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CHALLENGES IN IMPLEMENTATION OF GREEN FINANCING PRACTICES IN INDIA

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ABSTRACT

In the banking industry, green finance is comparable to risk management since it lowers credit risk and raises the quality and value of the enterprise. Green finance has significant hands-on effects on economic transformation. The ecology is frequently sacrificed for the sake of quick economic growth. In India, green finance means moving forward at a slow pace and requires appropriate incentive structure for adoption of environmentally sustainable projects. There are several challenges that lie in the path of effective green financing which need to be addressed at the earliest as India lags far behind in its sustainable operations in comparison with its competitive countries. There are surfeit opportunities in the capacity of environmentally responsible finance, which banks can lucratively exploit. One of the most effective ways to support the shift towards sustainable economic expansion is undoubtedly green finance. Therefore, identifying the shortcomings Analysis, planning, and tracking of green investments of the nation depend heavily on the mobilization of green funds. The present research has put forward “Lack of green banking policy and guidelines” and “Inappropriate incentive

structure/ Inadequate fiscal incentives for green projects" as the main hindrances in India's application in green finance.

1. OVERVIEW

RBI defines green finance as the financial provisions specific for initiatives that acknowledge the effects of climate change or assignments which are environmentally sustainable. initiatives such as producing energy using renewable resources including wind, solar, and biogas; efficient disposal and conversion of energy, lower greenhouse gas emission; green building; waste management etc. comprise environmentally sustainable projects (RBI Bulletin, 2021). New financial organizations, carbon market instruments (like the carbon tax), along with green bonds (like green cash and green banks) are becoming recognized as ways to help finance these kinds of projects. Their joint efforts have led to green funding.

Green finance appears as a powerful solution to bring the environment and business into harmony through various Green financial instruments and sustainability initiatives (Mohd S. et al., 2018).

2.STATEMENT OF THE PROBLEM

Green money, which supports environmental goals, is a key driver of India's fight over climate change. The ecology is frequently sacrificed in the name of rapid economic development. In addition to being detrimental to public health, declining natural resources, a deteriorating environment, and widespread pollution also make it difficult to achieve sustainable economic growth. Countries all around the world are using eco-friendly technologies more and more to protect and significantly enhance the environment.

Green finance in India is moving forward at slow pace and requires appropriate incentive structure for adoption of environmentally sustainable projects. There are several challenges that lie in the path of effective green financing which need to be addressed at the earliest as India lags far behind in its sustainable operations in comparison with its competitive countries. India has a diverse geography and hence is subjected to various dreadful natural calamities. In wake of the current environmental scenario it is of immense importance to take action regarding the climate changes. Economic growth at the cost of environmental dilapidation is not

affordable in our country. Therefore to counteract the shortcomings of sustainable economic growth green finance has come out to be a powerful tool.

To gain optimum results and benefits of financial growth, it becomes essential for the Indian financial system to properly incorporate green finance practices. Therefore the current study focuses on determining the challenges in implementation of green financing practices to improve the discrepancies and help in paving the way forward towards sustainable economic growth in India.

3. JUSTIFICATION, NEED AND SIGNIFICANCE OF RESEARCH

There are surfeit opportunities in the capacity of environmentally responsible finance, which banks can lucratively exploit. Green finance in India requires considerable elevation since green finance's current reach and scale are unacceptable for mitigating climate change's effects in India. Due to smaller penetration of green instruments in comparison to the large market size there remains an enormous opportunity to be tapped for making sustainable financial benefits. The significance of coordinating investment and environmental policy has been highlighted by a number of studies and investigations. The risk of global warming on financial markets and the necessity of accelerating green finance for sustainable growth that is kind to the environment were highlighted by the RBI in its 2019 report.

To save the environment from disasters, sustainable banking must be prioritized. The problem of global warming ought to be addressed by going green rather than just being a topic of discussion. Thus, one of the finest methods to go green is through green banking. Involving important players and raising awareness of environmentally responsible banking are now essential. According to recent research and international experiences, there is a growing push for an integrated policy solution to green financing. Although public awareness and funding choices have improved in India, there are still a number of obstacles to green finance in the country, such as the variety of criteria for green loans, exorbitant borrowing prices, and fraudulent claims of environmental compliance.

One of the most effective ways in order to facilitate the shift towards sustainable economic growth, undoubtedly green finance. It is also reasonable to anticipate that international finance will have "green strings" attached. As a result, determining the inadequacies in green money mobilization becomes essential for assessing, organizing, and tracking green investments within the nation.

The fact that environmentally friendly India's GDP growth has lagged behind investments (in 2016–17 and 2017–18) underscores the importance of green finance. For the years 2016–17 and 2017–18, India's green financial flows were US Dollars 17 billion as well as US Dollars 21 billion, respectively, indicating an average growth of 7.2 % in the GDP of India. This demonstrates how green investments could hasten the nation's economic expansion. (Mayank Agarwal, 2020).

