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Abstract

Sustainable development can best be achieved by allowing markets to work within an appropriate framework of cost efficient regulations and economic instruments. One of the major economic agents influencing overall industrial activity and economic growth is the financial institutions such as banking sector. In a globalised economy, the industries and firms are vulnerable to stringent environmental policies, severe law suits or consumer boycotts. Since banking sector is one of the major stake holders in the Industrial sector, it can find itself faced with credit risk and liability risks. Further, environmental impact might affect the quality of assets and also rate of return of banks in the long-run. Thus the banks should go green and play a pro-active role to take environmental and ecological aspects as part of their lending principle, which would force industries to go for mandated investment for environmental management, use of appropriate technologies and management systems. This paper explores the importance of Green Banking, sites international experiences and highlights important lessons for sustainable banking and development in India. However, we find that there has not been much initiative in this regard by the banks and other financial institutions in India though they play an active role in India's emerging economy. Therefore, we suggest possible policy measures and initiative to promote green banking in India.

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GREEN BANKING IN INDIA

I. Introduction

Sustainable development has emerged as a new paradigm of development in response to the current discourse of development that over-exploits natural environment for economic prosperity. The sustainable development can best be achieved by allowing markets to work within an appropriate framework of cost efficient regulations and economic instruments. One of the major economic agents influencing overall industrial activity and economic growth is the financial institutions such as banking sector. The banking sector influences the economic growth and development in terms of both quality and quantity, there by changing the nature of economic growth. Banking sector is one of the major sources of financing investment for commercial projects which is one of the most important economic activities for economic growth. Therefore, banking sector can play a crucial role in promoting environmentally sustainable and socially responsible investment (SRI)¹. Banks may not be the polluters themselves but they will probably have a banking relationship with some companies/investment projects that are polluters or could be in future.

Banking sector is generally considered as environmental friendly in terms of emissions and pollutions. Internal environmental impact of the banking sector such as use of energy, paper and water are relatively low and clean. Environmental impact of banks is not physically related to their banking activities but with the customer's activities. Therefore, environmental impact of bank's external activity is huge though difficult to estimate. Moreover, environment management in the banking business is like risk management. It increases the enterprise value and lowers loss ratio as higher quality loan portfolio results in higher earnings. Thus, encouraging environmentally responsible investments and prudent lending should be one of the responsibilities of the banking sector. Further, those industries which have already become green and those, which are making serious attempts to grow green, should be accorded priority to lending by the banks. This method of finance can be called as "*Green Banking*", an effort by the

¹ Internationally SRI funds are highly demanded for example SRI assets in the U.S. have reached \$2.29 trillion in 2005 (Starogiannis, 2006)

banks to make the industries grow green and in the process restore the natural environment. This concept of “Green Banking” will be mutually beneficial to the banks, industries and the economy. Not only “Green Banking” will ensure the greening of the industries but it will also facilitate in improving the asset quality of the banks in future².

Internationally, there is a growing concern about the role of banking and institutional investors for environmentally responsible/socially responsible investment projects³. Banking and other financial institutions are more effective towards achieving this goal for the kind of intermediary role they play in any economy and for their potential reach to the number of investors. Environment is no longer the exclusive concern of the government and the direct polluters, but also the other partners and stake- holders in the business like financial institutions such as banking institutions can play a very important role in fostering linkage between economic development and environmental protection. To substantiate, quality of service, the implementation of environmental conservation measures, support to the deprived section of the society, concern about the quality of life and nature are the basic principles that the financial institutions are relying on in their business strategy in recent years.

The banking operation targets a certain long-term rate of return on their credit and investment. However, every credit extension and investment carries the risk of non-payment and reduction of value (in case of direct investment) due to environmental liabilities. Therefore, it is of importance to the banking sector to follow certain environmental evaluation of the projects before financing. There are studies showing positive correlation between environmental performance and financial performance (Hamilton, 1995; Hart, 1995; Blacconiere and Pattern, 1993). Thus, it is imperative for the financial institutions in the present context to consider environmental performance in deciding whether to invest in companies or advise clients to do so. The formation of different rules for environmental management like resource conservation, clean water act, clean air act, toxic substance control act are also viewed as potentially significant

² Non-performing Assets (NPAs) have already occupied the center stage of the present day banking. All the banks are busy in cleaning up the already created NPAs from their asset portfolio.

