



A STUDY ON GREEN BOND INVESTMENT AMONG CITIZENS OF MUMBAI

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Abstract:

This study examines the level of awareness, perception, and investment behaviour regarding green bond investments among citizens of Mumbai. Green bonds, as instruments of sustainable finance, play a crucial role in funding environmentally friendly projects such as renewable energy, environmental protection measures and efforts to address climate-related issues. The study aims to analyse the extent of public awareness, understand investor perception, and evaluate the relationship between awareness and investment behaviour.

A descriptive research design was adopted, and primary data was collected through a structured questionnaire from 81 respondents. The data was analysed using percentage method, tabular representation, and graphical tools. The findings reveal that while respondents possess a moderate to high level of awareness regarding green bonds, detailed understanding remains limited. It was also observed that awareness significantly influences investment decisions, and lack of information acts as a major barrier.

The study concludes that increasing financial literacy, awareness campaigns, and institutional support can enhance public participation in green bond investments and promote sustainable financial growth.

Keywords: *Green Bonds, Sustainable Finance, Investment Behaviour, Awareness, Mumbai*

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Introduction:

Green bonds are financial instruments issued to raise funds specifically for environmentally sustainable projects such as renewable energy, clean water, pollution control, and climate change mitigation. They are a part of the growing concept of sustainable finance, which aims to combine financial returns with environmental responsibility.

In recent years, green bonds have gained importance globally as governments, corporations, and financial institutions seek funding sources that support environmental protection and sustainable development. In India, the growth of green finance is aligned with

national goals related to climate change, renewable energy expansion, and sustainable urban development. However, the success of green bonds depends not only on issuing institutions but also on investors' awareness and willingness to participate. Public understanding of green financial products is still evolving, particularly in emerging economies. Limited knowledge about their features, benefits, risks, and investment procedures can reduce participation.

Mumbai, being the financial capital of India, has a diverse population of investors, professionals, and working individuals. Studying the awareness and investment behaviour of citizens in Mumbai provides



valuable insight into the acceptance of green bonds in an urban financial environment.

Therefore, this study aims to examine the level of awareness, perception, and investment inclination of citizens of Mumbai towards green bonds and to identify whether lack of information acts as a barrier to investment.

Objectives of the Study: The present study aims to evaluate the level of awareness and perception regarding green bond investments among the citizens of Mumbai. It also aims to examine the conceptual understanding, current relevance, and willingness of individuals to participate in green finance, and to provide suggestions for improving public engagement. The specific objectives of the study are:

1. To understand the basic concept and features of green bonds as an instrument of sustainable finance.
2. To analyze the current status, trends, and importance of green bonds in the Indian financial system.
3. To assess the level of awareness among citizens of Mumbai regarding green bond investments.
4. To study the perception of individuals in Mumbai toward investing in green bonds.
5. To give suggestions and recommendations for improving awareness and encouraging green bond investment among the public.

Review of Literature:

Green bonds have emerged as an important financial instrument for promoting environmentally sustainable projects. Various researchers have examined green bonds from financial, environmental, and policy perspectives.

1. Flammer (2019).

‘Impact of Green Bonds on Corporate Environmental Performance’. Flammer conducted a study to examine the impact of green bond issuance on corporate environmental performance. The study analyzed whether

companies issuing green bonds improved their environmental responsibility. The findings revealed that firms issuing green bonds showed better environmental performance and were able to attract investors interested in sustainable finance. The research highlighted the role of green bonds in aligning financial markets with environmental goals.

2. Toliver, Keely, and Managi (2020)

‘Global Development of Green Bond Markets’.

Toliver, Keely, and Managi analyzed the global development of green bond markets and concluded that green bonds are increasingly used to finance climate change mitigation and renewable energy projects. Their study emphasized that green bonds are becoming a major tool for sustainable development financing worldwide.

3. Karpf and Mandel (2018)

‘Pricing and Investor Behavior in Green Bonds’.

Karpf and Mandel examined the pricing and investor behavior in municipal green bonds. The study found that although green bonds sometimes offer slightly lower yields compared to conventional bonds, investors are still willing to invest due to their environmental benefits and positive social impact

4. Hachenberg and Schiereck (2018)

‘Growth of the Green Bond Market and Investor Awareness’.

Hachenberg and Schiereck investigated the growth of the green bond market and observed that increasing awareness about sustainability among investors has contributed significantly to the expansion of green bonds. The authors also noted that despite challenges, green bond markets are developing rapidly.

5. Voica, Panait, and Rădulescu (2015)

‘Role of Green Bonds in Achieving Sustainable Development Goals’.



Voica, Panait, and Rădulescu highlighted that green bond investments are essential for achieving sustainable development goals. Their research indicated that green bonds support long-term environmental projects such as clean energy, pollution control, and sustainable infrastructure.

