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Green Banking in Bangladesh: A Descriptive Analysis

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Abstract: *This paper attempts to focus on the ''Green Banking" road map, progress and the different ecological initiatives taken by Bangladesh bank and Commercial banks that maintain natural safety, sustainable economic development, and emission-free world. This study also finds that 48 banks and some financial institutions made the Green Banking policy, created the Green Banking department, and financed for green banking all over the country. This study has been made mainly based on secondary data which was collected from reliable sources such as Bangladesh Bank's quarterly report, Commercial Banks' website, Articles, Newspapers and then analyzed, tabulated, and charted effectively to achieve better results. Research results show that green banking practices have a concrete and remarkable dominance on the all-up environmental performances of the banks. Studies have shown that compared to the developed countries, Bangladesh is far behind, but the overall picture converts green banking into a consistent method for most banks, for its infrastructure development and accelerating its green movement. Existing, banks can guarantee sustainability and the habitable world for the community. This document stood out basically on the internal management of the environment, the number of training programs was organized by banks and FIs (Financial Institutions), the number of candidates for those trainings, the use of Solar Energy in the branches and the ATMs of banks, and the amount of Disbursement for green banking until 2015-2018.*

Keywords: *Green Banking, Green Finance, Corporate Citizen, Environment, Bangladesh Bank.*

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I. Introduction

Green Banking refers to the approval of environmentally outgiving practices and the reduction of carbon in banking activities to keep the world alive without suffering remarkable indemnification. This theory of "Green Banking" is reciprocally beneficial to banks, industry, clients, stakeholders and the economy. The banking sphere is, for the most part, enumerated an ecological sector in terms of discharge and pollutants. The internal environmental impact of the banking field such as the use of energy, paper, and water, is relatively bottom and aseptic. At first, the idea of green banking is invented in Western countries and is now practiced by most of the banks in the world. Bangladesh Bank has pioneered the promotion of the Green Banking idea and, in 2011, set up a green banking policy framework in three phases and ordered all commercial banks programmed in the country to implement the policies. Global warming and climate change cause of floods, cyclones, long drought, and environmental pollution too have a direct impact on land, water, biodiversity, agriculture, afforestation, and human health. In the whole world, Bangladesh is one of the most invaded countries of climate change and is therefore worried about environmental degradation to implement the environmental issues of the SDGs (Sustainable Development Goals), more attention must be paid to all industries, including financial services to put into action "green" initiatives. The area of banking strafes economic prosperity and development both in terms of quality and quantity by modifying the nature of economic growth. The department of the banking sector in Bangladesh is the major source of financing investments in commercial projects which is one of the most vital economic activities for economic growth.

The banking section can, therefore, hold a crucial contribution in developing environmentally sustainable and friendly investment. State-Owned Commercial Banks (SOCBs), Private Commercial Banks (PCBs), Foreign Commercial Banks (FCBs), Specialized Banks (SDBs) and some financial institutions (FIs) are already entering power to implement the guidelines of BB that is good news for the passage and the environment. The Green Banking practiced by banks for years, directly and indirectly, some examples of GB activities such as paperless transactions, the use of solar energy at branches and ATMs, the use of biogas plants in rural areas, planting and the use of light bulbs for fuel conservation. As a part of green banking, Commercial Banks have allocated TK. 124,646.47 million in 2015, TK. 137,253.22 million in 2016, TK. 170,798.65 million in 2017 for green investment respectively.

1.1. Objectives of the Study

The salient purpose of the study is to identify Green banking practices at banking institutions in Bangladesh. We also sought to focus on the process of adopting a green banking policy, procedure, practices, and environmental matters.

Others objectives of this study are:-

1. To represent the overall Green Banking scenario of Bangladesh.
2. To justify the opportunities and challenges of Green Banking in our state.
3. To calculate attainment in case of Green Banking.
4. To measure the action practices by different types of banks.
5. To represent the rules and regulations which have been made by Bangladesh Bank.
6. To illustrate comparative analysis taken by the commercial and state-owned bank.

II. Literature Review

Shakil, Azam, and Raju (2014) studied that "Green" in some studies refers to the definition of a wide range of social, ethical and environmental practices. Although for the needs of a study that tends to look at the environmental aspect, "green" in the discussion, first of all, describes the impact of banks on the environment, environmental responsibility, and environmental performance in their activities. Ecological banking means promoting environmentally friendly practices and reducing the carbon footprint of banking practices. This can be done in many ways, using online banking instead of branch banking, paying bills online instead of sending them by mail, opening CDs and money market accounts at online banks instead of large multi-branch banks or by finding a local bank area that takes the biggest steps in to support local environmental initiatives.

Ullah (2013) argued that the word "green" refers to various social, ethical and environmental factors. However, taking into account ecological aspects of research goals for "green", the banks are characterized by the power of the banks, in particular in the environment, sustainable and environmental activity. This is ethical or bankruptcy. The Bank's Better Goal for Environmental Security and Ecological sustainability in the 21st Century. In this study, the current financial situation developed for the Bank's strategy and the Sustainable Energy Bank is strong financial sustainability for Bangladesh. Even before using any bank account, avoid global globally global environmental degradation taking into account green solutions. Knowledge has already begun to be one of the key partners to address the financial problems in Bangladesh.

