



# A STUDY ON GREEN BANKING INITIATIVES BY PUBLIC AND PRIVATE SECTOR BANKS IN ANDHRA PRADESH

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## ABSTRACT

*Green Banking is an umbrella term referring to practices and guidelines that make banks sustainable in economic, environment, and social dimensions. It aims to make banking processes and the use of IT and physical infrastructure as efficient and effective as possible, with zero or minimal impact on the environment. Green banking is making technological improvements, operational improvements and changing client habits in the banking sector. It is a smart and proactive way of thinking with a vision of future sustainability. Banking activities are not physically related to the environment, but the external impact of their customer activities is substantial. Green banking differs from traditional banking. It focuses on promoting environment friendly banking. Green banking refers to the banking in such a manner that helps for overall reduction of internal carbon footprint and external carbon emission. The objective of the present study is to understand the use of green banking products in banking sector and examine the green banking initiatives taken by public and private sector banks. This research is based on primary data which is collected 136 responded from various banks with respect to Nellore district of Andhra Pradesh. The study found that there is no significant association between various initiatives taken by private sector banks and public sector banks in the implementation of green banking practices. The study also found private & public sector banks are less emphasized on core banking solution and use E-waste management for adopting environmental friendly practices. The study found that 100% of public and private sector banks are use online banking, mobile banking and other banking services. The main purpose of green banking is to reduce time and cost of the customer and involve tenets of sustainability, ethical lending, conservation and energy efficiency.*

**Keywords:** Green Banking Initiatives, Public and Private Sector Banks, Environmental Friendly Practices, Andhra Pradesh

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## 1. INTRODUCTION

Green Banking is not a separate bank. Green Banking means ensuring environment friendly practices in banking sector and thereby reducing internal and external carbon footprints. Banking industry is generally not considered as polluting industry. But it impacts the environment in terms of increasing energy consumption (lighting, air conditioning), paper consumption. A broader view of this is that banking industry is linked to the external environment as it provides funds to others and hence finances their activities. Banks are a source of funds. So they can contribute to environment by ensuring environmentally responsible investment and a carefully evaluated lending. Green Banking therefore covers two aspects. The first one being judicious use of all resources, energy and reducing carbon footprints and second being encouraging and financing only environment friendly investment. So Green Banking is not only about making sustainable use of resources but also about environment friendly dispensation of credit. A proper scrutiny of all projects that are financed in terms of environment is another major element of Green Banking. Green Banking is a new phenomenon in the financial world. Banks as the financing agent of the economic and developmental activities have an important role in promoting overall sustainable development. Green banking is the term used by banks to make them much more responsible to the environment. Green banking means using all of the banks' resources with responsibility and care, avoiding waste and giving priority to choices that take sustainability into account. It is also known as environmental friendly banking. According to the Indian Banks' Association, the green bank is like a normal bank, which considers all the social and environmental factors with an aim to protect the environment and conserve natural resources. For banking professionals, green banking involves the tenets of sustainability, ethical lending, conservation, and energy efficiency. Green banking avoids as much paper work as possible and rely on online/electronic transactions for processing so that you get green credit cards and green mortgages. Less paperwork means less cutting of trees.

## 2. REVIEW OF LITERATURE

**Dr. R. Janakiraman and Dr. S. Karthikeyan (2021)** had done a study on “Green Banking in India – An Overview.” The study had two objectives to Green Banking initiatives by various banks and to suggest ways to promote Green Banking in India. This study concluded Green banking, if implemented sincerely opens up new markets and avenues for product differentiation.

**Kavita S. Vadrade, Dr. (Mrs.) V.P. Katti (2020)** had done a study on “Green Banking Initiatives by Indian Public and Private Sector Banks”. The main objective of the study to evaluate the use of Green Banking Products in banking sector and examine and compare the green banking initiatives by Public and Private Sector Banks. Public and private sector banks have actively undertaken a multiplicity of green banking practices.

**Kishore Kumar and Ajai Prakash (2019)** had done a study on “Examination of sustainability reporting practices in Indian banking sector.” The aim of this study to examine sustainability reporting tendencies of public and private sector banks in India. This study concluded the banks in India are much slower in adopting sustainability reporting practices.

**Sudarshan Giramkar (2018)** had done a study on “Green Banking in India: A Study for Sustainable Development.” The main purpose of the study sympathetic the green banking attitude adoption by the banks. The study of purpose they have collected secondary This study concluded that there is more of need to create awareness about green banking products acceptance amongst the middle and senior age groups individuals than young age people.

