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Changing Role of Banks and Non-Bank Financial Institutions in Environmental Sustainability: A Study on Bangladesh

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Abstract

Bangladesh is one of the emerging economies of the world and also the worst sufferer of environmental pollution and climate change. Under such extreme environmental threat the banking and financial sector of Bangladesh can play an imperative role as one of the key stake holders of the society through green initiatives. The paper attempts to explore the changing role of banks and non-bank financial institutions (NBFIs) of Bangladesh in environmental sustainability along with the initiatives taken by Bangladesh Bank (BB) towards environmental risk management and sustainability. To attain the objectives, 56 scheduled banks and 33 non-bank financial institutions (NBFIs) have been considered. The study is descriptive in nature based on secondary data, collected for the period of 2012 to 2016. The result of the study shows that Bangladesh Bank (BB) is playing the leading role in promoting environment friendly activities within the banking sector through revolving refinancing scheme and introducing advanced IT based modern technologies. Banks and NBFIs are allocating and utilizing a good amount of fund for green banking, however a profound importance is given on indirect green financing. Banks and NBFIs are rating and financing projects in compliance with Environmental Risk Rating guidelines. In-house green banking practices of banks, NBFIs and Bangladesh Bank are also remarkable. Roles of PCBs and FCBs are outstanding in comparison to SCBs and SDBs. Therefore, the coordinated efforts of government, Bangladesh Bank, banks, NBFIs, and pressure groups can attain the vision of green economy and environmental sustainability through promoting green/sustainable banking in Bangladesh.

Keywords: Environmental sustainability, Green banking, Banks, NBFIs, Bangladesh Bank.

Introduction

The world is being upgraded by holding up the hand of industrialization. The world has seen much focus on economic progress over time. The placement of science has given a lot to us in the field of medicine, technology, research etc. However, the development process has some side-effects too, such as global warming, climatic change, environmental damage and pollutions, contamination, disruption of ecosystems etc., are the burden of the entire society. A society is made of not only with economy but also environment. For the sustainable development economy and environment should work together. There is a paradigm shift in the concept of economic development from greedy economy to green economy, which combines the balance of People, Profit and Planet (3P) with economic participation (Bromund, 2014).

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Bangladesh is one of the emerging economies of the world and has witnessed rapid industrial growth over the last two decades. At the same time, Bangladesh is one of the worst sufferers of environmental pollution and climate change impacts, despite of her insignificant contribution to global Green House Gas (GHG) emission compared to other developed and developing countries (Atiur, 2016). According to a study of World Bank in 2014, Dhaka ranks highly amongst the world's major cities in terms of poor urban air quality. The two biggest polluters are brickfields and transport. Brick fields in Bangladesh expel over 9.8 million tons of Green House Gas (GHG) into the air annually due to the use of old technology, weak environmental legislation and enforcement and absence of corporate responsibility. Rapid and unplanned industrialization is another reason of pollution in Bangladesh. The worst example of water pollution of the rivers around Dhaka city is due to the chemical wastes of tannery and dying factories of garments. Oil spill of different water vessel is also a reason for water pollution. The ship-breaking is also becoming a source of threat for environment through dumping of toxic materials in the coastal area. It is experienced that climate change has already enhanced the intensity and frequency of floods, droughts and cyclones in Bangladesh and is likely to become more frequent and severe in the coming years (Masukuzzaman and Akter, 2013). These will cause damage to people and property and hinder economic progress.

As environmental issues gain greater attention, pressure is being placed on all industries, including financial services to implement "green" initiatives. "Green" means something that is commenced with environment friendly initiatives. The pathway of green economy is a complete process of making the foundation of social and economic development along with the environmental sustainability of a country. So, green financing in business may promote green economy of a country and at the same time the by-product of such industrial development will be in the sustainable manner - low carbon, resource efficiency and socially inclusive (Atiur, 2016). In today's world, concentration on innovative financing mechanisms is closely related to sustainable development (Binger, 2003). Banks are the crucial part of a country and its economy, relying on which a financial sector runs. Today, an increasing number of banks are going green by providing innovative products to support the activities that are not hazardous to environment and help conserve environment. Such activities are known as "green banking" and also termed as eco-friendly or environment friendly banking or ethical banking or sustainable banking (Aubhi, 2016).

In this era of globalization, delivering the right services to customers is not sufficient but also to practice eco-friendly banking concept is the social responsibility for banks and financial intuitions. All the banks are presently moving towards this concept to express their devotion to the protection and preservation of environment. Based on these circumstances, it has now become relevant to study on how the banks and financial institutions of Bangladesh are performing in retaining environmental sustainability and what Bangladesh Bank is doing in this context. In this background, the objective of the study is to investigate the changing role of banks and non-bank financial institutions (NBFIs) of Bangladesh in environmental sustainability by adopting sustainable green banking practices. The study also focuses on the green initiatives taken by Bangladesh Bank in environmental sustainability & environmental risk management.