The study used data from secondary as well as primary sources. The information gathered via surveys served as the main source of data. A 5-point Likert scale was used to create the questionnaire containing 20 variables regarding the challenges in implementation of green finance in India. The secondary sources of data utilized were related research papers, articles, news blogs and books. The performed research was a mixed research. It is descriptive, qualitative, quantitative as well as exploratory in nature.

3.1 RESEARCH OBJECTIVE AND APPLIED STATISTICAL TOOL

Analyzing and identifying the obstacles to the adoption for green finance in the nation was the study's main goal.

To analyse the aforementioned objective Factor analysis was performed on SPSS-V.25. The choice of statistical tool was made by keeping in mind that no data is lost but that the data becomes manageable. Factor analysis enabled us to identify the most important variables representing the difficulties encountered while putting green finance into practice.

4. DATA ANALYSIS

Factor Analysis: Determining the primary obstacles in the implementation of green finance in India

TABLE-1 BARTLETT'S TEST AND KMO

KMO and the Test of Bartlett		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.515
Bartlett's Test of Sphericity	Approx. Chi-Square	280.589
	Df	190
	Sig.	.000

The current data is appropriate for factor analysis, as indicated by the KMO metric for sampling adequacy of 0.515. The presence of adequate correlations among variables to proceed with the study is explained by the significant results of Bartlett's test of sphericity ($p < 0.001$).

TABLE-2 EXPLAINED BY TOTAL VARIANCE

Explained by Total Variance

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.216	**11.079**	11.079	2.216	11.079	11.079	1.794	8.968	8.968
2	2.044	**10.221**	21.300	2.044	10.221	21.300	1.706	8.528	17.496
3	1.811	**9.053**	30.353	1.811	9.053	30.353	1.561	7.806	25.301
4	1.677	**8.386**	38.740	1.677	8.386	38.740	1.499	7.496	32.797
5	1.365	**6.826**	45.566	1.365	6.826	45.566	1.471	7.356	40.153
6	1.200	**5.999**	51.565	1.200	5.999	51.565	1.459	7.295	47.448
7	1.121	**5.605**	57.169	1.121	5.605	57.169	1.412	7.058	54.506

8	1.051	**5.253**	62.422	1.051	5.253	62.422	1.377	6.884	61.390
9	1.015	**5.074**	**67.496**	1.015	5.074	67.496	1.221	6.107	67.496
10	.897	4.485	71.981						
11	.839	4.195	76.176						
12	.770	3.852	80.028						
13	.692	3.458	83.486						
14	.609	3.047	86.533						
15	.593	2.967	89.500						
16	.530	2.650	92.150						
17	.469	2.346	94.496						
18	.430	2.152	96.648						
19	.365	1.825	98.473						
20	.305	1.527	100.000						
Analysis of Principal Components is the extraction method.									

Interpretation: The output in the above table shows the Eigen values for every linear component (factor) prior to, following, and following rotation. Output found

nine linear components in the data set before to extraction. The most significant factors, 1 and 2, explained 11.079% and 10.221% of the total variation that could be extracted after extraction or rotation, respectively. The most significant and extractable components are the first and second.

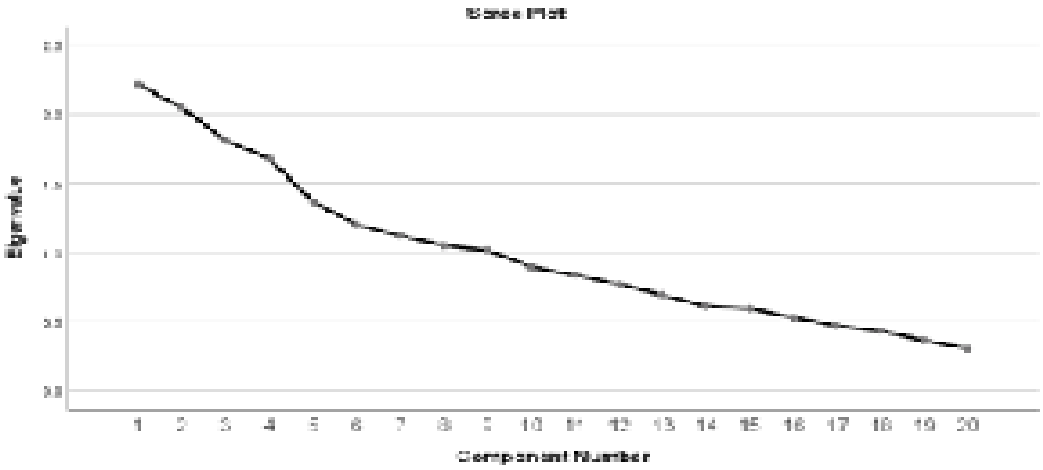

FIGURE-1 SCREEN PLOT

TABLE-3 ROTATED COMPONENT MATRIX

Rotated Component Matrix									
	Component								
	1	2	3	4	5	6	7	8	9
Lack of green banking policy and guidelines	**.782**	.014	.076	-.181	.016	-.021	.106	.077	-.156
Inappropriate incentive structure/ Inadequate fiscal incentives for green projects	**.771**	-.056	.135	.157	.246	-.077	-.153	.029	.128
Lack of coordination between	.09	**.76**	.02	.04	.02	.13	.06	.04	.13

