Green Banking Guidelines

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INFRASTRUCTURE, HOUSING & SME FINANCE DEPARTMENT

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Abbreviations and Acronyms

ATM	Automatic Teller Machine
BPR	Business Process Re-engineering
CSR	Corporate Social Responsibility
DFI	Development Finance Institution
D-P-S-I-R	Drivers-Pressures-State-Impact-Response
EnvDD	Environmental Due Diligence
EIA	Environmental Impact Assessment
EIP	Environmental Improvement Plan
EPA	Environmental Protection Agency
EMP	Environmental Management Plan
EnvRM	Environmental Risk Management
ERR	Environmental Risk Rating
FI	Financial Institution
GBG	Green Banking Guidelines
GCF	UN's Green Climate Fund
IEE	Initial Environmental Examination
ISO	International Standards Organization
MEAs	Multilateral Environmental Agreements
NEQSs	National Environmental Quality Standards
OCR	Optical Character Recognition
SBP	State Bank of Pakistan
SECP	Securities and Exchange Commission of Pakistan
SME	Small and Medium Enterprise
S-P-R	Source – Path – Receptor

BoDs	Board of Directors
PEPA, 1997	Pakistan Environmental Protection Act of 1997
FLL	Federal Legislative List
CLL	Concurrent Legislative List

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1. Green Banking Guidelines - Introduction

1.1 Background and objective

The international debate on climate change and sustainable economic development as well as the frequent and devastating natural disasters, which have caused human tragedies and tremendous losses to the economy, has put environmental protection on the agenda of many countries in the world. In Pakistan, the Federal Government has established a Ministry of Climate Change which was instrumental in formulating National Climate Change Policy (NCCP), 2012. The provinces have also enacted their own environmental protection laws in line with the Federal Environmental Protection Act, 1997 which provides for protection, conservation, rehabilitation and improvement of the environment, prevention and control of pollution and promotion of sustainable development. This legal and policy framework sets the basis for additional environmental laws and regulations for controlling and limiting pollution and other harmful acts by individuals, industries and commercial businesses in support of sustainable growth.

Green Banking acknowledges responsibility of the financial sector in supporting policy initiatives for transforming a country's economy towards a low carbon and climate resilient economy. Green Banking envisions inculcation of environmental consciousness as part of organizational culture and reorientation of banking products/services and operations to reduce environmental impact of banks and the economy. Thus, Green Banking is a paradigm shift from business as usual approach and has profound implications for strategic focus, financing & investment portfolio assessments/ evaluations, development of financial instruments, products and services and consumption of natural resources in internal operations of banks/DFIs.

The objective of the Green Banking Guidelines (GBG) is to reduce vulnerability of banks/ DFIs from risks arising from the environment, fulfill their responsibilities for the protection of environment and provide finance to transform the economy into a resource efficient and climate resilient one. Banks/DFIs as facilitators of economic activities are directly vulnerable to environmental risks through the actions of their clients. While the primary responsibility of ensuring compliance with environmental laws and regulations rests with the borrowers, the banks/ DFIs are encouraged to put in place appropriate mechanisms to identify, assess and mitigate environmental risks and, thereby, prevent undue financial losses.

The Guidelines, at hand, are the first step of a series of interventions leading to a sustainable economic environment in the banking sector. Each of the coming stages will complement the GBG by addition of such components, in a phased manner, as social issues or green lending levels, allowing banks/DFIs adequate adjustment time before the GBG become regulations.

The GBG run in parallel to other guidelines such as the Code of Corporate Governance and Corporate Social Responsibility (CSR) Voluntary Guidelines issued by the Securities and Exchange Commission of Pakistan (SECP) in 2013. Unlike the GBG, the latter mentioned guidelines are a broader concept including social and economic responsibilities (climate change) and are directed at all companies.

The GBG at hand are expected to be implemented within 12 months. State Bank of Pakistan (SBP) will monitor progress of implementation on a regular basis. Standard reporting procedures will be developed in coordination with banks/DFIs.

1.2 Purpose

The purpose of the GBG is to serve as guiding principles for banks/DFIs on how to implement the objectives. They are designed to provide an overview of actions banks/DFIs are expected to take and consequently are not intended to detail every procedure and business initiative. Thus, the Guidelines should serve as guiding principles of best practices establishing a fair and competitive businesses environment for banks/DFIs.

Fully implemented, it is expected that banks/DFIs have a system in place that includes the following features:

- A policy on green banking, which informs stakeholders such as banks/DFIs' clients, investors and employees, authorities and peers that environmental considerations are part of the overall banking activities and how this will impact the mutual business relationship.
- Internal structures that provide for administrative procedures so that employees are in position to manage green banking requirements. This includes procedures to identify, assess, mitigate, monitor and report on old and new environmental risks. It may include modifications to the current internal approval systems.
- Financial mechanisms which are adapted to fit green investments such as renewable energy, energy efficiency and other environmentally friendly practices for all clients. Their terms and conditions are tuned to match demand and are actively promoted.
- A system that reduces environmental impacts stemming from banks/DFIs' own operations.
- A structural approach to capacity development in support of green banking.
- Arrangements to periodically review banks/DFIs overall portfolio as to its environmental risk positions and report to relevant stakeholders, such as higher management, shareholders and relevant authorities.

1.3 Scope and applicability

The Guidelines are specifically addressed to all banks/DFIs. Nonetheless, the microfinance banks licensed to operate at national level are also encouraged to implement provisions of the Guidelines related to green business facilitation (Section 4) and operational realignments for own impact reduction (Section 5).

1.4 Definitions

Climate Change: Climate Change means a change in the climate system which is caused by significant changes in the concentration of greenhouse gases as a direct or indirect consequence of human activities and which is in addition to natural climate change that has been observed during a considerable period.

Environment: In this context, it relates to the ecological sense of the word, meaning the air, water, minerals, organisms, and any other external factors affecting an organism at any time. It is used in a similar meaning as the word "green". **Environmental Impact** subsequently means the impact an activity has on the environment including climate change. **Environmental friendly** refers in this sense to actions that inflict no or minimal harm to the environment.

Environmental Impact Assessment (EIA): As defined by the Pakistan Environmental Protection Agency (EPA) means "… an environmental study comprising collection of data, prediction of qualitative and quantitative impacts, comparison of alternatives, evaluation of preventive, mitigatory and compensatory measures, formulation of environmental management and training plans and monitoring arrangements, and framing of recommendations and such other components as may be prescribed". Its main purpose is to give the environment its due place in the decision making process by clearly evaluating the environmental consequences of a proposed activity. The EIA is a mandatory legal requirement in Pakistan for specific industries.

Environmental Risks: Actual or potential threats of adverse effects on the environment and living organism by effluents, emissions, wastes, chemical releases, resource depletion, etc., arising out of the banks/DFIs and their clients and key associates' activities such as construction, production and operation. Environmental risks include (i) a risk to the environment, (ii) a risk to society and (iii) a risk to banks/DFIs from environmental-related impacts, including changes in the legislation, resulting in financial and other losses.

Environmental Risk Management (EnvRM): Incorporation and absorption of environmental and climate change risks as part of the credit risk methodology in order to assess the current portfolio and future business activities. EnvRM is the umbrella term and includes the activities of **Environmental Due Diligence** (EnvDD), which is the process of banks/DFIs to define the environmental impact the activity of the client has on a transaction and on a portfolio basis. EnvDD leads to **Environmental Risk Rating (ERR)** which is a standardized approach to quantify risk relevant data allowing a classification of risk groups as part of banks/DFIs credit rating.

Financial Institutions (Banks and DFIs): Banks and DFIs under the supervision of SBP.

Green: A summary term of environmentally and ecologically resource efficient activities in support of an improved environment.

Green Culture: Green culture is an organizational approach in which banks/DFIs make a conscious effort to take into account the activity's possible impact on the environment.

Green Banking: Promotion of environmentally friendly practices that aid banks and their clients in identifying and managing environmental risks as well as reducing their carbon footprint and related socially adverse actions.

Initial Environmental Examination (IEE): "….. means a preliminary environmental review of the reasonably foreseeable qualitative and quantitative impacts on the environment of a proposed project to determine whether it is likely to cause an adverse environmental effect for requiring preparation of an environmental impact assessment". The IEE is a mandatory legal requirement in Pakistan for specific industries.

National Environmental Quality Standards (NEQSs): means standards established by the Federal EPA, whereby "standards" means qualitative and quantitative standards for discharge of effluent and wastes and for emission of air pollutants and noise either for general applicability or for a particular area, or from a particular production process, or for a particular product, and includes the NEQSs, emission standards and other standards established under Pakistan Environmental Protection Act, 1997 and the rules and regulations.

1.5 Structure of Green Banking Guidelines

The Guidelines start with the enunciation of guiding principles on the role of Board and management and organizational arrangements to deliver on environmental responsibilities of banks/DFIs in Section 2. The specific guidelines on environmental responsibilities are set out under three separate headlines (hereinafter referred to as three areas/topics of green banking) i.e. (a) Environmental Risk Management Guidelines (Section 3), (b) Guidelines for Green Business Facilitation (Section 4) and (c) Guidelines on Own Impact Reduction (Section 5). The additional explanations, examples, checklists and other related materials are provides in the Annexure to these Guidelines.

2. Responsibilities, Management and Organization

2.1. Board of Directors (BoDs)

i. The Board of Directors (BoDs) of banks/DFIs should accept overall responsibility of green banking and develop Green Banking Policy of their respective institutions.
ii. The Green Banking Policy should include strategic references as to the role of the institution in transformation towards a low carbon & climate resilient economy and specifically include policy statements on its environmental risk assessment, weighting and management processes (EnvRM), its positioning towards green credits and investments (Green Business Facilitation) and its activeness towards resource efficient operations (Own Impact Reduction).
iii. Further, maximum exposure limits may also be defined for the industries/sectors which are more hazardous to the environment. Board may also define the limits for different environmental friendly projects/sectors.
iv. In addition, the Board should review and approve green banking strategies and budgets relevant to green banking as prepared by the senior management.
v. The Board should be responsible for reviewing the CSR reporting on environmental related measure of bank/DFI.

