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TA 7566-REG: Strengthening and Use of Country Safeguard Systems

Subproject: Strengthening Environmental Impact Assessment System and its Implementation Practices (Bangladesh)

CONSOLIDATED REPORT ON DIAGNOSTIC STUDY ASSESSMENTS

Prepared by ADB Consultant Team

Asian Development Bank

Consolidated Report
On
Diagnostic Study Assessments

TA 7566 Regional: Strengthening and Use of
Country Safeguard Systems

Subproject

On

Bangladesh: Strengthening Environmental Impact Assessment
System and its Implementation Practices

Department of Environment

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Table of Contents

Appendixes

Abbreviation

ADB	Asian Development Bank
BAN	Bangladesh
CSS	Country Safeguards System
DG	Director General
DoE	Department of Environment
EA	Environment Assessment
ECA	Environment Conservation Act
ECC	Environment Clearance Certificate
ECR	Environment Conservation Rules
EIA	Environment Impact Assessment
ECA	Ecologically Critical Area
EU	European Union
FAP	Flood Action Plan
GoB	Government of Bangladesh
GTCL	Gas Transmission Company Limited
IEE	Initial Environment Examinations
LGED	Local Government Engineering Department
MoEF	Ministry of Environment and Forest
NEC	National Environment Committee
PIL	Public Interest Litigation
RETA	Regional Technical Assistance
RIIP	Rural Infrastructure Improvement Project
SPS	Safeguard Policy Statement
TA	Technical Assistance

1. Introduction

1. The study is part of the Regional Technical Assistance (RETA) 7566: Strengthening and use of Country Safeguards Systems (CSS). As part of the RETA, the subproject, Bangladesh: Strengthening Environmental Impact Assessment (EIA) system and its implementation practices, was conducted to strengthen the environmental aspects of country safeguards system of Bangladesh. This report presents an analysis of Bangladesh CSS, its application, and the need for an Action Plan to address gaps, if any.

2. The Bangladesh subproject under RETA 7566 has two components: a legal analysis of country EIA system, and an assessment of its implementation capacity. Legal analysis comprises of a review of the Constitution of Bangladesh 1972, Environmental Policy of 1982 and its guidelines and key environmental laws and regulations. The legal analysis aims to enhance understanding of the scope of environmental policies and legislation that govern environmental safeguards and highlight opportunities for improving current EIA system.

3. To understand current EIA practices in project processing and implementation, the subproject has undertaken a diagnostic study of two sectors namely, Road and Gas. The case study for the road sector is the Second Rural infrastructure improvement Project (RIIP-2) implemented by the Local Government Engineering Department (LGED). The case study for the gas sector is the Monohordi-Dhanua-Elenga-East bank of Jamuna project implemented by the Gas Transmission Company Limited (GTCL). In this diagnostic report, the case studies will be termed as 'RIIP-2 Case Study' and 'Gas Pipeline Case Study'. The TA team also reviewed institutional capacity of the Department of Environment (DoE) and a few other relevant agencies involved in EIA implementation.

4. The key findings of the legal and capacity assessment are consolidated in this report (For detailed studies on legal and capacity assessment reports, please see Appendixes 2 and 3, respectively). Based on the key findings, the report recommends an action plan to ensure full equivalence between the Bangladesh EIA system and the Asian Development Bank Safeguard Policy Statement (ADB SPS), 2009, which reflects international best practices in environmental management.

2. Analysis of Key Laws and Regulations with respect to EIA System in Bangladesh

5. The Constitution adopted in 1972 guaranteed basic human rights including the *Right to Life*[1] which has been extended to include *Right to Safe Environment.*[2] Under the right to a safe environment, some public interest litigations (PILs) were filed and environmental harm was

[1] Article 31 of the Constitution of Bangladesh, 1972.
[2] The Appellate Division (1997) 49DLR (AD) stated Art. 31 and 32 of the constitution… encompass within its ambit, the protection and preservation of environment, ecological balance free from pollution of air and water, sanitation without which life can hardly be enjoyed. Any act or omission contrary thereto would be violating of the said right to life.

frequently discussed and elaborated by the higher judiciary in such PILs. The court decisions of such PIL s required environmental impacts assessment before starting a development project.

