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SUSTAINABLE BANKING MODELS: LESSONS FOR INDIAN BANKS FROM GLOBAL BEST PRACTICES

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ABSTRACT

The growing concern about environmental degradation and climate change has prompted financial institutions globally to integrate sustainability into their operations. This paper discusses the sustainable banking models adopted globally and highlights some of the key lessons that can be used to reinforce Indian banks' green and responsible banking frameworks. The research looks at how major international banks from European Union countries, the United States, and emerging economies have incorporated ESG principles, green lending practices, and sustainability reporting into their business model strategies. Successful initiatives such as carbon-neutral operations, green bonds, and digital eco-friendly services, which pave the way for greater financial inclusions with minimal environmental impact, are also discussed here. This paper adopts a comparative and an analytical approach based on secondary data to review the sustainability banking models presented above with their correspondence to the UN SDGs and world standards such as the Equator Principles. The outcomes indicate that although Indian banks have initiated green practice, there is still a difference between their actual implementation and disclosure and global benchmarking. The paper concludes with recommendations for Indian banks to adopt comprehensive sustainability frameworks, enhance green financing, and foster a culture of environmental accountability within the banking ecosystem.

KEYWORDS: Sustainable Banking, Green Finance, ESG Practices, Best Global Practices, Environmental Accountability, Green Bonds, SDGs

1. INTRODUCTION

In the modern context, sustainability has emerged as an important pillar of banking in the face of growing global concern about climate change and the impacts of associated environmental degradation and social inequality. Today, no bank operates strictly within the contours of traditional profit generation; rather, banks around the world are trying to integrate ESG principles into their operations with a view toward responsible and inclusive growth. The emphasis of sustainable banking is to align finances with long-term environmental and social goals so that economic progress will not



be at the expense of ecological sustainability or social equity.

Many financial institutions all over the world have started developing innovative models of sustainable banking through green lending, carbon-neutral operations, investment in renewable energy, and green bonds. These are aligned with international frameworks that, among others, feature the Equator Principles and the United Nations SDGs, which include elements of environmental protection, ethical governance, and social responsibility.

Against this background, some green initiatives have started to be adopted by banks in the Indian context, such as paperless transactions, digital banking, and green financing. However, the pace and depth of such initiatives remain limited compared to global benchmarks. As a result, there is an imperative need to analyze the best global practices and draw lessons for guiding Indian banks toward developing more complete sustainability frameworks. This paper, therefore, focuses on exploring models, reviewing applicability in the Indian context, and proposing strategies that will lead to strengthening the foundation of sustainable banking for India's emerging financial ecosystem.

2. OBJECTIVES OF THE STUDY

1. To explore global sustainable banking models and their key characteristics adopted by major international banks.
2. The second objective is to analyze the extent of ESG practice adoption in Indian banks as compared to the global standard.
3. To assess the relationship between green finance initiatives and the overall sustainability performance of banks.
4. Identifying the major challenges Indian banks are facing in implementing sustainable banking practices and suggesting suitable strategies.

3. LITERATURE REVIEW

Kumar and Sharma (2024) investigated global sustainable banking models and reported that the leading banks in Europe and the U.S. had already incorporated ESG principles, green bonds, and carbon-neutral operations into their core strategies, with sustainability being one of the significant drivers for profitability and reputation. They stressed that not only do such practices lessen environmental risks, but they also enhanced the long-term outlook for financial stability.

Fernandez and Liu (2025) have discussed how sustainable banking frameworks in developed countries are closely related to the United Nations SDGs. They focus on green lending, renewable energy financing, and realistic sustainability reporting. The authors concluded that the regulated regimes must be supported consistently, along with strong stakeholder engagement, to ensure effective



implementation.

Patel and Mehta, in the year 2023, examined the progress of Indian banks towards sustainability. They have stated that despite initiatives such as paperless banking and green financing, policy gaps, lack of awareness, and poor ESG disclosure practices are still challenges in Indian institutions. They recommended following global best practices to ensure better accountability and attainment of sustainable financial growth.

4. Sustainable Banking Models

The term sustainable banking models describes those financial systems and operational frameworks that incorporate ESG principles into banking activities. Whereas traditional banking focuses on reaping maximum profit, the concept of sustainable banking underscores responsible lending, ethical investment, and value creation in a manner that supports economic growth while being protective of the environment. The goal is to have financial development produce positive impacts on society with as little harm as possible to ecology.

