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GREEN FINANCE-FINANCIAL SUPPORT FOR SUSTAINABLE DEVELOPMENT

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Abstract
Green finance is an emerging concept in the field of finance. Because of limitation of public finance for financing the sustainable development and reducing the effects of climate change, private finance has gained its importance. Green finance which capitalises the private finance refers to financial support for sustainable development. The present study, through secondary information, attempts to discuss the need, constraint and government initiative for green finance. The purpose of this paper is to aware the private investors about their role in sustainability.

I. Introduction

High economic growth rate reduces poverty, generates employment which in turn leads to high standard of living. But traditional method of achieving significant growth rate exploits the natural environment and brings climate changes which deplete the ability of meeting the future generation needs. So growth with sustainability has become essential. Huge amount of funds are required to finance the adaptation and mitigation policies of climate change. India has adopted the17 sustainable development goals and submitted the Intended Nationally Determined contribution (INDC) in Paris agreement, and to achieve those goals and targets huge amount of investment is required. At least USD 2.5 trillion (at 2014-15 prices) will be required for meeting India's climate change actions by 2030. Public finance is not sufficient for this amount of investment. Private finance is needed to achieve targets of Paris agreement and 17 SDG. Green finance is recent phenomena in the field of Finance which align the financial sector with sustainability. It includes both public and private finance. It means investment in those projects and business which are environment friendly. People bank of china in his report "Establishing the China Green Financial System" published by the research bureau of Peoples Bank Of China and UNEP Inquiry into the Design of Sustainable Financial System said that 85% - 90% financing is required from private sector for green investment. So, green finance has become prominent in recent years. The objectives of this paper are (1) to study the constraint in the path of green finance. (2) To know the steps taken by the Indian Financial System and Government of India for green financing and environment protection.

II. Meaning of Green Finance

There is no universal definition of green finance. Green Finance means finance only those projects and businesses which protect or less deteriorates the environment. It considers the negative and positive environmental effects while financing the projects and business investment in renewable energy, resource efficiency/energy efficiency, clean energy, control of pollution, waste management, water sanitation, mitigation and adoption strategies of climate change, bio-diversity protection and development of green products for end user like cloth- cotton bag etc. Green finance refers to financial support for sustainable development. It includes both public and private finance.

III. Research Methodology

The research study is based on secondary data. The data has been collected through various research articles, research papers, reports and various websites.

IV. Sources of funds for Investment

- Domestic public finance refers to the direct funding by a government
- International public finance refers to the funding from international organizations and multilateral development banks
- Private sector finance consists of both domestic and international funding sources

V. Why Green finance?

India in its "Intended Nationally Determined Contribution" for the time period 2021-2030 has set the following targets:

- To **reduce the emissions intensity of its GDP** by **33 to 35 percent by 2030** from **2005 level**.
- To achieve about **40 percent cumulative electric power installed capacity** from **non-fossil fuel based energy resources** by **2030** with the help of transfer of technology and low cost international finance including from Green Climate Fund (GCF).
- To **create an additional carbon sink of 2.5 to 3 billion tonnes** of **CO_2 equivalent** through additional forest and tree cover by **2030**

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- Preliminary estimates indicate that India would need around USD 206 billion (at 2014-15 prices) between 2015 and 2030 for implementing **adaptation actions** in agriculture, forestry, fisheries infrastructure, water resources and ecosystems
- Asian Development Bank Study on assessing the costs of climate change adaptation in South Asia indicates that approximate adaptation cost for India in **energy sector alone** would roughly be about USD 7.7 billion in 2030
- Estimates by NITI Aayog (National Institution for Transforming India) indicate that the mitigation activities for moderate low carbon development would cost around USD 834 billion till 2030 at 2011 prices
- While this would evolve over time, a preliminary estimate suggests that at least USD 2.5 trillion (at 2014-15 prices) will be required for meeting India's climate change actions by 2030.