Literature Review

The evolution of the concept of green banking provides banks/NBFIs to grow up mentally to live long with a sustainable environment. Many researchers have shared their thought in the following way:

Rutherford (1994) stated that banks need to monitor post transaction for the ideal environmental risk management program during the project implementation and operation.

Wyman (2007) noted that the reason for adopting an environmental program by banks is to mitigate reputational risk rather than credit and market risks.

Sahoo and Nayak (2008) explore that sustainable development can be achieved by allowing markets to work within an appropriate framework of cost efficient regulations and economic instruments. Since banking sector is one of the major economic agents, environmental impact might affect the quality of assets and also rate of return of banks in the long-run. Thus the banks should go green and play a pro-active role environmental and ecological aspects as part of their lending principle, which would force industries to go for mandated investment for environmental management, use of appropriate technologies and management systems.

Bai (2011) defines that green or sustainable banking is similar to regular banking that considers all the social and environmental elements with an intention to protect the environment and conserve natural resources.

Biswas (2011) refers that banking sector is one of the major sources of providing funds for business ventures which is one of the most important economic activities for economic growth. Therefore, banking sector can play a vital role in promoting environmentally sustainable and socially responsible investment.

In his study Malk (2011) tried to identify the reasons behind considering environmental issues as a matter of strategy by banks and cost-saving benefits from green footprints.

Mani (2011) signifies that as socially responsible corporate citizens, banks have great responsibility to enhance the efforts taken by the concerned government to attain the target of reducing the emission of harmful carbon.

Thombre (2011) argued that environmental impact of bank's external activity is huge however difficult to assess. Thus, encouraging environmental friendly investments and careful lending should be one of the responsibilities of the banking sector.

Bihari (2011) refers that green banking includes promoting corporate social responsibility which starts with the aim of protecting the environment where banks should consider before financing a project. A company will be given a loan only when all the environmental safety standards are followed.

Bahl (2012) claimed that green banking creates great contribution to the alteration to resource-efficient and low carbon industries i.e. green finance and green industry in general.

Verma (2012) stated that green/sustainable banking refers following those financial and business strategies that are not harmful to environment and help to protect environment by utilizing resources with responsibility, avoiding waste and prioritizing needs of environment and society.

Khan (2012) refers that the banking sector plays a major role in financing investment for commercial projects, which is one of the most important economic activities for economic growth. Hence, by taking various measures, the banking sector can play a crucial role in promoting environmentally sustainable and socially responsible investment.

Ahmad et. al (2013) refer that green banking is considered as sustainable banking that has a role to protect the planet from environmental degradation along with economic growth.

Md. Maruf Ullah (2013) found that as one of the least developed countries Bangladesh is the worst sufferer of world environmental pollution through industrialization of the western countries. Under such extreme environmental threat, the financial sector of Bangladesh is playing a key role by enforcing the businessmen of the country to design their various strategies and action plans keeping in mind the crucial environmental issues.

Masukuzzaman and Akter (2013) concluded that Bangladesh is far behind from its counterparts and transition to green banking is a consistent manner for banks. By taking care of infrastructural improvement and accelerating green movements, banks can ensure sustainability for itself and communities.

Islam and Das (2013) have found that though green banking is a new term in Bangladesh, it is a mature issue in developed countries. So banks should consider the environmental issues of the country as a socially responsible person not only to face the impact of globalization but also to face competition. In the case of failure, it would lead to closure of the industry leading to a likelihood of default to the banks, (2016).

Steiner (2015) refers that public finance is not adequate for the green movement alone; the financial markets can work as a cornerstone for the improvement of green economy.

Volz et. al, (2015) found that investment or lending decisions are made after taking into account the environmental impact of those financing and environmental risk assessments to enhance the sustainability of environment.

This paper focused on the Green Banking activities of the commercial banks of Bangladesh and also tried to reason why this policy was adopted and make a comparison among the green banking practices of the commercial banks as well.

Rationale of the Study

Review of literature reveals that, a number of study has been made highlighting only the necessity and status of green banking practices in Bangladesh concentrating only of 2-3 years. All these studies appear to present a partial scenario only. But no profound and comprehensive study has been made yet highlighting the changing view of both banks and non-bank financial institutions in environmental sustainability. This report will spell out the changing disposition of both banks and non-bank financial institutions in environmental sustainability in compliance with policy and guidelines by studying larger timeframe and adopting more imperative parameters. The study will also highlight the role of Bangladesh Bank as a parental leader and regulatory body to attain the environmental sustainability in Bangladesh. That’s why working on this contemporary topic is

important for the greater interest of all the stakeholders of the environment and this will help to identify the areas where to focus on for further improvement.

