**Project Paper**

**On**

**Contribution of Bank for Green Economy through Green Finance Mechanism – Evidence from Bangladesh**

**Submitted to:**

**Controller of Examinations**

**National University**

**Gazipur–1704**

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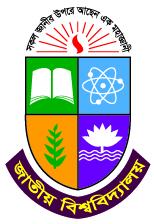
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**National University, Bangladesh**

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**Letter of Transmittal**

Date: April 09, 2016

Controller of Examinations

National Examination

Gazipur-1704,

Dhaka, Bangladesh

**Subject: Submission of Project paper**

Dear Sir,

This is my pleasure to submit the study report on **Contribution of Bank for Green Economy through Green Finance Mechanism – Evidence from Bangladesh**, which I was assigned. This is a great chance for me to acquire knowledge and experience in respect of performing this report.

This is assigned to me as partial requirement for the competition of BBA program. Throughout the study I have tried with the best of my capacity to accommodate as much information and relevant issues as possible and tried to follow the instructions you have suggested. I tried my best to make this report as much informative as possible. I sincerely believe that it will satisfy your requirements. However sincerely I believe that this report will serve the purpose of my project submission program.

I gave my best efforts to achieve the objectives of this report and hope that my endeavor will serve the purpose. Besides, I have followed your remarks and instructions very carefully while preparing this report. I tried the best to maintain your schedule, format and discipline.

Thank you for your kind consideration.

Sincerely yours

Md. Farhad Hossain

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**Supervisor’s Declaration**

This is to certify that, Md. Farhad Hossain, Student of Bachelor of Business Administration (BBA), major in Finance of Daffodil Institute of IT (DIIT) has completed this Internal Study Report on **Contribution of Bank for Green Economy through Green Finance Mechanism – Evidence from Bangladesh.** He has completed this project satisfactorily under my supervision as he partial fulfillment for the award of BBA degree.

He has done his job according to my supervision and guidance. He has tried his best to do this successfully. I think his study will help him in future to up build his career.

I wish him every success in life.

………………………………………..

Aminul Haque Russel

Lecturer

Department of Business Administration

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**Student’s Declaration**

I hereby declare that the Study Report on **Contribution of Bank for Green Economy through Green Finance Mechanism – Evidence from Bangladesh** includes the result of my own works, pursued under the supervision of Aminul Haque Russel, Lecturer of BBA Program, Daffodil Institute of IT (DIIT).

I also like to declare that this report paper is my original work and is prepared for academic purpose which is a part of BBA program.

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**Acknowledgement**

At first I would like to thank Almighty ALLAH who gave me to prepare this term paper. This report has created a deal of interest to me.

Preparing this report was exciting and hard work at the same time. It is for the first time that I have been able to gather real life experience working on a report.

I would like to give my heartiest gratitude to **Aminul Haque Russel**, Lecturer BBA Program, Daffodil Institute of IT, my internship supervisor, for his kind concern, valuable time, advice, endless endeavor and guidance throughout the internship period and making of the report.

I would like to thank the authority to the Daffodil Institute of IT (DIIT) for allowing me to do my report here.

**Executive Summary**

Green financing can play a significant role in implementing the broader concept of sustainable economic development. It can be expressed differently depending on the participant, and it may be led by financial incentives, a desire to preserve the planet, or a combination of both. In addition to demonstrating proactive, environmentally friendly behavior, such as promoting mass transit or the recycling of used goods, green finance is about avoiding the promotion of any business or activity that could be damaging to the environment now or for future generations. The financing is the investment area of banks from which the operational profit is generated. The only ethical investment includes agriculture and green financing. Green financing can be direct and indirect from the perspective of banks.

It shall attempt to establish a relationship between Green Finance and the Sustainable Economy. As defined in this paper, Green Finance encompasses a broad spectrum of funding mechanisms and sources for environment-oriented technologies, projects, industries or businesses as well as financial products and services like green loans, bonds, insurance, etc.

This is clear idea about the study on. I have presented this study report on the basis of working knowledge. In first chapter, I’ve discussed about introduction part of Green Banking its objective and limitation, in second chapter discussed about Green Bank and Green Banking. After that I’ve discussed about Green Financing, its direct green finance and indirect green finance. In forth chapter I’ve discussed also Budget Allocation and Budget Utilization in Green Finance and annually comparison of budget utilization in green Finance. In last chapter there are some findings and trying to give some recommendations or suggestions. I have finished my study report work mainly on fifth chapters.

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**Acronyms**

|  |  |
| --- | --- |
|  |  |
| **AAUs** | Assigned Amount Units |
| **BB** | Bangladesh Bank |
| **CRM** | Core Risk Management |
| **CSR** | Corporate Social Responsibility |
| **EDD** | Environment Due Diligence |
| **EnvRR** | Environment Risk Rating |
| **ERM** | Environment Risk Management |
| **ETP** | Effluent Treatment Plant |
| **FCBs** | Foreign Commercial Banks |
| **GBU** | Green Banking Unit |
| **GIS** | Green Investment Schemes |
| **HHK** | Hybrid Hoffman Kiln |
| **IGOs** | International Government Organizations |
| **IFIs** | International Financial Institutes |
| **LAN** | Local Area Network |
| **PCBs** | Private Commercial Banks |
| **SCBs** | State-owned Commercial Banks |
| **SDBs** | Specialized Development Banks |
| **SEF** | Sustainable Energy Finance |
| **WAN** | Wide Area Network |

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**Chapter – 1**

**Introductory Part**

**1.1. Introduction**

In the 21stcentury green financing becomes essential part not only in business but also in environment science. All the nations, developed and developing should take the attempts for green financing. It is estimated that global green financing in green infrastructure will reach to $40 trillion between 2012 and 2030.

Green finance is the principle of green credit. It refers to a series of administrative means requiring that commercial banks and other financial institutions carryon researches and developments to produce pollution treatment facilities, be engaged in the ecological protection and restoration. It also develop and utilize new energy resources, focus on the circular economic production, green goods production, and ecological agricultural production, provide loans to support relevant enterprises and institutions and implement concessionary low interest rates, but restrict new project investments of polluting enterprises accompanied with some punishable interest rates (Xu 2013).

Green financing can play a significant role in implementing the broader concept of sustainable economic development. Financing obstacle in Bangladesh is characterized by greater and real market risk due to its less stable macroeconomic conditions. The perception of higher risk leads to higher interest rate, shorter loan tenor, and higher equity requirements in our country. We have to address these financing barriers so as to promote green financing ensuring our sustainable economic growth.