6. In 1995, the Government of Bangladesh adopted a comprehensive environmental law in order to ensure protection and management of environment and ecology. The Bangladesh Environment Conservation Act (ECA), 1995,[3] the main piece of environmental legislation, however, did not include any specific provisions on EIA. Consequently, provision related to the Environmental Clearance Certificate (ECC) under the ECA (1995) requires the conduct of an EIA for establishing an industrial unit or a project. The ECA (1995) was supplemented by the Environmental Conservation Rules (ECR), adopted in 1997, which provide detailed rules on how to conduct an EIA. The recent amendments to the ECA have broadened the scope of rules pertaining to an EIA.

7. The ECA (1995) also mandated the establishment of the DoE, under the Ministry of Environment and Forest (MoEF). The ECR (1997) provided detailed administrative guidance to the DoE on EIA and also on how to deal with environmental harm. Special environmental courts were established to deal with environmental harm in accordance with the Environmental Court Act of 2000, which was reissued in 2010. These legal, administrative and judicial mechanisms regulate EIA and address environmental harm in Bangladesh.

8. In addition to the aforementioned statutory laws, there are some sectoral EIA guidelines prepared by concerned government agencies, which also provide important guidance on the conduct of EIA in Bangladesh. The EIA Guidelines for Industry (1997) for example, provides the guidance for conducting an initial environmental examination (IEE) or EIA for a proposed industrial project. Moreover, the Water Resources Planning Organization (WARPO) under the Bangladesh Water Development Board (BWDB) and the LGED had adopted EIA guidelines to review and monitor their own projects. In recent years, under a Canadian assistance project entitled Bangladesh Environmental Institutional Strengthening Project (BEISP), the DoE has developed a good number of EIA guidelines in various sectors including (i) gas upstream and downstream, (ii) roads and bridges, (iii) coal-based power plants, (iv) cement manufacturing, and (v) pharmaceuticals. However, these guidelines are not legally binding for the proponents due to lack of the legal mandate. It is worth mentioning that these guidelines can be legally obligatory for the proponents, through gazette notification in accordance with Section 13 of the ECA (1995) or through amendments of the ECR (1997) in accordance with the Section 12 of the ECA (2010) (amended ECA, 1995).

2.1 Legal Provisions related to EIA Requirements and Procedures

The Constitution of Bangladesh, 1972

9. The Constitution of the Peoples' Republic of Bangladesh, 1972, which serves as the fundamental legal document of the country, does not contain any specific provisions on EIA. However, it provides a broader context for environmental protection through EIA measures as given in Article 18A (Part-II of the Constitution):

[3] Act No. 1of 1995.

'*The state shall endeavor to protect and improve the environment and preserve and safeguard the natural resources, bio-diversity, wetlands, forest and wild life for the present and future citizens*.'[4]

The above constitutional provision on environmental protection obliges the government and private parties to carry out EIAs in order to protect and improve the environment and preserve and safeguard the natural resources, bio-diversity, wetlands, forest and wildlife that may be affected by development interventions.

The Environment Policy 1992

10. The Environment Policy of 1992 was adopted by taking into account serious impediments to the protection of environment and suggested to protect and improve environment in an integrated manner.[5] The Environment Policy (1992) identified the specific sectors such as agriculture, industry, health and sanitation, energy and fuel, water development, flood control and irrigation, land, forest, wildlife and biodiversity, fisheries and livestock, food, coastal and marine environment, transport and communication, housing and urbanization population, education and public awareness, science technology and research as areas where environmental protection and improvement are required.