³ Earth Summit in 1992, the United Nation Environment Programme Initiative on the Environment and Sustainable Development” was established in order to initiate a constructive dialogue between UNEP and Financial Institutions.

contributor to the recent increase in environmental liability for banking institutions. Adoption of these principles will offer significant benefits to financial institutions, to consumers and also the stakeholders.

There have been attempts to adopt sustainable development strategies from various quarters at international level⁴. Multilateral agencies, international consortiums, multilateral financial and development institutions have been advocating for environmental standards and strategies to evaluate investment projects. In the recent years, the international organization for standardization (ISO) has issued series of comprehensive guidelines for incorporating environmental protection and pollution prevention objectives into industrial activity worldwide, known collectively as ISO 14000. It would certainly give the much needed impetus for the banking industry to expand the use of environmental information in their credit extension and investment decisions. In this backdrop, the paper aims to discuss the issues of sustainability in Banking and how banks can play a role for sustainable growth and development, particularly in the Indian context.

II. Importance of Green Banking

Until recently, environmental concerns were not considered relevant to the business operation of banks and financial institutions. Traditionally, banking sector's concern for environmentally degrading activities of clients is like interfering or meddling in their business affairs. However, now it is being perceived that dealing with environment brings risks to their business. Although the banking and financial institutions are not directly affected by the environmental degradation, there are indirect costs to banks. Due to strict environmental disciplines imposed by the competent authorities across the countries, the industries would have to follow certain standards to run their business. In the case of failure, it would lead to closure of the industries leading to a likelihood of default to the bank. For example the enactment of Comprehensive Environmental Response, Compensation and Liability Act in 1980 (CERCLA)

⁴ The UNEP statement by Financial Institutions on the Environment and Sustainable development in 1992 showed that 80% of the signatories (200 financial institutions) made some kind of assessment of environmental risks of investment projects before financing.

in the US in late 1980s has resulted in huge loss to the banks in the US as banks held directly responsible for the environmental pollution of their clients and made to pay the remediation cost. This is the reason for which banks in the US are ahead of other countries in integrating environmental concerns into their business operations. In the recent years several other countries (more in Europe) are seen adopting policies that have made banks responsible for the misdeeds of their clients. Therefore, the financial institutions need to engage proactively with the stakeholders on environmental and social policy issues and evaluate the impacts of their client's investment. In turn, that would force the customers to take care of their management of environmental and social policy issues relating to investment. This should cover all project financing activities across all industries. The importance of Green Banking is immense for both the banks and economy by avoiding the following risks involved in banking sector.

Credit Risk: - It can arise indirectly where banks are lending to customers whose businesses are adversely affected by the cost of cleaning up pollution or due to changes in environmental regulations. The cost of meeting new requirements on emission levels may be sufficient to put some companies out of business⁵. Credit risks may be higher due to the probability of customer default as a result of uncalculated expenses for capital investment in production facilities, loss of market share and third party liability claim. Credit risks are also associated with lending on the security of real estate whose value has diminished owing to environmental problems (additional loss in the event of default). Further, risk of loan default by debtors due to environmental liabilities because of fines and legal liabilities and due to reduced priority of repayment under bankruptcy. In few cases, banks have been held responsible⁶ for actions occurring in which they held a secured interest (see Schmidheiny and Zorraquin, 1996 and Ellis, Millians and Bodeau, 1992).

⁵ Example, in United Kingdom, the breach of terms of the license given by integrated pollution prevention control would lead to prohibition, financial penalties and enforcement notice. All such notices can have significant financial implications for the business and as well as the financial institutions those who have put money into it. Thus banks/financial institutions need to take actions before financing the project. The enactment of CERCLA in USA in 1980s has resulted in huge loss to the banks in USA as banks held directly responsible for the environmental pollution of their clients and made to pay the remediation cost.

⁶ Some US courts (H. Thomson) have sought to hold banks and other financial institutions liable for the environmental damage caused by their customer's actions, such as clean up costs and other damages associated with

Legal Risk: - It can occur in different forms. Most obviously, banks like other companies are at risk if they themselves do not comply with relevant environmental legislation. But more specifically, they are at risk of direct lender liability for clean up costs or claims for damages if they have actually taken possession of contaminated or pollution causing assets. An environmental management system helps a bank to reduce risks and costs, enhance its image and take advantage of revenue opportunities.