Bangladesh Bank (BB), since its inception in 1972 has been working for the growth and development of the country. In early 90's, awareness was started to grow for the need of banking practices for environmental conservation and social protection. In last half decade, remarkable progress has been made in the sustainable banking regulatory framework of Bangladesh. Green Banking and CSR Department was established on April 04, 2013 with a view to develop sustainable banking (i.e. green banking, CSR and financial inclusion) framework and to integrate it into core business operation of banks and FIs through efficient and effective implementation of green banking, CSR and financial inclusion. Bangladesh Bank is now successfully working in the field of policy formulation and monitoring of different aspects of green banking, that includes green finance, environmental risk management, , climate risk fund, green marketing, green product innovation, green strategic planning etc. BB launched the Tk. 2.0 billion Green Banking Refinance Scheme in August 3, 2009 to fund renewable energy projects in the country. Tk. 1.64 billion has been refinanced from this fund up to November 2014. Many commercial Banks has signed an agreement with BB to disburse the environment-friendly loan.

**1.2. Objectives of the study**

The main objective of writing this project paper is to show the contribution of banks for green economy with the green finance mechanism.The specific objectives can be stated as under:

1. To measure the concept of green finance.
2. To show the trend of green investment of banks in Bangladesh
3. To assess the direct and indirect green finance in Bangladesh.
4. To identify various policies of green financing of Banks.
5. To analyze the green finance performances of scheduled banks.
6. To evaluate the procedures of green banking.
7. To fulfill the partial requirements of the BBA program.

**1.3. Methodology of the study**

The study has been conducted by the views of key persons of banks and research institutes with unstructured discussions and secondary data available from Bangladesh Bank, World Bank, United Nations Environment Program (UNEP), published articles in different journals and renowned newspapers, and the data available in web sites as well as the financial reports of banks and other financial institutions. The qualitative data have been reported overtly into the flowcharts, which indicate different wings about the tradeoff between environment and economy of green banking. And for quantitative data, three consecutive years’ (2012, 2013 and 2014) green banking performance has been taken into consideration.

**1.4. Literature Review**

**Rombel, A., 2008,** As the global financial markets remain anemic after the 2009 US-triggered financial crisis and the still lingering Eurozone debt crisis, Green Funds or Green financing is evolving as the key driver in stimulating a sustainable world economy.

According to the World Bank report, significant investment flows, largely from the private sectors, have been mobilized to meet climate commitments while simultaneously contributing to low emission economic development in IFC client countries.

**In the paper of Sharmina, M. et al (2009) Green Investment schemes**: financing energy-efficiency in CEE and a model for post- 2012 climate mitigation finance, the authors discussed Green Investment Schemes (GIS) as having been introduced to ensure the climate integrity of international emission trading (IET) involving first commitment period excess assigned amount units (AAUs) in former communist countries for the purpose of other countries’ compliance with Kyoto commitments. It discusses how GIS could provide new and significant sources of GHG mitigation financing in the seller countries. It also investigates how the flexibility of GIS can be best utilized for maximizing benefits to climate and society as well as ensures that environmental integrity is not compromised at the expense of its simplicity and flexibility. An example of GIS application is the thermal retrofitting of old inefficient building stocks.

**Another paper by Bakhtyar, B. et al (2012),** entitled the Alternative Finance Models for Green tech Startup, the authors present the ideas of technologies that have been produced with different models to promote green tech offered the keys and ingredients to look at Finance. They stressed that recognizing that understanding the technologies and finance is not the only crucial aspect to consider, but also the timing, targeting and getting the individual companies involved in promoting the green tech as key elements in green tech startup. The paper discusses banking problems involving green tech startup as well as the role of Debt Venture companies and their views regarding green technologies.

**1.5. Limitations of the Study**

This study was not free from limitations. It is important to note that these limitations have somehow contributed in developing a dazzling and outstanding report. Below these limitations are:

* Major limitation of this report was time constrained.
* The annual report and websites were the main secondary information source that weren’t enough to complete the report.
* There is a chance of having some mistake in the report though best effort has been applied to avoid any kind of mistake.

**Chapter – 02**

**Green Finance &**

**Sustainable Banking**

**3.1. Green Bank and Green Banking**

Green bank means an ethical, a socially responsible and a sustainable bank. A green banker is more than a banker, it is not an individual but a unit or a group or a team.

Green Banking means eco-friendly or environment-friendly banking to stop environment degradation to make this planet more habitable. This comes in many forms. Providing innovative green products: using online banking instead of branch banking, paying bills online instead of mailing them, purchasing green mortgage, opening up of CDs, green credit cards and money market accounts at online banks instead of large multi-branch banks or finding the local bank in your area that is taking the biggest steps to support local green initiatives. Green Banking is also multi-stakeholders endeavor where banks have to work closely with government, NGOs International Financial Institutes (IFIs), International Government Organizations (IGOs), Central Bank, consumers and business communities to reach the goal.

As a regular of financial sector, the central bank already proved resounding success to implement the concept of green banking in its regular activities. Besides, it also created congenial atmosphere for the banking sector to ensure profound impact of green banking on socio-economic landscape of Bangladesh.

Green or sustainable banking is not limited only to in house green activities, but extends to facilitating green financing. Environmental Risk Management (ERM) guidelines is a part of green banking and ERM is for assessing environmental risk and not intended to squeeze investment; rather it is for sustainable finance.

The policy guideline for green banking has been derived on the basis of a green economy, which, in turn, is based on renewable energy (solar, wind, geothermal, marine including wave, bio-gas, and fuel cell), green buildings (green retrofits for energy and water efficiency, residential and commercial assessment, green products and materials, and LEED construction), clean transportation (alternative fuels, public transit, hybrid and electric vehicles, car sharing and carpooling programs), water management (water reclamation, grey water and rainwater system, low-water landscaping, water purification, storm water management), waste management (recycling, municipal solid waste salvage, brown field land remediation, sustainable packaging), land management (organic agriculture, habitat conservation and restoration, urban forestry and parks, reforestation and afforestation and soil stabilization).

Green Banking undertakes proactive measures to protect environment and to address climate change challenges while financing along with efficient use of renewable, non-renewable, human and natural resources.