11. The Environment Policy proposes the amendment of all laws and regulations related to the protection of environment, conservation of natural resources, and control of environmental pollution and degradation. It also suggests for framing new laws in all sectors to control activities concerning environmental pollution and degradation, and to ensure the implementation of all relevant laws/regulations.[6]The policy provided further guidelines for institutional mechanisms and requested MoEF to take appropriate steps to review and update this policy, taking into account the socioeconomic and ecological changes in the country. It also made DoE responsible for reviewing and approving EIAs in order to avoid the environmental and ecological damage.[7]This Policy has also suggested for establishing a National Environment Committee (NEC) with the Prime Minister as the Chairperson for providing overall guidance to implement the policy.[8]It is worth mentioning, that this policy is not a legally binding instrument.

The Environment Conservation Act, 1995 (as amended in 2010)

12. Section 12 of the ECA, 1995 (as amended in 2010) [9]explains the procedures for obtaining an ECC to establish an industrial unit or a project from the Director General of DoE.[10]The Amendment in 2010requires obtaining an ECC for the industrial unit or project established before the enforcement of this amendment named the Bangladesh Environment Conservation (Amendment) Act, 2010.[11] It also requires obtaining ECC in case of an extension of an industrial unit or project.[12]

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[4] Article 18A was inserted by the Fifteenth Amendment in 2011.
[5] Preamble, The National Environment Policy, 1992.
[6] Section, 4.2, The National Environment Policy, 1992.
[7] Section, 5.3, The National Environment Policy, 1992.
[8] Section 5.2, The National Environment Policy, 1992.
[9] Act No. 50 of 2010 entitled The Bangladesh Environment Conservation (Amendment) Act, 2010 substituted the section 12 regarding environmental clearance certificate for establishing industrial unit or project
[10] The Bangladesh Environment Conservation (Amendment) Act, 2010.
[11] Section 12(2), The Bangladesh Environment Conservation (Amendment) Act, 2010.
[12] Section 12(3), The Bangladesh Environment Conservation (Amendment) Act, 2010.

13. Section 12(4), of the Act of 2010 guides on how to adopt detailed rules on inter alia Environmental Impact Assessment Report, Preparation of Environmental Management Plan, Judging of Public Opinion, Public Access to Information, Structure and Function of the Environment Clearance Committee, Minimum Necessary Conditions for Clearance, Appeal within the context of obtaining the Environmental Clearance Certificate. It also mandates the DoE to (i) review the schedule of EIA requirements for various industries and projects and update the current year's list by 31 March every year; [13]and (ii) fix the minimum qualifications and responsibilities of individuals or organizations working on the preparation of EIA or environmental management plan (EMP) including updating of such requirements and responsibilities from time to time (footnote 13).

14. Article 20(1) of the ECA (1995) provides rules for transferring power to the MoEF to fulfill the purpose of the Act. Particularly, Section 20 (2) (f) mandates to frame rules to evaluate, review the EIA of various projects and activities and the procedure for approval. Hence, this section along with the amended section, provide clear directives for the adoption of further rules on EIA.

15. Rule 7, of the ECR (1997) identifies industrial units and projects falling into four categories: (a) Green, (b) Amber-A, (c) Amber-B, and (d) Red for the purpose of ECC issuance and as listed in Schedule-1.[14] Rule 7(3), provides the criteria of eligibility under the Green category for all current and proposed industrial units and projects which are exempted from obtaining a Location Clearance Certificate or preparing an EIA report prior to applying for an ECC.[15] On the other hand, industrial units and projects falling under the Amber–A, Amber-B and Red categories require a location clearance certificate prior to obtaining ECC. However, the Director General of DoE may exempt a project or an industrial unit from obtaining a Location Clearance Certificate issue ECC.[16] Only the industrial units and projects falling under the Red Category need mandatory EIA reports in order to obtain ECC.[17]

16. In the case of industrial units or projects falling under the Red category, the project first applies for a Location Clearance Certificate. Thereafter, an EIA report, using the IEE as basis, is prepared (footnote 19). Upon EIA approval and an environment treatment plant (ETP) is established, the Red category industrial unit or project should apply for an ECC[18] and, within 30 working days, the ECC will either be issued or rejected.