Methodology & Sources of Data

The financial system of Bangladesh is mainly bank depended, though a large number of non-banks financial institutions are operating in the financial sector. There are 57 scheduled banks and 33 NBFIs are operating in Bangladesh. To attain the objectives of the study, 56 scheduled banks and 33 non-bank financial institutions (NBFIs) have been considered. Shimanto Bank Ltd. has been excluded from the list because it's scheduled from July 21, 2016. Banks have been subdivided into following 4 (four) categories: State-Owned Commercial Banks (SOCBs), Specialized Banks (SDBs), Private Commercial Banks (PCBs) and Foreign Commercial Banks (FCBs). The study is descriptive in nature based on secondary data. The data has been collected mainly from "Quarterly Review Report on Green Banking Activities of Banks & Financial Institutions and Green Refinance of Bangladesh Bank". Additionally, different policy guidelines, circulars and annual reports of Bangladesh Bank, newspapers, magazines, commercial banks and NBFIs websites, different working papers and articles have been pursued to enrich the literature of the study. Quantitative data has been collected for the period of 2012 to 2016 because of unavailability of data, reports and disclosure regarding the issue before the year of 2012. Microsoft office package specially MS-excel has been used for summarizing and illustrating the collected data.

The Environmental Impacts of Banking

Banks and NBFIs are the major sources of financing for business ventures which is the most imperative monetary exercises for economic growth. Because of their mediatory role in the economy banks and NBFIs hold a unique position by which they can play a key role in promoting environmentally sustainable and socially responsible financing. To understand the environmental impacts of banks and NBFIs, one has to understand the difference between internal and external issues of banks and NBFIs. Internal issues are related to the business processes within banks, while external issues are connected to the bank's products. Banking sector is always considered as a technology intensive service industry with minimal social & environmental impacts (Bai, 2011). In comparison with many other sectors of the economy banks do not incur the same burden of waste. Environmental impacts of banks are not directly related to their activities but with the customers' activities. Therefore, environmental impact of bank's external activity is huge and difficult to estimate (Biswas, 2011).

Basel II Capital Accords identifies environmental risk as a facilitating element of credit risk that financial institutions should address to meet capital requirements. Two different aspects of environmental risks (Figure 1) are considered by the banks/NBFIs: first, direct risk which materializes if NBFIs/banks are held directly responsible for cleaning up for insolvent borrowers; second, indirect risk which constitutes a case where a borrower jeopardizes his/her capability to repay the loan through activities, which harm the environment and affect the potential streams of

revenues of lenders (Islam et. al, 2014). To avoid such risks, banks need to ensure that their clients' operational activities are not creating adverse impacts on environment or society. However, banks have been surprisingly slow to examine the environmental performance of their clients (BB, 2011). A stated reason for this is that such an examination would 'require interference' with a client's activities. So, for banks it is not simple to be truly green (Biswas, 2011). Sometimes it is difficult for the banks to balance environmental concerns and business demands.

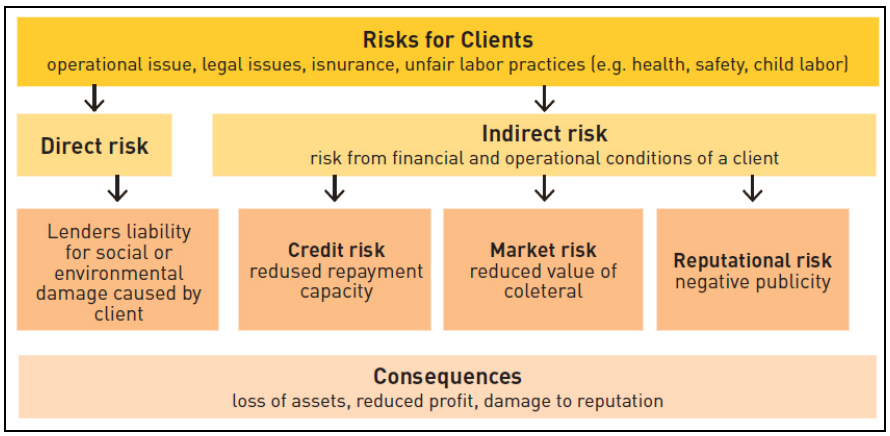

Figure 1: Possible Social and Environmental Risks for Banks in their Lending Operations
Source: Bromund, (2014)

This concept of green banking will be mutually beneficial to the banks, industries and the economy. This will not only guarantee the greening of the industries but also assist in improving the asset quality of the banks. So, encouraging environmentally responsible financing and careful lending ought to be one of the responsibilities of the banking sector.

Analysis and Findings

Green Initiative Taken by Bangladesh Bank (BB)

Taking into account the adverse effects of environmental change and progressive actions worldwide, Bangladesh Bank (BB) has shown a profound commitment towards the vision of green world through green initiatives. These activities of BB convey a strong message to the banking sector about the seriousness of green movement. Green banking initiatives of BB can be categorized into some aspects: policy initiatives, monitoring of green banking activities of banks and NBFIs, refinance support from BB in diverse green products/sectors and BB's own initiatives in environmental management.

Formulation of Policy Guidelines for Green Banking

As the condition of climate is worsening at a greater pace, bearing green placard only is not sufficient for banks. For this, banks will require a well-structured and transparent policy framework as well as long-term strategy. Bangladesh Bank is the first central bank in the world

which has taken real initiatives to play a specific role in green banking. First policy instruction of BB regarding green banking was the issuance of Guidelines on Environmental Risk Management (ERM) for all banks and NBFIs in January 2011. In February 2011, policy guideline for green banking was issued to all the scheduled banks which were mapped to be rolled out in three phases. Policy Guidelines for Green Banking was also issued to the Non-bank Financial Institutions (NBFIs) in 2013.