**3.2. Green Banking Activities**

Green banking is a component of the global initiative by a group of stakeholders to save the environment. The environment in Bangladesh is rapidly deteriorating. The key areas of environmental degradation are: air pollution; water pollution and scarcity; encroachment of rivers; improper disposal of industrial, medical and house-hold waste; deforestation; loss of open space, and loss of biodiversity. In addition, Bangladesh is one of the most climate-vulnerable countries. In line with global development and response to environmental degradation, the financial sector, as one of the key stakeholders in society, should play its due role. Green banking activities in this report has been addressed in the following manner:

**2.1. Figure: Green Banking Activities:**

**Source: Bangladesh Bank Annual Report on Green Banking - 2012**

**3.2.1. BB’s Green Banking Initiatives:**

Green Banking Initiatives of the Bangladesh Bank (BB) have two aspects: In-house green activities and Non-in-house operations. Given below the BB’s Green Banking Initiatives figures:

**2.2.1Figure: BB’s Initiatives**

**Source: Bangladesh Bank Annual Report on Green Banking – 2012**

* **BB's In-house Activities**: Bangladesh Bank's in-house green activities include installation of a 8-kilowatt solar power system on its rooftop on March 12, 2012; environmentally harmful incineration of non-re-issuable damaged bank notes is being phased out, resorting instead to shredding; steps for measuring the carbon footprint of BB's internal processes and operations are underway, eventually to set time-bound targets for carbon neutrality/emission reduction. Under the networking program, all the departments of Bangladesh Bank Head Office and its nine branch offices have already been brought under a computer network (LAN/WAN), connecting almost 3,100 PCs.

BB has enhanced the product line under its green banking scheme from 6 to 47 and segregated these products into 10 categories which are: Renewable Energy, Energy Efficiency, Solid Waste Management, Liquid Waste Management, Alternative Energy, Fire Burnt Brick, Non Fire Block Brick, Recycling & Recyclable Product, Green Industry and Miscellaneous.

* **BB's Non-in-house Operations:** Bangladesh Bank is well aware of the environmental degradation situation and has already given directions to all scheduled banks. Commercial banks are now required to ensure necessary measures to protect environmental pollution while financing a new project or providing working capital to the existing enterprises. Banks have been advised to finance in Solar Energy, Bio-gas, ETP and Hybrid Hoffman Kiln (HHK) in brick field under refinance program of BB. A comprehensive guideline on Corporate Social Responsibility (CSR) has been issued where banks have been asked to concentrate hard on linking CSR at their highest corporate level for ingraining environmentally and socially responsible practices and engaging with borrowers in scrutiny of the environmental and social impacts. Banks have been brought under the purview of E-commerce with a view to providing the customers with online-banking facilities covering payments of utility bills, money transfer and transactions in local currency through internet as well. Considering the adverse effects of Climate Change, banks have been advised to be cautious about the adverse impact of natural calamities and encourage the farmers to cultivate salinity-resistant crops in the salty areas, water-resistant crops in the water-logged and flood-prone areas, drought-resistant crops in the drought-prone areas, using surface water instead of underground water for irrigation and also using organic fertilizer, insecticides by natural means instead of using chemical fertilizer and pesticides.

**3.2.2. Bank’s Green Banking Activities:**

Bank’s green banking activities are policy formulation and implementation, budget allocation and utilization, green banking unit formation, environmental risk rating, green financing, climate risk fund utilization and online banking etc. Bank’s green banking activities have two several aspects: Bank’s in house green activities and Bank’s green activities other than In-house. Given below the figure about Bank’s Activities

**2.2.2. Figure: Bank’s Green Banking Activities**

Direct and Indirect

Green Financing

Environmental Risk Rating

CSR Activities for Green Event and Green Project

Green Marketing

**Bank’s Activities**

In-house Green Initiatives/Activities

Capacity Building

Research and Development

**Source: Bangladesh Bank Annual Report on Green Banking – 2012**

* **Bank’s In-house Green Activities:** Bank’s In house green activities are:
* Common use of table stationeries instead of individual use.
* Use on paper both sides for internal consumption.
* Introduction of E-statement for customers instead of paper statements.
* Use o9f online communication in the best possible manner.
* Using more daylight instead of electric lights and proper ventilation in lieu of using air conditioning.
* Using energy saving bulbs.
* Use of Eco Font for printing light impression on both sides of the paper.
* Video/Audio conference in lieu of physical travel.
* Efficient use of printer cartridges, photocopy toner, office stationary etc.
* Sharing electronic files, voice mail and e-mail instead of paper memos.
* Use of solar energy/ renewable energy sources.
* Efficient use of electricity, gas and water.
* **Some Green Banking Slogans of Banks:**
* Save paper, save trees
* Conserve energy, conserve natural resources
* Pay your bills online
* Turn off the tap when not needed
* Always use a cloth bag
* Reduce, reuse and recycle
* Digitize yourself
* Be paperless- kick the habit
* Unplug electronic devices while not in use

**3.3. Green Finance**

Green Finance is a broad term that can refer to financial investment following into sustainable development projects and initiatives, environmental products, and policies that encourage the development of a more sustainable economy. Green finance is a phenomenon that combines the world of finance and business with environmentally friendly behavior. It is an arena for many participants, including individual and business consumers, producers, investors, and financial lenders. Green Finance can be expressed differently depending on the participant and it may be led by financial incentives.

According to Bangladesh Bank Guideline commercial banks undertook an initiative to go green by paying low interest loans to the customers who would like to setup solar equipment’s, ETP, Bio-gas Plant, Hybrid Hoffman Kiln (HHK) etc. Despite the country’s state-owned and private commercial banks and a non-banking financial institution (NBFI) signed an agreement with BB to disburse the environment friendly loan.

Green Finance includes climate finance but is not limited to it. It is also refers to a wider range of other environmental objectives, for example industrial pollution control, water sanitation, or biodiversity protection.

**3.4. Activities of Green finance:**

Green finance combines both direct and indirect green finance. Source of Bank’s direct green finance may be bank’s own fund or Bangladesh Bank’s fund for renewable energy and environment friendly projects. Indirect green finance means financing the project having ETP or alike system.

**3.1. Figure: Activities of Green Finance**

Source: Bangladesh Bank Annual Report on Green Banking – 2012

**3.4.1. Direct Green Finance:**

Direct finance is may be its bank’s own fund or Bangladesh Bank’s fund for renewable energy and environment friendly projects. Direct green finance is installation of ETP, Bio-gas Plant, Solar panel, Bio-fertilizer plant or others. Given below some discussion about these projects:

**Installation of ETP:** Effluent treatment plants are essential to treat waste discharged from residential units, various industries or manufacturing units. Apart from treatment plants for residential units, different types of effluent treatment plants are required for various industries as they produce by products or polluted wastes which cannot be directly discharged in the nature. Where the effluent treatment plant must be installed? Given below the some list of industries where effluent treatment plants are essential:

* Food Industry
* Pharmaceuticals Industry
* Dairy Industry
* Textile and Dye Industry
* Chemical/ Paint manufacturing units.