17. The validity period of the ECC in the case of a Green Category, is three years from the date of its issuance. ECC validity for Amber-A, Amber-B and Red categories is one year. ECCs should be renewed at least thirty days before the expiry date.[19] In accordance with Rule 7(14), should a request for an ECC be rejected, an appeal petition can be filed with the Appealed Authority established under the gazette notification dated 3 March 1997.[20] The

[13] Section 12(5), The Bangladesh Environment Conservation (Amendment) Act, 2010.
[14] Rule 7 (1 &2), The Environment Conservation Rules, 1997.
[15] Rule 7 (3), The Environment Conservation Rules, 1997.
[16] Rule 7 (4),The Environment Conservation Rules, 1997.For industrial units and projects falling in the Amber–A, Amber–B and Red categories, firstly a location clearance certificate and thereafter an environmental clearance certificate (ECC) shall be issued. Provided that the Director General may, without issuing location clearance certificate at the first instance, directly issue an ECC if he, on the application of an industrial unit or project, considers it appropriate to issue such certificate to the industrial unit or project.
[17] Rule 7 (9)(D), The Environment Conservation Rules, 1997.
[18] Rule 7 (12)(B), The Environment Conservation Rules, 1997.
[19]Rule 8, The Environment Conservation Rules, 1997.
[20] The Gazette Notification of 3 March1997, issued by the Ministry of Environment and Forest, formed the appealed authority consisting of Secretary of the same ministry (Chairman), and two other members including Joint Secretary (Development) and Deputy Secretary (Environment) of the same ministry.

decision of the Appealed Authority is final. Aforementioned decision prevents an aggrieved person from filing an appeal in the court of law.[21]

18. *It has been observed that neither the ECA (1995) nor the ECR (1997) contain any provision related to the process and procedure for monitoring post project activities*.

Other Legal and Policy Instruments

19. Although several sectoral legislations, policies, strategies and guidelines also address environmental protection measures, they do not specify the need for EIA (see Appendix 2 for details).

2.2 Legal Provisions related to Environmental Damage

20. Section 7 of the ECA (1995) provides administrative and judicial options for remedial measures for injury to the ecosystem. It stated that, "*if it appears to the Director General that any act or omission of a person is causing or has caused, directly or indirectly, injury to the ecosystem or to a person or group of persons, the Director General may determine the compensation and direct the person to pay the same or in appropriate cases to take corrective measures, or do both and the person so directed shall be bound to comply with the direction*."[22] It further stated that, if a person upon whom a direction has been issued under sub-section (1) fails to comply with the same, the Director General may file a suit for compensation in a competent court or file a criminal case for failure to comply with the direction or file both. In determining compensation or for adopting corrective measures in accordance with Section 7(1), the Director General may impose duties upon any specially assigned experts (footnote 24).

21. The above mentioned Section 7 of the ECA (1995) outlines the scope of remedial measures including compensation and corrective measures. In terms of permanent damage, DoE can engage professional experts to assess the environmental damage and also to determine the compensation. On the other hand, in terms of temporary damage to the environment and ecology, DoE can appoint experts to assess the damage and the corrective measures to repair it. EIA reports in the case of projects or industries which obtained ECC and then caused environmental harm also serve as a useful resource in determining compensation and corrective measures. However, *a set of detailed Rules are needed to assess such ecological harm and determine compensation and corrective measures with an appropriate institutional setup to impose them.*

22. In fact, Section 8 of the ECA (1995) provides for remedial claims by aggrieved persons or by likely to be aggrieved persons from environmental pollution or degradation.[23] The Director General may adopt a variety of measures including public hearings for settling such an application for remedial action.[24]Rule 5 of the ECR (1997) provides the procedure for making a complaint relating to environmental damage. It is stated that any person affected or likely to be affected by environmental damage as outlined in sub-section (1) of section 8 of the ECA (1995) could submit an application to the Director General using Form-1 for a remedy.