6. Reboredo (2018)

‘Financial Performance and Risk Characteristics of Green Bonds’.

Reboredo studied the financial performance and risk characteristics of green bonds and concluded that green bonds provide diversification benefits to investors while also contributing to environmentally sustainable projects.

Research Gap:

However, despite extensive research on the financial performance and environmental impact of green bonds, limited studies have focused on the awareness, perception, and investment behaviour of individual citizens, particularly in developing urban regions such as Mumbai. Most existing studies emphasize institutional or corporate perspectives, thereby creating a gap in understanding retail investor behaviour. The present study seeks to address this research gap.

Research Methodology:

Research methodology provides a systematic framework for conducting the study and achieving its objectives. The present study adopts a descriptive research design to examine the awareness, perception, and investment behaviour of citizens of Mumbai towards green bond investments. Both primary and secondary data sources have been used to ensure a comprehensive understanding of the topic.

1. Sources of Data

Primary Data:

Primary data was collected through a structured questionnaire distributed among citizens of Mumbai. The questionnaire consisted of close-ended questions designed using a Likert scale to

measure respondents’ awareness, perception, and willingness to participate in green bond investments.

Secondary Data:

Secondary data was collected from research journals, SEBI and RBI reports, government publications, online articles, newspapers, and previous studies related to green bonds and sustainable finance.

2. Geographical Area

The geographical area selected for this study is Mumbai, the financial capital of India, which represents a diverse population in terms of occupation, education, and financial exposure.

3. Sample Size

The study is based on responses collected from 81 respondents belonging to different demographic and occupational backgrounds.

4. Sampling Technique

The study uses Convenience Sampling, a non-probability sampling technique where respondents were selected based on availability, accessibility, and readiness to respond to the survey.

5. Tools of Data Collection

A structured questionnaire was used as the main tool for collecting primary data from the respondents.

6. Tools of Data Analysis

The collected data was examined using:

- Percentage Method
- Tabular Presentation
- Visual presentation using bar and pie charts.

Microsoft Excel was used to organize, process, and present the data in a meaningful and understandable format.

Hypotheses of the Study:

Hypothesis 1

H₀₁: There is no significant difference among the awareness level of investment in green bonds gender-wise.



H₁₁: There is a significant difference among the awareness level of investment in green bonds gender-wise.

Hypothesis 2

H₀₂: There is no significant relationship between awareness level and investment behaviour regarding green bonds among citizens of Mumbai.

H₁₂: There is a significant relationship between awareness level and investment behaviour regarding green bonds among citizens of Mumbai.

Data Analysis and Interpretation:

DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

VARIABLES	PARTICULAR	FREQUENCY	PERCENTAGE
GENDER	MALE	45	55.6%
	FEMALE	35	43.2%
	OTHER	1	1.2%
	TOTAL	81	100%
AGE GROUP	BELOW 25 YEARS	30	37%
	25-35 YEARS	21	25.9%
	36-45 YEARS	25	30.9%
	ABOVE 45 YEARS	5	6.2%
	TOTAL	81	100%
OCCUPATION	SERVICE	32	39.5%
	BUSINESS	21	25.9%
	PROFESSIONAL	11	13.6%
	HOMEMAKER	13	16%
	RETIRED	4	4.9%
	TOTAL	81	100%
EDUCATIONAL QUALIFICATION	HSC	20	24.7%
	GRADUATE	31	38.3%
	POST GRADUATE	24	29.6%
	PROFESSIONAL	6	7.4%
	TOTAL	81	100%

The demographic analysis of the respondents provides a clear understanding of the composition of the sample selected for the study.

Gender-Out of the total respondents, 55.6% are male while 43.2% are female, and a very small proportion belongs to the “other” category. This indicates that male respondents form the majority of the sample. The higher participation of males suggests that men may show slightly greater involvement or interest in financial and investment-related topics. However, the considerable representation of female respondents ensures that the study includes gender diversity and captures varied perspectives regarding green bond awareness.

Age Group-The age-wise distribution shows that 37% of respondents belong to the below 25 years age group, which is the largest segment. This is followed by 30.9% in the 36–45 years category and 25.9% in the 25–35 years group. Only 6.2% of respondents are above 45 years, making it the smallest group. This indicates that younger individuals



form the majority of the sample, suggesting that awareness and interest in green bonds and sustainable investment topics are more prominent among the youth and middle-aged population compared to older individuals.

Occupation-In terms of occupation, the service sector constitutes the largest group at 39.5%, indicating that salaried employees are the primary participants in study.

This is followed by business respondents at 25.9% and homemakers at 16%. Professionals account for 13.6%, while retired individuals represent only 4.9%, making them the smallest occupational category. The dominance of service and business class respondents suggests that individuals with regular income sources and financial exposure are more aware or interested in green bond investments.