Masukujjaman and Aktar (2013) have focused Bangladesh is a country with low carbon emissions and also in developing countries, probably one of the worst global warnings. It is known that climate change has already increased the frequency and intensity of floods, droughts, and cyclones in Bangladesh and would have a negative impact on water resources, soil, crops and food security, fisheries and livestock, forestry and biodiversity and human health. Banks have a unique position in the economic system that, through their financial activities, can influence production, services, business activities, and other activities and thereby help eliminate polluted environments. Banks should become green and play a proactive role in integrating environmental and environmental considerations into their lending and investment principles, forcing the industry to invest in environmental management, the use of appropriate technology and management systems.

Islam and Das (2013) indicated that the word "green bank" is common in the world. It has great potential for the World Bank's role in global warming. The banking concept in Western countries has been developed and is now used in most countries of the world. This suggests that it confirms its popular ecological practices and reduces the ecological basis of banking activity. Green banks, which are considered all environmental-ecological factors, are also called ethical banking. The main objective of Green Bank is to ensure the use of organizational resources for the benefit of the environment and society. The World Bank as a way of conceptual and intellectual thinking sees the future of our unified island. It evaluates all factors before the loan, regardless of whether the project is environmentally friendly and whether it is effective for future and future tourism.

Lalon (2010) suggested that Bangladesh Bank developed rules for green banks for the implementation of Green Banking. Bangladesh Bank is the world's first central bank, which has visible knowledge of the green bank. The State-owned Commercial Banks, the Private Commercial Banks and the Foreign Trade Banks, all banks work diligently in the case of Green Banking according to the instructions of the Bangladesh Bank. According to the Bangladesh Bank 'Green Bank' data, all planned banks have themselves developed the Bank of Green Banks and the Green Banking Unit. State banks and specialized development banks have continued to work on the online internet and text messaging banking initiatives.

Mahfuzur, & Barua (2016) found that Global warming and climate change now have a direct impact on biodiversity, agriculture, forestry, dry land, water resources, and public health. Bangladesh is one of the most vulnerable countries dealing with the effects of climate change and is therefore concerned about the degradation of the environment. The country recognizes that the role of the banking sector is crucial to development and development activities and therefore banks need to apply to play a more effective role in mitigating

environmental degradation. The Bank of Bangladesh has taken the lead in launching the green banking system and it is expected that green banks will be an important tool with which banks can make a significant contribution to serving the purpose. Since banks are an important source of finance for the industrial sector, they should investigate whether their funding is not used or does not lead to any activity that causes environmental damage. Green banks require that financial and business policies are not environmentally hazardous and that banks contribute to environmental protection.

Biswas (2011) concluded that to learn more about the environment, stress on all industries, including financial services, to learn for making green initiatives. But even though it was not the cause of one of the banks, even the green of all consumers chose a large financial institution, a financial institution that knew the environment, and that his pain was greater than a bunch of green. The developer of the importance of ethical banks (known primarily as existing or green banks), as well as many traditional banks that they want to look more ethical and look to switch to other methods that are environmentally friendly. Bankers almost meet sustainable energy (in terms of emission pollution). While in the past is a sustainable green approach to banking: the need for this clock will never stop the operation, which is the usual way banks should not interfere with the planning of their business and business customers personally before granting credit.

Ahmad, Zayed, & Harun (2013) elucidated that the Bangladesh Bank issued a policy for the development of green banking and risk management and environmental methods in exchange for dealing with climate change. Green-banking stakeholders have a keen interest in working closely with banks where government, NGOs, IFIS, the central bank, consumer and business communities to reach their goal. Initiatives include ethics along its green banks and internal management, environmental / eco-product treasure, environmental disclosure and reporting, and promote the principles of construction and other stakeholders. In order to capture the green perimeter in accordance with the advice given formally and comprehensively to protect a lot of high school as a tool and installed these in accordance with the rule seems impossible.

Green Banking and CSR Department of BB (2013) Referred that Green funds as part of the Green Bank make a big contribution to the transition to low and low carbon efficiency industries, namely the green industry and green economy in general. The Green Bank is part of a global initiative by a group of players to preserve the environment. The environment in Bangladesh is getting worse. The main areas of environmental degradation include air pollution, pollution and water scarcity, river breaks, inadequate industrial and medical waste disposal, deforestation and loss of open spaces and biodiversity loss.

Bhardwaj & Malhotra (2013) stated that while climate change is very risky for human health, the economy and the environment, economists have realized that they pay special attention to climate control and carbon reduction. Banks can play an important role in transforming the economy, creating new investment policies and managing inventories to create a strong and sustainable economy. Investors clearly see the need for a large private fund to reach the level of investment needed to control the effects of climate change.

