderately low per capita discharges. It attained a rank of 176th out of 180 countries in the year 2024 Environmental Performance Index. India is still struggling with issues like poor air quality, biodiversity and green-house gas emissions.

Review of Literature
Rao and Santoshi (2021) highlighted about the growth of green finance in India and issue of green bonds. They found that green finance has made wonderful improvement from past seven years i.e. from 2013 to 2019 and India stood at 4th position in amount issued on Green Bonds as a percent of all bond's issuance among the 12 countries.

Tolliver, Keeley and Managi (2020) considered that the Green Bonds are progressively applied in financing enterprises aimed at reducing emission, green investments and sustainable growth. It motivated the institutions to incorporate this concept in their financial structure to manage climate change. Flammer (2019) claimed that the supranational bodies, Government agencies, corporations and multiple organizations have recognized the implication of financial sustainability in answering to the problem of environment change. In essence, the issuance of Green Bonds is considered energetic in preventing the worsening of climate change.

Karpf and Mandel (2018) viewed that the municipal markets in the country have tended to penalize Green Bonds by trading them at lower prices and generating higher yields than anticipated by their clients. Hachenberg and Schiereck (2018) opined that the practice of green bonds has been established because of awareness of sustainability. The Green Bonds market has expanded remarkably in the last few years despite of existing barriers. Voica, Panait and Radulescu (2015) observed that the investments in Green Bonds especially in infrastructure is critical to realize the objective of sustainability in financial management.

Need of the Study

India has become the fifth world's largest and profligate growing economy with a GDP growth rate of 7.8% in 2023. It is on its target to be the third largest economy following USA and China by 2030. Its per capita income is less than half of the world's average, its main focus is on poverty alleviation, creating job opportunities and infrastructure growth and development. As its focus is on urbanisation, growth in built spaces and the increased demand for electricity as well as materials such as cement and steel, the energy demand growth in India by 2050 put a strain on more energy consumption which in turn relies heavily on imported crude oil and natural gas. It will result in more carbon emissions in India that could increase significantly over a period of time because of growth in fossil fuel use for industry, power generation and transport. To achieve this target, the Government of India also emphasised to move India towards a greener future by making plans to achieve the nation's ambitious Net Zero target by 2070 in budget 2024 (Nirmala Sitaraman, the Finance Minister of India, 2024).

The government of India plans to make it compulsory the blending of biogas with compressed natural gas (CNG) for transportation and piped natural gas for local use. This policy is expected to not only improve air quality but also lift the biogas industry, contributing to the circular economy. More emphasis will be given to produce bioenergy and for this financial assistance will be provided to support the procurement of biomass aggregation. This step is likely to inspire farmers to contribute in the bioenergy supply chain, thereby making a sustainable and profitable model for agricultural waste management. India made its entrance in the sovereign green bond market in January 2023. Two tranches of bonds valued at USD 1 billion (INR 80 billion) were marketed mainly to local investors. The issue of bonds was more than four times oversubscribed, whose earnings were destined to support renewables, metro rail lines and low-carbon hydrogen production.

Thus, a need was felt to study about green bonds as a new investment tool in Indian Market to manage climate change.

Objectives of the Study

The major objective is to conceptualize the need, importance and various principles embedded in the concept of Green Bonds as an initiative towards new investment tool in the present era.

Research Methodology

The secondary data has been used for the present work. The information related to green bonds has been extracted from the Bloomberg, website of SEBI, RBI and Economic Times etc. The Bar chart has been used to present the information related to sectoral share of green bonds issued in India.

Meaning of Green Bonds Investment

A green bond is a kind of investment device that provides financial support for particular ventures related to climate change and the environment. These bonds are offered and issued in the same way as regular bonds are issued by corporations or government to the investors. The funds obtained through green bonds are solely dedicated to funding initiatives focused on environmental causes, such as renewable energy projects, sustainable transportation, conservation of biodiversity and the construction of eco-friendly buildings, among others. Indian Companies have incorporated investment in green bonds as a part of climate finance strategy (Hussain and Dill, 2023).