2.2. Management

i. **Responsibilities at All Tiers of Management:** The supervisory actions and instructions of senior and middle management should pave way for striking out environmentally unaware mindset and facilitate gradual adoption of resource efficient and green culture in the behaviors and attitudes of their subordinates. Irrespective of a management function, individuals heading business lines or units should be systematically aligned and held responsible for environmental impacts of the banking activities they undertake.
ii. **Green Strategies with Monitoring and Supervision:** The senior management should develop strategies, administrative procedures and accountability mechanisms for implementation of Green Banking Policy approved by the Board. The strategies and procedures should treat the three areas of GBG i.e. Environmental Risk Management, Green Business Facilitation and Own Impact Reduction with equal importance. While drafting the procedures special attention should be given to defining appropriate relationships between environmental risks, approval procedures and decision making authorities.
iii. **Data Management and Reporting:** The responsibility of senior management encompasses installation of systems for data collection and generation of meaningful statistics on green banking.

The senior management should also be responsible for reporting of green banking results to the Board at least biennially.

iv. **Internal Capacity Building:** The senior management may regularly review internal capacity and establish capacity building plans to manage the paradigm shift towards green banking. Capacity building measures should fit the job descriptions, have a long-term time-horizon and be updated from time to time.

v. **Dissemination of Information:** Senior management should be accountable for dissemination of green banking policies to staff, clients and other stakeholders, as needed. This also includes advice/guidance to staff for communication with clients on implications of environmental factors on long term sustainability of businesses and economy, environmental assessment processes/requirements and appropriate environmental risk mitigation measures.

vi. **Audit & Compliance:** Green banking is to be incorporated in the scope of compliance and routine internal controls. Appropriate walls should be established between internal audit function and units/lines (and their management) involved in any day-to-day green banking activities to ensure its independence. Specific green banking related checklists should be developed and made part of internal audit reports for each branch and head office unit.

vii. **Green Awareness Campaigns for Clients:** The banks/DFIs should devise their internal plans for sensitizing their clients and general public on environmental issues through one-on-one meetings, electronic & print media advertisements, melas, seminars and conferences, etc.

viii. Banks/DFIs should disclose their green banking activities and initiatives in their annual reports in the section Management Discussion and Analysis as a separate point.

2.3. Organization

i. **Green Banking Office:** In order to implement green banking, the management should assign a senior manager as Chief Green Banking Manager, in addition to his/her other responsibilities, to manage and supervise the activities of a Green Banking Office. The Green Banking Office (the Office) should be equipped with at least one fulltime staff (e.g. Green Banking Officer) and additional staff, if required, for coordination and implementation of bank/DFI's green activities. The Green Banking Officer should be well versed with environmental risk assessment and monitoring, green product development, and operational improvement measures to reduce resource consumption.

a. The Office is responsible for day to day work of green banking in a bank/DFI, ensures that the bank/DFI is in compliance with GBG and liaises and supports other departments/offices for matters of green banking and manages the reporting on green banking on behalf of the other departments.
b. The Office should be equipped with adequate resources (e.g. professional staff, finance, authority and competencies) and should have clearly defined roles and responsibilities.
c. The Office is expected to support the Board in development of Green Banking Policy and also facilitate other functions/departments in development of green banking strategies/targets and budgets.
d. The Office should be responsible for periodic review of strategies, policies and processes; assessment of changes in technologies and business scenarios; and formulation of improvements in existing policies and strategies as well as changes in national and regional regulations, guidelines and others impacting the bank/DFI's portfolio
e. The Office should also have access to external third party advice for improving their green banking activities and strategies. For this purpose, a bank should maintain contacts with a number of environmental consultants who have the capacity to handle large projects.

ii. **Institutional Arrangements -Environmental Risk Management**

a. Depending on the size of the bank/DFI, one or two officers, who have expertise in environmental risk assessment & management, should be deputed within the existing Risk Management Department to serve as the Environmental Risk Managers of the bank/DFI.
b. The function of EnvRM should be complementary to normal credit risk management procedures and may be enacted with modifications and realignments of the later.
c. At least one Environmental Risk Manager should have a vote in Credit Risk Committee (respective other committees) of a bank/DFI.
d. Environmental Risk Manager(s), as designated by the senior management, should be operationally responsible for development of a comprehensive EnvRM system, commensurate with the size of the bank/DFI and the size and nature of its financings and investments. The EnvRM framework should be duly approved by the respective Board of the bank/DFI.
   This includes a review of the current level of credit granting authority and approval processes as to their fit with EnvRM. If necessary, the internal approval structure has to be aligned to reflect the increased complexity of risk assessment. The banks/DFIs may develop their escalation matrices reflecting higher approval authorities for increasingly more environmentally risky financing proposals.
e. The Environmental Risk Manager(s) will liaise and support the work of the Green Banking Office.

iii. **Institutional Arrangements -Green Business Facilitation**

a. The bank/DFI should assign personnel (e.g. Green Business Officer) to take lead in development of green financing products as well as customization of existing financing products for all segments and sizes of borrowers.
b. The Green Business Officer(s) should be involved in design and implementation of new products and initiation of green redesign of existing financial products.
c. The Green Business Officer(s) will liaise and support the work of the Green Banking Office.

iv. **Institutional Arrangements -Resource Efficiency**

a. The bank/DFI should assign personnel (e.g. Green Operations Officer) having qualifications in engineering and/or expertise in facility management or office maintenance in order to oversee reduction of banks/DFIs' own impact.
b. Green Operations Officer(s) should be part of strategic planning and technical committees relevant to its work and have access to data and information.
c. A bank/DFI should realign its procedures in such a way that the Green Operations Officer(s) have a vote in the procurement and reengineering of business processes of the central office and respective branches.
d. The Green Operations Officer(s) will liaise and support the work of the Green Banking Office.

v. **Green Liaison Officers:** For any other department or function which may have green responsibilities as a result of these GBG or internal policies/procedures of a banks/DFI, Green Liaison Officers having, in addition to being professionally sound in their own area of work, working knowledge of implications of environmental risks and green banking in their own respective areas, may be deputed for implementation of green banking activities and coordination with the Green Banking Office.

vi. In addition, the banks/DFIs may also establish cross-departmental committees to coordinate and support relevant activities.

vii. **Green Reporting to the Senior Management/Board**

a. The Green Banking Office should collect and consolidate data/information on green banking activities and initiatives for its onward reporting to the senior management/Board and SBP, as and when such data/information is sought.

b. SBP may, at a later stage, require mandatory reporting on green banking activities. It is, therefore, advisable to collect data and prepare relevant information.

c. The Risk Management Department of the bank/DFI should be responsible for regular reporting to the senior management and, in coordination and facilitation of Green Banking Office, to the Board on the status of;

- inherent environmental risks in the bank/DFI's portfolio
- the compliance of departments or business lines with relevant environmental regulations

The reports/information for senior management/Board on environmental risk evaluation on portfolio and individual transactional basis should be part of existing risk assessment reporting and should follow the same frequency of submission to the senior management/Board.

3. Environmental Risk Management Guidelines

3.1. Environmental Risk Management (EnvRM)

Environmental Risk Management (EnvRM) is defined as risk management procedure designed to identify, assess, mitigate and monitor environmental risks arising from operations of a business[1]. The EnvRM system is designed to incorporate procedures for evaluation & management of environmental and climate change risks of current as well as future financing/investments of a bank/DFI in credit risk management procedures. The EnvRM procedures enable banks/DFIs to minimize their exposures of foreseeable environmental risks and, at the same time, provide adequate protection against unforeseeable risks. In addition to keeping the environmental exposures of a bank/DFI in an acceptable range, the EnvRM also entails the chance for a bank/DFI to build stronger relationships with the clients by shaping their transactions in an environmentally beneficial manner. Properly undertaken, environmental risk management may help to reduce the amount of non-performing assets, open up new financing opportunities and improve financial performance of a bank/DFI.

3.2 General Guidelines

The EnvRM Guidelines should be read with 'Guidelines on Risk Management' for banks/DFIs issued vide BSD Circular No. 7 dated August 15, 2003 and 'Guidelines on Internal Credit Risk Rating Systems in Banks/DFIs' issued vide BSD No. 08 dated October 29, 2007.

- The Green Banking Policy of a bank/DFI should inter-alia contain a policy statement on EnvRM.
- The EnvRM should be forward looking and incorporate anticipated stringency resulting from possible changes in environmental laws and regulations during the life of financing transaction.
- EnvRM is applicable for all financing facilities, except consumer financing in which estimated additional costs are not expected to result in commensurate reduction in environmental risks.

[1] Sources and types of environmental risks are further discussed in annexure 1.

However, they should be customized to reflect the different size, type and nature of the business. For example, small borrowers and commodity traders may require a less stringent review than that of large project finance borrowers.

- EnvRM is applicable to new exposures and the extension of existing exposures. For existing portfolio, the banks/DFIs should, as part of their routine monitoring procedures, request their clients to provide relevant information on a voluntary basis. The banks/DFIs may establish their indicative plans of assessing environmental risks of their existing exposures through renewals/extensions and voluntary submissions of information.
- At a minimum, banks/DFIs should get reasonable assurance that the customer is in compliance with the legal and regulatory requirements related to environment and climate protection as well as Multilateral Environmental Agreements (MEA) the country has signed/ratified. The key legal requirements related to environment and a list of key MEAs are given in Annexure 2 and 3.
- Clients who are unwilling to provide information or are not cooperating fully are given a provisional environmental rating of the estimated industry average. In case of non-availability of industry average, highest risk rating of any regular client in the same industry or any other industry for similar environmental risk profile should be assigned to non-cooperative clients.
- In order to harness the full benefits from implementation of EnvRM, a bank/DFI should develop its internal EnvRM systems (explained below). Banks/DFIs should develop an internal EnvRM manual providing step-by step processes for evaluation of environmental risks of client, rating/categorization of environmental risks of a financing transaction and defining roles and responsibilities at different levels within the bank/DFI.
- Individual financing facilities to which the EnvRM has been applied should be earmarked in the overall portfolio in order to distinguish it from older transactions and calculate the bank/DFI's environmental risk on a portfolio basis. It further should be subdivided into sub-portfolio environmental risks from financing to a particular segment/ sector, type and size etc. of borrower.
- Banks/DFIs should establish provisions to capture environmental risks of their exposures in environmental/climate activity prone geographies and sectors.
- Where banks/DFIs are part of a financial consortium, it is advised that consortium members share the environmental risk assessments and come to similar risk rating/categorization.