Chen, Hossen, Muzafary, & Begum, (2018) identified that the Bank is a regular member of the economy because it is possible to work on a business relationship between rich and viable life practices. When our family gets work, we can work hard to connect the neighborhood with work and connect with impurities, but their communities are more important to their results. The groups play an important role in this dramatic game such as Brickfield, machine, paper, grammar school, business appraisers, directors, angry procedures and so on. Carbon dioxide is polluted in the future environment. Additionally, in order for companies to be more effective for the success of the whole world, it may be difficult to make money repayments under other companies.

Millat, Chowdhury, & Singha (2013) noted that Green Banking is more crucial issues at present phenomenon because of carbon emission is going more serious stage. Bangladesh Bank has already made some guidelines for Green Banking and maximum commercial banks are working for implementing this. Tree plantation, establishing biogas plant, using solar energy at branches and ATMs booth are some special initiative have been taken by commercial banks and financial institutions.

Rahman, Ahsan, Hossain, & Hoq, (2013) specified that this is because the green environment of the earth is enriched with green plants. It represents a close connection between animals and plants. But because of man's destructive activity, as well as his strong inclination to understand nature, the color of our environment has disappeared and biological diversity is eliminated here. Due to carbon emissions and greenhouse effect density, the world's temperature is growing daily. As a result, we face cyclones, floods, long-term drought and many other natural disasters each year. To emerge from this precarious situation, green banking activity, adopted by millions of banks around the world, can play a key role.

Masud, Hossain, & Kim (2018) Climate change is the most pressing issue in the global context. Bangladesh is in the most vulnerable situation. Bangladesh will suffer significant losses if the situation does not change. The assessment is that by 2050, the annual loss will be 2% and the gross domestic product 9.4% (GDP) by 2050 and 2100, while the country is responsible for less than 0.35% of global carbon emissions. Greenhouse Gas Emissions (GHGs), a business organization working on Green and Sustainability are sophisticated words

commonly used in international trade, economics, and politics in relation to environmental and climate change issues.

Hossain, Ahmed, &Nisha (2015) studied that Global warming and climate change have a direct impact on biodiversity, agriculture, forests, land, water resources, and human health. These changes are the final consequences, such as floods, droughts, cyclones, earthquakes and tsunamis, unexpected disasters, nature sanctions. Responding to these environmental challenges, the financial sector in many developed and developing countries provides environmental policies to address environmental stability. As financial institutions, especially banks, play an important role in the economic system of the country and, in the course of their financial activities, they are mainly influenced by all types of business practices. It will encourage the use of approved industries, appropriate green technologies, and environmental management systems in other industries.

III. Methodology

The study is predominantly used as a basis of secondary data and through literature reviews. Secondary information is pulled together from various articles, newspapers, magazines, internet, commercial banks and Bangladesh Bank websites. For the purpose of prolonging the literature of the study, we have studied different types of articles, working papers, journals, research papers, books, etc. After compiling relevant data and information from reliable sources, this information is analyzed, organized through tables and graphs to obtain the best results. To recapitulate and illustrate piled up data, Microsoft office package is exercised here systematically.

IV. Conceptual Framework Of Green Banking

The term "Green Banking" normally indicates banking practices that encourage environmentally responsible financing methods and environmentally friendly processes and also inspire banks and their customers to lessen carbon emission from the world gradually. Green banking is any type of banking from that the state and the nation receive environmental benefits, directly and indirectly, that is a good sign for humans and nature. A denominational bank is a green bank by directing its core operations to improve the environment. Sometimes it is called a sustainable bank, an ethnic bank, an environmentally responsible bank, a socially responsible bank, or a sustainable bank that means environmentally friendly banking is to prevent environmental degradation to make this planet more effective. Using solar energy at branches and ATMs booth of banks, Using energy-saving bulb, Use of online contacts in the best suitable way, Sharing electronic files, voice mail, and e-mail in exchange for paper, etc are some Green Banking activities in Bangladesh. There are a number of terms with overlapping meanings with the terms Green Banking; the most popular are the environment, social and governance (ESG), sustainable banking, corporate social responsibility (CSR, etc. Green Banking not only insists on principle closeness of improvement and environment protection but also demand that to hedge nature from contamination which situation is not expected. It has a wider manipulation and securing social responsibility of banks as a corporate citizen and evolving exclusive strategies that will secure sustainable economic development through the country. Green banking began its activities officially in 2003 to protect the environment. The principles of the equator (EP) were launched and adopted by several central banks, such as Citigroup, Royal Bank of Scotland, Westpac Banking Corporation. In March 2009, Chris Van Hollen at a conference of the US introduced a Green Bank Act which was designed to form a US government-owned by the Green Bank. The practicing of green banking may vary from bank to bank country to country. It is known that firstly the theory of GB was originated in Western countries. It is noted that Bangladesh Bank has taken some initial steps for green banking to promote for securing the environment from an unfavorable situation such as natural hazards, air pollution, increasing greenhouse gas, etc and in 2011 BB has provided a detailed guideline on Environment Risk Management (ERM) for the better environment all over the country.