**Md Saiful Islam, Mohammad Omar Faruk (2017)** done a research on “Practices of Sustainable Financing in Banking Industry: A Study on Green Banking in Bangladesh and India.” The main purpose of the study was practices of sustainable financing and green banking by the public and private banks in Bangladesh. Researcher studied sustainability regarding banking policies, fund allocations and implementations, banking strategies, innovations of banking products, performances of banking initiatives.

**Rambalak Yadav, Govind Swaroop (2016)** Pathak done a research on “Environmental Sustainability Through Green Banking: A Study On Private and Public Sector Banks in India.” The study had two objectives: the environment friendly practices adopted under green banking approach by various banks in India and to study the various initiatives taken by Indian banks by adopting Phases of Green Marketing given by Peattie (2001). this study conducted the impact of green practices on consumer willingness to purchase green products of various organizations in the Indian context.

**Nanda Sibabrata and Bihari Suresh (2015)** Green banking has been an integral part of the banking system in the developed and the developing economies of the world. Much research has been carried out on the concept of green banking and the possible benefits of its implementation. It studies empirically tests the relationship between the implementation of green banking along with two other variables, net income and expenses, and the profitability in India using a fast data panel regression. The result of the study shows significant relationships between net income and expenses with profitability, whereas no significant relationship between the implementation of green banking and profitability was proven.

**Chadichal Shilpa and Dr Misra Sheelan (2014)** Banks are beginning to recognize that they have a social responsibility to fulfill as distinct from mere accepting of deposits for the purpose of lending or investment. As per relatively indirect nature of their environmental and social impacts, banks need to examine the effects of their lending and investment decisions. Incorporating environmental and social criteria into business decision-making can reduce the impacts of operating activities Financial institutions can do a lot to assist efforts for corporate social responsibility and achieve sustainability. Capturing the voice of customer and understanding complete requirements includes stated needs and also other value adding requirements which would delight the customers. Benchmarking and re- designing of processes to meet the customer expectations. Encourage innovation to add facilitating features. Training and development: Good electronic customer relationship management (e-CRM) largely depends on communication. The organization needs to develop a framework which measures and tracks the customer satisfaction and to address the customers related to e- service problems from time to time and improve the degree of satisfaction which leads to customer retention and new customer creation. Continuous improvement: Various quality improvement tools like e-CRM based Website services, Six Sigma, Business process re-engineering, Business process management system, value chain analysis and various lean tools would help the organization to address the challenges related to effectiveness and efficiency and thus promoting paperless banking service, hence reducing environment damage.

**Yadav Rambalak and Pathak Govind (2014)** From the study it was analyzed that public sector banks are emphasizing more on green initiatives as compared to the Private sector banks except ICICI Bank.

The Private sector banks except ICICI bank are mainly inclined toward green initiatives such as net banking, mobile banking which are needed by the bank to match with the competitors as all the banks are providing these facilities. The environmental friendly activities such as using energy efficient alliances, implement green data centers help in improving their operational efficiency as well as cost saving in the long run. Whereas Public sector banks along with ICICI bank are taking various initiatives such as creating environmental awareness among society, giving more preference to environmentally friendly commercial projects, promoting the pollution control measures, promoting Environment Management System certification etc. along with the basic green initiatives such as paperless banking, energy efficient products recycling, etc.

**Dr. Jha Nishikant and Bhome Shraddha (2013)** did the empirical study on the steps that can be taken for going green in the banking sector and to check the awareness among bank employees, associates and the general Public about green banking concept. They did this study by collecting data from 12 bank managers, 50 bank employees and 50 general customers. The authors were of the opinion that online banking, green loans, power saving equipments, green credit card, use of solar and wind energy and mobile banking were some of the strategies that should be followed for going green.

### **3. GREEN BANKING INITIATIVES BY PUBLIC AND PRIVATE SECTOR BANKS IN ANDHRA PRADESH**

#### **3.1. Public Sector Banks**

**3.1.1. State Bank of India (SBI):** SBI had launched Green Channel Counter (GCC) facility at their branches in 2010 to change the traditional way of paper based banking (SBI, 2014). It has become a signatory to the Carbon Disclosure Project in which they undertake various environmentally and socially sustainable initiatives through its branches spread across the length and breadth of the country (WWF-INDIA, 2014). Export Import Bank of India (EXIM) and SBI entered into an agreement to jointly provide long term loans up to 14 years to Spain based company. Bank has adopted energy efficient measures. SBI is the largest deployed of solar ATMs. Bank has installed windmills in three states for its own energy needs. Paperless Banking is promoted and implemented across the country. Gives project loans at concessionary rate of interest to encourage reduction of greenhouse gases by adopting efficient manufacturing practices.