3.3 Environmental Risk Management Systems

The EnvRM systems include the following components:

- Environmental Risk Avoidance List
- EnvRM procedures
    - Environmental Due-Diligence (EnvDD) Procedures with Environmental Checklists and Sector Specific Guidelines
    - Environmental Risk Rating (ERR)/Risk Categorization Model
    - Environmental Risk Monitoring (EnvRM) Procedures
    - Reporting and Documentation

3.3.1 Environmental Risk Avoidance List

The Avoidance List serves as the precursor of the EnvDD process. This list may mention specific activities/businesses prohibited under the applicable environmental laws and/or regulations.

3.3.2 EnvRM Procedures

The EnvRM follows the usual steps of any other credit assessment i.e.

1.	Identification of risk parameters	EnvDD
2.	Triggers of risks	
3.	Estimate of potential risk consequences	ERR
4.	Employment of risk mitigants	Risk monitoring and reporting

3.3.2.1 Environmental Due Diligence

The EnvDD is a systematic procedure carried out to assess environmental implications and their effect on the credit quality of a particular financing transaction, at first approval and during subsequent reviews of performance and credit standing of the client. The EnvDD encompasses assessment of compliance with the environmental regulations applicable on the prospective borrower. Pakistan has enacted a number of federal and provincial laws for environmental protection and is also a signatory to a number of MEAs.

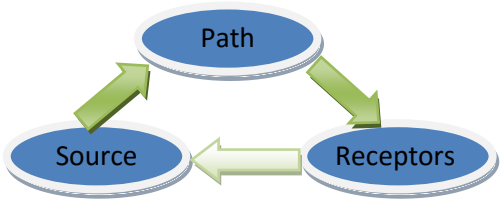
The EnvDD identifies environmental risk parameters and assesses the severity of their consequences as well as likelihood of occurrence of those consequences. The identification of environmental parameters helps banks/DFIs to develop a standard set of questions in the form of checklists. These questionnaire checklists should be designed to properly assess any environmental risk that may be inherent in the usage of the loan proceeds. Given the variety of industrial sectors, it is advisable to design a general checklist and sector specific checklists. The outcome of these checklists lead to ERR which should have appropriate consideration in Facility/Obligor Risk Rating. The checklists should reflect the different credit approval levels and standardize due diligence procedures providing uniform results for similar business transactions across the bank/DFI. The checklists may also be customized for underwriting of new loan requests and review of existing loan facilities. A sample General Checklist is give below for consideration of banks/DFIs in Annexure 4.

To comply with the minimum standard, banks/DFIs may identify the environmental parameters using the relevant legal framework, internal/external sector-specific environmental studies, manufacturers' descriptions of the equipment/machinery employed and raw materials and products/by-products of the activity etc. The requirements of Initial Environmental Examinations (IEE), Environmental Impact Assessment (EIA), National Environmental Quality Standards (NEQSs, requirements of certifications, rules and standards issued by the Federal EPA and provincial agencies/departments provide significant insights for identification of environmental parameters.

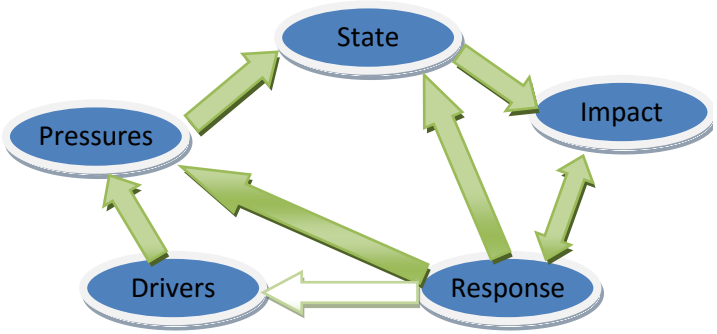
ENVIRONMENTAL PARAMETERS

An environmental parameter provides clue to issues/problems which may have significant environmental implications or brings out a trend or phenomenon which is not otherwise easily detectable. The usual techniques employed for identification of environmental parameter are Source – Path – Receptor (S-P-R) and Drivers-Pressures-State-Impact-Response (D-P-S-I-R).

The S-P-R presents hypothesized relationships between environmental parameters as the Source (S), the means by which the exposure to the source might interplay as Pathways (P) and features of environment that could be harmed as the receptors (R).



The D-P-S-I-R expands the S-P-R to include the likelihood of occurrence of an event. The Drivers (D) are the forces (environmental parameters) that exert pressures (P) on the environment resulting in a condition or State (S) of the environment which produces consequences or Impacts (I) of environmental degradation and finally the Responses (R) are those made by society to the environmental situation. These are theoretical approaches to provide insight into the relationships between the origins and consequences of environmental problems through a focus on the causal chain (causal chain framework)



3.3.2.2 Environmental Risk Characterization/ Rating

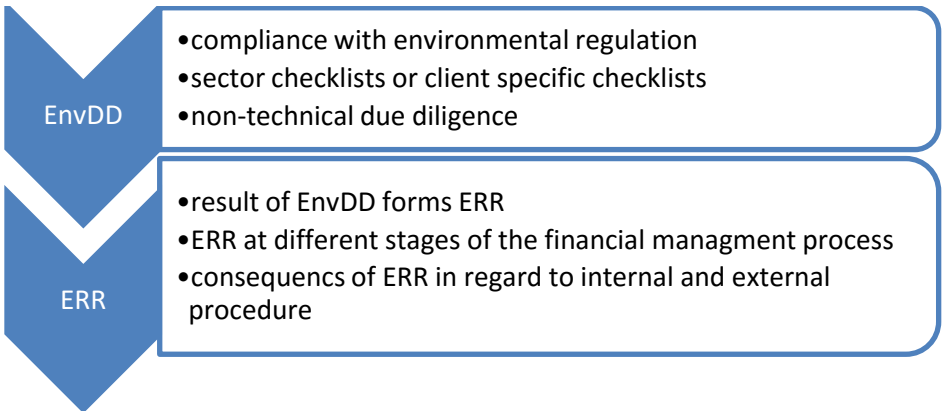
Based on the environmental indicators and their interactions identified above, the banks/DFIs may assess the potential impacts and probabilities of their occurrence. The impact of an environmental parameter is a function of a range of considerations including magnitude, duration, extent and compliance with the applicable legal requirements. Both qualitative and quantitative approaches may be employed for assessment of severity of impact and likelihood of consequence. The risk characterization rates environmental risk of an environmental parameter based on severity of its impact and likelihood of its occurrence. The rating assessment matrices similar to the one give below may be employed for risk characterization of an environmental activity.

		Severity of Impact				
		Catastrophic	Major	Moderate	Minor	Insignificant
Likelihood of Occurrence	Almost Certain	Extreme	Extreme	High	High	Medium
	Likely	Extreme	Extreme	High	Medium	Low
	Possible	Extreme	High	Medium	Medium	Low
	Unlikely	High	Medium	Medium	Low	Negligible
	Rare	High	Medium	Low	Low	Negligible

The terminologies of 'Extreme', 'High', 'Medium' and 'Low' should have specific definitions to create a uniform understanding of the rating matrix across the bank/DFI.

In the next steps, the ERR of individual parameters may be combined to arrive at a single uniform rating of the financing proposal by using statistical techniques. The environmental risks of individual transactions may be combined to arrive at the portfolio risks of financing portfolios of banks/DFIs for specific sectors, types and sizes of customers and terms of financing transactions etc.

The relationship between EnvDD and ERR is explained in the diagram below:



- For loans going to new projects the guiding documents are covered under the Environmental Protection Act and comprise of the IEE/ EIA. Loans to projects falling under one of the following categories, the IEE or EIA is mandatory:

  "Project" means any activity, plan, scheme, proposal or undertaking involving any change in the environment and includes— (a) construction or use of buildings or other works; (b) construction or use of roads or other transport systems; (c) construction or operation of factories or other installations; (d) mineral prospecting, mining, quarrying, stone-crushing, drilling and the like; (e) any change of land use or water use; and (f) alteration, expansion, repair, decommissioning or abandonment of existing buildings or other works, roads or other transport systems, factories or other installations";

  This goes for all kinds of loans including project finance loans and corporate loans. The level and rigor depends on the size of the project.

  The IEE/EIA regulations provide for an Environmental Management Plan, which serves as the compliance instrument for projects under construction and operation. It may be used by banks/DFIs to follow-up on progress made.

For existing projects the guiding documents are the NEQSs. They are taken as a proxy if no IEE/EIA had been made in the past. All industries need to comply with the NEQSs. If a borrower is not compliant with the NEQS, the bank/DFI, as per their discretion, may suggest an Environmental Improvement Plan (EIP) to borrower.

For trade related banking transactions, import/export transaction with other countries may require compliance with the requirements set out in Import Policy. Broadly speaking, import of hazardous substances is prohibited as per environmental laws.

3.3.2.3 Monitoring & Control

The EnvDD of clients and resulting ERRs should support the banks/ DFIs in monitoring, control and mitigation of their environmental risks through credit decision making processes, environmental improvement plans and environmental risk covenants in financing contracts with the borrowers.

a) **Escalation Matrix:** In order to standardize credit approval procedures, banks/DFIs may put in place an escalation matrix setting levels of credit approval authority based on credit exposures and environmental risks of transactions. The escalation matrix may set approval authorities on the basis of individual transactions as well as group or sector exposures. The matrix should lead to internal actions such as internal information procedures, decision making processes and provisions as well as external actions such as communication with the client(s) and relevant stakeholders outside the bank/DFI. The escalation matrix may also indicate responsibilities of senior management for large projects ('large' defined in relation to the overall banking activity of the bank/DFI).
b) **Environmental Improvement Plan (EIP):** Depending on the nature of environmental risk associated with a client's operations, the bank/DFI may, as per their discretion, agree with the borrower on a time bound Environmental Improvement Plan (EIP) listing specific actions and measures for implementation by the borrower as pre-conditions for sanctioning or disbursement of financing or within a reasonable period from a predetermined date. The purpose of an EIP is to mitigate potential environmental risk of a transaction so as to bring it to the level acceptable for the financing bank/DFI. The EIP may also specify frequency and formats for reporting on status of implementation. The EIPs should be tailored to reflect scope and nature of corrective actions, measureable quantitatively or qualitatively, in line with the findings during the EnvDD or a subsequent review. An EIP may also be included as environmental risk covenant in the financing contracts with the borrowers.
c) **Environmental Risk Covenants:** A key practice of mitigating the environmental risks is the addition of environmental risk covenants in financing contracts with the borrowers. The following is list of often used covenants, which may need to be modified to fit the purpose.