Many such Industries need effluent treatment plants to purify the waste water before it gets discharged.

**Bio-gas Plant:** A biogas plant is an anaerobic digester that produces biogas from animal wastes or energy crops. Energy crops are cheap crops grown for the purpose of biofuels, rather than food. Biofuels are liquid, gaseous, or solid fuel made from live or recently dead organic material known as biomass, as opposed to fossil fuels, which are composed of ancient biological materials. Biogas is a type of biofuel created via anaerobic, or oxygen free, digestion of organic matter by bacteria. A biogas plant is composed of a digester and a gas holder.

**Solar panel:** Solar energy begins with the sun. Solar panels are used to convert light from the sun, which is composed of particles of energy called photons, into electricity that can be used to power electrical loads. Solar panels can be used for a wide variety of applications including remote power systems for cabins, telecommunications equipment, remote sensing, and of course for the production of electricity by residential and commercial solar electric system.

**Bio-fertilizer plant:** A bio-fertilizer is a substance which contains living microorganisms which, when applied to seeds, plant surfaces, or soil, colonizes the rhino sphere or the interior of the plant and promotes growth by increasing the supply or availability of primary nutrients to the host plant.

**Hybrid Hoffman Kiln (HHK):** The Hoffman Kiln is a series of batch process kilns. Hoffman Kilns are the most common kiln used in production of bricks and some other ceramic products. Patented by German Friedrich Hoffman for brick making in 1858, it was later used for time burning, and was known as Hoffman continuous kiln.

So these are some discussion about direct green finance.

**3.4.2. Indirect Green Finance:**

Indirect green finance means financing the project having ETP or alike system, or which projects are financing by having ETP is known as indirect green Finance. The Projects are Textile factory, Effluent treatment plant and Insight of the factory.

**3.5. Green Finance Projects:**

Banks have disbursed in different green products or events such that: Effluent Treatment Plant (ETP), Projects having ETP, Bio–gas plant, solar or renewable energy plant, Bio-fertilizer plant, HHK and etc. In 2012 Banks have disbursed in total green finance taka 270921.24 million; in 2013 Banks have disbursed in total green finance taka 348125.6 million and in 2014Banks have disbursed in total green finance taka 190263.03 million.

**Table - 01: Investment in Green Finance Projects/ Events**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Green projects/ Events | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| ETP | 1356.52 | 3663.18 | 1403.3 |  |  |  |
| Projects having ETP | 259100.05 | 318442.86 | 175140.34 |  |  |  |
| Bio- gas plant | 899.87 | 480.73 | 127.95 |  |  |  |
| Solar/ Renewable Energy Plant | 3638.37 | 2002.59 | 1614.62 |  |  |  |
| Bio-fertilizer plant | 0.40 | 1.7 | 13.38 |  |  |  |
| HHK | 1830.33 | 2890.69 | 3141.89 |  |  |  |
| Others | 4061.76 | 20565.23 | 1828.48 |  |  |  |
| Reduced Rate of Interest | 34.26 | 78.62 | 6993.07 |  |  |  |
| Total | 270921.24 | 348125.6 | 190263.03 |  |  |  |

Source: Bangladesh Bank Quarterly Green Banking (2012 to 2017)

**Explanation:**

**Sustainable Banking**

Sustainable banking integrates environmental, social and governance (ESG) criteria into traditional banking, and sets ESG benefits as a key objective. A formal definition of sustainable banking is still being developed. At this stage, it is widely understood that sustainable banking implies carrying out banking operational and business activities, with conscious consideration for the environmental and social impacts of those activities.

**Chapter –4**

**Green Finance**

**3.1. Green Finance**

Green Finance is a broad term that can refer to financial investment following into sustainable development projects and initiatives, environmental products, and policies that encourage the development of a more sustainable economy. Green finance is a phenomenon that combines the world of finance and business with environmentally friendly behavior. It is an arena for many participants, including individual and business consumers, producers, investors, and financial lenders. Green Finance can be expressed differently depending on the participant and it may be led by financial incentives.

According to Bangladesh Bank Guideline commercial banks undertook an initiative to go green by paying low interest loans to the customers who would like to setup solar equipment’s, ETP, Bio-gas Plant, Hybrid Hoffman Kiln (HHK) etc. Despite the country’s state-owned and private commercial banks and a non-banking financial institution (NBFI) signed an agreement with BB to disburse the environment friendly loan.

Green Finance includes climate finance but is not limited to it. It is also refers to a wider range of other environmental objectives, for example industrial pollution control, water sanitation, or biodiversity protection.

**3.2. Activities of Green finance:**

Green finance combines both direct and indirect green finance. Source of Bank’s direct green finance may be bank’s own fund or Bangladesh Bank’s fund for renewable energy and environment friendly projects. Indirect green finance means financing the project having ETP or alike system.

**3.1. Figure: Activities of Green Finance**

**Source: Bangladesh Bank Annual Report on Green Banking – 2012**

**3.2.1. Direct Green Finance:**

Direct finance is may be its bank’s own fund or Bangladesh Bank’s fund for renewable energy and environment friendly projects. Direct green finance is installation of ETP, Bio-gas Plant, Solar panel, Bio-fertilizer plant or others. Given below some discussion about these projects:

**Installation of ETP:** Effluent treatment plants are essential to treat waste discharged from residential units, various industries or manufacturing units. Apart from treatment plants for residential units, different types of effluent treatment plants are required for various industries as they produce by products or polluted wastes which cannot be directly discharged in the nature. Where the effluent treatment plant must be installed? Given below the some list of industries where effluent treatment plants are essential:

* Food Industry
* Pharmaceuticals Industry
* Dairy Industry
* Textile and Dye Industry
* Chemical/ Paint manufacturing units.

Many such Industries need effluent treatment plants to purify the waste water before it gets discharged.

**Bio-gas Plant:** A biogas plant is an anaerobic digester that produces biogas from animal wastes or energy crops. Energy crops are cheap crops grown for the purpose of biofuels, rather than food. Biofuels are liquid, gaseous, or solid fuel made from live or recently dead organic material known as biomass, as opposed to fossil fuels, which are composed of ancient biological materials. Biogas is a type of biofuel created via anaerobic, or oxygen free, digestion of organic matter by bacteria. A biogas plant is composed of a digester and a gas holder.

**Solar panel:** Solar energy begins with the sun. Solar panels are used to convert light from the sun, which is composed of particles of energy called photons, into electricity that can be used to power electrical loads. Solar panels can be used for a wide variety of applications including remote power systems for cabins, telecommunications equipment, remote sensing, and of course for the production of electricity by residential and commercial solar electric system.