4.1 Bangladesh bank's initiative

In March 2010, For the purpose of inspiring Green Banking in Bangladesh, Bangladesh Bank established an 8-kilowatt solar energy system on its rooftop. In February 2011, a Green Banking guideline provided to all commercial banks and a common format for all commercial banks to report Green Banking in a structured way, on the basis of a report which was published. The central bank of Bangladesh has made a genial atmosphere for the banking sector to secure a profound effect of green banking on socio-economic terrain of Bangladesh. Each department of Bangladesh Bank head office and its all branch offices have already been linked up under a computer network (LAN/WAN), connecting almost 3,100 PCs under the networking program. Bangladesh Bank has already corroborated its resounding success to put into action the concept of green banking in its periodic activities as the curator of the financial area. The green banking policy guideline is based on a green economy, which is again based on renewable energy (sun, wind, geothermal, marine, including waves, biogas and fuel cells), green buildings (green retrofits for energy and water efficiency, housing and

commercial assessment , water management (water extraction, gray water and rainwater systems, low tide landscaping, water treatment, rainwater management), waste management (recycling , disposal of solid urban waste, land clearing, sustainable packaging), land management (organic farming, conservation of natural water and restoration, forestry in the city and parks, forest planting and forestry and soil stabilization). For keeping environmental issues, the Central Bank of Bangladesh has exactly issued various guidelines for Green Banking pursuits.

4.2 In-house actions of BB

a. For summing up mobility in business actions, Bangladesh Automated Clearing House (BACH) has made easy remuneration strait as well as the remittance channel for the users.
b. For the purpose of prospering the Information and Technology (IT) sector, it has taken out the leading position to imbue as well as to execute IT-related technologies in the all-up banking zone.
c. Bangladesh Bank has already opened the National Payment Switch (NPS) that is a vital factor for the overall payment system.
d. It has already started online-banking facilities for their customers that maintain money transfer, utility services, etc.
e. For securing transparency of the rendering mode,
Central Bank has already started a web-based e-tendering procedure, which maintains schedules agreement and covers declarations of tender.
f. Some special activities have been taken by BB to facilitate banking performance such as online salary, an electronic pas, online necessary advice, online office orders and so on.
g. A specific section, the Enterprise Data Warehouse (EDW) has made up an electronic data bank that gives information on fiscal, monetary and trade sectors of the whole economy.
h. BB monitors commercial banks' green banking activities on a regular basis through the country.

4.3 Commercial Banks' Green Banking Initiatives

According to the present guidelines of BB every private commercial bank, state-owned commercial banks, and foreign commercial banks are required to formulate and maintain a suitable green banking policy and technique. 58 banks private and commercial are being operated in Bangladesh banking sector and maximum banks have their own green banking activities as a corporate citizen. According to BB, AB Bank Limited, Mutual Trust Bank Limited, Commercial Bank of Ceylon PLC, Islami Bangladesh Limited, Bank Alfalah Limited, Trust Bank Limited, Bank Asia Limited, Dutch Bangla Bank Limited, Eastern Bank Limited, Standard Chartered Bank Limited, Shahjalal Islami Bank Limited are conducting more green banking actions. Every year commercial banks of Bangladesh allocate thousands of dollars for green banking activities to go greener in the banking sector.

4.4 Commercial banks' green banking activities

a. Using Solar Energy at their branches and ATM booth.
b. Established Solar power system on their rooftop for reducing the use of power.
c. Providing loan for Solar irrigation projects.
d. Investing in biogas plants in rural areas to curtail the use of green trees to save the earth.
e. Hi-Tech Project for 35KW Solar Power Plant has been established at Gazipur for decreasing pollution by Mutual Trust Bank.
f. Tree Plantation.
g. Organic Fertilizer.
h. Environment-friendly projects such as CNG refueling, agro-based loan, brickfield projects, etc.
i. securing most recycling of waste products.
j. Demotivating the use of Polythene and inspiring use of Jute made products for a clean environment.
k. Many commercial banks have started to use energy-saving bulbs at their branches.

V. Results And Discussion

5.1 In-house environment management

The environment of the world has been polluting over years that is not sound news for human being and animals. For the aspiration of bringing down Gas emission many state-owned commercial banks, private commercial banks, and financial institutions are exerting solar energy at their branches, ATMs booth, and SME units. The overall circumstances have been manifested in the following table exercising solar energy through 2015-2018.