Credit Quotas

To expedite the ongoing initiatives of banks and NBFIs at faster pace for sustaining the environment compatible to climate change risk, minimum target of direct green finance has been set for all banks and NBFIs as 5 percentage of total funded loan in each year effective from January 2016 onwards[1]. Not only this banks and NBFIs should allocate at least 10 percent of their CSR budget to climate risk fund which can be used by providing grants or financing at reduced rate of interest.

Incorporation of Environmental Risk in Core Risk Management

Considering Environmental Risk Rating (ERR) is necessary in overall credit risk methodology as well as for estimation of adequate capital under risk based capital adequacy and CAMELS rating. BB circulated a "Guideline on Environmental Risk Management (ERM)" on January 30, 2011 prescribing a set of sector specific Environmental Due-Diligence Checklist (EDD) for financing environmentally sensitive sectors and requires banks to establish and maintain a database of NPL due to environmental causes.

Refinancing

To promote environment friendly financial activities by banks/NBFIs, BB has formulated a revolving refinance scheme from its own source amounting Taka 2.0 billion in 2009. Till FY 2015-16, BB has enhanced the product line under this scheme from 6 to 50 and segregated these products into 11 categories. There is another refinance scheme under BB financed by Asian Development Bank (ADB) introduced in 2012 with a total amount of US$50.0 million or equivalent Taka. In September 2014, BB introduced a refinance scheme funded by liquidity of Shariah based banks and NBFIs in excess of their requirement which will be explicitly utilized for direct green finance. Under this scheme, four banks and one NBFI have signed participation agreement with BB till 30 June 2016. In February 2015, Bangladesh Bank announced its intention to create a new longer term ADB-financed refinancing window to provide US$500 million of funding of which US$200 million will be allocated specifically for green initiatives. And in February 2016, BB announced its intention to create another new longer term refinancing window naming Green Transformation Fund **(**GTF) of US$200 million which will be used to ensure sustainable growth in export oriented textile and leather sectors.

The funds under refinancing scheme are provided at 5% interest, with premium chargeable to bank customers capped at 9%. But the actual practice is not as directed by the central bank. In

[1] BB GBCSRD Circular No. 04/2014

some cases, it is more than 13% (Chowdhury et. al, 2016). The disbursement trend of BB's refinancing scheme for green products is given in **Table 1.**

Table 1: Trend of refinancing scheme of Bangladesh Bank (million Taka)

Categories	FY10	FY11	FY12	FY13	FY14	FY15	FY16
Bio gas	1.90	50.20	133.20	113.60	212.80	83.30	84.80
Solar home system	0.00	59.40	10.50	40.20	32.20	87.50	114.70
Solar irrigation pump	3.10	12.40	8.40	0.00	17.90	26.50	0.60
Solar assembly plant	0.00	0.00	248.80	122.70	49.60	148.10	16.30
Solar mini-grid	0.00	0.00	0.00	0.00	0.00	0.00	10.00
Effluent treatment plant	0.00	10.80	22.20	57.40	10.00	0.00	58.00
HHK technology in brick kiln	0.00	0.00	55.00	172.20	59.00	47.00	177.80
Vermicompost	0.00	0.00	0.00	0.00	0.00	1.10	1.60
Green industry	0.00	0.00	0.00	0.00	0.00	0.00	400.00
Safe working environment for textile & garments industry workers	0.00	0.00	0.00	0.00	0.00	0.00	35.70
Organic manure from slurry	0.00	0.00	0.00	0.00	0.00	0.00	0.20
Paper waste recycling	0.00	0.00	0.00	0.00	0.00	0.00	20.00
Total	**5.00**	**132.80**	**478.10**	**506.10**	**381.50**	**393.50**	**919.70**

Source: BB, 2015-16

The cumulative amount refinanced under the scheme up to FY16 stood at Taka 2811.70 million. Total disbursement of fund under refinance scheme by BB increased to Taka 919.70 million in FY16 which was Taka 5 million in FY10 only. Disbursement of funds under refinance scheme has been increased for over the year at a good pace and a major portion of the fund was distributed for renewable energy generation, ETP and brick kiln Technology.

In-House Environmental Management Activities of BB

BB acts as a pioneer in using renewable energy in the country. In 2010, BB set up an 8 kilowatt solar panel and later a chiller based central air conditioning system for reducing CFC emission as a move towards encouraging sustainable energy in Bangladesh. E-recruitment, documentation management system, leave management system, online salary and account statement, personal file update system, online office orders and many others have been introduced through BB intranet. All the departments of BB's head office and its nine branch offices have already been brought under a computer network, connecting more than 3500 PCs. BB has introduced open data initiative for all through its dynamic updated website. Besides, BB has taken the lead position in encouraging and implementing IT based technologies in the overall banking sector. The implementation of BEFTN, BACPS, NPS, e-GP, e-tendering, Mobile Financial Services, CIB Online and Enterprise Resources Planning (ERP) are worth mentioning. For smooth and quick payment settlement by banks, BB has already launched software named Real Time Gross Settlement (RTGS) system and most of the regulatory reporting from banks and NBFIs are collected through web upload and Enterprise Data Warehouse system.