Reputation Risk: - In all likelihood, due to growing awareness about environment safety, banking institutions are more prone to lose their reputations if they are involved in big projects, which are viewed as socially and environmentally damaging. There are also few cases where environmental management system has resulted in cost savings, increase in bond value etc (Heim, G *et al*, 2005). In few cases the environmental management system resulted in lower risk, greater environmental stewardship and increase in operating profit. Reputation risks involved in the financing of ecologically and ethically questionable projects.

The adoption of green banking strategies will help the bank to deal with these risks involved in their business operation. Green banking strategies involves two components (1) managing environment risk and (2) identifying opportunities for innovative environmentally oriented financial products (IFC, 2007). To manage environmental risk, the banks have to design proper environmental management systems to evaluate the risks involved in the investment projects. The risks can be internalized by introducing differential interest rates and other techniques. Moreover, bank can withdraw itself from financing high-risk projects. The second component of green banking entails creating financial products and services that support commercial development with environmental benefits. These includes investment in renewable energy projects, biodiversity conservation, energy efficiency, investment in cleaner production process and technologies, bonds and mutual funds meant for environmental investments etc⁷.

hazardous wastes. For example Fleet Factors case in 1990 where the bank (Fleet factor corporation) was held liable for environmental damages incurred in the foreclosure process by a firm they hired to auction off assets.

⁷ The growing market for sustainable investment funds such as Scudder Environmental Value Fund (WBCSD, 1997) and the UBS Eco performance portfolios (UBS 1999) is a good example for this trend.

Thus, the banking and financial institutions should prepare an environmental risk and liability guidelines on development of protective policies and reporting for each project they finance or invest (Jeucken, 2001). They can also have an environmental assessment requirement for the projects seeking finance. Banks also can issue Environmental hazards management procedures for the each project and follow through⁸. International financial institutions like International Financial Corporation (IFC), Japan Bank for International Cooperation (JBIC) have incorporated environmental management into their business operation. All project proposals are classified in terms of its potential environmental impact taking into account factors such as the sector and scale of the project, the substance, proposed project site, the degree and uncertainty of its potential environmental impact. Often, the World Bank's loans and grants are associated with certain level of commitment of the beneficiary countries to adopt environmental protection measures.

The perception towards complying with environmentally norms and standards is changing over time. Adhering to environmental norms and standards were considered costly and as a bottleneck to development. If we will consider the economic benefits of these in terms of health care, productivity and insurance then the benefit is much higher than the cost⁹. A study confirms that only air pollution causes the loss of 200 million working days and the resulting losses in productivity and medical expenses costs around 14 billion pound to the European Union (Stavros Dimas, 2005). If all the impacts of environmental degradation are considered and costs are measured, then we can find the huge economic benefits these protection measures brings in.

Environmental friendly technologies also make economic sense for the industries and actually lessen the financial burden. The cost of pollution is rising with more awareness about these issues all over the world. The polluting industries face more resistance and often forced to closedown or face massive boycott by the consumers. This adds to their cost enormously. Environmental concerns are integrated into the international trade policy and often act as trade

⁸ In Philippines, the Land Bank and also Development Bank of the Philippines has set up a specific environmental unit to analyse environmental aspects of project financing, to finance waste and water projects and to incorporate environmental factors into its lending operations. They also expanded their environmental units for technical evaluation of each projects.

⁹ See Chopra *et al* (2005) for more on Ecosystems and Human Well-Being.

barrier for environmentally sensitive goods (ESGs). So adopting environmentally sustainable technologies or modes of production is no more considered as a financial burden, rather it brings new business opportunities and higher profit. Green banking saves costs, minimizes the risk, enhance banks reputations and contribute to the common good of environmental sustainability. So it serves both the commercial objective of the bank as well as its social responsibility. Green banking solves the problem faced by the environmental regulation and enforcements authorities related to size and location of the polluting unit. The authorities have practical limitations on enforcing environment standard on small-scale industries and also industries located in far off places.