Table1: Practicing of solar energy at Branches, ATMs of banks, and SME units

SL.NO	2015		2016		2017		2018	
Types of bank/FI	No. Of branches powered by solar energy	No. Of ATM/SME units powered by solar energy	No. Of branches powered by solar energy	No. Of ATM/SME units powered by solar energy	No. Of branches powered by solar energy	No. Of ATM/SME units powered by solar energy	No. Of branches powered by solar energy	No. Of ATM/SME units powered by solar energy
SOCBs	42	1	42	1	36	2	75	2
SDBs	0	0	0	0	0	0	5	0
PCBs	342	244	477	246	495	212	489	85
FCBs	4	6	3	5	2	3	5	5
Total	433	251	522	252	533	217	574	92
FIs	4	0	3	2	2	0	3	0
Grand Total	437	251	525	254	535	217	577	92

Sources: quarterly report of Bangladesh Bank on Oct-Dec, 2015, 2016, 2017, 2018.

Table-1 can be pointed out that in 2015 SOCBs used the solar system at 42 branches and their 1 ATM while the solar was not used in SDBs, but at the same time, PCBs used solar at 342 branches and 244 ATMs, the other hand PIs has only used 4 branches.

In 2016, it has been seen that SOCBs have used solar energy at 42 branches and 1 ATMs similar to the previous year, which had no practice of solar in SDBs but at PCBs 477 branches and 246 ATMs exercised solar energy while FCBs have used in three 3 branches and 5 ATMs, At the same time FIs have applied in 3 branches and 2 SME units.

At 36 branches and 2 ATMs were manipulated in solar energy in 2017, there was no utilization of solar in SDBs, while PCBs applied 495 branches and 212 ATMs, where FCBs used 2 branches and 3 ATMs, parallel FIs have operated solar only two branches.

Application of solar energy was carried out in 75 branches 2 ATMS, the SDB made only 5 branches for the first time, at the same time that the PCBs used 489 branches and 85 ATMs, similar to the FCB applied to 5 branches and 5 ATM, while the FI practiced the solar system with only 3 branches in 2018.

437 branches and 251 ATMs in 2015, 525 branches and 254 ATMs in 2016, 535 branches and 217 ATMs in 2017, 577 branches and 92 ATMs in 2018 were used by the banks.

5.1.1 In-house activities of banks according to BB

1. A common use of table stationeries instead of an individual.
2. Use of paper on both sides for internal consumption.
3. Introduction of e-statement for customers instead of paper statements.
4. Use of online communication in the best possible manner.
5. Using more daylight instead of electric lights and proper ventilation in lieu of using air conditioning.
6. Using energy-saving bulbs.
7. Use of Eco Font for printing light impression on both sides of the paper.
8. Setting defaults like "Thinking twice before printing.", "Printing only it really needs", "Please check your environmental responsibility" etc. in email correspondences.
9. Conference in lieu of physical travel.
10. Conversion of Bank's vehicles (pool) into CNG and use of energy-efficient electronic equipment.
11. Efficient use of printer cartridges, photocopy toner, office stationery, etc.
12. Sharing electronic files, voice mail and e-mail instead of paper memos.
13. Use of solar energy/ renewable energy sources.
14. More concentration on developing a Green Office Guide for reducing the information gap/reducing hazards/increasing efficiency/awareness/reducing pollution/developing Green Banking for sustainable finance.

5.2 Reviews on Green Refinance Activities of BB

The Foundation's main objective is to promote financial activity that respects the environment and renewable energy in Bangladesh. The refinancing facilities will also be extended to participating banks and financial institutions. Bangladesh Bank has already disbursed TK. 4,015.32 million till December 2018, under this, refinance scheme.

Table2. Sub-category/Product wise Disbursement (TK. In Million)

SL.NO	Subcategory/product	2015	2016	2017	2018
1	Hybrid Hoffman Kiln (HHK)	17.00	10.00	-	-
2	Solar Home System	35.76	23.54	-	0.09
3	Biogas	02.00	40.14	6.25	0.53
4	Vermicompost	00.99	00.30	-	-
5	Green Industry	200.00	-	-	152.33
6	Safe Working Environment for Textile	28.68	-	35.60	10.00
7	Central Effluent Treatment Plant (CETP)	-	150.00	40.00	28.44
8	Organic Manure from Slurry	-	00.10	-	-
9	Energy Efficient Sector	-	-	-	10.00
	Total Disbursement	284.43	224.08	81.85	201.39

Sources: Quarterly report of Bangladesh Bank on Oct-Dec, 2015, 2016, 2017, 2018.

Here it is noted that the grants of Hybrid Hoffman Kiln (HHK) were 17 million and 10 million in 2015 and 2016 respectively, while there was no payment in 2017 and 2018 but on the other hand 35.76 million and 23.54 million were allocated in 2015 and 2016 in which Nil figured at 2017, But in 2018 the payments were 0.09 million in the case of solar home system.

In biogas programs 2 million, 40.14 million, 6.25 million and 0.53 million were distributed in 2015, 2016, 2017 and 2018 severally, with 0.99 million and 0.30 million in 2015 and 2016, but there are no payments in 2017 and 2018 for vermin composting.

