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GREEN BANKING PRACTICES – A REVIEW

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ABSTRACT

Society is facing most complicated issues of climate change. People nowadays are more conversant with global warming and its inherent consequences on human life. So change is the need of the hour for the survival and continuous efforts should be made for the environmental management in a sustainable manner. It is not only the concern of the government and the direct polluters but also of other stakeholders like financial institutions such as banks, which are playing a fundamental role in the development of the society. Banking activities are not physically related to the environment, but the external impact of their customer activities is substantial. So there is need for banks to adopt green strategies into their operations, buildings, investments and financing strategies. The purpose of this paper is to highlight the green rating standards given by RBI, the World Bank's environmental and social norms, the initiatives taken by public and private sector banks in India in the adoption of Green Banking practices and to enlist the significant strategies for adoption of Green Banking.

KEYWORDS: Green Banking, Green Banking Strategies, Indian Banks Initiatives, Green Building, and Banking, Green Coin Ratings by RBI, World Bank Environmental and Social (E&S) Norms

INTRODUCTION

The disastrous impact of recent floods, droughts, storms and excessive heat around the world, motivate us to think seriously and to do whatever we can to address the problem of global warming (IRDBT, 2014). The world is very much concerned about the environmental issues in the global economy. Man-made gases like hydro-fluro carbon, nitrous oxide, carbon dioxide and methane are found responsible for the distortion of climate. It has made a significant impact on biodiversity, forestry, agriculture, water resources, dry land and human health. A study conducted by Hayward (2013) showed that out of 1000 CEO's studied across the world, 67% believe that the global economy is not going on the right path to meet the demands of the growing population and to address the global sustainability challenges. United Nations Environmental Program (UNEP, 2014) defines green economy as "one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities." In a simple term green economy is resource efficient, low carbon and socially inclusive.

Environmental Sustainability

The concept of environmental sustainability started in 1969 with the establishment of the National Environmental Policy Act (NEPA, 2014) in the United States whose purpose is to promote the general welfare, to maintain productive harmony between man and nature and to fulfill the economic and social welfare of the present and future generations.

After that an independent agency was established in 1970 'Environmental Protection Agency' (EPA) with the aim to protect the natural resources, human health and to preserve the quality of the environment. Since then, several international and domestic organizations are formed which are working towards environmental management like IFC, UNFCC, UNEP FI, Bank Tract, USGBC, Indian Green Banking Council, CERES, CERE, CEE, etc (also see Appendix 1).

Environmental management is like the risk management as it increases the quality of assets and value of enterprises. It is not only the concern of the government and the direct polluters but also of other stakeholders like financial institutions such as banks, which are playing a fundamental role in the development of the society (Biswas, 2011).

Banks are the major economic agents influencing the industrial sector for lending and financing the projects. They are playing an important role in promoting a sustainable environment. They persuade the economic development and growth of the country. As society is now more concerned and aware about the environmental issues, there is need for banks to adopt green strategies into their operations.

Although they have moderate impact on the environment as compared to other carbon sensitive industries like oil, gas, steel, etc but they are the major source of long term funding for various industries that pollute the environment heavily (IRDBT, 2014). They should promote socially responsible and environmentally sustainable investment which helps them in minimizing their reputation risk, legal risk and credit risk (Dharwal & Agarwal, 2013). Currently, in India, the concept of green banking is new but banks are actively looking for the ways to portray themselves as a Green Bank.

Green Bank and Banking

Green is becoming a symbol of Eco consciousness in the world. According to Indian Banks Association (IBA, 2014) "Green Bank is like a normal bank, which considers all the social and environmental / ecological factors with an aim to protect the environment and conserve natural resources". It is also known as ethical bank or sustainable bank. Their purpose is to perform banking activities but with an additional plan towards taking care of earth's ecology, environment, and natural resources including biodiversity.

Green banking is making technological improvements, operational improvements and changing client habits in the banking sector. It means to promote environmental friendly practices and to reduce the carbon footprint from banking operations. 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. Banks should promote those products, process and technology which substantially reduce the carbon footprint from the environment. Study by Hart & Ahuja (1996) is showing a positive correlation between environmental performance and financial performance. Initially, banks were doing analysis of their financial performance only, but now it is a time to do analysis of social and environmental performance as well. Green Banking is not only a CSR activity of an organization, but also it is about making the society habitable without any considerable damage.

