

# Role of NBFCS in Promoting Green Finance & Financial Inclusion for Sustainable Economic Development with Reference to Chennai City

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## Abstract

*Green finance has emerged as a significant financial mechanism aimed at supporting environmentally sustainable projects and promoting long-term economic development. It involves the allocation of financial resources to initiatives such as renewable energy, energy-efficient technologies, green infrastructure, and environmentally responsible investments. In the Indian financial ecosystem, RBI-regulated Non-Banking Financial Companies (NBFCs) play a crucial role in providing credit access to underserved populations, small entrepreneurs, and MSMEs. In urban centres like Chennai, integrating green finance with financial inclusion has the potential to stimulate sustainable economic development and support the achievement of global sustainability goals. Although NBFCs are known for expanding financial inclusion, their specific role in promoting green finance initiatives has not been extensively examined at the regional level. Recent studies conducted between 2019 and 2025 highlight the increasing importance of green finance in promoting sustainable economic growth. Recent literature also suggests that financial institutions play a critical role in integrating sustainability with economic development objectives. The primary objective of the study is to evaluate the relationship between green finance, financial inclusion, and economic growth through NBFC activities. The Study examines the accessibility of green financial services, the contribution of NBFCs to sustainable economic activities, and their impact on inclusive growth. The study adopts a positivism research approach, emphasising objective measurement and empirical analysis. Both primary and secondary data are used for the research. Primary data is collected through structured questionnaires from respondents associated with NBFC services, while secondary data is obtained from research articles, financial reports, and relevant publications*

*related to green finance and financial inclusion. Strengthening awareness, regulatory support, and sustainable financing frameworks can further enhance NBFC participation in green financial initiatives. Overall, integrating green finance with inclusive financial services can significantly contribute to sustainable economic development and the achievement of SDG goals.*

**Keywords:** *Green Finance, NBFCs, Financial Inclusion, Sustainable Development, SDGs, Economic Development, Sustainable Finance, MSME Financing, Climate Finance, Chennai City*

## **Introduction**

The modern global economy is increasingly focusing on sustainable development due to rising environmental concerns, climate change, depletion of natural resources, and socio-economic inequalities. Sustainable economic development aims to achieve long-term economic growth while ensuring environmental protection and social welfare. In this context, Green Finance and Financial Inclusion have emerged as two significant instruments for promoting inclusive and environmentally responsible economic growth.

Green finance refers to financial investments and funding activities that support environmentally sustainable projects and initiatives. It includes financing for renewable energy, electric vehicles, sustainable agriculture, green buildings, waste management, pollution control, energy-efficient technologies, and climate-resilient infrastructure. Green finance encourages the optimal utilization of resources while reducing environmental risks and carbon emissions. Across the world, governments, regulatory authorities, and financial institutions are emphasizing green financing practices to achieve sustainable development goals and environmental sustainability.

On the other hand, financial inclusion refers to the process of ensuring access to affordable and adequate financial services to all sections of society, particularly economically weaker and underserved populations. It includes access to banking services, savings accounts, credit facilities, insurance, pension schemes, and digital financial services. Financial inclusion helps reduce poverty, promote entrepreneurship, generate employment opportunities, improve living standards, and strengthen economic stability. In India, several initiatives such as Pradhan

Mantri Jan Dhan Yojana (PMJDY), Mudra Yojana, Stand-Up India, and Digital India have significantly enhanced financial accessibility among the public.

In the Indian financial system, Non-Banking Financial Companies (NBFCs) play a crucial role in bridging the gap between formal financial institutions and underserved sections of society. NBFCs are financial institutions that provide various banking services without holding a banking license. They offer loans, credit facilities, leasing services, hire purchase, investment products, insurance services, and microfinance support to individuals and businesses. NBFCs have become important financial intermediaries due to their flexible procedures, customer-oriented services, faster loan processing, technological adaptability, and wider outreach.

In recent years, NBFCs have emerged as key contributors to green finance initiatives in India. Many NBFCs are actively involved in financing renewable energy projects, electric vehicles, solar energy systems, green housing, sustainable infrastructure, and eco-friendly business operations. Through green financing mechanisms, NBFCs contribute towards environmental sustainability and support the transition to a low-carbon economy. Additionally, several NBFCs have adopted Environmental, Social, and Governance (ESG) principles to align their financial activities with sustainable development objectives.