200 million in 2015 and 152.33 million in 2018 was the sum of payments and there was an investment in 2016 and 2017 for the green industry, but in the case of a safe working environment for textile expenditure was 28.68 million in 2015, and 35.60 million, 10 million in 2017 and 2018 in turn and zero in 2016. The spending has been expended in 2016, 2017 and 2018 at 150 million, 40 million, 28.44 million separations, on the other hand, 0.10 million has disbursed in organic manufacture from slurry only in 2016 and 10 million only in 2018 for the energy efficiency sector. Total payments were 284.43 million, 224.08 million, 81.85 million and 201.39 million in 2015, 2016, 2017 and 2018 gradually.

5.3 Training, Promotion, and Disclosure

State-owned commercial banks, private commercial banks, specialized banks, foreign commercial banks, and financial institutions arrange different types of programs at various times with a view to increasing knowledge of employees and customers about green banking. This particular table has been illustrated on a number of programs that have been organized by a different class of bank through 2015-2018 in Bangladesh about GB and also displayed a number of participants.

Table3. Training programs have been organized by banks.

SL.NO	2015		2016		2017		2018	
Types of bank/FIs	No. of Programs	No. of Participants	No. of Programs	No. of Participants	No. of Programs	No. of Participants	No. of Programs	No. of Participants
SOCBs	8	474	10	264	11	270	11	0
SDBs	6	136	2	150	7	206	27	50
PCBs	54	1710	352	6483	336	5842	47	29
FCBs	5	167	3	164	2	106	4	0
Newly Scheduled Banks	2	2	0	0	0	0	0	0
Total	75	2489	367	7061	356	6424	89	79
FIs	17	266	15	670	10	42	7	1
Grand Total	92	2755	382	7731	366	6466	96	80

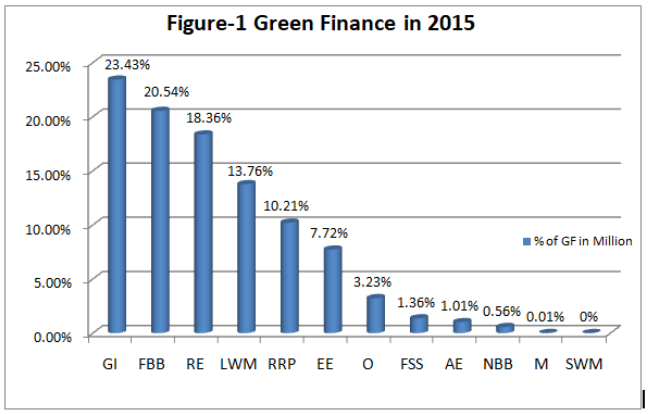
Sources: Quarterly report of Bangladesh Bank on Oct-Dec, 2015, 2016, 2017, 2018.

Table 3 has shown that in 2015 the SOCBs, the SDBs, the PCBs, the new programmed banks and the FIs organized 8, 6, 54, 5, 2, 17 programs separately and their participants were 474, 136, 1710, 167, 2 and 266, respectively. In 2016, the SOCBs organized 10 programs with 264 participators, the SDBs organized only 2 programs with 150 entrants, while the PCBs had 6483 candidates for 352 programs, whereas the FCBs had 3 programs and 164 participants, while The newly scheduled banks have not organized a program recently. At the same time, the FIs had 15 programs and their members were 670. 11, 7, 336, 2, 0, 10, programs have been arranged by SOCBs, SDBs, PCBs, FCBs, newly scheduled banks, and FIs differently and their participators were 270, 206, 5842, 106, 0, and 42 in 2017. SOCBs organized 11 programs without a participant, SDGs had 27

programs and their members were 50 while PCBs organized 47 events with 29 candidates where the FCBs had a ceremony, FIs had 7 programs with only a member in 2018.

5.4 Green Finance in 2015

In 2015, the actual amount of green finance was TK 129331.82 million on Oct-Dec according to a quarterly report. In the case of direct investment where a number of banks were 37 and financial institutions were 8, on the other hand, in case of indirect investment total banks were 28 and financial institution was 6. Total banks were 42 out of 56 and financial institutions were 11 out of 32.

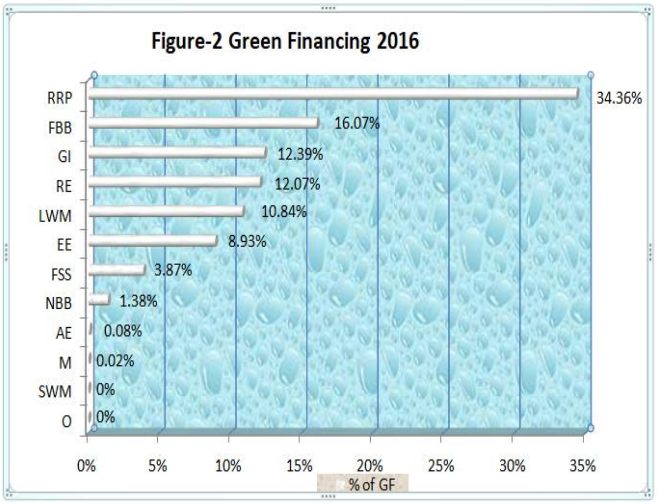


Sources: quarterly report of Bangladesh Bank on Oct-Dec, 2015.