[21] Section 14, The Environment Conservation Act, 1995.
[22] Section 7(1), The Environment Conservation Act, 1995.
[23] Section 8(1), The Environment Conservation Act, 1995states that "any person affected or is likely to be affected from the pollution or degradation of environment, may apply to the Director General."
[24] Section 8(2), The Environment Conservation Act, 1995.

23. Upon receiving an application, the Director General shall, within three months, dispose it in accordance with sub-section (2) of Section 8 of the Act of 1995[25]and the ECR (1997). *In this regard, too, a detailed set of rules is required.*

24. Section 14 of the ECA (1995) offers an Appellate option against an order issued in accordance with the provisions of ECA, 1995 and ECR, 1997. An appeal can be filed before the Appellate Authority (footnote 22). The decision of the Authority shall be final.[26] Moreover, Section 17 of the ECA (1995) allows litigation by a person, a group of people or the public, or by the DoE on behalf of a person, a group of people or the public, before the Environment Court to recover losses suffered because of environmental pollution and degradation.

2.3 Judicial Forums and the Decisions related to EIA

25. Since environmental right is enshrined in the Constitution and PILs are covered in Bangladesh, any person aggrieved by environmental harm may file a case before the High Court Division of the Supreme Court of Bangladesh. The judiciary of Bangladesh allowed a PIL for the first time in the case of *Dr. Mohiuddin Farooque vs. Bangladesh,*[27] which concerned environmental protection. The appellant argued that *the environmental ill-effect of a flood control plan would affect the life, property, livelihood and ecology, vocation and environmental security of more than a million people in the district of Tangail of Bangladesh. In formulating and implementing the scheme, the plight of local communities was not taken into consideration.*[28]The court ordered the District Authority to assess losses and damages caused by the project. Following the judgement, the initial project was suspended and the government and donors reformulated the project. This was the first case which touched the issue of ecological damage caused by a development project.[29]

26. In the above case, the appellant alleged that no proper EIA was undertaken in relation to Flood Action Plan (FAP) projects although they were likely to cause significant adverse impacts on the environment and ecology. The Court ordered to carry out an EIA through consultations with the affected local people in the project area by the project proponents of the FAP.[30]

27. In 2011, the Bangladesh Environmental Lawyers Association (BELA) filed a PIL, seeking directions to prevent pollution and encroachments of Baghil, Dholai, Pakuriabeels and Kornaparakhal of Savar Upazilla in Dhaka District and to protect the same in public interest. On 07.04.11 a division bench of the High Court issued an order and stated that,

> "Pending hearing of the Rule, respondents are directed to refrain from making any structural intervention within the said wetlands including construction of culvert on Beel Baghil, without undertaking Environmental Impact Assessment and Public consultation, as required under the law. The respondents are further directed to prepare an updated report as to
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> *i) the state of pollution of the said wetlands,*

[25] Rules 5(2), The Environmental Conservation Rules, 1997.
[26] Section 14, The Environment Conservation Act, 1995.
[27] Farooque vs. Government of Bangladesh, WP 998 of 1994, CA 24 of 1995 (1996.07.25) (Flood Action Plan Case)
[28] Dhaka Law Report (DLR) (AD) (1997) Decision, para.39
[29] Dhaka Law Report (DLR) (AD) (1997) Decision, para. 40.
[30] Dhaka Law Report (DLR) (AD) (1997) Decision, para. 41.

ii) the industries which are responsible for the pollution of the said wetlands and their record of compliance, and

iii) measures needed to ensure compliance by the said industries and submit that report before the Court."[31]

28. As the above discussion shows, under the constitutional provisions, the High Court Division of the Supreme Court deals with the environmental disputes and it plays an important role in environmental disputes. Successful litigation on environmental issues has not only resulted into increased number of PILs but also to the establishment of environmental courts in Bangladesh. The enactment of the Environment Court Act of 2000[32] recognized the necessity of peaceful settlement of environmental disputes in Bangladesh through a special judicial forum, and guided the establishment of specific environmental courts at the Divisional level. The DoE or any person affected by environmental harm, therefore, could file a case before the Environmental Court for remedial action including compensation.