Internationally and domestically, several voluntary guidelines have been set up for the categorization, assessment and management of environmental and social risk in project financing like Equators Principles, National Environment Policy Act, World Bank E&S Norms, Carbon Disclosure Project, CERCLA, ISO 14000, BSE Greenex, etc (see Appendix 2).

The Financial Times and International Finance Corporation (IFC), a member of the World Bank Group had launched the Sustainable Finance Awards for the institutions that are integrating social, environmental and corporate governance considerations into their business operations.

The awards highlight the partnership between financial and non financial companies that are finding commercially viable and innovative solutions to sustainability challenges. The five categories (see appendix 3) of Sustainable Finance awards as per Financial Times (www.ft.com) are:-

- Sustainable Bank of the Year
- Technology in Sustainable Finance
- Sustainable Investment of the Year
- Sustainable Investor of the Year
- Achievement in Inclusive Business

Despite many initiatives taken in the field of Green Banking, it has been found to be at the nascent stage in India. There is only one Indian organization Infrastructure Development Finance Company (IDFC) Ltd, which has signed Equators Principles for determining, assessing and managing the environmental risks in the projects undertaken (Equator Principles Association, 2014). The section of literature review gives a holistic picture of studies conducted in the field of Green Banking in India and abroad.

The paper highlights the RBI's green rating standards, the World Bank environmental and social norms, the initiatives taken by public and private sector banks in India in the adoption of Green Banking practices and to enlist the significant strategies for adoption of Green Banking.

RESEARCH METHODOLOGY

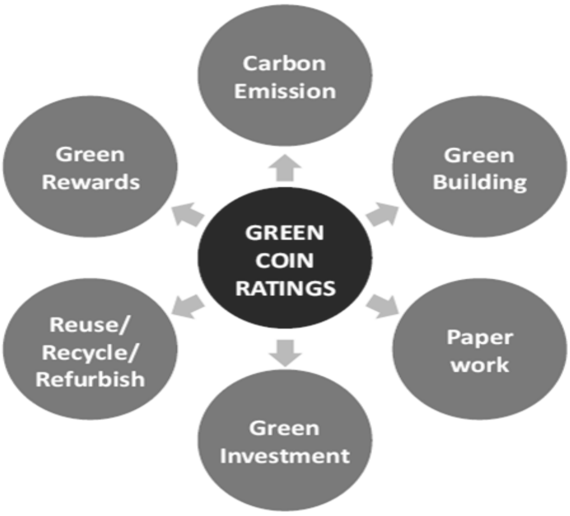
This paper reviews the literature on the basis of secondary data collected from the sources such as articles, research papers, annual reports, sustainability reports, company's official websites, etc. For analyzing the green banking initiatives taken by Indian banks, top performing banks (on the basis of net profit) are selected in both public and private sector in India.

LITERATURE REVIEW

According to RBI (IRDBT, 2014), green banking is to make internal bank processes, physical infrastructure and IT infrastructure as effective and efficient as possible, with zero or minimal impact on the environment.

They had introduced green rating standards for Indian banks, which are termed as 'Green Coin Ratings'. Under this rating system, banks are judged on the basis of carbon emissions from their operations and on the amount of recycling, refurbishment and reuse material being used in their building furnishings and in the systems used by them like servers, computers, printers, networks, etc.

They are also being judged on the amount of green projects finance by them and rewards or recognitions given to borrowers for turning their businesses greener.



Source: Institute of Development and Research in Banking Technology, 2013

Figure 1: Green Coin Ratings

World Bank had also formed Environmental & Social (E&S) norms for financial institutions like commercial banks, investment funds and leasing companies, to define their role in reducing pollution and managing their adverse social and environmental impact on the economy. These norms give financial institutions an overview of environmental and social risks or opportunities. These norms also outline the ways through which the banks can reduce their environmental impact and improve the sustainability in their business by implementing an environmental and social management system (ESMS). The principles of environmental and social policies for financial intermediaries (IBRD, 2014) are:

- **E&S Policy and Objectives:** It includes banks policies which ensure that their clients and financial activities will meet the requirements of national E&S laws and internationally recognized performance standards;
- **Transaction Screening and Risk Categorization:** Banks shall screen, all the clients and their transactions against established criteria and then categorize them according to the potential environmental and social risks;
- **E&S Due Diligence (ESDD) and Corrective Action Plans:** Banks shall conduct E&S due diligence for all its transactions. However the extent of diligence may vary for low risk transactions, medium risk transactions and high risk transactions. For low risk transactions, banks should review clients' operations to confirm that the financing is used for intended purpose and is consistent with banking principles. For medium risk transactions, banks should visit the client's site to identify the potential E&S risks and impacts and also ensures that the client's activities are complying with all regulatory frameworks. For high risk transactions, banks should carry out in-depth E&S due diligence to assess the potential risks and impacts and identify the proper action plans to manage these risks;
- **E&S Covenants:** It includes a legal agreement with the client which contains remedies and exist clauses in case E&S risks cannot be mitigated appropriately;
- **Monitoring E&S Performance:** Banks shall monitor the client's compliance with E&S norms by taking periodic reports from them and also by conducting periodic client's site inspection. If there are the performance gaps, then it should be discussed with the client and resolved within a reasonable time;

- **Supporting Tools, Systems and Organizations:** For assessing and monitoring E&S risks of the clients, banks should develop the proper tools such as checklists, reporting forms, templates and reference materials. The ESDD of all the transactions should be properly documented;
- **Roles, Responsibilities and Capacity Building:** For performing the above tasks, banks should establish the necessary organizational structure and also assign roles and responsibilities to their departments and staff positions.

They had also discussed the areas in which E&S impacts should be properly monitored by the banks and their clients (discussed in Table 1). If these areas are not properly planned and managed then it will lead to various risks such as disruption of operations, legal issues, loss of market share, market devaluation and poor reputation.

Table 1: E&S Impact Areas for the Financial Institutions and Their Clients

Environmental & Social Impact Areas		
Resource Management	**Waste Management**	**Human Capital**
• Air and Water Quality • Water Use and Conservation • Energy Use and Conservation • Biodiversity and Natural Resources • Land Acquisition and Contamination	• Water Waste • Solid Waste • Hazardous Material • Air Emissions	• Labor and Working Conditions • Occupational Health and Safety • Community Health, Safety, and Security • Land Resettlement • Indigenous Peoples • Cultural Heritage

Source: IBRD Report (The World Bank Group) on Pollution Management, 2012

Green Banking Strategies

The incorporation of social and environmental strategies into the development goals of the banks helps them in arriving effective environmental management system. According to Krebsbach (2005), the banks, which adopted socially and environmentally responsible lending and investing strategies were altering their processes of bond underwriting, investment banking and corporate lending. These banks were enjoying a competitive advantage over others as society is aware about the environmental issues. But the author had suggested that banks should adopt the green lending principles in such a way that a customer base will not be affected. The author said "Credibility comes from having high standards, but if you push the standards too high too quickly, it may stop some banks from lending and have a serious impact on companies that needs capital".

Environmental management in the banking sector is like risk management because it reduces the credit risk, improves the asset quality and increases the enterprise value. Biswas (2011) revealed some strategies for the adoption of environmental management in the banking sector:-

- Banks should do Environmental Impact Assessment (EIA) in which they design the environmental system to evaluate the risk involved before investing in different projects;
- They should adopt the Annual Reporting System (ARS) in which they prepare an annual report on environmental risk guidelines for every project they invest or finance;
- They should adopt environmentally sustainable technologies which minimizes risk, saves cost and enhance the bank's reputation;

- Banks should begin implementing procedures like assessment of environmental risk, environmental audit management and assessment of loan follow up and credit requirement before investing in different projects.

Jha & Bhome (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. The results of the study were

- For implementing Eco friendly business practices, banks should adopt environmental standards of lending, which results in improving the asset quality of banks;
- The rate of interest on loans given for green projects should comparatively less than the normal rate of interest;
- Companies can increase their profitability by reducing or recycling of waste generated and also by adopting sustainable measures to go green.

Ginovsky (2009) had emphasized that in order to implement ecologically friendly practices, banks should launch new banking products which promotes the sustainable practices and also needs to restructure their back office operations. The author suggested some strategies which bank should follow to go for green banking:

- Use of paperless banking which results in reducing the carbon footprint from internal banking operations. It also leads to saving cost to the bank because through automation they can avoid the cost of storage of paper and also the cost of courier vehicle fuel consumption and emissions;
- Adoption of Green Street lending, which means offering low rate of interest to consumers and businesses for installing solar energy systems and energy saving equipments like solar hot water systems, highly efficient furnaces, heat pumps and replacement windows.