**3.1.2. Punjab National Bank (PNB):** The Bank has been actively pursuing the social policies since two third branches of the bank are in Rural and Semi Urban areas where the CSR is the core of normal day to day banking operations. Punjab National Bank has been proactively catering to the needs and aspirations of the society and small & micro entrepreneurs and youth in particular. Towards improving the livelihood of farmers, the Bank has a well defined set up in terms of Farmers' Training Centers (FTCs), Rural Self Employment Training Institutes (RSETIs) and Financial Literacy and Credit Counseling Centers (FLCCs). In order to channelize the efforts of the Bank in the area of CSR, a separate wing i.e. PNB Prerna has been set up wherein the wives of the senior officers and female employees identify the needy organizations & beneficiaries who deserve to be supported for bringing about a change in the lives of differently-abled people and also people from the lower strata of the society. The CSR activities have been decentralized to circle levels. To encourage innovative ideas, a scheme to recognize best CSR initiatives of the circles is also put in place. It started emphasizing on green building practices to conserve resources be it electricity, water, paper, etc. PNB is putting their best efforts for rainwater harvesting in existing buildings and encourage environment friendly new constructions.

Also, promoting wind energy and popularizing solar energy usage in rural areas. Sapling of 3345 plants was executed in the 33 Tree Plantation Camps organized during the year.

**3.1.3. Bank of Baroda:** While financing a commercial project, BOB is giving preference to environmentally friendly green projects such as windmills, biomass and solar power projects which help in earning the carbon credits. The organization had made considerable changes in their lending policy, i.e., it is compulsory for industries to obtain 'No Objection Certificate' from the Pollution Control Board and also they are not extending any finance to environmental hazardous industries which are using ozone depletion substances such as halos- 1211, 1301, 2402 used in foam products, chlorofluoro carbon CFC 11, 12, 113, solvents in cleaning and aerosol products. The bank had taken several technological initiatives such as compliance with e-business guidelines, use of internet banking, mobile banking to promote paperless banking and also increasing the installation of ATM's. In most of uncovered areas to reduce the petrol or diesel consumption in travelling and helps in maintaining a clean environment. As a part of green initiative, they had made changes to desktop virtualization; backup consolidation and server virtualization improve data center operational efficiency.

## 3.2. PRIVATE SECTOR BANKS

**3.2.1. ICICI Bank:** ICICI bank had adopted 'Go Green' initiative, which involves activities such as Green products/offerings, Green engagement and green communication with customers. **Green Products and Services:** The bank is offering green products and services like **Instabanking:** It is a service which gives convenience to the customers to do banking anywhere and anytime through internet banking, mobile banking, IVR banking, etc. This reduces the carbon footprint of the customers as they do not require the physical statement or travel to the bank branches. **Vehicle Finance:** They are offering 50% waiver on processing fee of auto loans on the car models which uses alternate sources of energy like the Civic Hybrid of Honda, Tata Indica CNG, Reva electriccars, Mahindra Logan CNG versions, Maruti's L version of Maruti 800, Omni and Versa and Hyundai's Santro Eco. (iii) Home Finance – The bank had reduced the processing fee for the customers who are purchasing homes in LEED certified buildings. **Green Communications:** The bank always insists their customers for online bill payment, online funds transfer and subscription to e-statements which promote 'paperless' and 'commute free' modes of banking transactions. **Green Partners:** The organization is looking forward for partnerships with national and international green organizations and NGO's. They are partners with Green Governance awards set up by BHNS to appreciate the participant's organization effort beyond the statutory compliance for protection of the environment. The banking major is also encouraging the use of CFL bulbs and carpool and public transportation. It is also utilizing online "Webinars" for shorter meetings that involve people who might otherwise have to travel a long distance. Assisted a company to develop a product that provides an eco-friendly air conditioner alternative to conventional air conditioner.

**3.2.2. HDFC Bank:** HDFC bank is taking up various measures in reducing their carbon footprints in the area of waste management, paper use and energy efficiencies. The bank is encouraging their employees to prevent any wasteful use of natural resources and emission of greenhouse gasses. They are reducing the use of paper through issuing e-transaction advices to their corporate customers, communicating through electronic media with their high net worth customers and encouraging e-statements to their retail customers. The bank is also promoting energy conservation by replacing conventional lighting with CFL, switching off all the lights after 11 pm at all the branches and establishing green data centers with state of the art technologies.