Educational Qualification-Regarding educational background, the majority of respondents are graduates (38.3%), followed by postgraduates (29.6%). HSC-qualified respondents make up 24.7%, while professionally qualified individuals account for only 7.4%, which is the smallest group. This indicates that the sample is largely educated, which is significant since higher education levels are often associated with better financial literacy and awareness of modern investment instruments such as green bonds.

Overall, the demographic profile shows that the study mainly includes young, educated, and salaried individuals. These groups are more likely to participate in financial markets and understand sustainable investment opportunities. Therefore, the demographic characteristics strengthen the relevance of the study in analyzing awareness of green bond investment.

Testing of Hypothesis: Following are the hypotheses framed by the researcher and had been tested below using the information from the data collected using the questionnaire

Hypothesis 1

H₀₁: There is no significant difference among the awareness level of investment in green bonds gender-wise.

H₁₁: There is a significant difference among the awareness level of investment in green bonds gender-wise.

Table 1. Awareness Level of Green Bonds

SR. NO	PARTICULAR	PERCENTAGE	REFERENCE TABLE
1	Most respondents are aware of the basic concept of green bonds	67.9%	
2	Many respondents understand the key features of green bonds	56.8%	
3	Majority know that green bonds finance environmentally friendly projects	56.8%	
4	Most respondents are aware of green bond investments in India	63%	
5	Many respondents know the role of green bonds in India's financial system	50.6%	
6	A large number of respondents can differentiate between green bonds and traditional bonds	49.4%	

Source: Primary Data

Table 7.1 shows that a majority of respondents have awareness regarding green bonds. Nearly 68% know the basic concept, 63% are aware of green bond investments in India, and 57% understand their environmental purpose.



Around half of the respondents understand key features and the role of green bonds in the financial system. This indicates a moderate to high awareness level among respondents.

Decision: Since awareness levels are considerably high among respondents irrespective of gender distribution, the null hypothesis (H_{01}) is rejected and the alternative hypothesis is accepted, indicating that awareness regarding green bonds is significant.

Hypothesis 2

H_{02} : There is no significant relationship between awareness level and investment behaviour regarding green bonds among citizens of Mumbai.

H_{12} : There is a significant relationship between awareness level and investment behaviour regarding green bonds among citizens of Mumbai.

Table 2. Awareness and Investment Behaviour

SR.NO.	PARTICULAR	PERCENTAGE	REFERENCE TABLE
1	Respondents believe green bonds are a trustworthy investment option	59.3%	
2	Investing in green bonds supports environmental protection	58%	
3	Green bonds are suitable for long-term investment	55.6%	
4	Green bonds balance financial returns and social responsibility	56.8%	
5	Awareness influences decision to invest in green bonds	66.7%	
6	Higher awareness increases interest in green bond investment	66.7%	
7	Lack of information discourages investment	59.3%	
8	Respondents are willing to invest in green bonds in future	49.4%	
9	Investors would prefer green bonds if proper information is available	60.5%	

Source: Primary Data

In Table 7.2 the findings clearly indicate a strong relationship between awareness and investment behaviour. More than 66% respondents stated that awareness influences their decision and increases their interest in green bond investment. Around 60% believe green bonds are trustworthy and would prefer them if proper information is available. However, lack of information acts as a barrier. This shows that awareness directly affects investment decisions.

Decision: Since awareness significantly influences investment behaviour, the null hypothesis (H_{02}) is rejected and the alternative hypothesis is accepted.

Findings of the Study:

1. The study reveals that most respondents are aware of the basic concept of green bonds and understand that they finance environmentally friendly projects, though knowledge of key features, their financial role, and differences from traditional bonds is only moderate.
2. Respondents generally perceive green bonds as a trustworthy, socially responsible investment that supports environmental protection and contributes to addressing climate change issues.
3. Awareness level plays a major role in investment behaviour, as higher awareness increases interest in



green bond investments, while lack of information acts as a key barrier.

4. A notable proportion of respondents showed willingness to invest in green bonds in the future, particularly if proper information, provided adequate information, transparency, and guidance are ensured.
5. The study identifies government initiatives, investor education programs, financial institutions, media, and workshops as essential channels to improve public awareness and participation in green bond investments.

Conclusions:The findings of the study indicate that awareness of green bond investments among citizens of Mumbai is at a moderate to high level; however, in-depth knowledge regarding their features, functioning, and benefits remains limited. Green bonds are generally perceived as a reliable, long-term, and socially responsible investment avenue that contributes to environmental sustainability.

The study establishes a significant relationship between awareness and investment behaviour, highlighting that increased awareness leads to a higher willingness to invest. At the same time, lack of information, limited promotional efforts, and insufficient financial literacy act as major barriers to participation.

Therefore, it can be concluded that enhancing investor awareness through educational initiatives, government support, and effective communication strategies can significantly improve participation in green bond investments. Strengthening awareness will not only

benefit investors but also contribute to the growth of sustainable finance in India.

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