According to Dharwal & Agarwal (2013) green banking is a key in mitigating the credit risk, legal risk and reputation risk. The author had suggested some green banking strategies like carbon credit business, green financial products, green mortgages, carbon footprint reduction (paperless banking, energy consciousness, mass transportation system, green building), and social responsibility services towards the society. According to Malu, Agrawal, & Jajoo (2014), banks can play an important role in reducing the carbon footprint in the society. Earlier economic development means reducing poverty, inequality and unemployment in the society, but the concept of Economic development had changed to Sustainable development which means “development that meets the needs of the present without compromising the ability of future generation to meet their own needs (World Commission Environment and Development 1987). The study suggested that sustainability in the banking sector can take two forms-

- Banks can change their routine operations through recycling programs, paperless banking, using energy efficient resources, and support for community events for reducing pollution and so on.
- They can adopt lending and investment strategies to promote environmentally responsible projects and can also develop green products to ensure the sustainability in their core business.

The researcher is of the view that most banks were doing 'Single Bottom Analysis' i.e. they were only considering financial performance of borrowers, but instead they should do 'Triple Bottom Analysis' i.e. analyzing the environmental and social performances as well. The author suggested some strategies to adopt sustainable practices such as adoption of green lending, green investment, carbon credit business and green building.

Green Building and Banking

Green Building is the one which provides healthier spaces for occupants, generates less waste, conserves natural resources, optimize energy efficiency and uses less water as compared to the conventional building.

Stewart (2008) did the study on PNC Financial Services, Pittsburgh. PNC Financial services had many green branches which were certified by the US Green building Council (USGBC) Leadership in Energy and Environmental Design (LEED). The author had suggested following ways to create an environmentally friendly branch-

- Use of green and recycled material like office doors and cabinetry which are made from wheat boards or carpets and furniture which are made from waste material;
- Use of water and energy efficient products like dual flush toilets, low flow faucets, reflecting roofing material, solar shades that block direct sunlight without eliminating daylight, solar heating system;
- Recycling of construction waste like steel, cardboard and wood.

The author had emphasized on how turning green can build the brand and boost marketing. Banks can enjoy a competitive advantage while following green banking practices, as it differentiates them from its competitors and also increases their reputation. PNC Financial Services were promoting their brand by sharing their green philosophy with their customers by using television spots and digital communication.

Ginovsky (2009) discussed about green buildings and renovations to existing branches to implement ecological friendly practices. He did the study on Alpine bank. He had suggested some aspects of green branch that were solar electric system, use of wind energy, larger windows to allow natural light, interior lighting systems with sensors, recycled material for the construction of furniture, carpeting, insulation and tile flooring, use of low emitting paints and cleaning materials.

According to the author, construction of green building improves the public relation and employee satisfaction and thereby it reduces the attrition rate of employees. Nelson (2006) did the case study on Madison Branch of Wisconsin Bank, which was the first branch of a Wisconsin bank to attain the LEED (Leadership in Energy and Environmental Design) certification in energy efficient building which costs 2% additional than non energy efficient building but there was an instant pay back for the same. As per the report of the state of California, 2% additional cost of green building will yield life time savings of more than 10% of the original investment.

Green Banking Initiatives by Indian Banks

Banks include both public sector banks and private sector banks. Public sector banks are those where majority stake (more than 50%) is held by the government and public sector banks are those where majority stake is held by the private shareholders. Various green initiatives had taken by public sector and private sector banks in India. In this study, the researcher has taken top four public and four private sector banks selected on the basis of their net profits (Details in Table 2).

Table 2: Top Banks on the Basis of Their Net Profits 2013

Public Sector Banks		Private Sector Banks	
Banks	**Net Profit (Rs Crore)**	**Banks**	**Net Profit (Rs Crore)**
State Bank of India	14104.98	ICICI Bank	8325.47
Punjab National Bank	4747.67	HDFC Bank	6726.28
Bank of Baroda	4480.72	Axis Bank	5179.43
Canara Bank	3282.71	Kotak Mahindra Bank	1360.72

Source: MoneyControl (2014)