**Bio-fertilizer plant:** A bio-fertilizer is a substance which contains living microorganisms which, when applied to seeds, plant surfaces, or soil, colonizes the rhino sphere or the interior of the plant and promotes growth by increasing the supply or availability of primary nutrients to the host plant.

**Hybrid Hoffman Kiln (HHK):** The Hoffman Kiln is a series of batch process kilns. Hoffman Kilns are the most common kiln used in production of bricks and some other ceramic products. Patented by German Friedrich Hoffman for brick making in 1858, it was later used for time burning, and was known as Hoffman continuous kiln.

So these are some discussion about direct green finance.

**3.2.2. Indirect Green Finance:**

Indirect green finance means financing the project having ETP or alike system, or which projects are financing by having ETP is known as indirect green Finance. The Projects are Textile factory, Effluent treatment plant and Insight of the factory.

**3.3. Direct and Indirect Green Finance during 2012 – 2015**

Given below the table or amount of money which is invested for direct and indirect finance during 2012 to 2015:

**3.3. Table: Direct and Indirect Green Finance During 2012 – 2015**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Bank Category** | **Direct Green Finance** | | | | **Indirect Green Finance** | | | | **Total** | | | |
| **2012** | **2013** | **2014** | **2015** | **2012** | **2013** | **2014** | **2015** | **2012** | **2013** | **2014** | **2015** |
| SCBs | 3513.10 | 2136.83 | 2398.69 | 2233.65 | 2994.15 | 1111.18 | 2826.13 | 519.1 | 6507.25 | 3248.01 | 5224.82 | 2752.75 |
| PCBs | 5623.74 | 26565.52 | 16861.4 | 12423.2 | 173187.17 | 236243.68 | 303589.31 | 232161.63 | 178810.91 | 262809.2 | 320450.71 | 244584.83 |
| FCBs | 881.28 | 715.33 | 12230.2 | 976.52 | 76517.03 | 77968.72 | 75676.04 | 47301.02 | 77398.31 | 78684.05 | 87906.24 | 48277.54 |
| SDBs | 1803.36 | 264.95 | 174.59 | 13.6 | 6401.70 | 3119.28 | 920.85 | 0.00 | 8205.06 | 3384.23 | 1095.44 | 13.6 |
| **Total** | **11821.48** | **29682.63** | **31664.88** | **15646.97** | **259100.05** | **318442.86** | **383012.33** | **279981.75** | **270921.53** | **348125.49** | **414677.21** | **295628.72** |

**Source: Bangladesh Bank Annual Report on Green Banking – 2012**

**3.3 Graph: Direct Green Finance**

**Source: Bangladesh Bank Annual Report on Green Banking**

In direct green finance Private Commercial Banks (PCBs) have maximum contribution 47.6% in 2012, 89.5% in 2013, 53.2% in 2014 and 79.4% in 2015 whereas State Owned Commercial Banks (SCBs) have 29.6% in 2012, 7.2% in 2013, 7.6% in 2014 and 14.3% in 2015 and Specialized Development Banks (SDBs) have only 15.3% in 2012, 0.89% in 2013, 0.55% in 2014 and 0.087% in 2015 respectively.

**3.3 Graph: Indirect Green Finance**

**Source: Bangladesh Bank Annual Report on Green Banking**

In indirect green finance Private Commercial Banks (PCBs) have also maximum contribution 66.8% in 2012, 74.2% in 2013, 79.3% in 2014 and 82.9% in 2015 whereas State Owned Commercial Banks (SCBs) have 1.15% in 2012, 0.35% in 2013, 0.74% in 2014 and 0.19% in 2015 and Specialized Development Banks (SDBs) have only 2.5% in 2012, 0.98% in 2013, 0.24% in 2014 and 0% in 2015 respectively.

**3.3. Graph: Total Direct and Indirect Green Finance**

**Source: Bangladesh Bank Annual Report on Green Banking**

In total direct and indirect green finance Private Commercial Banks (PCBs) have also maximum contribution 66% in 2012, 75.5% in 2013, 77.3% in 2014 and 82.7% in 2015 whereas State Owned Commercial Banks (SCBs) have 2 % in 2012, 0.93% in 2013, 1.26% in 2014 and 0.93% in 2015 and Specialized Development Banks (SDBs) have only 3% in 2012, 0.97% in 2013, 0.26% in 2014 and 0.0046% in 2015 respectively.

**3.4. Green Finance Projects:**

Banks have disbursed in different green products or events such that: Effluent Treatment Plant (ETP), Projects having ETP, Bio–gas plant, solar or renewable energy plant, Bio-fertilizer plant, HHK and etc. In 2012 Banks have disbursed in total green finance taka 270921.24 million, in 2013 Banks have disbursed in total green finance taka 348125.6 million and in 2014Banks have disbursed in total green finance taka 190263.03 million.

**3.4. Table: Investment in Green Finance Projects/ Events**

|  |  |  |  |
| --- | --- | --- | --- |
| Green projects/ Events | 2012 | 2013 | 2014 |
| ETP | 1356.52 | 3663.18 | 1403.3 |
| Projects having ETP | 259100.05 | 318442.86 | 175140.34 |
| Bio- gas plant | 899.87 | 480.73 | 127.95 |
| Solar/ Renewable Energy Plant | 3638.37 | 2002.59 | 1614.62 |
| Bio-fertilizer plant | 0.40 | 1.7 | 13.38 |
| HHK | 1830.33 | 2890.69 | 3141.89 |
| Others | 4061.76 | 20565.23 | 1828.48 |
| Reduced Rate of Interest | 34.26 | 78.62 | 6993.07 |
| Total | **270921.24** | **348125.6** | **190263.03** |

**Source: Bangladesh Bank Annual Report on Green Banking**

**Here,** is the graphical presentation of total green projects or events.

**3.4. Graph: Total Green Projects/ Events**

**Source: Bangladesh Bank Annual Report on Green Banking**

In 2012, 2013 and 2014 banks have disbursed large amount in projects having ETP.

**3.5. Environment Risk:**

Environmental risk is not a part of credit risk; rather it is a facilitating element of credit risk when it is linked with the credit risk due to environmental condition/climate change. Incorporation of environmental risk is required to be incorporated in the Core Risk Management (CRM) that mandates considering EnvRR in the overall credit risk methodology. Incorporation of environmental risk in CRM is also important for computation of adequate capital under Risk Based Capital Adequacy (RBCA) and the CAMELS rating under off-site supervision as well. Banks are now assessing EnvRR following the Environmental Due Diligence (EDD) Checklist of Environmental Risk Management (ERM) guideline.