The SEBI explained four necessities for bonds to be considered as green bonds. The money raised must be used to fund green initiatives. The method used for project evaluation and selection must be disclosed by the issuer. The issuer must also maintain transparency in the management of proceeds. They must also give updates on the status and results of the proceeds. The green areas where investment could be considered as green bond investments are sustainable water management, clean transportation, renewable and sustainable energy, energy efficiency, sustainable waste management, biodiversity conservation, climate change adaptation and sustainable land use.

Principles of Green Bonds Investment

The Green Bond Principles (GBP) together with the Social Bond Principles (SBP), the Sustainability Bond Guidelines (SBG) and the Sustainability-Linked Bond Principles (SLBP) are published under the governance of the Principles. The Principles are a collection of voluntary frameworks with the stated mission and vision of promoting the role that global debt capital markets can play in financing progress towards environmental and social sustainability. The ICMA issued principles of green bonds investment and voluntary process guidelines for issuing green bonds in 2021. The four principles are: use of proceeds, process for project evaluation and selection, management of proceeds and reporting thereof. These can be explained as below:

Use of Proceeds

The proceeds of investment in green bonds should be utilized for green projects only which can give environmental benefits. If proceeds are to be used to refinance green projects, the issuer should clearly mention the expected look-back period for refinanced eligible green projects. The objectives of utilization of green bonds proceeds should be towards environment safety and climate change mitigation, biodiversity conservation, climate change adaptation, natural resource conservation and pollution prevention and control.

Process For Project Evaluation and Selection

The issuer of green bonds should clearly communicate the environmental sustainability objectives, the project within which these objectives fit and the social and environmental risks associated with project. The issuer should consider in priority that the objectives, strategy, policy/processes relating to environmental sustainability of investor should match with the green investment criteria. If required, some green standards or certifications referenced should also be disclosed in project selection.

Management of Proceeds

The net proceeds of the green bond should be credited to a sub account of issuer in an appropriate manner linked to the issuer's lending and investment operations for eligible green projects. The proceeds of green bonds can be managed per bond (bond-by-bond approach) or on an aggregated basis for multiple green bonds (portfolio approach). The external auditor must verify the internal tracking method and the allocation of funds from the green bond proceeds.

Reporting

The information related to investment in green bonds projects, proceeds from investment, management of proceeds and its audit should be disclosed to investors and stakeholders in an annual report on a timely basis. The issuer should provide transparent, qualitative as well as quantitative material information related to green bonds in annual report.

Categories of Green Bonds

There are four types of green bonds, standard green use of proceeds bonds, green revenue bond, green project bond and secured green bonds. The standard green use of proceeds bond is an unsecured debt obligation with full recourse-to-the-issuer only and aligned with the green bond proceeds. The green revenue bond is a non-recourse-to-the -issuer debt obligation aligned with the green bond proceeds in which the credit exposure in the bond is to the pledged cash flows of the revenue streams, fees, taxes etc and its proceeds will go to related or unrelated green projects. The green project bonds is issued for a single or multiple green projects for which the investor has direct exposure to the risk of the projects with or without potential recourse to the issuer and that is aligned with the green bond proceeds. The secured green bond is a secured bond where the net proceeds will be exclusively applied to finance or refinance either secured or unsecured green project.

Green Bonds Market in India

Yes Bank issued the country's first green bond in 2015 worth Rs 10 billion. Tata Cleantech Capital Limited issued a green bond on December 18, 2018 with a maturity date of December 18, 2023. Indian Renewable Energy Development Agency Limited issued green bonds on January 3 and 17, 2019. Ghaziabad Nagar Nigam issued a green bond in 2021 and became the first Indian local government to issue such bonds. Yarrow Infrastructure Private Limited issued a green bond on July 1, 2021, Clean Sustainable Energy Private Limited issued a green bond on March 2, 2022 and Indore Municipal Corporation issued USD 87 million in green bonds in 2023.

Green Bond Securities in India: Rules issued by SEBI

The SEBI has issued several rules for green bonds securities in India including disclosure requirements, monitoring and third-party review. The companies issuing green bonds must disclose in their annual report regarding status of projects funded by green bonds and their environment impact. The disclosure should be made at least every six months. The companies should continuously monitor whether their investment in green projects with green funds are reducing negative environment impact and contributing to sustainable economy or not. The issuer of green bonds should appoint a third party to review the proceeds from the green bonds after the issue. This third party will also verify the issuer's internal tracking and impact reporting.