Public Sector Banks

- **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).
  - The bank had also collaborated with Suzlon Energy Ltd for the generation of wind power for selected branches by setting of windmills in Gujrat, Tamil Nadu and Maharastra (Business Standard, 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 Astonfield Renewable Resources and Grupo T-Solar Global SA for building solar plant in India (Yadav & Pathak, 2013).
- **Punjab National Bank (PNB) –** According to Corporate Social Responsibility Report 2010-11 (PNB, 2011), they had taken various steps for reducing emission and energy consumption.
  - PNB is conducting Electricity Audit of offices as an energy conversation initiative and maintained a separate audit sheet for assessing the impact of green initiatives taken by them.
  - The bank had organized more than 290 Tree Plantation Drives.
  - It started emphasizing on green building practices such as energy efficient lights, immediate repair of water leakage, printing on both sides of paper, mater censors for lights, fans, etc.
  - The organization had signed a ‘Green Pledge’ with Ministry of New and Renewable energy under which they had set up the butterfly park at the compound of Guruvayur temple which houses 18 types of medicinal plants.
  - They had formulated guidelines to ensure that all the necessary approvals and permissions, including from Pollution Control Board has been obtained before disbursement of term loans and for the project loans, compliance with environment and social safeguards including rehabilitation and resettlement of project affected people is to be ensured as pre-disbursement condition.
  - The bank is also considering stepping of sustainable development with particular reference to the Equators Principles on project finance.

- The organization had sanctioned nine wind energy projects with an aggregation limit of 185.81 crore and they were also awarded with a second prize for 'Best Wind Energy Power Financer' by wind power India 2011.

- **Bank of Baroda** – According to the annual report of BOB (2013), they had taken various green banking initiatives such as: -
  - 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, cholorofluoro 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.
  - The bank is also promoting measures for pollution control and environmental conservation.

- **Canara Bank** – According to Canara Bank (2013), the bank had taken many green initiatives such as: -
  - As a part of green banking initiative, the bank had adopted environmental friendly measures such as mobile banking, internet banking, tele-banking, solar powered biometric operations etc.
  - Canara bank had set up e-lounges for high-tech banking facilities like internet banking, pass book printing kiosk, ATM, online trading, tele-banking and cash/cheque acceptor.
  - The bank had implemented e-governance for HRM function and several other administration areas to reduce the paperwork.
  - In terms of Lending policy, they are giving due preference and weightage to projects which can earn carbon credits like solar energy projects, windmills, etc.
  - The bank is also not extending any finance to the units which are producing ozone depletion substances such as cholorofluoro carbon, carbon tetrachloride, aerosol products, solvents etc.
  - While appraising any project, the organization insists the manufacturing units which are emitting toxic pollutants, to install water treatment projects to process such pollutants and they also ensure that the borrower to obtain No Objection Certificate (NOC) from central or state pollution control board.

Private Sector Banks

- **ICICI Bank Ltd** – ICICI bank had adopted 'Go Green' initiative, which involves activities such as Green products/offerings, Green engagement and green communication with customers as per ICICI Bank (2014):-
  - **Green Products and Services:** The bank is offering green products and services like (i) 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. (ii) '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 electric cars, Mahindra Logan CNG versions, Maruti's LPG 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 Engagements:** (i) During Diwali 2013, the organization had conducted an environmental awareness program for employees and customers in which money plant was presented to all the people present there as a token of collective responsibility to protect the environment. (ii) It has also become partners with the Green theme CNBC – overdrive auto awards. (iii) The bank is celebrating World Environment Day every year on June 5. They perform various activities on that day like green pledge through signature campaigns, plantation and distribution of saplings etc. They are also celebrating Earth hour every year in March in which they switch off the lights of their premises, branches and ATM's between 8:30 pm to 9:30pm.
  - **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.
- **HDFC Bank Ltd –** HDFC bank is taking up various measures in reducing their carbon footprints in the area of waste management, paper use and energy efficiencies as per HDFC Bank (2013):-
  - 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.