III. Green Banking: International Initiatives

The financial sector's growing adherence to environmental management system is attributed to the direct and indirect pressures from international and local Non Governmental Organisations (NGOs), multilateral agencies and in some cases the market through consumers. In the early 1990s, the United Nations Environment Programme (UNEP) launched what is now known as the UNEP Finance Initiative (UNEPFI). Some 200 financial institutions around the globe are signatories of this initiative statement to promote sustainable development within the framework of market mechanisms toward common environmental goals¹⁰. The objective is to integrate the environmental and social dimension to the financial performance and risk associated with it in the financial sector. As the commitment of this UNEPFI statement goes, sustainable development is regarded basic to the sound business management. It advocates for a precautionary approach towards environmental management and suggests integrating environmental considerations into the regular business operations, asset management, and other business decisions of the banks¹¹. IFC's environmental unit was established in 1991 for

¹⁰ 34 international banks follow codes of conduct in the lines of UNEP, environmental reporting, environmental management systems, environmental policy and environmental risk assessment and guidelines to reduce environmental impact, both internal and external (Jeucken, 2001).

¹¹ In the similar lines, the city of London in 2002 launched the London Principles on Sustainable Finance at Johannesburg Earth Summit. It focuses on the provision for eco-innovation and access to finance for disadvantaged communities. The London principles constitute seven principles that address the environmental and social impact of the financial sector and emphasized such issues as transparency, risk management and equitable access to capital.

reviewing each project for environmental assessment. Similarly, the US Export-Import Bank regularly reviews while financing exports on the ground whether they are environmentally sound. It will be noteworthy to mention that Netherland-based ABN-Amro bank has developed certain Reputational Risk Management (RRM) policies to identify, asses and mange non-financial present within it business engagements. Similarly, some of the big international banks like ABN Amro, Deutsche, Standard Chartered, HSBC Bank etc. look at environment issues discussed under Kyoto Protocol. Going further, the Dutch Government has made a formal request to banks in achieving sustainable development. The dialogue between banks and government was established in 1999 to initiate policies for environmental improvements through the development of new financial products and services.

Similarlry, Earth (FoE) and the Rainforest Action Network (RAN) challenged the industry with high-profile campaign that highlighted cases in which commercial banks were “bankrolling disasters” in 2000 in the US. In 2002, a global coalition of NGOs formed a network named ‘BankTract’ to promote sustainable finance in the commercial sector. This coalition came up with a resolution constituting six principles promoting environmental protection and social justice by banks and this is popularly known as Collevocchio Declaration. The six principles that this declaration advocated included commitments to sustainability, no-harm, responsibility, accountability, transparency and sustainable market, and governance. More than 200 organizations have endorsed this declaration and urged the banks to incorporate these commitments into their business operation. The declaration states that “Finance and Commerce has been at the center of a historic detachment between the world’s natural resource base, production and consumption. As we reach the boundaries of ecological boundaries of the ecological limit upon which all commerce relies, the financial sector should take its share of responsibility for reversing the effects this detachment has produced”.

All these concerns for sustainable finance or green finance have compelled the banking institutions to devise a common and coherent set of environmental and social policies and guidelines that can be used to evaluate the projects. A small group of banks along with IFC came together to initiate the process of designing the common guidelines in October 2002 and came up with a guidelines in June 2003 that is known as *Equator Principles* with 10 leading commercial banks adopting these voluntary set of principles. This equator principle was subsequently

updated and the new revised sets of principles are launched in July 2006. The coverage of projects being financed are expanded in this revised set of principles by lowering the finance threshold from \$50 million to \$10 million. Presently 46 financial institutions from 16 countries with business operation in more than 100 countries have embraced this equator principle. So this principle has become a common standard of project finance that incorporated environmental and social issues in project finance.

The activities of the equator banks (banks adopting equator principles) are being reviewed by NGOs worldwide and are being published whenever it is realized that they are not committed to Equator Principle. IFC along with the Financial Times has initiated 'Sustainable Banking Award' since 2006. More than 104 financial institutions out of 151 entries from 51 countries have made it to the final lists of award in 2007. The number of banks applying was up by more than 100 per cent compared to the previous year's 48 banks from 28 countries.

All the international initiatives towards integrating environmental concerns into business operation of banks are voluntary in nature and are meant to promote a common good of a better ecosystem. Voluntary commitment has its own shortcoming in a competitive market. Unless the market for green money will increase, the lenders will always have an incentive to procrastinate their social commitment and prioritize the commercial interest in the short run. So demand for green money is a precondition of green banking if it will be voluntary. A Government legislation that makes banks accountable for the misdeeds of their clients will help promote green banking.

IV. Green Banking in India

India is on a higher growth trajectory for last one and half decade and the industrial sector plays the most important role in India's growth story. However, Indian industry faces the challenges of controlling environmental impact of their business i.e. reducing pollution and emission of their clients. Though government has been trying to address the issue by framing environmental legislations and encouraging industry to follow environmental technologies and

practices, they would not be enough given the poor track records of enforcement, public awareness and inability to derive competitive advantage by producing eco-friendly products.