More globally, a number of models of sustainable banking have emerged reflecting regional priorities and regulatory environments.

1. Green Banking Model

This model works by reducing the footprint of bank operations on the environment, through a variety of means, including financing eco-friendly projects, stimulating renewable energy investments, and encouraging paperless banking through digitization. A bank likely implementing this model provides green loans and green bonds to finance projects in fields like solar energy, waste management, and sustainable agriculture.

2. Triple Bottom Line (TBL) Model

Introduced by John Elkington, the TBL model measures success through three dimensions: People, Planet, and Profit. Banks applying this model create their reports not only on the basis of financial performance but also on the grounds of contribution to social welfare and environmental sustainability. This model is practiced by European and Nordic banks such as Triodos Bank (Netherlands) and Nordea Bank (Finland).

3. ESG-based banking model

In this model, banks incorporate Environmental, Social, and Governance standards into credit appraisal, investment decisions, and corporate strategies. ESG-oriented banking evaluates borrowers not only by their financial viability but by environmental impact and ethical conduct as well. This

model has gained global recognition through various frameworks like the Equator Principles and UN Principles for Responsible Banking (PRB).

4. Green Investment and Financing Model

The model focuses on investing money in projects contributing to sustainable development, like renewable energy, efficient energy infrastructure, and electric mobility. This model also includes green bonds and climate finance instruments, which have been high on the agenda of institutions such as the World Bank and ADB.

5. Inclusive and Ethnomic Banking Model

With this model, financial inclusion merges with sustainability, assuring that banking services are available to all sections of society in a manner that is ethical and transparent in its business practices. Examples: Grameen Bank in Bangladesh and Triodos Bank involve themselves in financing small businesses, women entrepreneurs, and socially responsible enterprises.

4.1 Alignment of Sustainable Banking Models with SDGs

Sustainable Banking Model	Relevant SDGs Supported	Description
Green Banking Model	SDG 7 (Clean Energy), SDG 13 (Climate Action)	Financing renewable energy and eco-friendly projects
Triple Bottom Line Model	SDG 8 (Decent Work), SDG 12 (Responsible Consumption)	Balancing social, environmental, and economic goals
ESG-Based Banking	SDG 16 (Peace, Justice, Institutions)	Promoting ethical, transparent governance
Inclusive Banking	SDG 1 (No Poverty), SDG 5 (Gender Equality), SDG 10 (Reduced Inequalities)	Promoting access to finance for all
Green Investment Model	SDG 9 (Industry, Innovation, Infrastructure), SDG 11 (Sustainable Cities)	Supporting sustainable infrastructure development

Source: UNDP Sustainable Finance Roadmap (2024); UN SDG Report (2024).

4.2 Comparison of ESG Adoption Levels

Parameter	Developed Countries	Emerging Economies	India
ESG Disclosure	Very High (mandatory)	Moderate	Low to Moderate
Green Finance Share in Total Lending	10–15%	5–8%	2–3%
Carbon-Neutral Operations	Achieved by several banks	Few institutions	Rare
Sustainability Reporting	Annual and audited	Periodic	Limited
Regulatory Framework	Comprehensive	Evolving	Partially implemented

Source - UNEP FI Global Progress Review on Responsible Banking (2024)