- **Axis Bank Ltd –** AXIS bank implementing several initiatives in green banking such as per Axis Bank (2013):-
  - In august 2011, the bank 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 kgs 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';
  - Car pooling 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;

- **Kotak Mahindra Bank** – Through the 'Think Green' initiative, the bank had taken several initiatives as per Kotal Mahindra Bank (2013):-
  - To reduce the paper consumption, the bank is encouraging their customers to sign for e-statements and also they have become partners with 'Grow-Trees.com' to plant one sapling for every e-statement on behalf of its customers. 16,623 saplings were planted FY 2012-13.
  - The organization had established the 'Social, Environmental Management System Plan' (SEMSP) to evaluate the environmental and social risk of borrowers which is based on an IFC sustainable framework and performance standards.
  - As per the guidelines of Ministry of Corporate Affairs (MCA), the bank had communicated to their shareholders to adopt electronic copies of annual report instead of physical copies.
  - In 2009, they had consolidated their data centers into a single facility to improve power usage efficiencies.
  - The rain water harvesting tank has been installed in the premises and also used oil generated from a diesel generator is disposed off through vendors approved by Pollution Control Board.

Bihari (2011) had also highlighted the green banking initiatives being taken by the Indus IND Bank, SBI, Union Bank of India, IDBI Bank, ICICI Bank, YES Bank and ABN Amro Bank.. According to the author, Mumbai, Delhi and Chennai are among the ten most polluted cities in the world and the major industries which cause pollution are fertilizers, paper and pulp, pesticides/insecticides, chemicals pharmaceuticals, metallurgical and textiles. SIDBI had made significant changes in their lending principles and implemented a precondition for sanctioning of credit. They had made it compulsory for a company to obtain ‘No Objection Certificate’ (NOC) from the state pollution control board before establishing the enterprise.

Challenges and Benefits of Green Banks

Green banks were at start up mode and if they were restricting their business to a smaller pool of customers, then their profits will be impacted. Biswas (2011) emphasized on the confronting challenges of green banks. Green Banks had higher operating expenses as banks, which are going green required specialized talent, skills, expertise due to the kind of customers they were servicing and also the reputation of the banks was impacted if they were involved in the projects which were viewed as socially and environmentally damaging. The author had also discussed the benefits of green banking to the society like banking through internet, SMS, phone and ATM, free electronic bill payment services, e-remit services, e-statements, online account opening and cash backs for new customers for opening green accounts etc.

DISCUSSIONS AND CONCLUSIONS

Green banking is a proactive way of future sustainability, but banks in India are running behind their counterparts from developed economies. They have started adopting green practices, but still their impact on the environment is increasing. Stead (2007) had analyzed the black marks of banks. Number of banks had promised about investing in green businesses and dropping their greenhouse emissions, but growing business in the banking sector meant more employees working in the well lit offices around the clock on more computers, demanding more electricity, which was often created by burning carbon dioxide and more air travel which were the key sources of global warming.

If Indian banks want to penetrate western markets or global economy, it is important for them to recognize their responsibilities as a global corporate citizen. Now it is a right time for banks to adopt following strategies:-

- The banks should change their routine operations through the adoption of paperless banking, online banking, mobile banking, mass transportation system, green cards made up of recycled plastic and efficient use of resources.
- Concept of LEED certified green buildings should be adopted by banks, i.e. use of renewable energy generated through solar power plants, energy star-rated light fixtures, motion sensors, sewage treatment plant for re-using water waste, urinal and wash basin sensors, rainwater harvesting system, recycling of dry waste, etc. It will also improve the public relations and employee satisfaction and thereby it reduces the attrition rate of employees.
- The banks should start investing in low carbon technologies and develop new sustainable products and services that will mitigate the risks of climate change. They should indulge themselves in carbon credit business or can invest in those projects which can earn carbon credits.
- It is important to adopt environmental standards for the lending and financing principles so that borrowers could direct themselves towards reducing the carbon footprint by using the appropriate technologies. They can go for discounted loan rates for the hybrid products, adoption of Equators Principles, green mortgages, green loans, etc.

- They should design the environmental system to evaluate the risk involved before investing in different projects that could be an Environmental Impact Assessment (EIA), Annual Reporting System (ARS), Environmental Audit Management (EAM) etc.

Green banks are at start up mode in India. They should expand the use of environmental information in their business operations, credit extension and investment decisions. The endeavor will help them proactively improve their environmental performance and creating long term values for their business.