Incidentally, India's is the world's sixth largest and second fastest growing country in terms of producing green house gases. Delhi, Mumbai and Chennai are the three of the world's ten most polluted cities. The major polluting industries in India are (a) primary metallurgical industries namely zinc, copper, steel etc. (b) paper & pulp (c) pesticides/insecticides (d) refines (e) fertilizers (f) tanneries (g) sugar (h) textiles (i) chemicals/pharmaceuticals etc. The banking operation and investment by financial institutions should take care of environmental management of these polluting industries by improving the overall environment, the quality and conservation of life, level of efficiency in using materials and energy, quality of services and products. In this context, the role of banking sector, which is on major financing sources to the Industries, assumes high importance.

The environmental regulations in India can be broadly classified into two broad categories i.e. command and control regulations and liability law. The command and control regulations are *ex ante* regulations that are designed to dissuade environmentally damaging projects. This regulation is implemented by setting industry specific pollution standards, scrutinizing the projects and granting/denying permissions by the concerned authorities like Ministry of Environment and Forest. The liability laws are *ex post* in nature and are implemented by enforcing authorities through imposing fines, closing down the defaulting industries etc. However there is no law and rule in India that can hold banks responsible for scrutinizing investment projects before financing and for the environmental damage created by its client. Once legal framework for the environmental pollution standards are formulated in India, the polluting industries either have to close down or have to make necessary investment to comply with the standard. In this process these industries will loose their competitiveness in the international market, which would directly affect Indian economy and the banking sector.

Thus in the present context, it is equally important for banks to guard themselves against the conversion of the now performing assets into non-performing one in the future. Realization of these facts by banks will certainly make them fast adopt the concept of *Green Banking*. The

industries, which are ill equipped to control pollution now, are the possible polluters of future. A day may come, when legislation may take a hard stance against these environmental culprits and may order the closer of these units. Almost 150 SSI units around Agra and Delhi were forced to close down for their non-compliance to the mandated environmental standards¹². In such an eventuality, the industries cannot be rescued from becoming the non-performing ones, as the banking institutions continue to overlook these aspects. Table -1 reflects category-wise summary status of pollution control in 17 categories of industries in India where we find that industries are increasingly complying with pollution control norms. However, there are equally increasing numbers of industries which have been defaulted and closed down. In the case of default and closed down of industries, banks incur the financial loss due increase in bad asset and liability.

Table- 1
Category-wise Summary Status of Pollution Control in
17 Categories of Industries in India

Year	Total	Complying*	Defaulting**	Closed
1999 [@]	1551	1284	114	153
2000 [@]	1551	1326	53	172
2001 [@]	1551	1350	24	177
2002 [#]	1551	1351	22	178
2004 [#]	2155	1877	53	225
2006 ^{\$}	2678	2044	299	335

Note: *Having Adequate Facilities to Comply with the Standards, ** Not having adequate facilities to Comply with the Standards. Source: @Lok Sabha Unstarred Question No. 2241, dated 18.03.2002; Annual Report 2003-2004, Ministry of Environment and Forests, Government of India; \$Lok Sabha Unstarred Question No. 3581, dated 15.05.2006 (sourced from www.indiastat.com)

Besides, the public is gaining consciousness of the multifarious problems associated with pollution. So, the public will resort to protest, strike, and agitation to stop the misuse of the environment or in a simple fashion consumers may reject the products produced by the polluting units. Before 1986, there was no provision for public to file a suit against the polluting units but now the citizens are also permitted to file suits. The present green consumerism is more concerned with the quality of the products more than the quantity. In future, market will reward those industries or the companies, which emerge as the efficient users of the energy and raw materials and will penalize the less efficient one. Further, the investors in the stock market are equally aware of environmental pollution and would take a stand against those

¹² Similarly, In River Bhadar in Gujarat, after 14 years of public protests, the high court ordered closure of 1200 sari dyeing and printing units till effluent treatment plants are installed.

industries/institutions that do not comply with pollution norms (Gupta, 2003; Goldar, 2007). So the preferences of the investors will dry up in the case of polluting units and market capitalization will go down significantly. Thus, financial institutions should help developing the right instruments to meet the needs of industry to control environmental impact.