    - Client will act in compliance with national (and international) environmental laws and regulations and the MEAs.
    - Client will provide all necessary environmental clearance certificates, renewals of it and new certificates, if so required.
    - Regular and consistent reporting on environmental performance.
    - Client will not act outside the approved business without additional environmental approvals.
    - An environmental emergency plan is in place.
    - Any environmental adverse action of the client is brought to the attention of the bank/DFI immediately.

- Lead management positions regularly review environmental management procedures and that qualified staff is deputed and regularly trained.
- Requirement of implementing a management system according to International Standards Organization (ISO) standards. Especially ISO 14000 and ISO 9000 are relevant as they pertain to environmental management and quality management respectively. They have been developed for specific sectors and provide guidance on how to meet international standards
- Negative covenants may include that the clients has to refrain from using its property for disposing of toxic substances etc.
- Pre-disbursement conditions requiring the borrower to mandatorily complete certain conditions to effectuate disbursement of the financing facility.

d) **Regular Monitoring and Review:** The environmental risk of a borrower may change, after approval or disbursement of financing, due to modifications in business set-ups, operations or production processes or changes in requirements of applicable environmental laws or regulations. The bank/ DFI should agree on regular reviews with the borrower for a reasonable assurance of ongoing compliance with applicable environmental requirements as well managing emerging risks at transaction and portfolio levels. The frequency and extent of such reviews may be decided on the basis of complexity of environmental issues associated with client's operations. Such reviews may lead to possible improvement measures to resolve non-compliance, if any.

3.3.2.4 Reporting & Documentation

The banks/DFIs are obliged to maintain a database on non-performing loans when the reason for the non-performance is environment-related. Banks/DFIs should document the cases where there are suspicions and probable causes. The database is meant to improve the institutional learning process and lead to better risk assessments and thus avoid systemic risks.

3.3.3 Stages of Environmental Risk Management and Functions of Departments

The process of EnvDD is performed by the relevant offices e.g. the front office, the marketing department or the relationship office. Accordingly, the responsibilities for data collection, provision of information and assessment, consulting of external expertise and communication with clients and other external sources lies with these offices. The process starts as early as possible and covers the screening process through checklist(s) and inspection of compliance with national rules and regulations. The appraisal stage leads up to credit approval.

Credit Approval

The credit approval department performs a complete and independent review and verification of the EnvDD and the ERR on the basis of information provided by the front office. In case of divergent views, credit department will seek further information or escalate to a higher decision making level. The environmental risk assessment becomes an equally valid part of the overall credit decision.

Loan Contracting

Contracts should feature banks'/DFIs' increased awareness of environmental compliance and improve environmental prudence on the side of the client. Credit Administration Departments and/or Legal Departments should ensure that contracts between banks/DFIs and clients reflect the level of environmental safeguards in the condition precedent and covenants. Based on the identified risk ratings, additional covenants should be requested. The covenants should include obligations to report

regularly on environmental issues and remedies may be suggested if the client is in breach with any environmental issue.

Credit Administration

Credit administration is obliged to integrate an additional layer of scrutiny for industries classified as high risk industries before disbursement. Environmental conditions precedent and other covenants need to be verified before disbursement and should be covered by appropriate documentation. For large deviations in the ERR, clearance from the competent authority should be sought.

On the individual transaction basis, the monitoring may be based on the ERR and changes to the original risk assessment may be documented and followed upon. The monitoring includes the regular review of information received from the client, to which he/she is obligated through contractual arrangements. Specific environmental concerns such as changes in national policies, laws and regulations may be reviewed as to their long-term impact on clients. New developments can be assessed with external support.

On an overall portfolio basis banks/DFIs are obliged to review and classify their existing portfolio to identify their current environmental risk exposure. Banks/DFIs may as part of their routine monitoring procedure ask clients, on a voluntary basis, to provide relevant information. The standard EnvDD may be used as the basis of the assessment leading to an ERR. The review is undertaken by the front office in cooperation with credit administration.

4. Green Business Facilitation

In addition to EnvRM, green banking opens up new profitable business opportunities for banks/DFIs in the form of investments in resource efficiency, alternative energy generation, etc. The banks/DFIs should, therefore, equip themselves with necessary knowledge, capacity and resources to capture their due share in this emerging business segment. The outcome of the environmental checklist can serve as an interesting entry point.

From the perspective of banking clients, improved environment risk and resource management results not only in compliance with applicable as well as anticipatory regulatory requirements but also helps to realize savings in operational costs due to reduction in resources, increases market access and enhances profitability. As the businesses become aware of advantages of better EnvRM and resource efficient operations/technologies, they demand financing facilities for such investments from their banks/DFIs. Further, ever improving technologies for resource efficiency and increased focus and regulation of environmental impacts of businesses, the demand and opportunities for green banking products of banks/DFIs is expected to keep increasing over the coming years.

From the banking perspective, green banking is not restricted to reduced credit risk through proper management of environmental risks of clients. In addition, a systematic approach of EnvRM also provides necessary insights to banks/DFIs to identify new products and markets, such as energy efficiency, carbon markets, and green mortgages etc. A well-developed structure of financing facilities for environmental projects/businesses will help banks to build image of environmentally conscious organizations and also facilitate in building conducive relationships with the government agencies entrusted with implementation of environmental regulations.

The banks/DFIs act as facilitators of economic activities through financing facilities and advisory services to their clients. In this way, banks/DFIs are well placed to serve as powerful agents of change for steering businesses to more sustainable and environmentally friendly strategies and operations through their responsible allocation of financial resources.

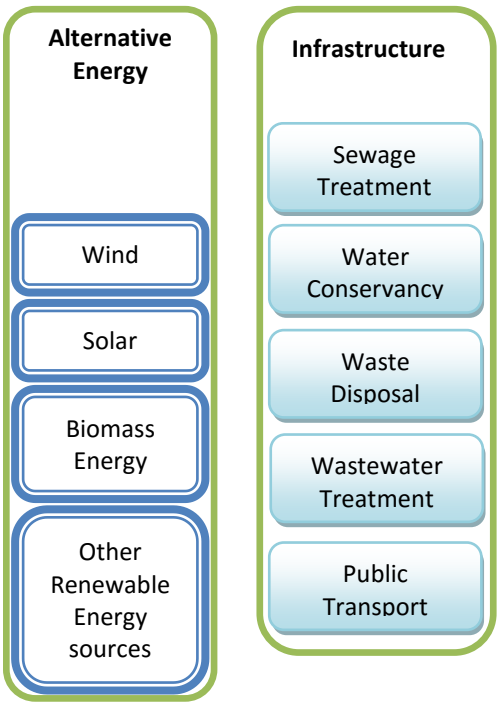
Green business facilitation should be developed as a profitable business proposition with sufficiently large business potential. The difference to a business as usual behavior is the awareness of risks and rewards due to the changes in the environment and the global climate.

4.1 General Guidelines

1. **The Green Business Facilitation Policy and Strategy:** The green banking policy of a bank/DFI should include policy statement for allocation of funding resources to those businesses, who directly or indirectly want to improve the carbon foot-print, be more resource efficient and use other means to reduce the environmental impact. Indirect impacts are facilitated by such clients as providers of environmental services and equipment manufacturers while direct impacts are achieved by those who implement them. Supply and demand side both may use innovative technologies and structures which should be considered for financing as well.
   The strategy should be forward looking and should cover all aspects including bank/ DFI's core principles, growth objectives and its existing and potential future client base.
2. **Green Product Development:** The Green Business Officer should search and evaluate available opportunities to finance. These opportunities arise in all business segments i.e. for consumers, agricultural borrowers, SMEs, Corporate clients and infrastructural projects.
3. **Green Advisory Service:** As the banks/DFIs integrate evaluation of environmental implications/costs in their credit appraisals, they should also develop a mechanism of suggesting green and resource efficient alternatives to their clients. The clients may not always accept the advice/recommendation of banks/DFIs (for example, due to higher initial outlay). Nonetheless, this mechanism of highlighting potential benefits of green alternatives to clients will educate them and also sensitize field staff of banks/DFIs on the strategic importance of green investments.

4.2 Specific Guidelines

1. The banks/DFIs should customize their products and services to the needs/requirements of their clients with the objective of facilitating their access to financing facilities.
2. With a view to increase the interest/focus of their branches, the banks/DFIs may assign financing targets for green financing to their regional offices as part of their normal financing targets for regions/branches. The green financing targets may comprise of sub-targets for different business segments and should be based on the regional green business potential, capacity/resources of their staff and internal preparedness of the bank/DFI.
3. **The Green Financing Portfolio:** An indicative but not exhaustive structure of green financing portfolios of banks/DFIs may include the following sectors:



4. The opportunities for financing environmentally friendly activities exist in almost all sectors and sizes of businesses and households. For example,

    a. The agricultural clients may be financed for farming techniques based on lesser use of chemical fertilizers & pesticides, efficient water usage, drought resistant and water resistant crops etc.
    b. The consumers may be financed for installation of energy and water efficient equipments in households etc.
    c. The SMEs may be financed for modern resource efficient technologies as alternatives to traditional technologies etc.
    d. The corporate clients may develop and produce equipments for resource efficiency and waste disposal etc.

5. **Water Conservation in Agriculture:** The banks/DFIs should explore ways and means to encourage optimal usage of renewable water resources and adoption of modern efficient agriculture water management techniques (Drip/Trickle Irrigation System & Sprinkler Irrigation System) through their working capital and term finance facilities to farm and non-farm sector activities in line with the Guidelines for Efficient Agriculture Water Management Financing issued by Agricultural Credit & Microfinance Department of SBP.
6. **Earmarking of Funds:** Banks/DFIs should consider earmarking funds for financing of green investments commensurate with the overall financing and investment portfolios and implement comprehensive procedures for regular utilization. .
7. **Green Marketing:** The banks/DFIs are encouraged to highlight the environmental causes for marketing of their products/services specifically designed to support environmental friendly activities/businesses.
8. **Multilateral Resources for Environmental activities:** The banks/DFIs should explore international funding options for investment in green projects and development of their Green Financing Portfolio. One such option is accreditation of banks/DFIs under the UN's Green Climate Fund (GCF).