**3.5.1. Environment Risk Rating in 2012:**

Banks have started environmental risk rating since July 2011. Banks have done environment risk rating in 4394 and 12088 projects in 2011 and 2012. The numbers of projects rating in 2012 have increased more than three times higher than the previous year. Similarly 4315 and 11165 projects have been financed after rating in 2011 and 2012 respectively.

**3.5.1. Table: Environment Risk Rating - 2012**

|  |  |  |
| --- | --- | --- |
| Year | 2011 | 2012 |
| Numbers of projects rated | 4394 | 12088 |
| No. of projects financed after rating | 4315 | 11165 |
| Amount disbursed to the rated projects (in million taka) | 270951.14 | 703633.21 |

**Source: Bangladesh Bank Annual Report on Green Banking**

**3.5.1. Graph: Comparison between 2011 & 2012 Graph: Amount disbursed to the rated projects**

**Source: Bangladesh Bank Annual Report on Green Banking**

**3.5.2. Environment Risk Rating in 2013:**

45 banks have conducted environmental risk rating in the reporting annually in 2013. Janata Bank Ltd. And National Bank of Pakistan are the two banks that have not pursued ERR. According to that, number of projects applicable for Environmental Due Diligence (EDD) rating in this annually is 35107. The annually shift of ERR by banks and FIs is showing a consistent trend.

**3.5.2. Table: Environment risk rating 2013**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Types of Bank | No. of Projects applicable for EDD | No. of projects Rated | No. of Rated Projects Financed | Amount Disbursed in rated projects.  (million taka) |
| SCBs | 496 | 328 | 232 | 20950.07 |
| SDBs | 1058 | 983 | 983 | 23122.31 |
| PCBs | 28548 | 26821 | 24955 | 1406842.53 |
| FCBs | 4041 | 3051 | 1507 | 116674.66 |
| Newly Scheduled Banks | 11 | 11 | 11 | 436.25 |
| FIs | 953 | 931 | 857 | 36858.97 |
| Total | **35107** | **32125** | **28545** | **1604884.79** |

**Source: Bangladesh Bank Annual Report on Green Banking**

**3.5.2. Graph: Comparison between 2012& 2013 Graph: Amount disbursed to the rated projects**

**Source: Bangladesh Bank Annual Report on Green Banking**

**3.5.3. Environment Risk Rating in 2014:**

56 Banks out of 56 and 30FIs out of 31 have environment risk rating in the reporting annually in 2014. According to that, number of projects applicable for Environment Due Diligence (EDD) rating in this annual is 46618. The annually shift of ERR by banks and FIs is showing a consistent trend.

**3.5.3. Table: Environment risk rating 2014**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Types of Bank | No. of Projects applicable for EDD | No. of projects Rated | No. of Rated Projects Financed | Amount Disbursed in rated projects.  (million taka) |
| SCBs | 1776 | 1475 | 1303 | 27235.35 |
| SDBs | 525 | 517 | 517 | 7994.33 |
| PCBs | 38252 | 32657 | 27385 | 1290342.28 |
| FCBs | 3406 | 2664 | 1170 | 105772.1 |
| Newly Scheduled Banks | 69 | 60 | 60 | 11076.64 |
| FIs | 2590 | 2468 | 2303 | 77356.3 |
| Total | **46618** | **39841** | **32738** | **1519777** |

**Source: Bangladesh Bank Annual Report on Green Banking**

**3.5.3.Graph: Comparison between 2013 & 2014 Graph: Amount disbursed to the rated projects**

**Source: Bangladesh Bank Annual Report on Green**

**3.5.4. Environment Risk Rating in 2015:**

49 Banks out of 56 and 25 FIs out of 31 have conducted environmental risk rating in the reporting annually in 2015. According to that, number of projects applicable for Environment Due Diligence (EDD) rating in this annual is 16223. The annually shift of ERR by banks and FIs is showing a consistent trend.

**3.5.4. Table: Environment risk rating 2015 (January – September)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Types of Bank | No. of Projects applicable for EDD | No. of projects Rated | No. of Rated Projects Financed | Amount Disbursed in rated projects.  (million taka) |
| SCBs | 1807 | 1433 | 1414 | 30788.68 |
| SDBs | 74 | 74 | 75 | 2297.97 |
| PCBs | 42612 | 35115 | 28529 | 1016764.87 |
| FCBs | 3091 | 2394 | 1190 | 82774.18 |
| Newly Scheduled Banks | 236 | 236 | 239 | 16537.34 |
| FIs | 1657 | 1821 | 1754 | 50293.08 |
| Total | **49477** | **41073** | **33201** | **1199456.12** |

**Source: Bangladesh Bank Annual Report on Green Banking**

**3.5.4.Graph: Comparison between 2014 & 2015 Graph: Amount disbursed to the rated projects**

**Source: Bangladesh Bank Annual Report on Green**

**3.6. Refinance Scheme:**

BB is providing to the lending banks refinance at five percent interest per annum, from a taka 2.00 (two) billion refinance window accessible against financing for revolving eco-friendly or ‘green’ initiatives like installation of bio mass based, solar and other renewable energy generations units, effluent treatment plants, adoption of new energy efficient output process and so forth. Under this scheme, refinance is provided to participatory financial institutions who come into agreement with BB. In July – December, 1 PFI has come into agreement. Up to the reporting total number of PFIs is 48 where 34 are banks and 14 are FIs. Objective of the fund to promote renewable energy and environment friendly financial activity of our country. Refinance facilities are extended to the participating banks and financial institutions (PFIs) in this purpose. 34 banks and 14 financial institutions so far have signed participation agreement in January - March, 2015, 37 banks and 15 financial institutions so far have signed participation agreement in Aril – June, 2015 and 40 banks and 16 financial institutions so far have signed participation agreement with Bangladesh Bank. Given below the disbursement scenario of this scheme is furnished below:

As of December 2012, Tk. 853.54 million, in December 2014, Tk. 149.06 million and in December 2015, Tk. 329.01 million revolving fund utilized in category wise disbursement.