As far as Green Banking in India is concerned, the banking and financial institutions are running behind the schedules compared to global trends. None of our banks or financial institutions has adopted equator principle even for the sake of records. None of them are signatory to the UNEPFI. The British business newspaper and Financial Times which together nominated following banks for Sustainable Banking Awards in 2006 for leadership and innovation in integrating social, environmental and corporate governance objectives into their operations did not find a single Indian nationalized bank or major private bank in the list except Yes bank (which is a small player in Indian Banking sector) in “Emerging Markets Sustainable Bank of the Year” category (See Table-2). It seems there was no systematic attempt to integrate the environmental concerns into the business operation here by our nationalized banks. For 2007 ET sustainable Banking Award only two banks (YES Bank and ABN AMRO Bank) has filed nominations. This shows the ignorance in the part of our banks about the green banking initiatives at international level.

Table-2
Sustainable Banking Award- 2006

Sustainable Bank of the Year	Emerging Markets Sustainable Bank of the Year	Sustainable Bankers of the Year	Sustainable Deal of the Year	Sustainable Energy Finance Deal of the Year
ABN Amro, Netherlands	Banco ABN Amro Real, Brazil	ABN Amro, Netherlands	ABN Amro, Netherlands	Banco ABN Amro Real/Banco do Brasil
Bank Sarasin, Switzerland	Banco Itau, Brazil	Calyon, France	Banco ABN Amro Real, Brazil	Barclays Bank, UK
HSBC, UK	Nedbank, South Africa	Citigroup, US	Citigroup, US/Financiera Compartamos, Mexico	Calyon, France
WestLB, Germany	Standard Chartered, UK	Mizuho, Japan	Deutsche Bank, Germany	Credit Suisse, Switzerland
Westpac, Australia	Yes Bank, India	WestLB, Germany	HSBC, UK	WestLB, Germany

Source: Willem van Gelder, Profundo May 2006, BankTrack.

Today the products of the countries violating the human rights or the child labour law are denied entry into the US or the European markets. So it would not be surprising when the export of the domestic polluting industries gets a severe jolt if they continue degrading the environment. For the first time, the WTO ministerial talks in Seattle had in its agenda the issue of Environment. The fall of demand of the product of the units because of green consumerism will make the units suffer and in turn affect the quality of the assets of lending institutions. The major blow will be to the performances of the public sector banks in India. Because most of the SSIs are within the fold of these banks and SSIs are likely to be worst hit in strict environmental regime.

Therefore, banks need to be more careful in India about the environmental aspects of their clients and products because (1) future of exports and product market are going to go through stringent environmental rules and eco-friendly product will have better market. (2) increased demand for pollution controls equipments will require more financial assistance from banks. (3) Reserve Bank of India (RBI) may follow environmental guidelines for the banks in the lines of IFC and Asian Development Bank etc (4) recent announcement of the government to use economic instruments for environmental control may include Banks in future (4) big investment projects supported by international organizations like the World Bank and ADB require Environmental Impact Assessment (EIA). Therefore the banks should begin implementing procedures like (1) assessment of risk due to environment (2) Environmental audit management (3) assessment of credit requirement and loan follow up before investing on different projects. However, since banking sector is profit driven, it needs incentives and governmental support to assist environmental protection which is beneficial for the whole economy and society and also to the banking sector itself in the long-run. For the medium and large-scale industries, the lending institution should finance only those units, which are environmentally clean. A unit can be said to be environmentally clean only when its pollution level is within the permissible level fixed by the pollution control board or any certified agency.

For this measure to succeed the pollution control agencies are required to play an important role by supplementing the banks efforts to control pollution¹³.

National Environmental Policy (NEP) in 2006 brings out clear policies, principles and also rules to implement environmental rules and regulations. Though, NEP is silent about the role of financial institutions, it brings out clearly the role of different stake holders such as government, industry, civil society and public. Some of the policies such as enforcement of laws to conserve the common resources, improving technical capacities for better monitoring and compliance and involvement of local people in the enforcement process are certainly going to improve the environmental management system in India. Further, NEP emphasizes industries to adopt standardized environmental management practices by acquiring ISO 14000. Overall, NEP has brought about clarity in many ways to control environmental degradation and it covers many areas which would force industries as well as the other stake holders such as banking sector to be more responsible for environmental management. Further, the emphasis of the NEP on capacity building in financial institutions for evaluation of proposal for switching existing production facilities in industries to clean technology is welcome step.