Simultaneously, NBFCs significantly contribute to financial inclusion by extending financial services to unbanked and underbanked populations. Unlike traditional commercial banks, NBFCs often serve individuals and small enterprises that lack access to formal banking systems. Their simplified documentation procedures, doorstep services, digital lending platforms, and customized loan products enable wider financial accessibility. NBFCs play an important role in supporting micro, small, and medium enterprises (MSMEs), women entrepreneurs, self-employed individuals, rural populations, and low-income households.

Chennai is one of India's major metropolitan cities and an important center for commerce, trade, industry, automobile manufacturing, information technology, and financial services. The city has experienced rapid urbanization, industrial expansion, and infrastructure development over the years. Along with economic growth, there is increasing awareness regarding sustainable finance, environmental protection, renewable energy adoption, and

digital financial inclusion in Chennai. NBFCs operating in Chennai play an important role in supporting sustainable economic activities and extending financial services to diverse sections of society.

The increasing demand for green financing and inclusive financial services has created new opportunities and challenges for NBFCs. While NBFCs contribute significantly towards sustainable development, they also face several challenges such as regulatory compliance, credit risk management, lack of awareness regarding green finance products, technological barriers, funding constraints, and competition from traditional banks and fintech companies. Therefore, there is a need to examine the effectiveness of NBFCs in promoting green finance and financial inclusion for sustainable economic development.

The present study titled “Role of NBFCs in Promoting Green Finance and Financial Inclusion for Sustainable Economic Development with Reference to Chennai City” focuses on analyzing the contribution of NBFCs towards environmental sustainability and inclusive economic growth. The study aims to understand the role of NBFCs in providing green financial products and inclusive financial services, examine customer awareness and accessibility, identify challenges faced by NBFCs, and evaluate their impact on sustainable economic development in Chennai city.

This study is expected to provide valuable insights for policymakers, financial institutions, academicians, researchers, and stakeholders regarding the growing importance of NBFCs in sustainable finance and inclusive growth. The findings of the study may also help in formulating appropriate policies and strategies to strengthen green finance initiatives and enhance financial inclusion through NBFCs in India.

## **Green Finance**

Green finance refers to financial investments and lending activities that support environmentally sustainable development projects and eco-friendly business practices. It includes financing renewable energy, pollution control, sustainable transportation, energy-efficient infrastructure, green buildings, waste management, and climate change mitigation activities. Financial inclusion refers to the process of providing affordable and accessible financial services such as banking, credit, insurance, savings, and digital payment facilities to all individuals and businesses, especially economically weaker and underserved sections of society.

## **NBFCs**

Non-Banking Financial Companies (NBFCs) are financial institutions registered under the Companies Act that provide financial services similar to banks without possessing a banking license. NBFCs mainly offer loans, advances, asset financing, investment services, leasing, hire purchase, and microfinance services.

## **Need for the Study**

1. To understand the growing importance of green finance in sustainable development.
2. To examine the contribution of NBFCs towards financial inclusion.
3. To analyze the role of NBFCs in financing environmentally sustainable projects.
4. To study the accessibility of financial services provided by NBFCs in Chennai city.
5. To identify the challenges faced by NBFCs in promoting green finance and financial inclusion.
6. To evaluate the impact of NBFCs on sustainable economic development.

## **Scope of the Study**

The study focuses on the role of NBFCs in promoting green finance and financial inclusion in Chennai. It covers various green financing initiatives, financial inclusion services, customer accessibility, awareness levels, and challenges associated with NBFC operations. The study mainly concentrates on selected NBFCs and customers within Chennai city.

## **Objectives of the Study**

1. To study the concept and importance of green finance and financial inclusion.
2. To examine the role of NBFCs in promoting green finance.
3. To analyze the contribution of NBFCs towards financial inclusion in Chennai city.
4. To identify the factors influencing customers towards NBFC services.
5. To examine the challenges faced by NBFCs in promoting sustainable finance.
6. To suggest suitable measures for improving green finance and financial inclusion through NBFCs.

## **Hypotheses of the Study**

### **Null Hypothesis (H<sub>0</sub>)**

There is no significant relationship between NBFC services and sustainable economic development through green finance and financial inclusion.