**3.6 Table: Category wise disbursement**

|  |  |  |  |
| --- | --- | --- | --- |
| Category | Amount (TK. in millions) 2012 | Amount (TK. in millions) 2014 | Amount (TK. in millions) 2015 |
| Solar irrigation Pump | 23.90 | 26.50 | 0.60 |
| Solar home system | 102.84 | 26.51 | 74.68 |
| Biogas Plant | 262.70 | 56.55 | 63.32 |
| Effluent treatment Plant (ETP) | 90.40 | - | 6.40 |
| Hybrid Hoffman Kiln (HHK) | 124.80 | - | 18.32 |
| Solar PV module assembling plant | 248.80 | - | 164.43 |
| Tunnel Kiln | - | - |  |
| Vermicompost | - | 39.50 | 1.26 |
| Total | **853.54** | **149.06** | **329.01** |

**Source: Bangladesh Bank Annual Report on Green**

**3.6 Graph: Sector wise Disbursement of BB**

**Source: Bangladesh Bank Annual Report on Green**

Around 853.54 million has been disbursed under refinance line of BB in 2012, in 2013 there is no available information, 149.06 million has been disbursed under refinance line of BB in 2014 and in 2015 around 329.01 million has been disbursed under refinance line of BB.

**Chapter –5**

**Budget Allocation & Utilization in Green Finance**

**4.1. Budget Allocation and Budget Utilization in Green Finance:**

Banks are required to allocate a considerable amount for green banking in their annual budgets, which will include 1) Budget for Green Finance 2) Budget for Climate Risk Fund and 3) Budget for Green Marketing Training and Capacity Building.

**4.2. Annual Budget Allocation and Budget Utilization for 2012**

**4.2. Table: Annual Budget Allocation and Budget Utilization for 2012**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Types of Bank | Annual Allocation of Fund for 2012  (In million Tk.) | | | | Utilization of Funds for 2012  (In millions Tk.) | | | |
| Green Finance | Climate Risk Fund | Marketing Training and Capacity Building | Total | Green Finance | Climate Risk Fund | Marketing Training and Capacity Building | Total |
| SCBs |  | 415.00 |  |  | 6507.25 | 24.61 | 1.35 | 6533.21 |
| SDBs |  | 430.20 |  |  | 8205.06 | 0.00 | 0.04 | 8205.1 |
| PCBs |  | 1283.15 |  |  | 178810.91 | 219.70 | 81.97 | 179112.58 |
| FCBs |  | 17.00 |  |  | 77398.31 | 14.58 | 7.06 | 77419.95 |
| Total |  | **2145.35** |  |  | **270921.53** | **258.89** | **90.42** | **271270.84** |

**Source: Bangladesh Bank Annual Report on Green Banking – 2012**

39 Banks have utilized taka 271270.84 million in 2012 for green finance have utilized taka 270921.53 million, for Climate Risk Fund taka have utilized 258.89, and for Marketing Training and Capacity Building have utilized taka 90.42 million in 2012.

**4.3. Annual Budget Allocation and Budget Utilization for 2013**

**4.3. Table: Annual Budget Allocation and Budget Utilization for 2013**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Types of Bank | Annual Allocation of Fund for 2013  (In million Tk.) | | | | Utilization of Funds for 2013  (In millions Tk.) | | | |
| Green Finance | Climate Risk Fund | Marketing Training and Capacity Building | Total | Green Finance | Climate Risk Fund | Marketing Training and Capacity Building | Total |
| SCBs | 3915.00 | 94.70 | 86.20 | 4095.90 | 3248.01 | 80.75 | 15.05 | 3343.81 |
| SDBs | 5000.00 | 433.20 | 40.10 | 5473.30 | 3384.23 | 1.00 | 0.00 | 3385.23 |
| PCBs | 275024.34 | 540.22 | 273.69 | 275838.25 | 262809.2 | 211.08 | 100.67 | 263120.95 |
| FCBs | 79990.62 | 128.04 | 126.34 | 80245.00 | 78684.05 | 22.56 | 48.31 | 78754.92 |
| Total | **363929.96** | **1196.16** | **526.33** | **365652.45** | **348125.49** | **315.39** | **164.03** | **348604.91** |

**Source: Bangladesh Bank Annual Report on Green Banking – 2013**

Out of Tk. 365652.45 million for green banking activities, bank have allocated Tk. 363929.96 for green finance, Tk. 1196.16 for climate risk fund and Tk. 526.33 for marketing training and capacity building. This allocation has been made on annual basis.

40 banks have utilized Tk. 348604.91 million in the reporting annual for green banking activities. Out of which, Tk. 348125.49 for green finance, Tk. 315.39 for climate risk fund and Tk. 164.03 have been utilized for marketing training and capacity building.

**4.4. Annual Budget Allocation and Budget Utilization for 2014**

**4.4. Table: Annual Budget Allocation and Budget Utilization for 2014**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Types of Bank | Annual Allocation of Fund for 2014  (In million Tk.) | | | | Utilization of Funds for 2014  (In millions Tk.) | | | |
| Green Finance | Climate Risk Fund | Marketing Training and Capacity Building | Total | Green Finance | Climate Risk Fund | Marketing Training and Capacity Building | Total |
| SCBs | 38016.01 | 1067.4 | 1207 | 40290.41 | 5224.82 | 41.84 | 11.06 | 5277.72 |
| SDBs | 18904.35 | 1296.84 | 120.4 | 20321.59 | 1095.44 | 0.02 | 0.20 | 1095.66 |
| PCBs | 1164176.7 | 2830.15 | 2031.67 | 1169038.52 | 320450.71 | 371.63 | 155.77 | 320978.11 |
| FCBs | 255728.23 | 678.63 | 264 | 256670.86 | 87906.24 | 84.83 | 0.03 | 87991.1 |
| Total | **1476825.29** | **5873.02** | **3623.07** | **1486321.38** | **414677.21** | **498.32** | **167.06** | **415342.59** |

**Source: Bangladesh Bank Annual Report on Green Banking – 2014**

Out of Tk. 1486321.38 million for green banking activities, bank have allocated Tk. 1476825.29 for green finance, Tk. 5873.02 for climate risk fund and Tk. 3623.07 for marketing training and capacity building. This allocation has been made on annual basis.

37 banks have utilized Tk. 415342.59 million in the reporting annual for green banking activities. Out of which, Tk. 414677.21 for green finance, Tk. 498.32 for climate risk fund and Tk. 167.06 have been utilized for marketing training and capacity building.