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APPENDICES

Appendix – 1

Table 3: Organisations Promoting Sustainability Concept and Green Banking

Organizations	Salient Features
IFC	The International Finance Corporation is a member of the World Bank group. It was established in 1956 and fosters the sustainable growth in developing countries by providing advisory services to governments and businesses, private sector financial services and mobilizing funds in the international financial markets. It helps the financial institution and companies in emerging markets to improve corporate governance and environmental performance, create jobs and contribute to their local economies (IFC, 2014).
UNFCCC	United Nations Framework Convention on Climate Change is an international treaty was joined by countries in 1992. It was formed to consider what the countries could do to limit the average increase in global temperature and the resulting climate change. By 1995, countries realized that emission reduction provisions in the Convention were inadequate. They launched negotiations to strengthen the global response to climate change, and, two years later, adopted the Kyoto Protocol. The Kyoto Protocol legally binds developed countries to emission reduction targets. The Protocol's first commitment period started in 2008 and ended in 2012. The second commitment period began on 1 January 2013 and will end in 2020 (UNFCCC, 2014).
UNEP FI	UNEP FI is an international public private partnership established between the United Nations Environment Program (UNEP) and financial sector. Over 200 institutions, including fund managers, insurers and banks, work with UNEP to know the impacts of social and environmental considerations on financial performance. It encourages the financial institutions in the implementation of sustainability principles at all levels of operations through the incorporation of ESG (Economic, Social and Governance) in risk analysis. It has developed and designed Principles of Responsible Investment (PRI) which has over 900 signatories (UNEPFI, 2014).

Table 3: Contd.,

Bank Track	Bank Track is the international network of civil society groups which is tracking the investments and operations of private sector commercial banks and their impact on people and the planet. Members and partners of Bank Track are civil society organizations which have proven track record in campaigning and monitoring on private sector banks. Their main aim is to promote changes in the operations of the bank so that while conducting their business they should consider the ecological well being of the society and be accountable for the activities of their shareholders (BankTrack, 2014).
US Green Building Council (USGBC)	USGBC is changing the way communities and buildings are built, designed and operated. They believe in better buildings that enhance the communities and complement the environment. Their vision is to provide people with healthier, better and brighter places to work, live and play. It is a win-win situation for both environment and economic opportunity. The functions that USGBC perform are • LEED - Leadership in Energy and Environmental Designs most are widely recognized and used a program on Green Building around the world. It is a certification program for homes, buildings and communities that guides the construction, designing, operations and maintenance • Green build International Conference & Expo- Every year USGBC is organizing world's largest conference and expo dedicated to Green Building, which is attended by tens of thousands of professionals all over the world. • Advocacy – USGBC provides community leaders and policy makers with the strategies; tools and resources that they need to inspire action towards a sustainable built environment. • Credentials – They provide a designation to professionals that is 'LEED Green Associate credential' and 'LEED AP credential' which helps them to demonstrate their knowledge in sustainable, construction, design, operations and maintenance of communities and buildings. • Education – They provide Green Building education to professionals from all the sectors of the building industry (USGBC, 2014).
Indian Green Building Council	It is formed in the year 2001 with a vision to build a sustainable environment and to facilitate India to be one of the global leaders in Green Buildings by 2025. The activities of Council enabled a market transformation in Green Building materials, technologies and concepts. LEED-India (Leadership in Energy and Environmental Design) Green building ratings are nationally and internationally accepted benchmark for the operation, construction and design of high performance Green Buildings. It provides architects, consultants, owners, project managers and facility managers the tools they need for designing, operation and construction of the Green Buildings (IGBC, 2014).
CERES	It is a nonprofit organization based in the US. It comprises a powerful network of companies, investors and public interest groups who expand and accelerate the adoption of sustainable business practices and to provide solutions to build a healthy economy. Their purpose is to promote investment policies that are socially, environmentally and financially sound. There are ten CERES principles against which companies can measure their performance on social and environmental issues (CERES, 2014)- • Protection of the biosphere • Sustainable use of natural resources • Reduction and disposal of waste • Wise use of energy • Health and Safety Risk reduction • Marketing safe products and services • Damage compensation • Disclosure • Environmental directors and managers • Assessment and audit
Center for Environmental Research and Education	CERE is a Mumbai based not for profit organization that works to promote environmental sustainability through the action oriented education, advocacy and awareness. They are pioneers in the field of carbon management system and corporate sustainability. They comprise of highly experienced and skilled professionals in all the fields ranging from climate change science to ecological literacy and have completed many development and education projects and national level researches in both rural and urban areas (CERE, 2014).
Center for Environmental Education	CEE in India was established in 1984 as a Centre of Excellence supported by Ministry of Environment and Forests and also it is affiliated with the Nehru Foundation for Development. It is a national institution having its headquarters at Ahmadabad The organization works to increase the awareness about sustainable development among the society and to ensure the due recognition is given to the role of education in the promotion of sustainable development (CEE, 2014).