29. The Environment Court Act, 2010[33]repealed the Environment Court Act of 2000. The former established environmental courts at the district level. The Environment Courts have power to take cognizance of any offence relating to environmental pollution and related compensation.[34] Proceedings of this Court are similar to criminal courts and the civil courts considering the nature of the disputes. One important feature of this Act is that it has been given retrospective effect, and, as a result, it could hear any infringement committed prior to the establishment of the court. *However, neither the Environment Court Act (2000) nor the Environment Court Act (2010) contained any provision on challenging EIA report or to make mandatory an EIA for any specific project or unit reflecting judgments of the Supreme Courts of Bangladesh.*

2.4 Institutional Arrangement with respect to EIA System

30. Section 3(1) of the ECA (1995) paved the way to establish DoE and to appoint the Director General of DoE with powers to take all steps deemed reasonable and necessary to conserve the environment, improve environmental standards and control and mitigate environmental pollution.[35] Section 12 of the ECA mandates the Director General of DoE to issue ECC for establishing industrial unit or project, when an application is filed in the manner prescribed by the rules. Rule7 (5) of ECR (1997) requires the entrepreneur of the concerned industrial unit or the project to apply to the concerned Divisional Officer of the DoE to obtain an ECC. The Director General issues or rejects the issuance of the ECC after reviewing the application including EIA report formulated by the entrepreneur of the concerned industrial unit or project.

31. In case of rejection of an ECC issuance in accordance with Rule 7(14) of ECR (1997) an appeal can be filed in the Appealed Authority. The Authority comprises of the Secretary of the MoEF (Chairman), and two other members including Joint Secretary (Development) and Deputy Secretary (Environment) of the same Ministry. The same appellate authority also deals with all petition files in accordance with Section 14 of the ECA (1995). *The Director General can*

[31] Write Petition No. 2922 OF 2011, Bangladesh Environmental Lawyers Association (BELA) is the petitioner of the case.
[32] Act No. 11 of 2000. For the full text, see A compilation of Environmental laws administered by the Department of Environment.
[33] Act No. 56 of 2010.
[34] Section 7, Environment Court Act, 2010.
[35] Section 4, The Environment Conservation Act, 1995.

delegate his power and functions to other officials of the DoE. The divisional offices of DoE are responsible to receive and to process applications for ECC on behalf of the DG.

2.5 Best practices of EIA in the Bangladesh Legal and policy Framework

Legal Framework for EIA

32. For the purpose of this diagnostic assessment, the Bangladesh EIA system has been gauged against three best practice models namely, (i) Canadian EIA laws and regulations, (ii) European Union (EU) EIA Directives, and (iii) EIA policies of multilateral donor agencies such as the World Bank (WB) and Asian Development Bank (ADB). In Bangladesh, the ECA (1995) broader environment regulatory legislation mandates for EIA within the context of obtaining ECC, and was supplemented by the ECR (1997) which provided procedural mechanisms for EIA. In Canada, the Canadian Environmental Assessment Act, 2012 (CEAA, 2012) and its regulations established the legislative basis for EIA. European Union (EU) adopted a particular Directive (European Union Directive-85/337/EEC on ECC) to guide its member countries. Financial Institutions such as the WB and ADB also adopted specific safeguard policies on environment and EIA preparation. These policies receive particular attention during all projects and/or loan preparation and approval processes.

Format and requirement of EIA report

33. In Bangladesh, there is no legal mandate regarding an EIA report format. In practice, the terms of reference (ToR) for an EIA is proposed by the project proponent and reviewed and approved by DoE. After that, the proponent prepares an EIA report usually following respective EIA guidelines of the funding agencies (e.g. WB guidelines, ADB SPS). In Canadian law, the Canadian Environmental Assessment Agency is responsible for providing guidance for the EIA report format and other requirements. EU *Directive* (2001/42/EC) requires that certain information be provided to comply with the EIA report. The WB requires that independent experts, not affiliated with the project, carry out the EIA study for Category A projects. EU directive provided seven key areas that are required for preparing the EIA report by member countries. ADB's SPS (2009) provided specific guidance and format for preparing the EIA report.