**4.5. Annual Budget Allocation and Budget Utilization for 2015**

**4.5. Table: Annual Budget Allocation and Budget Utilization for 2015**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Types of Bank | Annual Allocation of Fund for January – September, 2015  (In million Tk.) | | | | Utilization of Funds for January – September, 2015  (In millions Tk.) | | | |
| Green Finance | Climate Risk Fund | Marketing Training and Capacity Building | Total | Green Finance | Climate Risk Fund | Marketing Training and Capacity Building | Total |
| SCBs | 33354.6 | 634.5 | 1230 | 35219.1 | 2752.75 | 0.10 | 9.93 | 2762.78 |
| SDBs | 1230 | 0.6 | 0.30 | 1230.9 | 13.6 | 0.00 | 0.00 | 13.6 |
| PCBs | 532517.32 | 1056.99 | 5763.02 | 539337.33 | 244584.83 | 290.73 | 54.99 | 244930.55 |
| FCBs | 162238.16 | 536.54 | 195.6 | 162970.3 | 48277.54 | 86.68 | 0.00 | 48364.22 |
| Total | **729340.08** | **2228.63** | **7188.92** | **738757.63** | **295628.72** | **377.51** | **64.92** | **296071.15** |

**Source: Bangladesh Bank Annual Report on Green Banking – 2015**

Out of Tk. 738757.63 million for green banking activities, bank have allocated Tk. 729340.08 for green finance, Tk. 2228.63 for climate risk fund and Tk. 7188.92 for marketing training and capacity building. This allocation has been made on annual basis.

Banks have utilized Tk. 296071.15 million in the reporting annual for green banking activities. Out of which, Tk. 295628.72 for green finance, Tk. 377.51 for climate risk fund and Tk. 64.92 have been utilized for marketing training and capacity building.

**4.6. Comparison of Annual Basis Utilization of Funds:**

For compare the annual basis of budget utilization given below the graph which is showing the annual basis comparison:

**4.6. Graph: Comparison of Annual Basis Utilization of Funds**

**Source: Bangladesh Bank Annual Report on Green Banking**

By comparison the annual basis utilization of funds, In 2014 Private Commercial Banks has utilized the maximum amount Tk. 320978.11 million and Foreign Commercial Bank utilized also the maximum amount is 87991.1 million. In 2012, 2013, 2014 and 2015 always Private Commercial Bank and Foreign Commercial Banks utilized the maximum amount of money but in 2014 they utilized the large amount of money rather than others years. State -owned Commercial Banks and Specialized Development Banks utilized the maximum amount in 2012, but in 2013, 2014, and 2015 they utilized the small amount of money rather than 2012.

**Chapter –6**

**Findings, Recommendations & Conclusion**

**5.1. Findings:**

Bank in Bangladesh are playing a vital role towards sustainable development by introducing various green banking practices. Adoption of these green banking practices by the customers will result saving of energy, fuel, paper and other natural resources. Through many studies have been made in the field of green banking but there have been very few studies done in Bangladesh, especially in Banks. The researcher realizes that no study has been carried out on environmental aspects of various green banking practices introduced by the banks in Bangladesh private or public sector. Therefore, it is the high time to carry out study on green banking practices to make the people aware about their benefits to the users as well as the environment. Such study will surely help the banking sector, customer, policy makers and the society as a whole.

* The main problem of green finance practices in Bangladesh; the banks have not able to make their customers aware about the green banking practices. Lack of awareness among the general customers has caused underutilization of the green practice offered by the bank in BD.
* In environmental risk rating there are four category industrial units but there are no specific amount that will indicates the disbursed amounts of banks which is invested for environment risk rating is Green (least polluted), Orange A ( medium polluted), Orange B (large polluted) and Red (most polluted).
* In direct green finance and indirect green finance both sector Private Commercial Banks (PCBs) and Foreign Commercial Banks (FCBs) have the maximum contribution. But State Owned Commercial Banks (SCBs) and Specialized Development Banks (SDBs) have the small part of contribution lower than Private Commercial Banks (PCBs) and Foreign Commercial Banks (FCBs).
* In budget allocation and utilization Private Commercial Banks (PCBs) and Foreign Commercial Banks (FCBs) always utilize the maximum amount of funds whereas State Owned Commercial Banks (SCBs) and Specialized Development Banks (SDBs) utilize the minimum amount or small amount of funds which is less than other banks.
* 46 Banks out of 56 had bank exposure in green finance. Here, 40 banks involve in direct finance and 30 banks involve in indirect finance.
* Still, there is no investment in energy efficiency, solid waste management, non-fire block brick, recycling and recyclable product, Green Industry, safety and security of the factory.
* Lack of knowledge, even among the employees of different banks is also noticed.
* All the banks are not equally coming forward to introduce green finance practices.

**5.2. Recommendations:**

From the present studies, the following recommendations have emerged:

* Government should carefully monitor and supervised the green banking practices in Bangladesh.
* Bangladesh Bank must monitor the adherence of green banking guidelines by the commercial and non-commercial banks.
* Coordination among concerned authorities.
* Apply quantitative approach for environmental risk rating.
* Shifting different categories of industry (such as, garments, textiles, and tannery) to a proper location.
* Carbon footprint reduction by saving energy and paper.
* Carbon footprint reduction by the offering transportation services for their employee.
* Providing environment friendly rewards to customers.
* By financing more and more environment friendly projects.
* Employee needs training to obtain knowledge regarding various green banking practices.
* Awareness of top management.
* Encouraging borrowers to go green.
* Need to apply green banking and use environmental risk management (ERM) guideline in efficient manner.
* Develop a cultural within the organization based on environmental governance.
* Promoting different forms of electronic banking.
* Share knowledge and technical know-how with peer groups.
* Further integration with credit risk management in the overall credit risk methodology.

**5.3. Conclusion:**

Bangladesh is one of the most climate changes vulnerable countries to climate change in the world. From the overall discussion, it can be said that green financing in Bangladesh is growing at positive trend. In line with global development and in response to the global warming it is not in a satisfactory level. Already, Bangladesh Bank emphasizes the significance of green investment activities. The finding shows the upward trend how a bank is going to be green. The in-house practices can give a dramatically changes to the financial sector. Since all the industry are moving keeping hand to hand with banks, the flow of the financing to the working capital investment and project investment will affect positively for eco-supportive product innovation, and by this way the green-house gas emission, as well as the air, water, sound pollution will be decreased in a higher range within a shortest possible of time. The environment is comprised of people, trees, animals, birds etc. Every living being has the right onto the environment. We the human cannot ruin all the creatures of the world. The exchanges of commodity established the relation among the living entity and the medium of exchanges is money. So, financial sector is the root of human strength and only financial sector play the most contributory role for the development of economy as well as society. That’s why the innovation of green banking is one of the paths following which all the countries can go for sustainable development. The trend also shows that. After all, green banking is the banking for green revolution accepted by the world leading, developed, and developing as well as least and under developed countries. The recommendations construed here will be effective when they are followed by the national and international financial bodies, which will revive the forestation and enough oxygen for the living being. So, “Go Green”.

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