4.3 Growth in Green Bond Issuance (2015–2024)

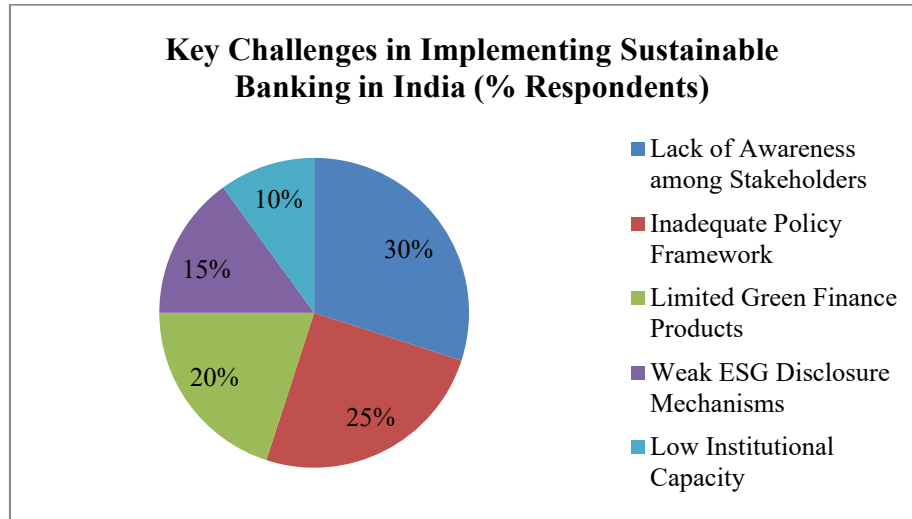
Year	Global Green Bonds (USD Billion)	India’s Green Bonds (USD Billion)
2015	42	0.5
2017	120	2.1
2019	180	4.0
2021	300	6.8
2023	480	9.5
2024	530	11.2

Source: Climate Bonds Initiative, Global Green Bond Market Report (2024).

4.4 Key Challenges in Implementing Sustainable Banking in India (% Respondents)

Challenge	Percentage of Respondents
Lack of Awareness among Stakeholders	30%
Inadequate Policy Framework	25%
Limited Green Finance Products	20%
Weak ESG Disclosure Mechanisms	15%
Low Institutional Capacity	10%

Source - Reserve Bank of India (RBI) Bulletin on Climate Risk and Sustainable Finance (June 2024)



5. DATA COLLECTION

In this regard, most of the information included in the present study "Sustainable Banking Models: Lessons for Indian Banks from Global Best Practices" is sourced from secondary data emanating from credible and authentic sources. Information has been sourced from research journals, reports from government agencies, institutional papers, as well as from online databases concerned with green finance and sustainable banking. These major sources include reports from the Reserve Bank of India, Securities and Exchange Board of India, United Nations Development Programme, United Nations Environment Programme Finance Initiative, and World Bank. In addition to these, other information has also been gathered from the Climate Bonds Initiative (2024) and the Ministry of Finance, Government of India, especially regarding green bond issuances and the Draft Green Finance Taxonomy.

The study also integrated information from scholarly articles published in journals like the Journal of Sustainable Finance and Investment and the International Journal of Green Finance, thereby outlining global best practices in sustainable banking. For the analysis of disparities between developed and emerging economies, comparative data were used on the adoption of ESG, sustainability reporting, and green finance initiatives. In this respect, the secondary data was organized and interpreted through a comparative and analytical approach to recognize patterns, challenges, and lessons that can be applied to the Indian banking context.

6. Government Initiatives for Promoting Sustainable Banking in India

1. Introduction of Green Deposit Framework-2023 -RBI

The Reserve Bank of India introduced a Green Deposit Framework whereby it was required that banks and NBFCs issue green deposits, thereby channeling the funds only to environmentally sustainable



projects like renewable energy, waste management, and clean transportation.

2. Business Responsibility and Sustainability Reporting (BRSR) – SEBI, 2022

The Securities and Exchange Board of India (SEBI) made BRSR mandatory for the top 1,000 listed companies, including major banks, to ensure consistency in ESG disclosure and transparency.

3. Climate Risk and Sustainable Finance Guidance Note (2022 – RBI)

The RBI has released the Discussion Paper on Climate Risk and Sustainable Finance to guide banks on integrating climate-related risks into governance, strategy, and risk management frameworks.

4. National Action Plan on Climate Change (NAPCC) – Ministry of Environment, Forest and Climate Change

Launched to incorporate climate concerns into policy and finance decisions, the plan calls upon financial institutions to fund projects in clean energy, afforestation, and sustainable urban development.

5. Sustainable Finance Task Force 2021

Established under the Ministry of Finance, the key mandate is to develop a national framework for sustainable finance, align with global taxonomies, and incentivize private sector participation in green investment.

6. Issuance of Sovereign Green Bonds (2023)

The Government of India launched Sovereign Green Bonds to finance public-sector projects in renewable energy, clean transport, and climate adaptation.

7. Sustainable Banking Awareness Programs by NIBM and IBA

Regular training and workshops on the integration of ESG and green lending practices for bankers are conducted by the National Institute of Bank Management (NIBM) and Indian Banks' Association (IBA).