Public Consultation

34. In Bangladesh, there is no clear legal mandate for public consultation as part of the EIA process. The ECR (1997) does not provide guidelines or directions regarding consultation with the project-affected people or other stakeholders. The only requirement for a consultation is with DoE and other departments during the preparation of the IEE and draft EIA report. However, if the project requires financial assistance from an international development agency, an extensive consultation of project affected people and stakeholders are carried as per the requirement of the agency. The Canadian Environmental Assessment Act (2012) requires that the affected people should be given an opportunity to participate in the environmental assessment process. ADB's SPS (2009) requires carrying out meaningful consultation with affected people and other concerned stakeholders, including civil society, and facilitating their informed participation. As per ADB SPS (2009) the frequency of consultation will need to be commensurate with the level of impacts.

Review of EIA, decision making process and institutional arrangements

35. In Bangladesh, there is no formal legislation containing a formal set of guidelines on the IEE/EIA process, procedures and institutional structures relevant to site clearance. As the current practice goes, the proponent submits the draft EIA report to DoE for review and endorsement, document revisions take place, until, finally, approval is granted and the ECC is issued. Indian legislation requires the Expert Appraisal Committee or State Level Expert Appraisal Committee to take charge in the review of the EIA report and issue the ECC. The Philippines, through the EIA Act of 2007, puts the National Environmental Protection Committee (NEPC) in charge of EIA report and ECC issuance. In Canada, a review panel composed of relevant experts is responsible for the review process of a particular project that may cause significant adverse environmental effects. Despite the absence of a separate EIA legislation, however, for complex projects, the DoE in practice appoints a committee which reviews and approves the EIA report and issues the ECC. This action is supported by Section 4 of the ECA (1995), which states that "the Director General may take such measures as he considers necessary and expedient for the conservation of the environment, and improvement of environmental standards, and for the control and mitigation of environmental pollution."

Post Implementation monitoring and compliance

36. Neither the ECA, 1995, nor the ECR, 1997, provides the procedures for monitoring post-project activities pertaining to EIA. However, the ECC in itself provides some terms and conditions including obligation of environmental monitoring and monitoring report that needs to be submitted to DoE. The ECC is not an ad hoc document but is a legal requirement under ECA 1995 and subsequent amendments that is prepared by the DOE for every project. While there is particular template for ECC followed by DoE, contents/provisions vary from project to project. Canadian Environmental Assessment Act, 2012, requires follow-up programs as mandatory after all environmental assessments. These programs are intended to verify the accuracy of the predictions regarding potential environmental effects and to determine if mitigation measures are working as intended.

3. Assessment of Institutional Capacity with respect to EIA Processing and Implementation

3.1 Screening

37. The EIA process starts from making the decision on the need for environmental assessment. This is governed by environmental assessment requirements (EIA or IEE or no assessment) prescribed for activities, projects or industrial operations listed in ECR (1997). In Bangladesh, environmental impact categories are assigned to projects after 'screening' them to identify the type of environmental assessment they require based on the type of proposed projects.

38. For example, the RIIP2 case study project in Narsingdi District included the construction of a 1,500m rural road in Raipura Upazila. The project was categorized as 'Amber-B'. As required by ECR (1997), an IEE was conducted for the project. The road project also included a bridge (Panthasala Bridge) of 240m long, which was constructed to improve connectivity

between rural char areas with Upazila Sadar. According to the law, the construction of a 100m bridge or more is to be classified as 'Red' Category. Therefore, the appropriate environmental categorization for the project should have been 'Red' instead of 'Amber-B' and a full EIA should have been formulated.

39. `The Gas Pipeline case study was categorized 'Red'. Following the DoE rules, an IEE and a detailed EIA were prepared by GTCL for the project.