investment and environmental policies	1	**5**	8	1	5	1	8	2	3
Indian banks lack the necessary resources to carry out green banking projects.	.372	**-.608**	-.151	.124	.038	-.079	.141	.177	.158
Lack of financing options	-.406	**.414**	.100	.197	.186	-.228	.267	.339	.054
Plurality of green loan definitions	.035	.115	.865	.034	.046	-.157	-.040	-.089	.057
Lack of green banking practices in routine operations of banks	.192	-.015	.650	-.013	-.314	.304	.013	.209	.143
Lack of financial instruments such as green equity, green funds, green deposits/accounts etc.	-.014	-.129	.117	.718	-.289	.128	.116	-.040	.030
Absence of a comprehensive domestic system for measurement, reporting, and verification (MRV)	-.051	.225	-.081	.717	.145	-.152	.005	-.069	-.243
High borrowing costs	.216	.063	-.178	-.043	.703	.147	-.073	.054	.016
Lack of harmonized green finance taxonomy in the country.	.083	-.382	.312	-.215	.492	-.002	-.039	-.360	-.014
False claims of environmental compliance or	-.116	.133	.102	-.357	.443	.272	.233	.360	-.282

"greenwashing"									
Lack of training by RBI	-.059	.214	-.289	-.105	-.069	.693	-.095	.123	-.061
Inappropriate information management system	-.006	.023	.221	.064	.314	.677	.122	-.073	-.009
Lack of environmental audits to identify regulatory compliance status	-.100	-.027	-.007	.169	-.033	.125	.837	-.002	.078
Information gap	.192	.149	-.051	-.263	-.051	-.333	.566	-.229	-.144
Inappropriate resource allocation	.151	-.014	-.031	-.082	.026	.080	-.076	.800	-.045
Non or improper monitoring of greenhouse gas emissions	-.302	-.375	.153	-.112	-.143	-.209	-.281	.432	.124
Lack of maturity in long-term green investments relatively short-term interests of investors	-.062	-.032	.112	-.185	-.110	.003	-.069	-.007	.796
Lack of public awareness	.026	.339	.039	.122	.310	-.100	.264	-.044	.538
Analysis of Principal Components is the extraction method. Varimax using Kaiser Normalization is the rotation ethod.									
a. In thirty-one iterations, rotation converged.									

FINDINGS: MOST IMPORTANT CHALLENGES IN THE IMPLEMENTATION OF GREEN FINANCE IN INDIA

Examining the Rotated Component Matrix table, we discover that:

The two variables listed below are part of factor -1.

- Lack of green banking policy and guidelines
- Inappropriate incentive structure/ Inadequate fiscal incentives for green projects

The three variables listed below are part of factor -2.

- Lack of coordination between investment and environmental policies
- Indian banks lack the necessary resources to carry out green banking projects.
- Lack of financing options

5. CONCLUSION AND SUGGESTIONS

After analysis and in-depth study of the challenges in implementation of India's green funding the two biggest obstacles that Indian banks must overcome were found to be "Lack of green banking policy and guidelines" and "Inappropriate incentive structure/ inadequate fiscal incentives for green projects".
The study took in total 20 variables of challenges faced by the banks and concluded that the aforementioned 2 variables caused the most difficulty in implementing green finance. The lack of coordination between investment and environmental policies, non-equipped banks and lack of financing options were some other important challenges that stood as a hindrance in India's application of green finance.It is suggested that RBI and government should work together to put forward a concrete policy and framework regarding green finance and standardise green investment terminology, corporate reporting so that information asymmetry can be eliminated between investors and recipients (RBI, 2019).

Consistent supervision and data tracking for green finance would greatly help in understanding the scope of investments in green finance in India. It is proposed that commercial banks should mandate allocation of a fixed percentage of their lending to the green sector or renewable resources. Credit restrictions should be imposed on companies that do not meet the terms with the environmental compliances. Banks that have a larger percentage of green projects within their

lending portfolio ought to receive preferential treatment. All these initiatives will encourage green finance and will in turn increase the participation of banks in green finance and ultimately lead towards reaching the optimum goal of sustainable economic progress.

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