Role of Banks and Non-Bank Financial Institutions in Environmental Sustainability

Policy Formulation and Governance

As per green banking policy, all scheduled banks except Shimanto Bank Ltd. and 32 out of 33 NBFIs have formulated their own Green Banking Policy Guidelines and have Green Banking Unit (GBU) for pursuing Green Banking activities. They have also prepared Green Office Guidelines for conducting in-house green activities.

Allocation and Utilization of Fund for Green Banking Activities

In response to the policy regulations, Banks and NBFIs are required to allocate a considerable amount of fund for green banking in their annual budgets which will comprise (i) Budget for green finance (ii) Budget for climate risk fund and (iii) Budget for green marketing, training & capacity building activities. An overview of total allocation and utilization of green banking fund by all the banks and NBFIs for over the last 5 years are represented in Table 2.

Table 2: Allocation and Utilization of Fund for Green Banking Activities (in million Taka)

Type of Bank/ FI	2012		2013		2014		2015		2016	
	Allocation	Utilization	Allocation	Utilization	Allocation	Utilization	Allocation	Utilization	Allocation	Utilization
SOCBs	6,025	6,533	4,096	3,344	19,071	5,278	8,477	3,442	15,294	3,539
SDBs	1,800	8,205	5,473	3,385	1,503	1,096	210	19	60	19
PCBs	59,760	179,113	275,838	263,121	549,796	342,092	201,051	350,229	319,024	419,743
FCBs	41,767	77,420	80,245	78,758	96,786	87,993	58,962	69,012	100,272	85,569
NBFIs	0	0	0	0	54,388	14,746	24,641	18,191	25,765	14,699
Total	**109,352**	**271,271**	**365,652**	**348,608**	**721,544**	**451,204**	**293,341**	**440,894**	**460,415**	**523,569**

Source: GBCSRD/SFD, BB

The analysis reveals that all types of banks and NBFIs are allocating and utilizing a good amount of fund in green banking activities for environmental sustainability except SDBs. In the year of 2016, a total amount of 523,569 million taka utilized by the banks and NBFIs whereas in the year of 2012, it was in total 271,271 million taka only. Private Commercial Banks (PCBs) are playing the key role in promoting sustainable banking activities than the other banks and NBFIs.

Green Financing

Banks and NBFIs of Bangladesh are promoting green finance through loan disbursements. An overview of trend of green financing of different types of banks and NBFIs and their relative contribution to green finance are represented in Table 3 and 4 respectively.

Table 3: Trend of Green Financing (million Taka)

Type of Bank/FI	2012	2013	2014	2015	2016
SOCBs	6,507	3,248	5,225	3,417	3,531
SDBs	8,205	3,384	1,095	19	19
PCBs	178,811	262,809	341,561	349,674	419,059
FCBs	77,398	78,684	87,906	68,898	85,499
NBFIs	0	0	14,740	18,184	14,695
Total	**270,922**	**348,125**	**450,527**	**440,191**	**522,804**

Source: GBCSRD/SFD, BB

Table 4: Trend in Contribution of Banks and NBFIs to Green Finance (in percentage)

Type of Bank/NBFI	2012	2013	2014	2015	2016
SOCBs	2.40%	0.93%	1.16%	0.78%	0.68%
SDBs	3.03%	0.97%	0.24%	0.00%	0.00%
PCBs	66.00%	75.49%	75.81%	79.44%	80.16%
FCBs	28.57%	22.60%	19.51%	15.65%	16.35%
NBFIs	0.00%	0.00%	3.27%	4.13%	2.81%

Source: GBCSRD/SFD, BB

From the table above it can be seen that the contribution of SDBs is insignificant in overall green finance. The increase in the amount of total green finance was mainly driven by the increased contribution of PCBs in recent years. FCBs are next on the list when it comes to sector wise contribution to green financing. NBFIs have contributed in this sector and claim the third position in sector wise contribution scale.

Green finance combines both direct and indirect green finance. Direct green finance includes financing for ETP installation, Bio-gas Plant, Solar Panel, Bio-fertilizer Plant, HHK and green finance at reduced rate of interest. Indirect green finance refers to financing the projects having ETP or alike systems. The following Table 5, depicts the trend of direct and indirect green financing by types of banks and NBFIs respectively.