Small Scale Sector in India and Green Banking: - Industries irrespective of their size (large, medium or small) emit pollutants to the environment in which we all inhabit. Though the large-scale industries are more capable of degrading the environment, they have adequate financial resources to install pollution control equipment or waste treatment plants to control pollution. Moreover, these large-scale industries are always in the eyes of the government or the pollution control board, these industries strives hard to adhere to set emission standards. On the other hand, the small-scale industries (SSIs), on account of their financial constraints may not be able to unable to install the necessary equipment to meet the emission standards prescribed by the competent authorities. Also because of their small scale of operation, the SSIs escape from the eyes of the concerned authorities.

SSI constitute major portion of Indian industry. These industries account for about 40 per cent of industrial production and 30% of total manufacturing exports. Use of western

¹³ One incentives is to classify the lending of the banks to manufacture and purchase of pollution control equipments, environment consultant services etc as priority sector lending.

technological systems in small scale industries produce enormous gaseous, liquid and solid wastes. However, they may not be in a position to bear additional expenditures on account of environment audit and pollution control equipments. Therefore, banks need to apply different procedures to promote pollution controls like (1) environmental pollution status of SSI (2) environmental Clearance from the appropriate authorities and (3) steps undertaken or proposed for disposal of solid, liquid and gaseous wastes before lending to SSI in India. This is where the banks and financial institutions can extend the necessary financial support where pollution is on account of inadequate financial capabilities.

Further, SSI exports takes place through merchant exporters, and export houses. They may also be in the form of export orders from large-scale enterprises for production of parts and components for use for finished exportable goods. The exports from SSI sector have been clocking excellent growth rates in recent years and this has been mostly fuelled by the performance of garments, leather and gems and jewellery exported by this sector. One of the key issues for increasing the Small and Medium Enterprises (SMEs) manufacturers' role in direct exporting are quality and conformity. Standards, as well as testing and certification processes, are a massive hindrance to sales since products cannot be sold if they do not comply with a range of safety, health and other regulations. SMEs have difficulty in adopting expensive quality management systems, or certification procedures that sometimes have to be repeated several times. The main external barriers are technical trade restrictions or non-tariff barriers (like standardization, quality requirements, conformity assessment, packaging and labeling, ecology requirements, etc.); Different countries specify different testing and certification procedures. Assistance with product development and innovation, including product design, packaging, quality and environmental requirements and providing risk taking investment; obtaining of ISO 9000 series or ISO 14000 certificates. Therefore, a change in the environmental profile of the SSI industries is called for. Therefore, the lending institutions need to restructure their credit and financial instruments/products to help SSIs to endorse quality and conformity with environmental standards.

Realizing the difficulties faced by SSIs in maintaining environmental standards and its huge impact on economy and society, different state governments provide schemes to encourage small scale industries to adopt better environmental management practices such as:

- In order to improve the quality of raw materials and also finished products, the SSI units are allowed for testing facilities for products / raw materials and also to obtain the BIS Certificate etc.
- Grants and subsidies are given to an extent of 50% of the total for obtaining the ISO 9000 Series (equivalent Indian Standard IS 14000 Series) in many states.

However, SSIs are small but large in number. And most of the industries are in the unorganized sector. Therefore government and financial institutions must come forward to help these units financially to adopt expensive pollution control technologies developed in the other developed countries. However, the most practical solution to these large number of SSI enterprises would be developing low cost pollution abatement technologies, adopt mechanism from pollution control to pollution prevention activities and international cooperation. Government can further provide tax incentives and other financial help to SSIs to meet requirements.

V. Environmental Management by the Banking Institutions

Now a days, most of the commercial lending process in different parts of the world scrutinizes projects with a set of tools by incorporating environmental concerns in their day-to-day business¹⁴. The financial institutions should encourage projects which take care of following points while financing them viz., (a) sustainable development and use of natural renewable natural resources (b) protection of human health, bio-diversity, occupational health and safety, efficient production, delivery and use of energy (c) pollution prevention and waste minimization,

¹⁴ The Development Bank of Philippines (DBP) initiated an environmental management system (EMS) in 1997 and recently obtained ISO 14000 certification.

pollution controls (liquid effluents and air emissions) and solid and chemical waste management and (d) there should be a third party expert to draw a plan for the environment management plan.