Installed Grid Interactive Renewable Power Capacity (excluding large hydropower) in India as of April 30, 2017 (RES MNRE)

<table>
<tr><th>Sources</th><th>Installed Capacity(MW)</th><th>Target 2022(MW)</th></tr>
<tr><td>Wind Power</td><td>32287.27</td><td>60000</td></tr>
<tr><td>Solar Power</td><td>12504.50</td><td>100000</td></tr>
<tr><td>Bio-Mass Power
(Biomass & Gasification and Bagasse Cogeneration)</td><td>8181.70</td><td rowspan="2">10000</td></tr>
<tr><td>Waste to Power</td><td>114.08</td></tr>
<tr><td>Small Hydro power</td><td>4384.85</td><td>5000</td></tr>
<tr><td>Total</td><td>57472.40</td><td>175000</td></tr>
</table>

Source-http://mnre.gov.in/mission-and-vision-2/achievements/

The above estimates show that huge amount of funds are required to achieve the target set in INDC under Paris agreement of climate change and renewable power capacity target of 175000 MW by 2022. As on 30th April 2017, India has installed only 57472.40 MW out of 175000 MW. This shows that it's going to be very difficult to achieve this target, although these are not obligatory for India but because of deteriorating climate conditions, these targets should be achieved. Public finance is the major source of getting funds for these sustainable activities but government of India already has large fiscal deficit which makes the availability of funds difficult. Moreover, Indian economy has also come under middle income class group as per the classification of World Bank, because of which the flow of funds from international financial institution will also decline. So, the development of green financial system/ sustainable financial system which capitalises the private finance into sustainable development is vital.

VI. Constraints for green financing

- **Stable Policy and Regulatory Framework:** Private sector does not want to invest when there is instability regarding policies of Government. An unpredictable policy creates uncertainties about risk and returns of the projects. There should be a stable policy environment which provides guidance, assurance and encourages the investors for long term green investment.
- **An Environmental Performance Disclosure:** Disclosure and reporting about the environmental performance of the firms is essential for green financing. Socially responsible investors want to invest in green firms but lack of information about environmental performance of the companies makes green finance difficult.
- **Low Profitability of Green Industries:** Private sector is more inclined to make investment in polluting industries because of low cost and high return in it than green industries. Moreover, green investments are long term in nature which makes them less attractive for investment.
- **Mechanism for measuring the Viability of Green Industries:** Investors want to invest in those projects which are commercially viable. There is no proper mechanism to choose commercially viable green projects. Conventional projects look more viable than green projects because of less incorporation of positive and negative externalities in measuring the viability of the projects.
- **Less Awareness among Consumers for Green Products:** Private sector will produce green products only when there is sufficient market for that. Because of high cost and lack of awareness about the importance for green products people hardly buy green products.
- **Less Awareness among Investors about Green Finance:** Besides low profitability, low awareness among investors about the importance of green finance is also a major constraint. Also investment in energy efficiency technology and solar energy etc. are considered as cost, not investment.

- **Less availability of green financial products:** Limited number of green financial products is also a major obstacle for the development of green finance.

VII. Steps taken by the Indian Financial system

1. ESG Index in India

a) S&P ESG India Index- It was launched in 2008. It is comprised of 50 companies which incorporate the ESG criteria for investment and these companies are taken from largest 500 companies listed on NSE through a two stage screening process

b) MSCI India ESG Index-launched in July 2013, is a capitalization-weighted index that lists companies with good ESG performance relative to sector peers. It consists of large and mid-cap Indian companies.

c) S&P BSE CORBONEX-It tracks the performance of the companies within the S&P BSE 100 index based on their commitment to mitigate risks arising from climate change.

d) S&P BSE GREENEX- It is designed to measure the performance of the top 25 "green" companies in terms of greenhouse gas (GHG) emissions, market cap and liquidity.

2. Issued guidelines regarding Environmental, Social and Governance (ESG) for financial system

- RBI circular for ESG in 2007
- A national Voluntary guideline on Business Reporting in the year 2011- It is constituted on 9 core principles and has 48 core elements. SEBI mandated the Business Responsibility report as a part of annual report for 500 companies based on the valuation of Bombay Stock Exchange and National Stock Exchange in 2012. The report provides information about the steps taken by listed companies regarding Environmental, Social and governance (ESG) issues. Other listed companies can also disclose the Business responsibility report voluntarily with their annual report.
- IBA's National Voluntary guidelines on responsible financing in 2015- These guidelines are for financial institution which integrate the ESG principles while taking lending and investment decision through 8 principles.