8. Energy Efficiency Financing Schemes - SIDBI & NABARD

Institutions like SIDBI and NABARD provide concessional credit lines for MSMEs and agribusinesses for the implementation of energy-efficient and sustainable technologies.

9. National Green Hydrogen Mission (2023)

Though industry-focused, this indirectly supports the sustainability goals of banks by creating demand for green financing in renewable and hydrogen sectors.

10. Draft Green Finance Taxonomy (2024 - Ministry of Finance)

The government is working on formulating a Green Finance Taxonomy that will define what constitutes an eligible green economic activity for investment and lending.

7. Key Challenges in Implementing Sustainable Banking in India

1. Lack of Awareness among Stakeholders 30%

Most bank employees, customers, and even policymakers have limited understanding of the concept and benefits of sustainable banking. This lack of awareness hampers the effective adoption of green



finance and ESG practices across the sector.

2. Weak Policy Framework (25%)

In India, the regulatory and policy environment concerning sustainable banking is still in the evolving stage. There is a lack of clear, unified, and enforceable guidelines to standardize ESG reporting and green finance mechanisms across institutions.

3. Limited Green Finance Products (20%)

The variety of sustainable financial products—green bonds, green loans, and ESG-linked investment instruments—is rather limited. This limits the possibility of investors' and borrowers' participation in sustainable finance initiatives.

4. Poor ESG Disclosure Mechanisms (15%)

Most banks in India have still to put in place appropriate institutional ESG reporting systems. Disclosure practices are not consistent and mostly restricted to very large institutions, leading to low levels of transparency and comparability.

5. Low Institutional Capacity (10%)

For instance, most banks still lack the relevant expertise in terms of sustainable banking project design, monitoring, and impacts evaluation, data infrastructure, and technical resources. This restricts scalability and impact.

8. FINDINGS

Global leadership in sustainable banking is prominently visible in developed economies, particularly in the European Union and the United States, where banks have integrated sustainability into their core strategic frameworks. These institutions have adopted mandatory ESG disclosures, achieved carbon-neutral operations, and implemented extensive green financing mechanisms. In contrast, ESG adoption in India remains relatively low, as banks are still in the early stages of incorporating sustainability initiatives such as digital banking, limited green lending, and basic ESG governance frameworks. Green finance in India is also highly scattered; while developed nations allocate 10–15% of total lending to green finance, India's share is only around 2–3%, indicating the need for a more comprehensive inclusion of sustainable projects in the national credit portfolio.

Although India's green bond issuance has shown steady growth—from USD 0.5 billion in 2015 to USD 11.2 billion in 2024 it continues to lag behind global levels, revealing significant untapped potential in climate financing. The Indian regulatory ecosystem for sustainable banking is evolving but remains fragmented. Initiatives such as the Green Deposit Framework, Business Responsibility and Sustainability Reporting (BRSR), and Sovereign Green Bonds reflect progress; however, the absence of an integrated national policy or taxonomy still limits cohesive implementation. Additionally, limited awareness and institutional capacity continue to hinder progress. Many banking professionals and customers remain unaware of the benefits of sustainable banking, and several banks



lack trained personnel or systems to effectively assess ESG-linked risks and opportunities.

Weak ESG disclosure practices further reduce transparency, as Indian banks often provide limited or non-standardized sustainability information compared to global counterparts that publish annual audited reports. Despite these challenges, government and regulatory bodies such as the RBI, SEBI, NABARD, and the Ministry of Finance have taken significant steps to promote green finance and sustainability awareness, gradually fostering sectoral growth. Sustainable banking, through its various models—green banking, ESG-based banking, and inclusive banking—contributes directly to the United Nations Sustainable Development Goals (SDGs), positioning financial institutions as key players in achieving global sustainability targets. To advance further, Indian banks must learn from global best practices by adopting structured ESG frameworks, improving disclosure standards, and promoting innovative green financial products. Such measures will enhance their competitiveness and enable them to play a more meaningful role in driving sustainable development across the nation.