According to figure-1 above, it was illustrated that Green Industry (GI) 23.43% , Fire Burnt Bricks (FBB) 20.54%, Renewable Energy (RE) 18.36%, Liquid Waste Management (LWM) 13.76%, Recycling, and Recyclable Product (RRP) 10.21%, Energy Efficiency (EE) 7.72%, Others (O) 3.23%, Factory Safety, and Security (FSS) 1.36%, Alternative Energy (AE) 1.01%, Non fire Block Bricks (NBB) 0.56%, Miscellaneous (M) 0.01%, and Solid Waste Management (SWM) 0%, expenditures were spent in 2015.

5.5 Green Finance in 2016

44 banks out of 56 and 14 financial entities out of 33 had ecological financing, either direct (39 banks, 11 FIs) or indirect (29 banks, 7 FIs) that operated in the quarter. The total amount invested as green financing is Tk. 140,829.92 million in the quarter from October to December 2016. Although ecological financing is at a higher level, banks and central financial entities concentrate on indirect ecological financing. In this quarter, the green direct financing of banks and financial entities is 8.49% of total green financing and 0.69% of total financing. Figure -2 shows a brief summary of the green financing of banks and financial institutions.



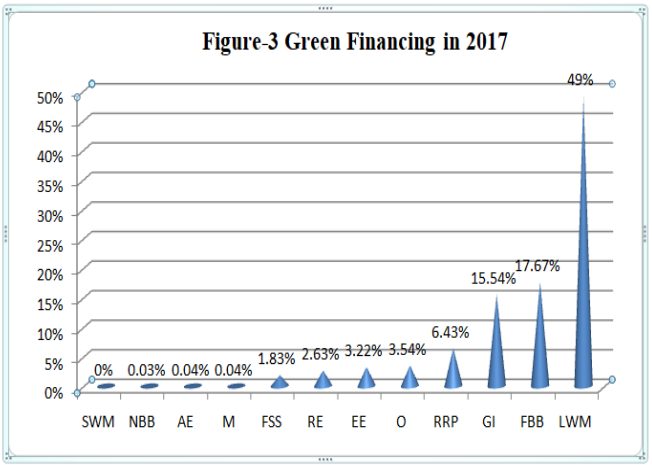
Sources: quarterly report of Bangladesh Bank on Oct-Dec, 2016

From the above data it is observed that Recycling and Recyclable Product (RRP) 34.36%, Fire Burnt Bricks (FBB) 16.07%, Green Industry (GI) 12.39%, Renewable Energy (RE) 12.07%, Liquid Waste

Management (LWM) 10.84%,%, Energy Efficiency (EE) 8.93%, Factory, Safety, and Security(FSS) 3.87%, Non fire Block Brick (NBB) 01.38%, Alternative Energy(AE) 0.08%, Miscellaneous (M) 0.02%, Solid Waste Management (SWM) 0%, and Others (O) 0% expenditures were put out in 2016.

5.6 Green Finance in 2017

Directly (31 banks, 8 FIs), or indirectly (29 banks, 13 FI), 44 banks out of 57 and 13 Financial Institutions out of 32 have been exposed to green financing. The total amount invested in environmental financing is Tk. 173,801.77 million from October to December in 2017. Environmental funding, banks, and central financial institutions focus on indirect green finance. In this quarter, the direct environmental funding of banks and financial institutions is 7.78% of total green financing and 0.38% of total financing. Figure-3 provides a brief description of environmental financed by the Bank and Financial Institutions.

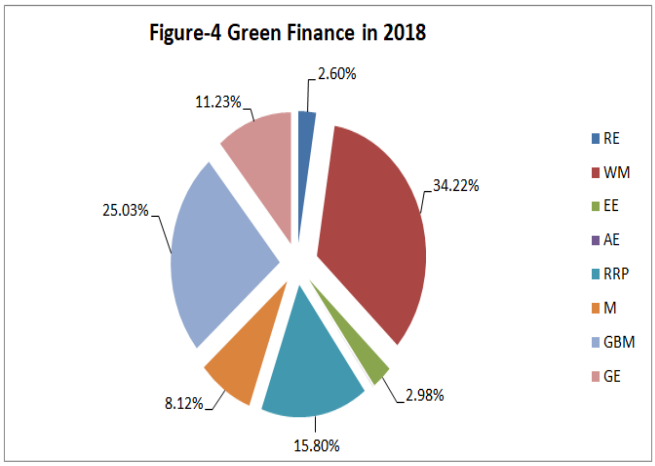


Sources: quarterly report of Bangladesh Bank on Oct-Dec, 2017.