The organization is exploring renewable energy by setting up of 20 solar ATMs with a pilot ATM set up in Bihar, and by replacing batteries in ATMs with Lithium-ion batteries. They are also managing their waste by tying up with vendors for recycling of paper and plastic. The bank is procuring green products which are compliant with the norms of the Central Pollution Control Board and which are rated by Energy Star.

**3.2.3. Axis Bank:** In August 2011, the banks had initiated the process of collecting all the dry waste generated from the corporate office and thirty-four branch offices in Mumbai, and recycle it to notepads, notebooks and envelopes. Till date, more than 1,00,000 kilograms of paper has been recycled and converted to 12,000 notebooks, notepads and envelopes which are used at corporate office and branches of the bank. The corporate office of the bank, located in Mumbai, is designed and constructed as a Platinum LEED certified 'Green Building'. Carpooling has been initiated by a bank to reduce carbon footprint. They are also encouraging their customers to use e-statements and other electronic communications to reduce paper consumption. Annual reports are being sent through emails. The organization had initiated Independent ATM Deployment (IAD) model in which ten solar based ATM has been set up in Coimbatore circle.

#### **4. OBJECTIVES OF THE STUDY**

1. To find out the various initiatives taken by public and private sectors banks by adopting green banking initiatives/practices.
2. To study the environment friendly practices adopted under green banking approach by various banks.
3. To evaluate the use of Green Banking Products in banking sector.

#### **5. RESEARCH METHODOLOGY**

This is a descriptive research study with expose factor research design conducted in a filled setting. the primary data for the study has been collected using survey method through the structured questionnaire. 136 Responded selected using non probability convenient sampling method the responded are largely from Nellore district of Andhra Pradesh. The data so collected have been processed using statistical package SPSS-22 version. Statistical tools namely U test and cross tabulation has been use and table use to present the data.

#### **6. HYPOTHESIS**

H1: There is no significant association between private & public sector banks and the green banking practices adopted

H2: There is no significant association between private & public sector banks and Environmental friendly practices adopted.

#### **7. ANALYSIS & RESULTS**

Various dimensions of green banking initiative taken by banks are shown in Table No.1 Mann-Whitney U Test is performed to study the public & private sector banks difference on various dimensions of green banking initiative and the result of the analysis is shown in Table No. 2

**Table 1** Dimensions of Green Banking Initiatives taken by the banks

<b>Initiatives</b>	<b>Description</b>
Initiative-1	Green checking accounts
Initiative-2	Online bill payment
Initiative-3	Facility of e-statement registration
Initiative-4	Cash deposit system
Initiative-5	Reduce wastage of papers and energy through net banking approach
Initiative-6	Use of solar power ATMs
Initiative-7	Using recycle paper or recycle waste
Initiative-8	E – investment system
Initiative-9	Conducting workshop and seminar for green banking
Initiative-10	Green loans
Initiative-11	Insurance
Initiative-12	Providing recyclable debit cards and credit cards

**Table 2** Results of Mann-Whitney U Test

<b>Initiatives</b>	<b>Banks</b>	<b>N</b>	<b>Mean Rank</b>	<b>Mann-Whitney U Test</b>	<b>P value</b>	<b>H<sub>0</sub></b>
I1	Private	86	67.56	2069.000	0.668	Accepted
	Public	50	70.12			
I2	Private	86	70.99	1936.000	0.254	Accepted
	Public	50	64.22			
I3	Private	86	65.79	1917.000	0.222	Accepted
	Public	50	73.16			
I4	Private	86	65.98	1933.500	0.290	Accepted
	Public	50	72.83			
I5	Private	86	65.15	1862.000	0.140	Accepted
	Public	50	74.26			
I6	Private	86	65.48	1890.000	0.211	Accepted
	Public	50	73.70			
I7	Private	86	67.05	2025.500	0.516	Accepted
	Public	50	70.99			
I8	Private	86	66.09	1942.500	0.285	Accepted
	Public	50	72.65			
I9	Private	86	66.34	1964.000	0.344	Accepted
	Public	50	72.22			
I10	Private	86	65.93	1929.000	0.250	Accepted
	Public	50	72.92			
I11	Private	86	69.17	2029.000	0.757	Accepted
	Public	50	67.34			
I12	Private	86	65.48	1890.500	0.206	Accepted
	Public	50	73.69			

Here from the above Table No. 2 analysis relationship with private & public sector banks and green banking initiatives. P value is greater than 0.05 statistical significance level. So that null hypothesis is accepted. So here there is no significant association between private sector banks and public sector banks in green banking initiative.