Table 5: Direct Green Finance (million Taka)

Type of Bank/FI	2012		2013		2014		2015		2016	
	Direct	**Indirect**	**Direct**	**Indirect**	**Direct**	**Indirect**	**Direct**	**Indirect**	**Direct**	**Indirect**
SOCBs	3,513	2,994	2,137	1,111	2,399	2,826	2,775	642	1,101	2,431
SDBs	1,803	6,402	265	3,119	175	921	19	0	19	0
PCBs	5,624	173,187	26,566	236,244	17,113	324,448	20,277	329,397	27,688	391,371
FCBs	881	76,517	715	77,969	12,230	75,676	1,215	67,683	662	84,838
NBFIs	0	0	0	0	4,317	10,423	7,886	10,298	4,335	10,360
Total	**11,821**	**259,100**	**29,683**	**318,443**	**36,233**	**414,294**	**32,171**	**408,019**	**33,805**	**489,000**

Source: GBCSRD/SFD, BB

During the period of analysis green financing has been led by indirect financing. In the year of 2012, indirect financing was 22 times of direct financing, whereas in 2016 it was 14 times of direct financing.

Banks and NBFIs distribute funds in different green finance categories or products. Most of these categories are included in various refinancing schemes of BB through which private commercial banks are incentivized to promote direct green finance. Table 6 demonstrates the trend of financing in different green products by banks and NBFIs for over the last 3 years.

Table 6: Green Finance in Different Green Products (million Taka)

Categories	2014	2015	2016
Renewable Energy	2,380.67	1,759.33	1,442.81
Energy Efficiency	499.52	744.18	1,067.83
Solid Waste Management	173.8	0	0
Liquid Waste Management	508.53	1,325.93	1,295.98
Alternative Energy	0	97.6	9.59
Fire Burnt Brick	2,586.64	1,970.44	1,920.83
Non Fire Block Brick	20.5	54.29	164.92
Recycling & Recyclable Product	990.19	983.54	4,107.85
Green Industry	1528.23	2,257.36	1,481.41
Safety and Security of Factory	45.57	131.02	463.1
Misc.	5.23	1.16	1.82
Others	2276.85	311.44	0

Source: GBCSRD/SFD, BB

Data shows that disbursements of funds in different green product categories have been increased for over the year except solid waste management and alternative energy category. However a significant portion of the fund was provided into fire burnt brick, renewable energy and green industry category.

Climate Risk Fund

Climate Risk Fund is required for precautionary measures for possible safeguards and mitigating hazards due to climate change. Climate Risk Fund may also be required for the banks as part of their CSR activities related to climate change condition. Table 7 exhibits the trend of utilization of climate risk fund by Banks and NBFIs.

Table 7: Climate Risk Fund (million Taka)

Type of Bank/FI	2012	2013	2014	2015	2016
SOCBs	25	81	42	13	3
SDBs	0	1	0	0	0
PCBs	220	211	375	488	650
FCBs	15	23	85	114	70
NBFIs	0	0	3	5	1
Total	259	315	505	620	724

Source: GBCSRD/SFD, BB

Utilization of fund for climate risk management has increased over the years from Taka 259 million in 2012 to Taka 724 million in 2016. Among the types of banks and NBFIs, PCBs played the major role in utilizing this fund.

Marketing, Training and Capacity Building

Green marketing refers to the process of selling services based on their environmental benefits. Awareness development of employees on environmental and social risk and the relevant issues is also necessary for accomplishing the goal of sustainable financing. Table 8 shows the trends in the utilization of funds for this purpose over the years.

Table 8: Marketing, Training and Capacity Building (million Taka)

Type of Bank/FI	2012	2013	2014	2015	2016
SOCBs	1	15	11	13	5
SDBs	0	0	0	0	0
PCBs	82	101	156	67	33
FCBs	7	51	2	0	0
NBFIs	0	0	3	3	2
Total	90	167	173	83	41

Source: GBCSRD/SFD, BB

Utilization of fund for marketing, training and capacity building has decreased over the years. However, among the types of banks and NBFIs, PCBs played the major role in utilizing this fund but the role of SDBs was not satisfactory.

Environmental Risk Rating (ERR)

ERR is applicable for the projects and credit facilities that fall above the threshold limit. Complying with ERR guidelines of BB, all banks and NBFIs are conducting risk assessments for applicable projects. The following tables exhibit the current status of projects rating and disbursing funds in rated projects respectively.

Table 9: No. of Projects Rated

Types of Bank/FI	2012	2013	2014	2015	2016
SOCBs	130	328	1,475	1,948	2,017
SDBs	498	983	517	88	18
PCBs	9,974	26,821	32,705	47,666	62,797
FCBs	1,486	3,051	2,664	2,907	3,055
NBFIs	0	931	2,468	2,617	2,871
Total	**12,088**	**32,114**	**39,829**	**55,226**	**70,758**

Source: GBCSRD/SFD, BB

Table 10: No. of Rated Projects Financed

Types of Bank/FI	2012	2013	2014	2015	2016
SOCBs	128	232	1,303	1,895	1,965
SDBs	612	983	517	89	35
PCBs	9,243	24,955	27,433	39,364	56,714
FCBs	1,182	1,507	1,170	1,686	1,812
NBFIs	0	828	2,303	2,328	2,803
Total	11,165	28,505	32,726	45,362	63,329