5. Guidelines on Own Impact Reduction

The banks/DFIs are themselves major users of energy through their head offices, regional offices and extended branch networks across the country. The air conditioning, computer systems, ATMs and other technological setups form a big chunk of resource utilization including electricity consumption by the banks/DFIs. The banks/DFIs are, therefore, well positioned to reduce their impact on the environment through conscious management of their consumption of energy and other resources. The improvements in the energy efficiency & resource efficiency technologies imply that the banks/DFIs may also reduce their operational costs through their resource efficiency measures. The conscious effort for environmental conservation may also provide insights for banks/DFIs to customize their products and services for such measures in the businesses and households of the clients. The impact reduction strategies may be also be used for marketing the green image of the banks/DFIs; thus winning more clientele from environmentally conscious businesses and individuals.

The measures for own impact reduction require complete Business Process Re-engineering (BPR) i.e rethinking and radically redesigning the bank's/DFI's existing resources. This process involves commitment at the highest level (in the form of organization's mission, strategic goals etc.), to facilitate the process of a green culture.

5.1 General Guidelines

1. **The Green Business Facilitation Policy and Strategy:** The green banking policy of banks/DFIs should include policy statement showing commitment of the bank/DFIs to setup their branches and offices in such a way that their operations use minimum energy and other resources and have minimum impact on the environment. Based on this ***Own Impact Reduction policy statement***, the banks/DFIs should develop their business strategy for undertaking targeted measures to minimize their reliance on grid-energy/fossil fuel based energy, reduce consumption of electricity, paper, petroleum, water and other resources and reuse/recycle materials/equipments.
2. **Impact Reduction Targets:** The banks/DFIs should develop and maintain an inventory of their consumption of resources like electricity, water, petroleum, paper etc. in the head offices, regional offices and branches. Based on this consumption inventory, the banks/DFIs should develop their annual resource consumption targets. The targets should be realistically achievable, include well defined key performance indicators and accompany with strategic plans for achievement of these targets. The first stock taking of resource consumption after issuance of these GBG should constitute the "baseline scenario" for assessment of overall performance and commitment of a bank/DFI. The baseline is the line of comparison for future performance measurements. In order to ensure authenticity of performance results, the banks/DFIs should ensure quality and consistency of data collected for consumption inventory.
3. **Green Branches/Offices:** The banks/DFIs may designate their head offices or selected branches as 'green branches/offices', provided it is financially feasible and beneficial vis-à-vis existing set-up. The 'green branches/offices' are the branches/offices which meet 50% or more of their energy needs from renewable energy sources (like installation of photovoltaic solar panels), use energy efficient lights & equipments and employ technologies for efficient use of water and other resources. In addition, the green branches/offices are designed to minimize waste, pollution (Air pollution, Water pollution, Indoor pollution, Noise) and environmental degradation. The banks/DFIs may develop their own special green logos which may, along with the text 'Green Branch/Office', displayed on the hoardings above green branches/offices and on the notice boards within such branches/offices.

Banks/DFIs displaying a green logo may clearly inform the public on what basis a branch can qualify for a green logo and what were the specific parameters. A green logo may be renewed every year.

5.2 Specific Guidelines

Some of the key areas where banks/DFIs should start are listed below. Banks/DFIs are encouraged to go beyond these areas.

1. **Paperless Banking Operations:** Although, paperless banking is already being implemented through use of computers in accounting, and customer dealings for reasons of efficiency and cost savings, the banks/DFIs are still one of the major users of paper among businesses. The implementation of paperless banking requires the banks/DFIs to identify the need and types of documents which are to be stored electronically, go through a planning process for deciding the data storage disks, scanners, Optical Character Recognition (OCR) applications, data storage file structures, searching/retrieval applications and data encryption/backup planning etc.
    a. The banks/DFIs should identify the documents for conversion to electronic formats through an institution wide consultative process. The banks/DFIs may decide to convert all documents/paper for conversion and storage in electronic forms except the legal documents or key documents which may serve as evidence in a court of law.
    b. For internal communications and operational management of branches/offices, the banks/DFIs should develop policies for on-line communications, where possible, as a convenient and fast alternative to printed documents.
    c. The banks/DFIs should seek external technical expertise for devising an efficient and cost effective system with proper installations of IT requirements for implementation of paperless operations. From the environmental perspective, a shift from the use of paper to electricity with all of its negative environmental repercussions and consequences is not a desirable outcome. The banks/DFIs, therefore, have to think of adopting ways and mechanisms to reduce their use of energy reliant equipment. There are ways available for the banks/DFIs to reduce environmental impact of their IT infrastructure in economical ways making this paperless alternative more attractive and external IT advisory may support the banks/DFIs in identification of such ways.
    d. The banks/DFIs should regularly sensitize their staff regarding negative environmental implications of excessive usage of paper and environmental responsibility of banks/DFIs with a view to build a culture of consciousness towards use of paper and printing. In areas where full adoption of paperless environment is not possible and/or desirable, the banks/DFIs may educate their staff to reduce use of paper through such practices as printing of absolutely necessary documents and using both sides of paper etc.
2. **Paperless Banking Services:** In terms of dealings with the clients, the banks/DFIs should adopt measures to deliver customer services through electronic means. This includes sending e-statements of bank accounts, installing ATMs, providing online checking facilities, allowing online payments of bills and allowing online submission of customer applications etc.
3. **Green IT Infrastructure:** The banks/DFIs should deploy energy efficient IT equipments and install systems for saving energy from idle running of IT equipments through such techniques as remote turn of equipments etc.
4. **Renewable Energy based ATMs:** The banks/DFIs may take measures to convert their ATMs to solar or other renewable energy sources, provided it is financially plausible conversion

5. **Renewable Energy based Branches/Offices:** In addition to the green branches/offices, the banks/DFIs may deploy, if financially plausible, renewable energy based equipments in their 'non-green' branches/offices to reduce their reliance on fossil fuels/ grid electricity.
6. **Resource Efficiency Measures:** The banks/DFIs should take, where viable, measures to adopt resource efficiency in their branches/offices similar to the ones adopted in their green branches/offices. These measures should, in fact, facilitate banks/DFIs to identify and designate green branches/offices in a gradual manner. Some of the resource efficiency measures are enlisted in annexure 5.
7. **Waste Reduction:** The banks/DFIs can adopt practices to reduce waste (paper, packaging, plastics, electronic equipment, print cartridges, etc.) and recycle these materials.

Annexure 1: Environmental Risks

Environmental risks of financing portfolios to banks/DFIs are those that originate from transactions of their clients. Risks may stem from current or past activities. They may have an immediate impact on the production, long-term effects on the environment and may even have implications/negative effects in other countries. Almost all actions are exposed to some sort of environmental risk, and it needs to be kept in mind that the project location may be an accelerating factor. If left unmanaged, these risks can get out of control and lead to uncertainties and partial or full losses in a bank/DFI's revenues. As systemic risks, environmental risks may endanger the entire financial system.

The nature, frequency and severity of impact of clients' activities have to be set in relation to the banking transaction performed. Trade and SME finance are often short-medium term, whereas project finance is usually long term, which requires a different level of precautionary measures. It is, therefore, crucial for banks/DFIs to understand the inherent environmental risks of a client's business before getting involved. The relative magnitude of each risk is pivotal.

Environmental risks for banks/DFIs appear at different levels and can be classified as:

- Direct risk means the Banks/DFIs are directly impacted. As an example, if a bank/DFI holds land as a security and the land becomes flooded due to climate change or is contaminated due to a chemical disaster, the value of the collateral may be severely reduced and the banks/ DFI may not, in the event of default, recover the original value (financial/security risk). In a worst case scenario banks/DFIs may be obliged to take the cost of removing the environmental damage.
- Indirect risks are those which challenge financial position of a bank/DFI due to environmental impacts on the client. For example, the changes in environmental regulation in the importing country may require the exporter to make unexpected investments which may lead to cash-flow shortfalls. The same goes for a client, whose business operation is interrupted due to flooding/cyclones/electricity shortfalls etc.
- Reputational risks, which occur, if banks/DFIs are associated with potentially negative publicity due to their own and their clients' wrongdoing. This risk is particularly evident in long term and large project finance activities where the management of the project company is in breach with environmental stipulations. A damaged public image may lead to a loss of future business and will take a long time to heal.

Sources of risks

The sources of environmental risks can be very different and even outside the influence of clients. Usually environmental risk originates from or is inherent to:

- **Behavior/Attitude towards Environmental Concerns:** Just like the credit risk, the sponsors of a business provide important clues on the possibility of occurrence of environmental breaches. Key characteristics of sponsors that determine the magnitude and severity of environmental risks are as listed below:
  - Understanding and knowledge of environmental risks,
  - Attitude and behavior towards environmental risks,
  - Ability and competence to manage environmental risks; and
  - Historical record of attention to environmental issues,

  - Financial strength to cope with the resultant costs and/or losses should these risks materialize.
- **Sector:** Irrespective of their size, some sectors have high level of environmental risk for one or more of the following reasons:
  - High dependency on natural resources (oil & gas, forestry etc),
  - Production of hazardous wastes and pollutants (chemical industries, fertilizers, pharmaceuticals, brick kilns etc),
  - Significant health and safety hazards (leather tanneries, ship breaking etc); and
  - Significant socioeconomic impacts on local communities (mining, town development, hydropower projects etc)
- **Site:** The site of the business may increase environmental risks and resultant liabilities/losses for a business. For example, a tannery located near a residential area poses higher risks of environmental hazards and is more prone to societal pressures than the one located sufficiently away from inhabited areas. Further, climate change is expected to have varying impacts and different environmental risks around the world, e.g. an increase in the risk of drought in some regions and an increase in flood risk in others.
- **Legal and Regulatory Changes:** Environmental impacts are not static but may change over time, become more pronounced and require new laws and regulations. This may be particularly hard for certain industries as it requires new investments. Some clients may choose to ignore or not completely follow the new stipulations. Their incompliance affects the bank/DFI-client relationship, because the EnvDD and EnvRM process of the transaction is based on compliance with national rules and regulations. If missing, the client poses a larger environmental risk and will have to deal with respective consequences such as the request for more collaterals or higher interest rates. In the worst case scenario, loans or other underlying transactions may need to be terminated.
- **Climate Change:** The adverse weather conditions, especially due to global warming, have brought about disasters such as flooding and droughts. Clients who are vulnerable to adverse weather conditions and their consequences or have their operation and production in areas prone to catastrophes are at risk of losing their income base or having to make high investments to defend their businesses. Examples of such industries are the agricultural sector or industries that rely on agricultural products as raw material. Risk from climate change affects the bank/DFI - client relationship as the cash-flow situation and loan repayment capability may be impaired.
- **Indirect Clients' Risks:** Indirect risks are risks arising from a business's value chain, i.e. its suppliers and customers. In some sectors, indirect risks can be more material than direct risk and can have major consequences for the business. For example, a clothing manufacturer could face significant increases in the cost of cotton if its supplier is required by new environmental regulations to install new technology to reduce waste of water.
- **Changes in Market Conditions:** If society becomes more environmentally conscious and switches from a diesel generators to solar panels for the production of electricity, it obviously has negative impact on sale of diesel based pumps and positive impact on sale of solar panels. Since equipment producers do not fabricate each component on their own but have subcontracted supply for parts, the entire supply chain upstream and downstream would be influenced by this change. This could potentially influence an entire region such as industrial parks where, due to better logistics, firms of similar products and services are concentrated.