They should keep following aspects in mind while financing any projects

1. Analyzing the project in terms of scale, nature and the magnitude of environmental impact. The project should be evaluated on the basis of potential negative and positive environmental effects and then compared with the 'without project situation'. There should be an Environmental Impact Assessment (EIA) of each project recommending the measures needed to prevent, minimize and mitigate the environmental negative impact before financing the projects.
2. While investing or funding the projects, the financial institutions should assess the sensitive issues like vulnerable groups; involuntary displacement etc and projects should be evaluated in terms of environmentally important areas including wetlands, forests, grasslands and other natural habitats.
3. Banking institutions need to evaluate the value of real property and the potential environmental liability associated with the real property. Therefore, the banks should have right to inspect the property or to have an environmental audit performed through the life of the loan.
4. Banks also need to monitor post transaction for the ideal environmental risk management program (Rutherford, 1994) during the project implementation and operation. There should be physical inspections of production, resources, training and support, environmental liability, audit programs etc
5. The next round of evaluation includes loan structuring, credit approval, credit review and loan management. Further banks have annual audits, quarterly environmental compliance certificate from the independent third party and also from the government.

Further the banks can introduce green bank loans and products like (i) investing in environmental projects (recycling, farming, technology, waste, etc) for example reduced-rate of interest on loans to homeowners who install a solar energy system (ii) providing option for customers to invest in environmentally friendly banking products (iii) investing in resources that combine ecological concerns and social concerns

VI. Enforcement of Environmental Management and Role of the Government

The financial institutions also should make sure that the customer is ready to comply with environment management plan during the construction and operation of the project and provides regular reports, prepared by in house staff and third party experts. There should be a direct communication between the lenders and monitoring group. However, much less attention is given for the environmental risk management after the post transaction period. Recently, western financial institutions use environmental criteria with credit risk management activities than with formulating overall lending or investment strategy. With the introduction of ISO 14000 and development of information network, it is easier now to the credit officers to compare firms and plants regarding their environmental management and measure the relative environmental liabilities and risks. Though commercial banking has been more attentive to the investment banking than the environmental problems, the environmental liabilities would play a larger role in their investment decision in the near future (Schmidheiny and Zorraquin, 1996). Further, the environmental audits are required to determine the environmental status of a facility, property, and operation and to identify regulatory compliance status, past present problems and potential environmental risks and liabilities associated with the project. These should be done by an independent body or by any environment investigation team.

But to ensure all these work,, there should be legislation, which will enforce the standards along with training and demonstration skills. Government should enact legislation to force banks to consider producing a formal environmental policy statement and making this publicly available. Though Schmidheiny and Zorraquin (1996) conclude from their primary study that banks are not hindering the achievement of sustainability, banks can also play a hindering role for sustainable development because (1) they prefer short-terms payback periods where as sustainable development needs long-term investment (2) investment which take into account of environmental side-effects usually have lower rate of return in short-term (Jeucken and Bouma, 1999). Therefore, sustainable investments are unlikely to find sufficient funding within current financial markets. Thus, government must design proper legislation of environmental rules for banks and ensure enforcement. The problems in India are the legislation is not yet framed and in

few cases, things are not strictly enforced, but things can change overnight resulting in major compliance problems for the companies concerned and increased risk for the banks that have lent to them. There should be continuous dialogue relating to environmental matters with relevant audiences, including stakeholders, employees, customers, governments and the public.

VII. Conclusion

In a rapidly changing market economy where globalization of markets has intensified the competition, the industries and firms are vulnerable to stringent public policies, severe law suits or consumer boycotts. This would affect the banks and financial institutions to recover their return from investment. Thus, the banks should play a pro-active role to take environmental and ecological aspects as part of their lending principle which would force industries to go for mandated investment for environmental management, use of appropriate technologies and management systems.

Green Banking if implemented sincerely will act as an effective *ex ante* deterrent for the polluting industries that give a pass by to the other institutional regulatory mechanisms. There has not been much initiative in this regard by the banks and other financial institutions in India though they play an active role in India's emerging economy. The banking and financial sector should be made to work for sustainable development. As far as green banking is concerned, India's banks and financial institutions are running behind time. None of our banks or financial institutions have adopted equator principle even for the sake of records. None of them are signatory to the UNEP Financial Initiative statement. It is time now that India takes some major steps to gradually adhere to the equator principles-guidelines that use environment-sensitive parameters, apart from financial, to fund projects.

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