Source: Authors Own

Appendix – 2

Table 4: Laws and Guidelines for Environmental Conservation and Sustainability

Equator Principles	The Equator Principles (EPs) are the risk management principles which are adopted by financial institutions (currently 79 institutions in 35 countries) for assessing, determining and managing social and environmental risk in projects and are mainly projected to provide a minimum standard for due diligence to support responsible risk decision-making. The equator principles apply globally to four financial products that are Project Finance, Project Finance Advisory Services, Bridge Loans and Project-Related Corporate Loans (Equator Principles Association, 2014).
National Environment Policy Act	It is a United States environmental law enacted in 1969. It is a national policy calling for productive harmony between nature and man. It requires federal agencies to assess the environmental impact of their operations and to integrate the social and environmental values in their proposed actions. Under this act, all federal agencies have to prepare a detailed statement known as EIS (Environmental Impact Statement) which contains the environmental effects of the proposed federal agencies' actions. It is an important tool for providing adequate information of agency decisions to the citizens and provides them an opportunity to have a say in actions that impact their quality of life, environment and family's health (NEPA, 2014).
World Bank E&S Norms	World Bank formed E&S norms for financial institutions to define their role in reducing pollution and managing their adverse social and environmental impact on the economy. These norms give financial institutions an overview of Environmental and social risks and opportunities and outline the ways through which they can reduce their environmental impact and improve the sustainability in their business by implementing an environmental and social management system (ESMS) (IBRD, 2014).
Carbon Disclosure Project	CII (Confederation of Indian Industry) and WWF (World Wildlife Fund) had launched Carbon Disclosure Project in India to enable the companies to measure and disclose their Green House Gas emissions and to work on the reduction process by adopting new technologies (ET, 2014).
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) is also known as Superfund. It is a federal law designed to clean up the places contaminated with dangerous substances and prevent the future contamination by passing on the liability to the parties involved that is parties has to pay for the cleanup of their sites. It had made a huge loss to the US banks as they held directly responsible by the government for environmental pollution made by their clients (EPA, 2014).
ISO 14000	International Organization for Standardization (ISO) is the world's foremost developer of international standards. They had issued ISO 14000 series, which addresses the standards for environmental management. It is a tool for organizations and companies which are looking forward to identify and control of their impact on the environment. ISO 14001 and ISO 14004 are focused on environmental management systems and others are focused on specific environmental aspects such as communication and auditing of environmental impact, Life cycle analysis etc. (ISO, 2014)
BSE Greenex	The Bombay Stock Exchange had launched the first environmentally friendly equity index called BSE Greenex. It tracks the companies which are environmentally friendly or have a minimum carbon footprint. It is the index which assesses the carbon performance of stocks based on purely quantitative performance. It is a credible market based response mechanism where investors and business houses can rely on purely objective and quantitative performance. It is used to develop Green products like mutual funds which enable the investors to take more informed investment decisions as the awareness of climate change are growing among stakeholders. It is also used by insurance companies, pension funds and asset management companies, looking for investment in companies with strong and long term prospects (BSE-INDIA, 2014)

Source: Authors Own

Appendix 3

Table 5: 2013 FT/IFC Sustainable Finance Awards

Sustainable Bank of the Year	• Regional winner Africa/Middle East: Standard Bank, South Africa and Special Commendation for Leadership in the Middle East: Bank of Palestine • Regional winner Americas: Banco Santander Brasil, Brazil • Regional winner Asia/Pacific: Sumitomo Mitsui Banking Corporation, Japan • Regional winner Europe: GLS Bank, Germany and Special Commendation for Leadership in Eastern Europe: Center-Invest Bank, Russia • Sustainable Global Bank of the Year (transactional): Banco Santander, Spain
Sustainable Investor of the Year	Winner; Impax Asset Management, UK
Sustainable Investment of the Year	Winner: WHEB Partners and Resysta International, Germany
Technology in Sustainable Finance	Winner: M-KOPA, Kenya
Achievement in Inclusive Business	*Joint Winners*: Kenya Tea Development Agency, and Universitaria Minuto de Dios, Colombia

Source: Financial Times (2014)