  Environmental concerns in other countries may influence consumer preferences and the demand (e.g. of textiles). These concerned may be reflected in new import regulations creating risks for the local exporters. The change in market conditions due to environmental risks adds another layer of

uncertainty in the bank/DFI-client relationship. In the worst case, entire businesses and industry branches can disappear.

Types of Risks

ECOLOGICAL MONITORING
- Soil Degradation - Global
- Tropical Forest Cover
- Rangelands
- River and Sediment Discharge
- World Glacier Inventory
- Isotope Concentration in Precipitation

BIOSPHERE
- Wildlife Sampling and Monitoring
- Impact of Pesticide Residues
- Living Marine Resources

POLLUTANTS
- Air Quality Monitoring - Global
- Transmission of Air Pollutants in Europe
- Water Quality - Global
- Eutrophication in Inland Waters

FOOD AND ANIMAL FEED CONTAMINANTS
- Pollutants in Body Fluids and tissues
- Human Milk Composition Pollutants in Human Hair
- Ionizing Radiation

CLIMATE
- Climatic Variability
- World Weather Watch
- Solar Radiation
- Atmospheric Ozone
- Climate Change
- Glacier Mass Balance and Fluctuation
- Atmospheric Pollutants

OCEANS
- Pollutants in Regional Seas - Mediterranean
- North Sea
- Baltic
- NE and NW Atlantic
- Open Ocean Waters
- Marine Oil Pollution
- River Discharge to Sea
- Background Levels of Selected Pollutants

NATURAL DISASTERS
- Tropical Cyclones
- Tsunami Information
- Flood Forecasting

Annexure 2: A brief on the Environmental Laws of Pakistan

The following information is meant to be information and guidance to banks/DFIs in order to get familiar with environmental laws and processes. The banks/ DFIs are advised to update this information, from time to time, extracting information from applicable websites, SBP, government departments/ agencies and other reliable sources. Laws, procedures and implementation practices may change from one province and/or region to the other. Therefore, it is recommended that banks/DFIs advise their local bank staff accordingly.

The Pakistan Environmental Protection Act of 1997 (PEPA, 1997) was the leading national law pertaining to the protection of environment before the Constitution (Eighteenth Amendment) Bill, 2010. Under this Act, Pakistan Environmental Protection Agency (EPA) has been established which has issued rules, regulations, standards and guidelines for protection of environment. Its key regulations include NEQSs and IEE and EIA regulations. However, the Eighteenth Amendment abolished the Concurrent Legislative List [CLL] of the Constitution, 1973 resulting in transfer of 'Environmental pollution and ecology' in the legislative domain of the Provincial Assemblies. The Parliament now has legislative powers on matters specifically mentioned in the Federal Legislative Lists and also matters pertaining to such areas in the Federation which are not included in any Province (e.g Islamabad Capital Territory, FATA). Further, the Federal EPA will continue to exercise its powers bestowed to it under PEPA, 1997 in respect of projects of the Armed Forces of Pakistan or projects having transitional and inter-provincial adverse environmental effects. In addition, the projects/facilities related to any of the following which are specifically mentioned as Federal subjects in the Federal Legislative List will continue to be covered by the Federal EPA:

- Cantonment areas and authorities
- Telephones, wireless, broadcasting and other communications infrastructure
- Nuclear energy production and infrastructure
- Facilities for carriage of passengers and goods by sea or by air
- Import and Export (Inter-provincial trade and commerce and trade and commerce with foreign countries)
- National highways and strategic roads
- Aircraft and air navigation facilities and infrastructure
- Port quarantine, seamen's and marine hospitals and hospitals connected with port quarantine
- Railways
- Mineral oil and natural gas production and distribution facilities and infrastructure
- Production of dangerously inflammable liquids and substances
- Electricity generation and production and distribution infrastructure and facilities
- Major ports and port authorities

The 18th amendment also provides that all laws, rules, notifications etc with respect to the matters enumerated in the repealed CLL which were in force immediately before the commencement of the 18th Amendment, shall continue to remain in force until altered, repealed or amended; in case of laws, through appropriate legislature and, in case of notifications and rules etc, by the competent authority which is vested with such powers under the law. Further, the Article 143 of the Constitution, as amended by the 18th amendment, provides that if the provision of a Provincial Act is repugnant to any provision of a Federal Act which Parliament is competent to enact, the Federal Act shall prevail and the

Provincial Act shall, to the extent of the repugnancy, be void. This implies that the no provincial assembly can enact a law which is repugnant to any provision of the PEPA, 1997.

After the 18th amendment, provincial assemblies have enacted their own Environmental Protection Acts. The Sindh EPA has also issued its own IEEs and EIA regulations. However, other provincial Environmental Protection Agencies are in process of developing their own environmental regulations, standards and rules. In the meantime, these agencies are using the rules, regulations and standards of the Federal EPA.

The Rules and Regulations of Federal EPA

The rules and regulations of Federal EPA relevant for the banks/DFIs include the following:

- PEPA (Review of IEE and EIA) Regulations, 2000
- National Environmental Quality Standards (Self-Monitoring and Reporting by Industry) Rules, 2001
- National Environmental Quality Standards (Certification of Environmental Laboratories) Regulations, 2000
- Environmental Tribunal Rules, 1999 (notified on 18th March, 2000)
- Environmental Tribunals (Procedures and Functions) Rules, 2008
- Environmental Samples Rules, 2001
- Pollution Charge for Industry (Calculation and Collection) Rules, 2001
- Provincial Sustainable Development Fund Board (Procedures) Rules, 2001
- Provincial Sustainable Development Fund (Utilization) Rules, 2003
- Pakistan Biosafety Rules, 2005
- Hospital Waste Management Rules, 2005
- Hazardous Substances Rules, 2003 (draft)
- IEE and EIA Penalty Rules, 2011 (draft)
- Handling, Manufacture, Storage, Import of hazardous waste and hazardous substances Rules, 2016
- Pakistan Environmental Protection Motor Vehicle Regulations 2016

The Federal EPA has, in exercise of powers bestowed to it under section 12 of PEPA, 1997, issued IEE and EIA Regulations-2000. The purpose of the environmental assessment process is to provide proponents, decision makers, as well as members of the public, with an understanding of the environmental effects so as to avoid or minimize adverse effects wherever possible, bearing in mind the costs and benefits of using the environmental resources in the proposed project. The approval of an IEE/EIA may have conditions attached to it. In this case the proponent has to develop an Environmental Management Plan (EMP), which specifies the measures and procedures to be taken to mitigate these identified impacts. Environmental assessments need to be integrated at the right time in the project cycle. The IEE has to start at pre-feasibility or latest at the beginning of the feasibility stage, whereas the EIA will start with the feasibility study and the results of the environmental assessment must feed in to the results of other parameters of the feasibility stage such as economic, technical and financial studies.

The categories of activities for which an IEE or EIA is required are given in the table given below:

List of projects requiring an IEE	List of projects requiring an EIA
A. Agriculture, Livestock and Fisheries, etc.	**A. Energy**
1. Poultry Farms with total cost less than Rs 5 million.	**1.** Hydroelectric power generation over 50 MW. **2.** Thermal power generation over 50 MW.

2. Dairy Farms and Slaughter houses with total cost from Rs 10 to 25 million.
3. Tube wells constructions for Agriculture/Irrigation purposes with total cost of Rs 20 million.
4. Construction of Silos.
5. Fish farms above one acre.
6. Livestock and stud farms with total cost from Rs 10 to 25 million.

B. Energy

1. Hydroelectric power generation less than 50 MW.
2. Combining Cycle power plants (both Oil & Natural Gas Fired) less than 50 MW.
3. Transmission lines less than 11 KV, and large distribution projects.
4. Oil and gas transmission systems.
5. Oil and gas extraction projects including exploration, production, gathering systems, separation and storage.
6. Waste-to-energy generation projects.
7. Wind power plants of up to 50 MW.
8. Gas fired power plant up to 50 MW.
9. Oil and gas 2-D Seismic Survey.
10. Coal fuel power plants < 1MW.

C. Manufacturing and processing

1. Ceramics and glass units with total cost up to Rs 50 million.
2. Food processing industries including sugar mills, beverages, milk and dairy products, with total cost less than Rs 100 million.
3. Man-made fibers and resin projects with total cost less than Rs 100 million.
4. Manufacturing of apparel, including dyeing and printing, with total cost more than Rs 25 million.
5. Wood products with total cost more than Rs 25 million.
6. Marble units with total cost of more than Rs 50 million.
7. Flour Mills, Rice Mills, Ghee/Oil Mills, Pharmaceutical units, Cotton ginning Mills, Lime kilns, Ice factories and cold storages with total cost of less than Rs 100 million.

3. Transmission lines (11 KV and above) and grid stations.
4. Nuclear power plants.
5. Petroleum refineries.
6. Wind power plants more than 50 MW.
7. Combine cycle power plants (both Oil & Natural Gas Fired) over 50 MW.
8. Gas fired power plant over 50 MW.
9. Grid stations.
10. Coal fired power plants of 1 MW /LNG/LPG storage facilities.

B. Manufacturing and processing

1. Cement plants.
2. Chemicals projects.
3. Fertilizer plants.
4. Food processing industries including sugar mills, beverages, milk and dairy products, with total cost of Rs 100 million and above.
5. Industrial estates (including export processing zones).
6. Man-made fibers and resin projects with total cost of Rs 100 million and above.
7. Pesticides (manufacture or formulation).
8. Petrochemicals complex.
9. Synthetic resins, plastics and man- made fibers, paper and paperboard, paper pulping, plastic products, textiles (except apparel),printing and publishing, paints and dyes, oils and fats and vegetable ghee projects, with total cost more than Rs 10 million.
10. Tanning and leather finishing projects.