From the above information it is shown that Solid Waste Management (SWM) 0%, Non fire Block Bricks (NBB) 0.03%, Alternative Energy (AE) 0.04%, Miscellaneous (M) 0.04%, Factory Safety and Security (FSS) 1.83%, Renewable Energy (RE) 2.63%, Energy Efficiency (EE) 3.22%, others (O) 3.54%, Recycling and Recyclable Product (RRP) 6.43%, Green Industry (GI) 15.54%, Fire Burnt Bricks (FBB) 17.67%, Liquid Waste management (LWM) 49.04% expenditures were paid out in 2017.

5.7 Green Finance in 2018

38 banks and 11 Financial Institutions have performed for green financing in this quarter. Total financing in 2018 was TK. 23720.61million on Oct-Dec. Green investing was 1.27% of the total amount and 0.97% was financed for total loan disbursement in case of green investment. Quarterly Green investment is shown in figure-4



Sources: quarterly report of Bangladesh Bank on Oct-Dec, 2018.

The figure-4, it can be revealed that Renewable Energy (RE) 2.60%, Waste Management (WM) 34.22%, Energy Efficiency (EE) 2.98%, Alternative Energy (AE) 0.02%, Recycling and Recyclable Product (RRP) 15.80%, Miscellaneous (M) 8.12%, Green Bricks Manufacturing (GBM) 25.03%, Green Establishment (GE) 11.23% of expenditures were executed in 2018.

VI. Findings Of The Study

Table 1 focused on the use of solar energy at branches, ATMs and SME units until 2015-2018, with the maximum use of solar energy at 495 locations in 2017, on the other hand, solar energy in 2016 Used 246 cash machines. The performance of specialized banks was poor, including banks and financial institutions. In general, the largest practices of solar energy were 577 branches in 2018.

Table 2 illustrated about the investment of green finance in different sectors, while it was noted that financing in the green industry is TK. 200 million was the highest expense for green refinancing activities in 2015. In contrast, TK. 0.09 million was the lowest amount in the solar system with a refinancing plan in 2018. Biogas was the only sector in which funding was allocated for each year. The total investment in 2015 TK. 284.43 million was the largest and the lowest payout was TK. 81.85 million in 2017.

In Table 3, of all banks and financial institutions, private commercial banks (PCBs) arranged 352 programs, the largest number in 2016 and maximum announcements 6483 in the same year. This table showed that the total number of members 7,131 and the events 382 were the highest position in 2016. The least number of programs 92 was arranged in 2015 and the smallest number of candidates was 80 in 2018.

Figure-1 shown that the actual amount of investment in the green financing sectors in 2015. That pie chart showed the colossal sector was a green industry that was 23.43% (2,257.36 million), while the meager financing was 0.01 % in the miscellaneous sector. No investments were made in the Solid Waste Management sector in the same year.

Figure-2 illustrated that the total figures of GF (green financing) in 2016 from October to December 2016 were TK.140829.92 million. It has been shown here that Recycling and Recyclable product was the top sector in this year in which financing was 34.36%, while the lowest financing sector in Miscellaneous was 0.02% (TK 1.82 million). There was no financing in two sectors, such as solid waste management and others.

Figure-3 stated that the total green financing in 2017 was TK 173801.77 million while liquid waste management was referred to as 49.04% as the gigantic sector among all whereas the lagging sectors were a 0.04% alternative energy and a 0.04% miscellaneous sector. In the same year, there was no financing in the solid waste management sector.

Figure-4 found that the total green financing from October to December in 2018 amounted to TK.23720.61 million in a total of eight sectors. Among them, extensive sector waste management was 34.22% (TK, 8,116.22 million), on the other hand, the miniature alternative energy sector was 0.02% (TK, 3.79 million) in the same year.

VII. Conclusion

It is established that geographically Bangladesh is one of the most affected countries in the world and the people of Bangladesh have been suffering for years from it. Central Bank of Bangladesh (Bangladesh Bank) which has the legitimate right to mold the actions of the banks and it is able to coerce all banks to put into action green banking policy to subdue its own environmental pollution as well as a commercial bank through the country. Besides the central bank's initiative, the government should take effective steps to ease GB operations in Bangladesh. While maximum commercial banks private and foreign their performance are going to satisfactory level day by day, on the other hand, in spite of huge prospects in Green Banking, specialized banks state-owned commercial banks are far behind from the Green Banking practicing. All types of banks should supply loans for environmentally preferable sections and lessening services in environmentally unfavorable fields for growing green more. To save our next generation who will lead the future world from severe environmental pollution and emission we should practice green banking more and more. Though green banking activities are not satisfactory, then some commercial bank is doing some special green banking services such as ATM services, solar irrigation project, solar power, solar biogas, renewable energy, clean water, etc. For surviving the competitive market all the banks of Bangladesh should comprehend the hard reality of environmental pollution and take action against it. We boldly deserve in the near future the banking department of Bangladesh will make an effective structure that will be consisted of SDG(Sustainable Development Goal) and protect society as well as the environment from various types of pollution such as air, water, soil, etc. According to the entity and responsible corporate citizen, banks believe that all of the small "green banking initiatives" taken today will be created in a green future.

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