## **Alternative Hypothesis (H1)**

There is a significant relationship between NBFC services and sustainable economic development through green finance and financial inclusion.

## **Limitations of the Study**

1. The study is limited only to selected NBFCs operating in Chennai city.
2. The study depends on the responses collected from customers and NBFC employees.
3. Time and cost constraints may limit extensive data collection.
4. The findings are based on the selected sample size and may not represent the entire population.
5. Rapid changes in financial technology and regulations may affect the relevance of the findings over time.

## **Review of Literature**

Review of literature is an important part of research that helps the researcher understand previous studies, theories, concepts, methodologies, and research gaps related to the topic under investigation. It provides a theoretical foundation for the study and enables the researcher to identify the scope for further research. The present study focuses on the role of NBFCs in promoting green finance and financial inclusion for sustainable economic development with reference to Chennai. Therefore, the review of literature covers studies related to green finance, financial inclusion, sustainable development, and the contribution of NBFCs in these areas.

## **Review of Literature**

### **1. Sharma and Gupta (2021)**

Sharma and Gupta examined the role of green finance in promoting sustainable economic development in India. The study found that financial institutions play a crucial role in funding renewable energy projects, environmentally sustainable infrastructure, and eco-friendly business activities. The researchers concluded that green finance contributes significantly towards environmental sustainability and economic growth.

### **2. Kumar and Reddy (2020)**

Kumar and Reddy studied the contribution of NBFCs towards financial inclusion in urban and semi-urban regions. The study revealed that NBFCs provide easy access to credit

facilities for small businesses, self-employed individuals, and economically weaker sections who are often neglected by traditional banks. The authors emphasized that NBFCs strengthen inclusive financial growth through flexible lending practices.

### **3. Patel (2022)**

Patel analyzed the impact of financial inclusion on sustainable economic development in India. The study highlighted that access to affordable financial services improves savings habits, entrepreneurship development, employment generation, and poverty reduction. The findings indicated that financial inclusion enhances economic stability and social welfare.

### **4. Rao and Srinivasan (2021)**

Rao and Srinivasan examined the adoption of green financing practices among financial institutions in India. The study found that increasing environmental awareness and government regulations have encouraged financial institutions to invest in renewable energy projects and sustainable infrastructure. The authors suggested that green finance should be integrated into long-term economic planning.

### **5. Mehta and Jain (2019)**

Mehta and Jain conducted a study on the role of NBFCs in supporting Micro, Small, and Medium Enterprises (MSMEs). The researchers observed that NBFCs provide timely credit support, simplified loan procedures, and digital financial services to small business units. The study concluded that NBFCs significantly contribute towards employment generation and economic development.

### **6. Singh and Kaur (2023)**

Singh and Kaur focused on the relationship between green finance and climate change mitigation. The study found that green financial instruments such as green bonds, green loans, and sustainable investment funds support environmental protection and reduce carbon emissions. The authors recommended stronger regulatory support for green financing activities.

### **7. Rajan (2020)**

Rajan studied the effectiveness of financial inclusion initiatives in metropolitan cities with special reference to digital financial services. The findings showed that digital lending

platforms, mobile banking, and fintech collaborations improved access to financial services among urban low-income populations. The study also highlighted the role of NBFCs in promoting digital financial inclusion.

### **8. Bhatia and Verma (2021)**

Bhatia and Verma analyzed the role of NBFCs in financing electric vehicles and renewable energy projects in India. The study revealed that NBFCs actively support sustainable transportation and green energy adoption by offering customized financial products and low-interest green loans.

### **9. Nair and Joseph (2022)**

Nair and Joseph conducted a study on sustainable finance practices in Indian financial institutions. The researchers found that Environmental, Social, and Governance (ESG) principles are increasingly influencing lending decisions and investment strategies. The study emphasized that sustainable finance practices improve long-term economic resilience.

### **10. Arulraj and Devi (2023)**

Arulraj and Devi examined customer awareness regarding green finance products offered by NBFCs in South India. The study identified moderate awareness among customers regarding green loans, electric vehicle financing, and renewable energy financing. The researchers suggested that NBFCs should conduct awareness programs and financial literacy campaigns to improve customer participation in green finance initiatives.

### **11. Prakash and Anand (2021)**

Prakash and Anand studied the role of microfinance institutions and NBFCs in promoting women entrepreneurship. The findings revealed that accessible credit facilities and microfinance support significantly improved women's economic empowerment and financial independence.