9. Recommendations and Suggestions

To accelerate the transition toward sustainable banking in India, it is essential to formulate an all-encompassing national policy framework. The Government of India, the Reserve Bank of India (RBI), and the Securities and Exchange Board of India (SEBI) should collaboratively establish a **Unified National Sustainable Banking Framework or Green Finance Policy** that sets comprehensive standards for ESG implementation, taxonomy, and disclosure. This unified approach will eliminate existing fragmentation and ensure consistency between public and private sector banks. Strengthening **ESG disclosure and reporting standards** is equally vital. All scheduled commercial banks, not just top-listed entities under the BRSR, should be mandated to publish annual, third-party-audited sustainability reports following globally recognized frameworks like the Global Reporting Initiative (GRI) or the Task Force on Climate-related Financial Disclosures (TCFD).

Improved **capacity building and training programs** should be introduced through institutions such as NIBM and IBA to equip bank officials with expertise in sustainable finance, green lending, and climate-risk management. Incorporating ESG modules into internal promotion and certification programs will help build institutional competence. Banks must also be encouraged to **promote green financial products and innovation** by developing instruments like green savings accounts, ESG-linked loans, and sustainability-linked bonds. To foster participation, **tax incentives** or concessional refinance facilities from NABARD and SIDBI can be extended to banks financing renewable energy and eco-friendly MSMEs. Further, **incentivizing green lending practices** by granting RBI-verified green projects priority sector lending (PSL) status and offering differential interest rates or favorable risk-weight adjustments can boost adoption.



The **Indian Green Finance Taxonomy** proposed in 2024 should be finalized and operationalized to clearly define what qualifies as a “green” activity, thereby preventing greenwashing and ensuring transparency in sustainability-linked reporting. Technology must play a key role **AI-powered platforms and blockchain-based verification systems** can be developed to track carbon footprints, monitor ESG risks, and ensure transparent use of green funds. Encouraging **public-private collaboration** is also crucial; partnerships among public sector banks, private institutions, fintech firms, and international organizations such as the World Bank, IFC, and UNEP FI can facilitate technical assistance and funding.

Simultaneously, **public awareness and stakeholder engagement** must be enhanced through green finance fairs, educational programs, and collaborations with NGOs and academic institutions to promote sustainable banking behavior. Aligning **banking strategies with the UN Sustainable Development Goals (SDGs)** can further ensure that banks contribute meaningfully to global sustainability objectives, with periodic evaluations based on SDG-linked indicators integrated into their annual performance reviews. Strengthened **regulatory oversight and accountability** mechanisms are required, with RBI establishing a dedicated Sustainability and Climate Risk Supervision Cell to monitor ESG compliance. Penalties should be imposed for non-disclosure or misuse of green funds.

To expand the scope of green financing, **green bond and deposit markets** should be deepened by simplifying approval processes, reducing issuance costs, and encouraging retail participation in Green Deposits and Sovereign Green Bonds. Promoting **research and data-driven decision-making** is equally important; universities, think tanks, and banks should collaborate to analyze the impact of sustainable finance on profitability and resilience. A centralized Sustainable Finance Database managed by RBI and SEBI could significantly enhance policy formulation. Banks should also commit to **carbon-neutral operations** by adopting renewable energy, minimizing paper use, and offsetting emissions through verified carbon credits. Finally, **regular monitoring and evaluation mechanisms**, such as annual sustainability audits and the publication of a “Sustainable Banking Index” ranking Indian banks based on their ESG performance, will promote transparency, accountability, and competitiveness in India’s journey toward sustainable banking excellence.

10. CONCLUSION

Sustainable banking is thus a transformational means to integrate environmental stewardship, social responsibility, and sound governance into the financial operations. Global experience, especially from developed economies, proves that integrating sustainability into banking strengthens institutional resilience and improves long-term profitability and stakeholder trust. Indian banks, despite their progress through green deposits, BRSR disclosure, and sovereign green bonds, lag behind in ESG



integration, green financing, and carbon neutrality. The afore-mentioned critical gaps of limited awareness, weak enforcement of policy, and lack of sufficient green products can be addressed through comprehensive regulatory frameworks, technology innovation, and stakeholder collaboration. Embracing the best available global practices, robust ESG standards, and key United Nations SDGs can enable Indian banks to play a strategic role in financing sustainable growth. In fact, moving toward sustainable banking is no longer just a regulatory need but a strategic requirement for India's inclusive, ethical, and environmentally correct economic development.

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