C. Mining and mineral processing

1. Mining and processing of coal, gold, copper, sulphur and precious stones.
2. Mining and processing of major non-ferrous metals, iron and steel rolling.
3. Smelting plants with total cost of Rs 100 million and above.

D. Transport

1. Airports.
2. Federal or Provincial highways or major roads (except maintenance, re-building or reconstruction of existing roads) with total cost of Rs 100 million rupees and above.
3. Ports and harbor development for ships of 500

D. Mining and mineral processing

1. Commercial extraction of sand, gravel, limestone, clay, sulphur and other minerals not included in Schedule II with total cost less than Rs 100 million.
2. Crushing, grinding and separation processes.
3. Smelting plants with total cost less than Rs 50 million.

E. Transport

1. Federal or Provincial highways (except maintenance, rebuilding or reconstruction of existing metalled roads) with total cost less than Rs 100 million.
2. Ports and harbor development for ships less than 500 gross tons.
3. Construction and expansion of Bus Terminals/railways platforms with total cost of less than Rs 50 million.

F. Water management, dams, irrigation and flood protection

1. Dams and reservoirs with storage volume less than 50 million cubic meters of surface area less than 8 square kilometers.
2. Irrigation and drainage projects serving less than 15,000 hectares.
3. Small-scale irrigation systems with total cost less than Rs 100 million.

G. Water supply and treatment

Water supply schemes and treatment plants with total cost less than Rs 200 million.

H. Waste disposal

Waste disposal facility for domestic or industrial wastes, with annual capacity less than 10,000 cubic meters.

I. Construction, urban development and tourism projects

1. Housing schemes.
2. Public facilities with significant off-site impacts (e.g. hospital wastes).
3. Urban development projects.
4. Commercial / office high rise buildings 7-15 storey excluding basement.
5. Residential/high-rise apartments 7-15 storey excluding basement.

gross tons and above.

4. Railway works.
5. Construction and expansion of Bus Terminals/Railways platforms including construction / rehabilitation of berths/jetties/sea port terminals with total cost of Rs 50 million and above.

E. Water management, dams, irrigation and flood protection

1. Dams and reservoirs with storage volume of 50 million cubic meters and above or surface area of 8 square kilometers and above.
2. Irrigation and drainage projects serving 15,000 hectares and above.

F. Water supply and treatment

Water supply schemes and treatment plants with total cost of Rs 100 million and above.

G. Waste Disposal

1. Waste disposal and/or storage of hazardous or toxic wastes (including landfill sites, incineration of hospital toxic waste).
2. Waste disposal facilities for domestic or industrial wastes, with annual capacity more than 10,000 cubic meters.

H. Construction, urban development and tourism projects

1. Land use studies and urban plans (large cities).
2. Large-scale tourism development projects with total cost more than Rs 50 million.
3. Commercial/official high rise buildings 7-15 storey and above excluding basements depending on location if exists in cluster.
4. Residential/commercial high-rise apartments, 7-15 storey and above excluding basements, depending on location if it exists in cluster.
5. Development of parks, play grounds, clubs etc, having cost of Rs 100 million and above.
6. Internal urban road construction (except rehabilitation/improvement of existing road with same alignment) and street light development with cost of Rs 100 million and above.
7. Development of Islands and creation of artificial Islands.

6. Development of parks, play grounds, clubs, etc, having cost of less than Rs 100 million. 7. Internal urban roads construction (except rehabilitation/improvement of existing road, with same alignments and street light development with cost less than Rs 100 million. 8. Hospitals, pathological laboratories. 9. Construction of under passes, flyover and city's main fruit/vegetable markets. **J. Other projects** Any other project for which filing of an IEE is required by the Federal Agency under sub-rule (2) of Rules 5	**I. Environmentally sensitive areas** All projects situated in environmentally sensitive areas. **J. Other projects** 1. Any other project for which filing of an EIA is required by the Federal Agency under sub-rule (2) of Rules 5. 2. Any other project likely to cause an adverse environmental effect.

The NEQSs, issued in 1993, are national standards of pollution levels by industries, that are measured and monitored and must not be exceeded. The NEQSs were amended in 2000, 2009 and 2010. The NEQSs classifies industries on the basis of their pollution level, the industries with liquid effluents are classified into three categories (A, B or C) while the industries with gaseous emissions are classified into two categories (A or B).

Classification of industrial units for Liquid Effluents as per NEQSs	**Classification of Industrial Units for Gaseous emissions as per NEQSs**
Category A **1.** Chlor-Alkali (Mercury-Cell) **2.** Chlor-Alkali (Diaphram Cell) **3.** Metal finishing and electroplating **4.** Nitrogenous fertilizer **5.** Phosphate fertilizer **6.** Pulp and paper **7.** Pesticides formulation **8.** Petroleum, refining **9.** Steel industry **10.** Synthetic fiber **11.** Tanning and leather finishing **12.** Textile processing **13.** Pigments and dye **14.** Thermal power plants (oil- and coal- fired) **15.** Rubber products **16.** Paints, varnishes and Lacquers **17.** Pesticides **18.** Printing **19.** Industrial chemicals **20.** Oil and Gas production **21.** Petrochemicals **22.** Combined effluent treatment	**Category A** **1.** Cement **2.** Glass manufacturing **3.** Iron and Steel **4.** Nitrogenous fertilizer **5.** Phosphate fertilizer **6.** Oil and Gas production **7.** Petroleum refining **8.** Pulp and paper **9.** Thermal power plants (coal and oil based) **10.** Boilers, ovens, furnaces and kilns (coal and oil fired) **11.** Brick-kilns (firewood and bagasse based) **12.** Any other industry to be specified by Federal and Provincial Agency **Category B** **1.** Sugar **2.** Textile **3.** Choloralkali plants **4.** Dairy industry **5.** Fruits and vegetables **6.** Metal finishing and electroplating

23. Any other industry to be specified by Federal or Provincial Agency **Category B** **1.** Dairy industry **2.** Fruit and vegetable processing **3.** Glass manufacturing **4.** Sugar **5.** Detergent **6.** Photographic **7.** Glue manufacture **8.** Oil and Gas exploration **9.** Thermal power plans (das fired) **10.** Vegetable and Ghee mills **11.** Woolen mills **12.** Plastic materials and products **13.** Wood and cork products **14.** Any other industry to be specified by Federal and Provincial Agency **Category C** **1.** Pharmaceutical (Formulation) industry **2.** Marble crushing **3.** Cement **4.** Any other industry to be specified by Federal and Provincial Agency	**7.** Boilers, ovens, furnaces and kilns (gas-fired) **8.** Any other industry to be specified by Federal and Provincial Agency

NEQSs apply to all industries, which may lead to the situation that no IEE/EIA has to be filed but an Environmental Monitoring Report. If an IEE or EIA exists, the rules are in addition and not in derogative of the monitoring conditions spelled out in the IEE/EIA approval. The objective of NEQSs is to combat pollution where they are generated i.e at the level of the industry. The Section 12 of PEPA-1997 requires all projects (existing as well as new) to follow the NEQSs. As no IEE or EIA can be requested for the already established industrial units, NEQSs automatically becomes applicable requirement for existing projects. The Federal EPA has shifted the responsibilities of compliance with NEQSs to the industrial units through establishment of a self-monitoring and reporting program (SMART) in 2006. To ensure that the measurements taken are correct, certified laboratories have been established.

In exercise of powers bestowed under Section 20 of PEPA 1997, the Ministry of Law & Justice has constituted Tribunals at Karachi and Lahore.

Sectoral Guidelines of Federal EPA

In addition to the above rules and regulations, the Federal and Provincial EPAs have issued Sectoral Guidelines to assist the industry in identifying key environmental issues that need to be assessed as well as mitigation measures and alternatives that should be considered. For banks/DFIs, these Guidelines provide useful information on the process of developing an IEE/EIA in these sectors. A list of Sectoral Guidelines available on the website of Federal EPA is as given below:

National Sector Guidelines

- Sectoral Guidelines for Environmental Reports, Major Thermal Power Stations
- Sectoral Guidelines for Environmental Reports, Major Chemical & Manufacturing Plants
- Sectoral Guidelines for Environmental Reports, Housing States & New Town Development
- Sectoral Guidelines for Environmental Reports, Industrial States
- Sectoral Guidelines for Environmental Reports, Major Roads Guidelines
- Sectoral Guidelines for Environmental Reports, Sewage Schemes
- Sectoral Guidelines for Environmental Reports, Oil & Gas Exploration and Production
- Guidelines for Environmental Reports – Wind Power Projects (Draft)
- Guidelines for Using Tire Derived Fuel (TDF) in Pakistan Cement Industry (PDF-101 KB)
  Guidelines for using Refuse Derived Fuel (RDF) in Pakistan Cement Industry

Environmental Guidelines and Checklists by KPK-EPA

- Brick Kiln Units
- Construction or Expansion of Bus Terminal
- Carpet Manufacturing Units
- Canal Cleaning
- Flour Mill
- Forest Harvesting Operations
- Forest Road Constructions
- Housing Schemes
- Marble Units
- Petrol and CNG Stations
- Poultry Farms
- Rural Schools and Basic Health Units
- Sanitation Schemes
- Sound Plantation
- Stone Crushing Units
- Tourist Facilities in Ecologically Sensitive Areas
- Tube-well Construction for Agriculture and Irrigation Purposes
- Urban Areas Road Construction
- Watercourses Construction and Lining
- Water Reservoirs in Arid Zones
- Water Supply Schemes
- Solid Waste Management (Draft)

Environmental Guidelines and Checklists by Balochistan-EPA

- Dairy Farms and Slaughter Houses (PDF-100KB)
- Draft Sectoral Guidelines and Upstream Petroleum Sector-Onshore

Trade Related Laws and Regulations

Section 13 of PEPA, 1997 prohibits import of hazardous waste into Pakistan and its territorial waters, exclusive economic zones and historic waters. Further, Section 14 of PEPA, 1997 provides that no person shall generate, collect, consign, transport, treat, dispose off, store, handle or import any hazardous substance except under a license or in accordance with the provisions of any other law or any international treaty to which Pakistan is a party. The Federal Government has established rules for handling, manufacture, storage, import of hazardous waste and hazardous substances, which, inter-alia, also provides a list of prescribed Hazardous Substances. Imports that are not covered by a specific guideline must carry an environmental certificate of no-obligation from the country of origin stating that the imported substance is classified non-hazardous and signed by a designated national authority.