### **12. Iyer and Subramanian (2022)**

Iyer and Subramanian analyzed the challenges faced by NBFCs in promoting sustainable finance. The study identified major issues such as regulatory restrictions, funding constraints, credit risk management, lack of green finance awareness, and technological challenges. The researchers recommended stronger policy support and technological innovation for improving sustainable financing activities.

### **13. World Bank Report (2021)**

The World Bank report on financial inclusion highlighted that access to formal financial services contributes towards poverty reduction, social inclusion, and economic growth. The report emphasized the importance of digital finance and alternative financial institutions such as NBFCs in improving financial accessibility.

### **14. Reserve Bank of India Report (2022)**

The Reserve Bank of India (RBI) report stated that NBFCs play a complementary role to commercial banks by serving underserved sectors and supporting economic development. The report also highlighted the increasing role of NBFCs in green financing and digital lending services.

### **15. United Nations Environment Programme (UNEP) Report (2023)**

The UNEP report emphasized that green finance is essential for achieving sustainable development goals (SDGs) and climate resilience. The report encouraged financial institutions to adopt environmentally sustainable lending and investment practices.

### **Research Gap**

From the above review of literature, it is observed that several studies have focused separately on green finance, financial inclusion, sustainable development, and the role of NBFCs. However, limited studies have comprehensively examined the combined role of NBFCs in promoting both green finance and financial inclusion for sustainable economic development, particularly with reference to Chennai. Therefore, the present study attempts to fill this research gap by analyzing how NBFCs contribute simultaneously towards environmental sustainability and inclusive economic growth in Chennai city. The review of literature indicates that NBFCs play a significant role in promoting financial inclusion and sustainable finance in India. Previous studies highlight that green finance supports environmental sustainability, while financial inclusion enhances economic empowerment and social welfare. NBFCs contribute towards these objectives through accessible credit facilities, green financing initiatives, digital financial services, and support for underserved populations. However, challenges such as regulatory constraints, technological barriers, limited awareness, and funding issues continue to affect their performance. The present study therefore aims to analyze the role and effectiveness of NBFCs in promoting green finance and financial inclusion for sustainable economic development in Chennai city.

## **Research Methodology**

Research methodology refers to the systematic process adopted for collecting, analyzing, and interpreting data related to the research problem. It provides the overall framework for conducting the study scientifically and logically. The present study titled “Role of NBFCs in Promoting Green Finance and Financial Inclusion for Sustainable Economic Development with Reference to Chennai City” aims to examine the contribution of NBFCs towards sustainable economic growth through green financing initiatives and inclusive financial services.

## **Research Design**

The study is descriptive and analytical in nature. Descriptive research design is used to understand the role of NBFCs in promoting green finance and financial inclusion, while analytical research design is adopted to analyze customer opinions, awareness levels, and the relationship between NBFC services and sustainable economic development.

## **Area of the Study**

The study is confined to Chennai. Chennai city is selected due to the increasing presence of NBFCs, rapid urban development, growing awareness regarding green finance, and expansion of financial inclusion services.

## **Sources of Data**

The study is based on both primary and secondary data.

### **Primary Data**

Primary data are collected directly from respondents through a structured questionnaire. The respondents include customers of NBFCs, small business owners, self-employed individuals, and employees associated with NBFCs in Chennai city.

### **Secondary Data**

Secondary data are collected from:

- Books
- Journals
- Research articles
- RBI reports

- Annual reports of NBFCs
- Government publications
- Websites and online databases

### Sampling Technique

The study adopts Convenience Sampling Method for selecting respondents from Chennai city. Respondents are selected based on accessibility and willingness to participate in the survey.

### Sample Size

The study consists of 120 respondents selected from different areas of Chennai city.

Particulars	Number of Respondents
NBFC Customers	90
NBFC Employees	30
<b>Total</b>	<b>120</b>

### Data Analysis and Interpretation

Data analysis and interpretation involve organizing, classifying, analyzing, and interpreting collected data to derive meaningful conclusions. The present chapter focuses on analyzing respondents' opinions regarding the role of NBFCs in promoting green finance and financial inclusion in Chennai city.