Various dimensions of Environment friendly practices adopted by banks are shown in Table No. 3. Mann-Whitney U Test is performed to study the public & private sector banks difference on various dimensions of Environment friendly practices and the result of the analysis is shown in Table No. 4.

**Table 3** Benefits of Green Banking Practices

Benefits	Description
B1	Security & Trust
B2	Ease of use (24/7)
B3	Value Creation
B4	Environmental standard for lending
B5	Use of Technology
B6	Paperless banking
B7	Lower cost of doing business
B8	Time and money is saved
B9	Create new opportunity
B10	Reduces carbon foot prints

**Table 4** Results of Mann-Whitney U Test on Environmentally Friendly Practices

Environment Friendly Practices	Banks	N	Mean Rank	Mann-Whitney U Test	P value	H <sub>0</sub>
E1	Private	86	67.78	2088.500	0.743	Accepted
	Public	50	69.73			
E2	Private	86	68.19	2123.000	0.885	Accepted
	Public	50	69.04			
E3	Private	86	65.63	1903.000	0.198	Accepted
	Public	50	73.44			
<b>E4</b>	Private	86	63.31	1703.500	<b>0.025</b>	<b>Rejected</b>
	Public	50	77.43			
<b>E5</b>	Private	86	63.58	1726.500	<b>0.037</b>	<b>Rejected</b>
	Public	50	76.97			
E6	Private	86	67.44	2059.000	0.657	Accepted
	Public	50	70.32			
E7	Private	86	65.40	1883.500	0.162	Accepted
	Public	50	73.83			
E8	Private	86	65.36	1880.000	0.154	Accepted
	Public	50	73.90			
E9	Private	86	66.64	1990.000	0.404	Accepted
	Public	50	71.70			
E10	Private	86	64.06	1768.500	0.057	Accepted
	Public	50	76.13			
E11	Private	86	65.41	1884.000	0.160	Accepted
	Public	50	73.82			
E12	Private	86	66.67	1992.500	0.422	Accepted
	Public	50	71.65			

Here from the above table no.4 analyses the P value for the dimensions viz., E4 and E5 is less than 0.05 statistical significance level. So that null hypothesis is rejected. So here there is significant association between private sector banks and public sector banks in Environment friendly practices. Whereas, for the other dimensions viz., E1 to E3 and E6 to E12 the P value is greater than 0.05 statistical significance level. So that null hypothesis is accepted. So here there is no significant association between private sector banks and public sector banks in Environment friendly practices.

**Table 5** Results of cross table on banks and use of green banking products

Product	Private bank			Public bank			Total
	Yes	No	%	Yes	No	%	
Online & mobile banking	86	0	100	50	0	100	136
Green credit & investment	77	9	89.5349	37	13	74	136
Green credit cards	75	11	87.2093	44	6	88	136
Green mortgages	42	44	48.8372	26	24	52	136
Green deposits accounts	73	13	84.8837	46	4	92	136
Waste managements	14	72	16.2791	17	33	34	136
Other (specify)	0	86	0	0	50	0	136

Here from the above Table No. 5 found that 100% of private sector banks and public sector banks are using online & mobile banking as compare to other products likes, green mortgages, green deposit accounts etc.

## 8. CONCLUSION

Now a days Indian banking sectors has changed the way to operate system. The banking sector is getting modernized and new facilities such as net banking, mobile banking are being prioritized at the place of traditional approaches. These new approaches adopted by the banks are beneficial to customers as well as banks themselves. The main reasons for these issues are excessive cut down of trees and construction of multi stories building and the emission of hydro-fluro-carbon, nitrous oxide that pollute the environmental. So in order to recover from these issues the bestway is to adopt changes in a way that is sustainable to the environment. This study found that There is no significant association between various initiatives taken by private and public sector banks by adopting green banking practices with respect to Nellore district of Andhra Pradesh. also found that all private and public sector banks are using online & mobile banking for paperless banking and faster transactions & time saving. Green banks adopt and implement environmental standards for lending, which is really a proactive idea so that would enable eco-friendly business practices which would benefit future generations. Another results shows that 100% of banks are agree to improve service delivery because of faster transactions & time saving thought the green banking. Also found that 98% of public sector banks and private sector banks are provide ATMs facility for their customers.

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