As import and export is present in the FLL, the Federal Govt. is expected to retain control of jurisdiction on import of hazardous substances/waste. Trade is governed by the Trade Policy issued by the Ministry of Commerce. When opening an L/C, the trade operations department of banks/DFIs should check whether the commodity is eligible for import/export.

Vehicle Emissions

The Section 15 of PEPA, 1997 provides that the no person shall operate a motor vehicle from which air pollutants or noise are being emitted in an amount, concentration or level which is in excess of the Standards established under the Act. The Federal government has established Pakistan Environmental Protection Motor Vehicle Regulations 2016 which are applicable within the jurisdiction of Federal Government, as explained above. It is understood that Provincial EPAs may also enact similar rules and regulations.

The import of motor vehicles is guided by the NEQSs for Motor Vehicles Exhaust and Noise, 2009.

Annexure 3: Multilateral Environmental Agreements (MEAs)

Pakistan is signatory to the following MEAs/conventions/protocols and has ratified all of them. Consequently, it is mandatory for the state to ensure the implementation of the agreements that have been endorsed. As part of the due diligence procedure banks/DFIs are advised to get familiar with the following MEAs, relate them to activities of their clients and include the compliance with MEAs in the standard due diligence procedure.

1. Biodiversity-related Conventions

1. Convention on Biological Diversity
2. Cartagena Protocol on Bio-safety
3. Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
4. Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention)
5. Convention on the Conservation of Migratory Species

2. Atmosphere/Climate Change (UNFCCC)

6. United Nations Framework Convention on Climate Change (UNFCCC)
7. Kyoto Protocol to UNFCCC
8. Vienna Convention for the Protection of the Ozone Layer
9. 1987 Montreal Protocol on Substances that deplete the Ozone Layer

3. Land Convention / Environmental Cooperation Conventions

10. United Nations Convention to Combat Desertification (UNCCD)

4. Chemicals and Hazardous Wastes Conventions

11. Rotterdam Convention on prior Informed Consent (PIC) for certain Hazardous Chemicals and Pesticides in International Trade
12. Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal
13. Stockholm Convention on Persistent Organic pollutants (POPs)

5. Regional Seas Conventions and related Agreements

14. United Nations Convention on the Law of the Sea (UNCLOS)
15. Convention Concerning the Protection of the World Cultural and Natural Heritage

Annexure 4: Sample General Environmental Checklist

Questions	Risk rating
Policies and Standards	
Is the proposal in line with bank's/DFI's own policies? Example for risk rating: • Negligible: yes (100%) • Low: yes (mostly in line) • Medium: not clear • High: not in line high • Extreme: detrimental to policy	
Does the proposal fall within any of the categories requiring an EIA or IEE? Example for risk rating: • Negligible: No EIA/IEE needed • Low: IEE needed • Medium: Industry rated between IEE and EIA, unclear which one • High: Industry regularly requiring EIA • Extreme: EIA required, industry known for high environment damage	
Has the proposal received all environmental clearance certificates for the planning phase/construction phase/operation phase and are they available? Does the proposal have a license to import hazardous substances/no objection from the country of origin? Example for risk rating: • Negligible: No clearance certificates required • Low: Clearance provided with no further qualifications • Medium: Clearance certificate provided but minor qualifications • High: Clearance certificates possible, but with many qualifications • Extreme: No clearance certificates available, unlikely to achieve clearance	
Does the proposal belong to any of the classified industry units under the NEQSs? Example for risk rating: • Negligible: Not classified for Liquid Effluents or Gaseous Emissions • Low: Classified for Liquid Effluents or Gaseous Emissions at C level • Medium: Classified for Liquid Effluents and Gaseous Emissions at C level • High: Classified for Liquid Effluents and Gaseous Emissions at B level • Extreme: Classified A for Liquid Effluents and Gaseous Emissions	
Does the proposal import hazardous substances/other substances under the NEQSs? Example for risk rating:	

• Negligible: No import of any such substances • Low: Import in minimal quantities • Medium: regular import of small quantities/well known client/ responsible behavior • High: high amounts, special attention required • Extreme: high amounts, new client, unclear e.g. storage facilities (Yes, EIA required, industry know for high env. damage: extreme; yes, industries regular require EIA high; -high; no- low)	
Environment and Climate Change	
Is the project located in an area prone to natural catastrophes such as flooding, cyclones, storms etc.? Example for risk rating: • Negligible: no natural catastrophes • Low: minimal impact from natural catastrophes • Medium: regular natural catastrophes with impacts • High: regular natural catastrophes with high impacts • Extreme: regular natural catastrophes with high impacts over long periods	
Does the project include activities within or adjacent to protected and environmentally sensitive areas? Example for risk rating: • Negligible: Clearly outside of any sensitive area • Low: adjacent to sensitive area with limited impact • Medium: Project located in an environmentally sensitive area with no impacts • High: Project located in an environmentally sensitive area with impacts • Extreme: Project located in an environmentally sensitive area with high impacts	
Will the project impact an area high in bio-diversity or impact on a vulnerable, endangered or critically endangered species? Example for risk rating: • Negligible: No impact on biodiversity and endangered or critically endangered species • Low: Limited impact on biodiversity and endangered or critically endangered species • Medium: Project has high impact on biodiversity and endangered or critically endangered species • High: Project has long-term impact on biodiversity and endangered or critically endangered species • Extreme: Project has high long-term impact on biodiversity and endangered or critically endangered species	

Will the outcome of the proposal and/or its impact on environment, communities or ecosystems be significantly affected by climate change? Example for risk rating: • Negligible: Not affected by climate change • Low: Minimally affected by climate change • Medium: Affected by climate change • High: Highly affected by climate change • Extreme: Long-term and highly affected by climate change	
Clients Business and its Periphery	
Does the proponent's upper management have a clear understanding of the environmental risks (is an environmental risk management policy/procedures formally in place, are actions documented) and do they take relevant action? Example for risk rating: • Negligible: There are no risks/management is fully aware of environmental risks and have an excellent plan and structure in pace • Low: Risk is limited/ Plan in place, management very active • Medium: Management plan in place and management has already reacted appropriately • High: Management is only paying lip-service, no plan in place, • Extreme: The management is ignorant of environmental impacts on the business and deny any risks	
Is the ERMS equipped with an adequate budget? Example for risk rating: • Negligible: No risk/no budget needed • Low: Little risk, sufficient budget in place • Medium: Budget in place, but too small/not adequate • High: Despite high risks, no budget in place, management is said to pay from the running expenses if needed, limited liquidity • Extreme: Despite high risks, no budget in place for ERMS, management unwilling to earmark funds, no funds set aside	
Are environmental impacts formally audited or assessed? Example for risk rating: • Negligible: Environmental impacts have been assessed and there are none • Low: Environmental impacts have been assessed but are so limited that no audit is required • Medium: Environmental impacts have been assessed but no regular audit takes place • High: No environmental impact has been assessed or audited • Extreme: despite high risk industry environmental impacts are not assess or audited	
Is adequate manpower in place to conduct ERM, is manpower skilled to do so and is external support sought to fill capacity gaps?	

Example for risk rating: • Negligible: Business are very small, no environmental impact, no extra personal required • Low: Environmental impact limited, environmental personal assigned/external support assigned • Medium: Environmental impact medium, environmental personal assigned but not able, no external help • High: Environmental impact high, environmental personal assigned but not able, no external help • Extreme: Environmental impact high, no environmental personal assigned, no external help (no-high, some efforts are made-medium; yes-low)	
Are there any risks of adverse environmental and social impacts resulting from the proposal's supply chain? Example for risk rating: • Negligible: Project not part of/very limited a supply chain • Low: Project part of a supply chain containable impact • Medium: Project part of a supply chain with impacts on the environment • High: Project part of a supply chain severe impacts on the environment • Extreme: Project part of a supply chain with long-term and severe impacts on the environment (yes-high, industry likely to have some impacts-medium; no-low)	
Tbc by the individual banks/DFIs	

Annexure 5: Measures for Energy Efficiency

Some of the often cited measures for increasing energy efficiency in buildings are as given below. They are meant as an example to illustrate the many possible actions, which can be likewise applied to other sectors as well.

No-Cost Measures

- Lower the temperature setting on your hot water heater to 49°C.
- Set your central heating and cooling system thermostats to 20°C or lower in the winter and 22°C or higher in the summer.
- Turn off lights and appliances, when not in use.
- Actively manage indoor temperatures by opening and closing windows and window coverings (e.g., open windows to take advantage of cool evening breezes, close blinds or curtains against direct sunlight in the summer to reduce heat gain, open blinds or curtains to capture heat gain from sunlight during the winter, close blinds or curtains in the winter to reduce heat loss).
- Ensure heating registers and vents are not blocked by furniture or window coverings.
- Use cold water in your clothes washing machines and run only full loads.
- Use a clothesline.
- Use the "air dry" cycle on your dishwasher and run only full loads.
- Clean refrigerator coils and seals and defrost freezer units. Set the refrigerator temperature to 02°C and the freezer temperature to -18°C.
- Reduce the use of heat-producing appliances (e.g., ovens, ranges, clothes dryers) on hot days.
- Unplug or get rid of spare refrigerators and freezers, particularly if they are not ENERGY STAR appliances.
- Use the stairs instead of an elevator.
- Block off chimneys when not in use.
- Drain sediment from your water heater tank.

Low-Cost Measures

- Replace incandescent light bulbs with compact fluorescent bulbs (CFLs).
- Install power strips to shut off the power use of appliances that occurs even when they are switched off.
- Install ceiling fans and other fans to circulate air in the building.
- Insulate your water heater and hot water pipes.
- Replace furnace, air conditioner, and heat pump filters regularly.
- Install or replace weather-stripping around windows and doors.
- Install storm windows.
- Install low-flow showerheads and faucets to reduce use of hot water and repair leaky faucets.
- Install an ENERGY STAR-rated programmable thermostat.
- Replace refrigerator and freezer seals as needed to ensure a tight seal.
- Install dimmers and motion sensors on lights where possible to control electricity use.

Higher-Cost Measures

- Hire a qualified company to conduct an energy audit of your building.
- Weatherize and insulate your building.
- Replace old appliances with ENERGY STAR appliances.
- Replace air conditioner units with evaporative coolers, attic fans, or whole-house fans.
- Replace old heating units and water heaters with high-efficiency systems.
- Install solar tubes to reduce the need for indoor lighting, particularly in interior rooms.
- Install awnings, tinted window film, and green cover (trees, vines) to reduce a building's heat gain.