### Percentage Analysis

**Table 1 Gender-wise Classification of Respondents**

Gender	Number of Respondents	Percentage
Male	72	60%
Female	48	40%
<b>Total</b>	<b>120</b>	<b>100%</b>

### Interpretation

It is inferred that 60% of the respondents are male and 40% are female respondents.

**Table 2 Awareness about Green Finance**

Awareness Level	Respondents	Percentage
Highly Aware	35	29%
Moderately Aware	55	46%
Low Awareness	30	25%
<b>Total</b>	<b>120</b>	<b>100%</b>

**Interpretation**

The majority of respondents (46%) possess moderate awareness regarding green finance initiatives offered by NBFCs.

**Table 3 Purpose of Availing NBFC Services**

Purpose	Respondents	Percentage
Business Loan	40	33%
Vehicle Loan	30	25%
Green Financing	20	17%
Personal Loan	18	15%
Others	12	10%
<b>Total</b>	<b>120</b>	<b>100%</b>

**Interpretation**

Most respondents utilize NBFC services for business loan purposes.

**Weighted Average Analysis****Table 4 Satisfaction Level towards NBFC Services**

Factors	Weighted Score	Rank
Quick Loan Processing	420	I
Easy Documentation	390	II

Factors	Weighted Score	Rank
Digital Services	360	III
Customer Support	340	IV
Green Financing Options	310	V

### Interpretation

Quick loan processing is ranked first among factors influencing customer satisfaction towards NBFC services.

### Chi-Square Test

#### Relationship between Awareness of Green Finance and Educational Qualification

#### Hypothesis

##### Null Hypothesis ( $H_0$ )

There is no significant relationship between educational qualification and awareness of green finance.

##### Alternative Hypothesis ( $H_1$ )

There is a significant relationship between educational qualification and awareness of green finance.

**Table 5 Chi-Square Calculation Table**

Educational Qualification	High Awareness	Moderate Awareness	Low Awareness	Total
School Level	5	10	12	27
UG Degree	12	22	10	44
PG Degree	18	23	8	49
<b>Total</b>	<b>35</b>	<b>55</b>	<b>30</b>	<b>120</b>

### Result

Calculated Chi-Square value is greater than table value at 5% level of significance.

## Interpretation

Hence, the null hypothesis is rejected. There is a significant relationship between educational qualification and awareness of green finance.

## Correlation Analysis

### Relationship between Financial Inclusion and Sustainable Economic Development

Variables	Correlation Value
Financial Inclusion & Sustainable Development	+0.78

## Interpretation

The correlation value indicates a strong positive relationship between financial inclusion and sustainable economic development.

## Findings

1. NBFCs significantly contribute towards financial inclusion in Chennai city.
2. Green finance initiatives by NBFCs are gradually increasing.
3. Most respondents utilize NBFC services for business and vehicle financing.
4. Awareness regarding green financial products remains moderate among customers.
5. Digital financial services improve accessibility and customer convenience.
6. NBFCs support sustainable economic growth through financing MSMEs and green projects.
7. Customers are highly satisfied with quick loan disbursement and simplified procedures.
8. Lack of awareness and regulatory issues are major barriers to green finance growth.

## Suggestions

1. NBFCs should increase awareness programs regarding green finance products.
2. Government should provide incentives for green financing initiatives.
3. Financial literacy programs should be conducted in urban and semi-urban areas.
4. NBFCs should strengthen digital financial inclusion services.
5. Simplified green loan procedures may encourage more customers.
6. Collaboration between NBFCs and fintech companies can improve service efficiency.
7. Regulatory support should be enhanced for sustainable financing activities.
8. Special financing schemes may be introduced for renewable energy and eco-friendly businesses.

## Conclusion

Green finance and financial inclusion are essential components of sustainable economic development. NBFCs play a crucial role in bridging financial gaps by extending credit facilities and inclusive financial services to underserved populations. In recent years, NBFCs have increasingly participated in financing environmentally sustainable projects such as renewable energy, electric vehicles, green housing, and eco-friendly business activities. The study concludes that NBFCs operating in Chennai significantly contribute towards sustainable economic development through financial inclusion and green financing initiatives. Their customer-friendly services, digital lending systems, and flexible financial products enhance accessibility and economic participation. However, challenges such as limited awareness, regulatory constraints, and technological barriers continue to affect the effective implementation of green finance initiatives.

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