Source: GBCSRD/SFD, BB

Table 11: Amount Disbursed in Rated Projects (million Taka)

Types of Bank/FI	2012	2013	2014	2015	2016
SOCBs	299	20,950	27,235	40,738	40,717
SDBs	10,656	23,122	7,994	2,633	1,674
PCBs	570,509	1,406,843	1,298,637	1,534,310	1,958,125
FCBs	122,169	116,675	105,772	118,801	142,068
NBFIs	0	36,571	77,356	78,855	119,731
Total	703,633	1,604,161	1,516,995	1,775,337	2,262,315

Source: GBCSRD/SFD, BB

The tables above refer that rating of projects in compliance with ERR guidelines and the total amount disbursed in rated projects by all types of banks and NBFIs have increased during the period except SDBs. In 2016, a total of 60,175 projects have been rated among which 63,329 rated projects have been finally financed with Tk. 2,262,315 million, whereas in 2012, a total of 12,088 projects were rated, among which 11,165 rated projects were financed with Tk. 703,633 million. In here too, most of the projects were facilitated by PCBs.

In-House Environment Management

Paperless Banking

Paperless banking such as online banking, internet banking, mobile banking, ATM banking, etc., plays a crucial role in sustainable banking. Bangladesh Bank has planned making the country's banking sector paperless, which will be a big step towards green transformation of the financial sector. Paperless banking helps banks to be more efficient in operations, curtailing the costs and better performance.

Online Banking

Online banking is an important element of 'green financing/banking strategy' for banks and NBFIs which reduces waste of paper, carbon emission, printing and postage expenses. Table 12 summarizes the percentage of total number of branches of banks with online coverage.

Table 12: Branches with Online Banking Facility (in Percentage)

Types of Bank	2012	2013	2014	2015	2016
SOCBs	5.08%	23.79%	52.00%	72.30%	61.16%
SDBs	5.28%	7.68%	5.64%	6.68%	10.78%
PCBs	92.24%	96.90%	99.73%	99.50%	99.98%
FCBs	100.00%	100.00%	100.00%	100.00%	100.00%
Total	41.05%	51.81%	65.40%	75.07%	72.27%

Source: GBCSRD/SFD, BB

Online banking scenario looks promising as the number of branches with online coverage is expanding day by day. At the end of 2016, 72.27% of total branches of all types of bank were under online coverage compared to 41.05% of total branches at the end of 2012. All the branches of FCBs are providing online banking followed by PCBs and SOCBs. Unfortunately, the poor performance has been noticed by SDBs, although the online coverage increased from 5.28% in 2010 to 10.78% in 2016.

Internet and Mobile/SMS Banking

Internet Banking is designed to implement commitment to green banking and to enable customers to do banking at their own convenience without visiting the branches. Banks have started to concentrate on mobile/SMS banking too because in the rural area it is impossible to go for providing banking service by branch. Status of usages of internet banking and mobile/SMS banking for over years is summarized in Table 13 and 14 respectively.

Table 13: Internet Banking

Types of Bank	2012		2013		2014		2015		2016	
	No. of Accounts	As % of Total accounts	No. of Accounts	As % of Total accounts	No. of Accounts	As % of Total accounts	No. of Accounts	As % of Total accounts	No. of Accounts	As % of Total accounts
SOCBs	21	0.00%	21	0.00%	27	0.00%	26	0.00%	61	0.00%
SDBs	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
PCBs	666,916	2.62%	932,763	3.04%	1,297,335	3.61%	1,485,360	3.89%	1,758,488	4.15%
FCBs	149,541	35.71%	164,974	42.22%	188,470	43.28%	144,386	31.39%	173,629	38.26%
Total	**816,478**	**1.22%**	**1,097,758**	**1.45%**	**1,485,832**	**2.00%**	**1,629,772**	**2.06%**	**1,932,178**	**2.03%**

Source: GBCSRD/SFD, BB

Table 14: Mobile/SMS Banking

Types of Bank	2012		2013		2014		2015		2016	
	No. of Accounts	As % of Total accounts	No. of Accounts	As % of Total accounts	No. of Accounts	As % of Total accounts	No. of Accounts	As % of Total accounts	No. of Accounts	As % of Total accounts
SOCBs	1,353	0.01%	3,270	0.01%	3,231	0.01%	3,101	0.01%	187,585	0.48%
SDBs	0	0.00%	0	0.00%	9,324	0.18%	3,166	0.07%	17,388	0.13%
PCBs	1,971,106	7.73%	4,445,618	14.50%	9,289,376	25.86%	12,129,380	31.80%	16,095,103	38.02%
FCBs	165,978	39.64%	156,101	39.95%	234,739	53.90%	165,989	36.09%	251,682	55.47%
Total	**2,138,437**	**3.20%**	**4,604,989**	**6.08%**	**9,536,670**	**12.84%**	**12,301,636**	**15.55%**	**16,551,758**	**17.42%**

Source: GBCSRD/SFD, BB

The above table showed that for over the years the propensity of using internet banking and mobile/SMS banking by clients has increased. In the year of 2016, 2.03% and 17.42% of the total number of accounts have been facilitated with SMS banking and internet banking respectively, whereas in the year of 2012, it was only 1.22% and 3.20% respectively. SCBs and SDBs need to go a long way in internet and mobile/SMS banking development.