Current Scenario of Green Bond Market in India

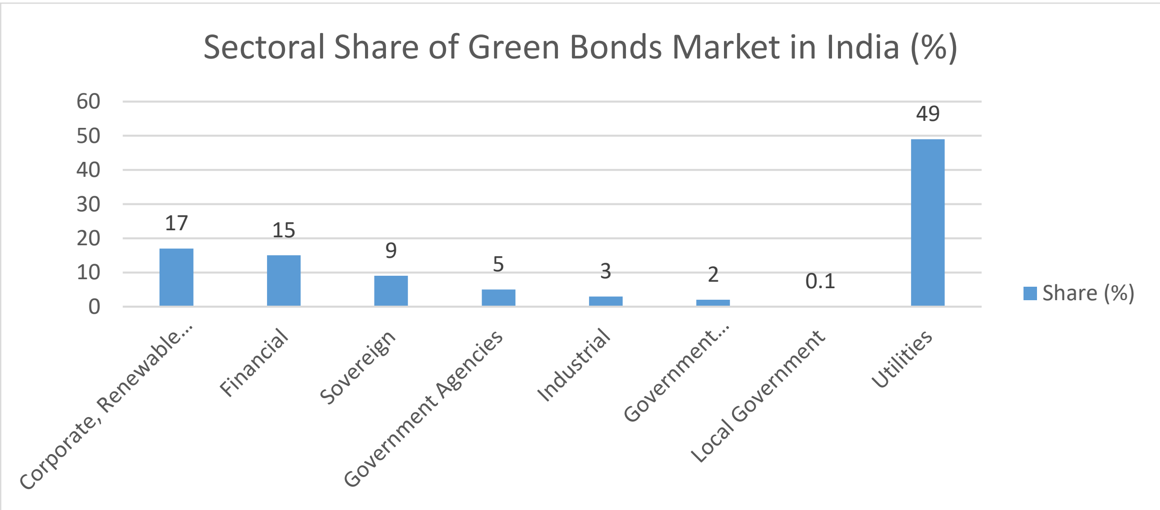
The total size of the Indian Green, Social and Sustainability (GSS) bond market was $19.5billion, with green bonds accounting for the majority of the market in the year 2021. India issued over $6.5 billion in green bonds which contributed 0.7% to India's bond market and 1.4% to the global green bond market. The Yes bank was the first issuer of green bonds in India in the year 2015. It raised up to US $250 million for renewable energy projects and finance 5 gigawatts worth of renewable energy projects by 2019. Ghaziabad Nagar Nigam (UP) became the first Indian local government to issue a green bond worth $20 million in 2021. As of 2023, Indian issuers have issued more green bonds ($21billion) than other emerging markets in Asia, excluding China. Indore Municipal Corporation also issued $87 million in green bonds in 2023 (www. statista.com). Indian green bond issuance have reached a total of $21 billion as on February 2023. The table 1 shows the green bonds amounts issued in India by type of issuer.

Table 1 Green Bonds Amounts Issued in India

Sector	Share (%)
Corporate, Renewable Energy Sector	17
Financial	15
Sovereign	9
Government Agencies	5
Industrial	3
Government Development Bank	2
Local Government	0.1
Utilities	49

(Source: world bank with data from Bloomberg)

The same can be presented with help of bar diagram in figure 1.



The figure 1 shows that Utilities sector has more share of green bonds followed by corporates, Renewable Energy sector and Financials. The least share is with local government in India. With the expedition of the Government of India into the green bond market, the more investments in green and climate-friendly projects and activities could be expected that will contribute towards India's transition towards green, resilient and inclusive development (Hussain and Dill, 2023).

Conclusion

The Present study concludes that the green bonds are emerging as a new investment tool in the Indian Market. They are being used to manage climate change. It is a need of hour to follow the guiding principles as issued by ICMA, SEBI and Government of India to save the environment. Thus, Sustainability can be achieved only if eco-friendly activities could be followed in spirit by all companies.

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