3. Green Bond Market in India

- Proceeds of the green bond are used for financing the green projects typically for generation of renewable energy and emission reduction as well.
- IREDA has launched loans and raised $91 million for renewable energy using bond issue in 2013
- IREDA has launched India's first green bond to support renewable energy. Rated AAA, interest 8.16% for 10 years and 8.55% for 10 years and 15 years.
- Exim Bank of India has issued a five-year US$500 million green bond in 2015
- YES Bank has issued the first INR-denominated green bond in 2015.
- IDBI Bank: India's State-Owned IDBI Bank has raised $350 million in BBB-rated 5-year green bonds for renewable energy projects in November 2015, becoming India's first public-sector bank to raise funds through green bonds.
- ReNew Power Ventures: ReNew Power Ventures, a leading Indian clean energy company, has issued the second corporate green bond in the country, and the first to boast a credit-enhanced structure in September 2015.
- Hero Future Energies: Hero Future Energies, the green energy arm of the Hero Group, one of India's leading industrial conglomerates, has issued the country's first certified climate bond in February 2016
- CLP Wind Farms: CLP Wind Farms, the largest wind power developer in India with 1,000 MW of wind energy assets in the pipeline across 6 states, became the first Indian corporate (non-bank) issuer of green bonds in September 2015.
- IREDA: In January 2016, IREDA has issued a tax-free R10 billion ($150 million) green bond.
- SEBI has proposed new norms for the issuance and listing of green bonds in 2016.

4. Other Initiatives by Government of India for Sustainability

a) The Indian government has increased its coal cess from INR50 per ton to INR100 in 2014, INR200 in 2015, and finally INR 400 per ton in 2016. The proceeds from the cess are used to finance clean energy initiatives, and are expected to contribute INR13,000 to the NCEF every year

b) India has decreased its subsidies and increased the taxes in the form of excise duty on petrol and diesel, even as global oil prices have collapsed. For example, the basic excise duty rate on aviation turbine fuel has increased from 8% to14%. This has acted as an implicit carbon tax. Both these fiscal measures, combined with India's ambitious renewable energy initiatives, are substantive steps in the direction of sustainable development

c) The Companies Act of 2013 mandates 2% of profits towards CSR in 2014- All companies, private limited or public limited, with a net worth of INR5 billion, a turnover of INR10 billion or a net profit of INR50 million, have to spend

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at least two per cent of their average net profit of the immediate preceding three financial years on CSR activities. Notably, sustainability-linked funding is an option available to the companies

d) Inclusion of renewable energy under Priority Sector Lending in 2015- Bank loan up to INR 150 millions to organizations and up to INR 1 million to individual are permitted under Priority lending Scheme for installation of renewable energy.

5. Other initiatives by government of India for Environmental protection Policies in India

- National Environment Policy (NEP) 2006
- National Action Plan on Climate Change (NAPCC)
- State Action Plan on Climate Change (SAPCC)
- Energy Conservation Act
- National Electricity Policy (NEP)
- Integrated Energy Policy (IEP)

VIII. Conclusion

Although Government of India has taken various steps for sustainable development but the private sector participation for sustainability is in the nascent stage. Because of the limited public finance, private finance has immense importance in the sustainable development. So, the development of green finance is essential. However, there are various constraints in the growth path of green finance, but the removal of these will definitely lead to the development of green finance. Below are some suggestions for the same.

IX. Suggestions

- Government should bring stable policy framework for green finance which encourages private sector to finance sustainable development programme. For this, India has launched its National voluntary guidelines for responsible financing which mainly focus on disclosure of information.
- Environmental performance of the companies can be shown through index. Although India has 4 ESG index, there should be more ESG index in India to show the environmental performance of the companies. There should be green rating agencies also in the country.
- Government should intervene to increase the profitability of green projects. It can be increased by giving the tax exemption, subsidies and concessional loans to green projects which reduce the cost of green projects. It can also be done by charging high tax and by reducing the subsidies of polluting industries that means increasing the cost of polluting industry.
- There should be a mechanism to evaluate the projects and business etc., in terms of environmental, social and governance (ESG) risk. Objective should be to give more emphasis on environmental risk.
- 45% of the production comes from medium, small and micro enterprises. So, MSME has great scope to use energy efficient technology which reduce green house gas emission and generate renewable energy sources. Although, in India SIDBI and SBI provide the financial support to small scale industries for using the energy efficient technology, but more funds should be provided for the same.
- Awareness among Investors and consumers about the green finance is essential for the sustainability of the economy. Conferences, newspaper report, seminar can be useful tools for imparting the knowledge about the necessities of green products, technologies for energy efficiency for the sake of the future generation because a socially responsible consumer creates the market for green products.
- More numbers of green financial products should be available to investors so that they can make investment easily. For examples green loans, green equity, green bonds, green credit card etc.

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