Energy Efficiency

Financing and investing in sustainable power sources contribute in reducing carbon emission. As a move towards green movement, banks are adopting clean energy and powering up their branches and ATM/SME units with renewable solar energy. Table 15 shows the current status of using solar energy to power up banks branches and ATM/SME units.

Table 15: Branches and ATM/SME Units Powered by Solar Energy

Types of Bank	2012		2013		2014		2015		2016	
	No. of Branches	No. of ATM / SME Units	No. of Branches	No. of ATM / SME Units	No. of Branches	No. of ATM / SME Units	No. of Branches	No. of ATM / SME Units	No. of Branches	No. of ATM / SME Units
SOCBs	21	8	16	0	38	0	42	1	42	1
SDBs	22	0	37	2	23	0	0	0	0	0
PCBs	169	150	256	182	348	221	387	244	477	246
FCBs	2	3	3	6	4	6	4	6	3	5
Total	**214**	**161**	**312**	**190**	**413**	**227**	**433**	**251**	**522**	**252**

Source: GBCSRD/SFD, BB

In December 2016, a total no. of 522 branches and 252 SME/ATM units of different banks were powered by solar energy, whereas in December 2012, only 214 branches and 161 SME centers/ATMs of different banks were powered by solar energy. PCBs are playing a significant role in using renewable solar energy than the others.

Conclusion

Sustainable financing has become the colossal tool for banking industries to serve the customers through saving environment. It is clear that financing in sustainable sectors not only ensure environmental safety but also increase the profit of the organization through establishing social and economic image in society. This study aimed to investigate the changing role of banking sector of Bangladesh in environmental sustainability through their banking activities along with the initiatives taken by Bangladesh Bank in environmental sustainability too. The empirical study highlights that different categories of banks and NBFIs in Bangladesh are implementing green banking related action plans to align themselves with the policy mandate by Bangladesh Bank. The study reveals that, all scheduled banks except Shimanto Bank Ltd. and 32 out of 33 NBFIs have formulated their own Green Banking Policy Guidelines and have Green Banking Unit (GBU) for pursuing sustainable financing activities. They have also prepared Green Office Guidelines for conducting in-house green activities. Banks and NBFIs are allocating and utilizing a good amount of fund for environmental sustainability. Green financing has been led by indirect financing rather than direct financing. A significant portion of the fund was provided into fire burnt brick, renewable energy and green industry category. Utilization of fund for awareness development on environmental risk and the relevant issues, training and capacity building of employees has decreased over the years. Banks and NBFIs are rating projects in compliance with ERR guidelines of BB. However, role of PCBs and FCBs for environmental sustainability activities are outstanding while the performances of SCBs and SDBs are not. In Bangladesh environmental banking is growing especially for the initiatives taken by Bangladesh Bank, while at the beginning, it was very difficult to convince the banking community to accept the concept.

Bangladesh Bank has planned making the country's banking sector paperless, which will be a big step towards green transformation of the financial sector. Branches with online coverage and propensity of using internet banking and mobile/SMS banking by clients have increased over the years. Banks and NBFIs are adopting technology based banking services and powering up their branches and ATM/SME units with renewable solar energy. Disbursement of funds under refinance scheme by Bangladesh Bank has been increased at a good pace and a major portion of the fund was distributed for renewable energy generation, ETP and brick kiln technology.
In spite of some limitations the overall implementation status of green banking is satisfactory. Some recommendations have been furnished for the betterment and improvement of environment friendly banking practices in the country, which are as follows: Bangladesh Bank backed guarantee can give the banks and NBFIs confidence in financing to large scale green projects that will introduce new clean technologies. Innovative shariah based products and schemes can be introduced for promoting green finance through Islamic-shariah based banks and NBFIs. As a means of greening the portfolio, environmentally sensitive sectors such as agriculture, leather, mining, gas, power generation, pharmaceuticals and textile should be emphasized by the banks. In case of opening an L/C for green products, the commission/charge should be lower than the other products. Eco-financing through consumer loan programs such as purchase of fuel-efficient vehicles by the clients with discounted interest rates can be used for promoting environmental practices. In order to reduce carbon emission, bank/NBFIs can also encourage its staffs for adopting car sharing with colleagues.

The relative laws are in place, but their effective enforcement is necessary. Sustainable financing can take Bangladesh to the next level of financial and environmental growth. It is expected that with the coordinated efforts of BB, government, stakeholders and the banking sector will lead the move to a green economy in near future. The findings of the paper are not conclusive in nature. To improve the results of the study, future research can be done in order to discover the correlation between environmental performance and financial performance of banks/NBFIs, the impact of sustainable banking activities on society and environment, the consumer willingness to purchase sustainable green products, and cost-benefit analysis of sustainable banking practices.

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