3.2 Scoping

40. Scoping plays an important role in the overall EIA system. In the absence of a legal provision on scoping, an IEE serves the purpose of scoping for Amber and Red category projects in Bangladesh. IEE aims to identify a project's significant environmental impacts. It also lays the groundwork for a more in-depth examination of the environment through the conduct of an EIA per advice from the Environmental Clearance Committee of the DoE. An IEE also aims to identify key alternative sites based on preliminary considerations of land type and site constraints, if any. During this stage, the project proponents include a ToR for detailed EIA, methodology and plan for public consultation and participation in their IEE reports.

41. To demonstrate the importance of good scoping that includes overall environmental constraint analysis, it would be helpful to look at the two representative projects for case study. In their IEE report, the RIIP-2 case study has failed to identify and elaborate on site-specific environmental constraints. Considering that the project covers a wide breadth of country's region in terms of geographic location and environmental conditions (i.e., Western Zone, Central Zone and Eastern Zone), the site description provided was a generalization of all three zones. The IEE in this respect failed to (i) influence design considerations and missed the opportunity for an environmental sustainable solution; and (ii) highlight the significance of impacts which would have necessitate an in-depth analysis through an EIA as per ECR (1997). In the case of the Gas Pipeline case study, the IEE failed to highlight constraints pertaining to environmentally sensitive areas, e.g. national forests, which would have been vital in the route analysis survey and subsequent analysis in the EIA.

3.3 EIA as a Part of the Project Cycle

42. Although the EIA is an ideal planning tool for integrating environmental issues into project design, minimal effort, if any, is being exerted in Bangladesh. More often than not, funding source and perception (based on both legal and nature of business), serves as the key to the decision making process with regards to the treatment of environmental impacts. For most government-funded projects, minimal effort is given to conduct an environmental assessment. The DoE's lack of adequate manpower and resources to maintain a systematic surveillance program, plus the political pressure of delivery of infrastructure programs on organizations like LGED, often times encourage project management to turn a blind eye on their projects' environmental concerns. If the DoE persists, however, then environmental assessment is complied with on a nominal basis. On a different note it may be mentioned that, in general, DoE does not play adequate role for enhanced compliance with the environmental regulations, especially for infrastructure projects (road, bridge, etc.). The situation is much more different for donor-driven projects where donor policies on environmental assessment are strictly complied with. Whenever any government agency plans to implement infrastructure project with donor's

financial support, the borrowing agency becomes more cautious to be compliant with the conditions and requirements of funding agency – assuming without satisfactory compliance there will be difficulties in approval of funding. Perception is another major factor in the treatment of environmental impacts. Road and infrastructure development projects are often perceived as less risky, therefore, they usually fall under the non-Red category irrespective of site specific environmental sensitivities. On the other hand, gas pipeline projects are often perceived as risky; hence, the default Red category is assigned to a project listed under this business. Legal requirement as detailed in Schedule 1 of ECR, 1997, also plays a major role in that a project originally listed under the non-Red category may eventually become Red due to additional project components, e.g., construction of a bridge that is more than 100m long. Environmental treatment in terms of report generation and the depth of examination, therefore, changes.

43. Looking at the case studies, since the RIIP-2 case study is ADB-funded, the proponents had to comply with ADB SPS requirements. Environmental assessment and mitigation plans have been conducted and laid out as early as the project planning process. This is not usually the case for most LGED projects. In the aftermath, therefore, the avoidance or late inclusion of the EIA into the whole project design hinders the proponents from adopting appropriate mitigation measures to address adverse environmental project impacts.

44. Since most gas pipeline projects are perceived as risky, GTCL has implemented a system to ensure environmental compliance. The Environmental Unit of GTCL is integrated into the core planning division of the agency for their high pressurized pipeline projects. Environmental consideration at GTCL starts from the project inception stage irrespective of the funding sources and the environmental requirements given by the funders. Particularly, site selection considers alternatives at the beginning so that environmental risk and liabilities can be reduced from the planning stage.

3.4 Data and Information

45. Relevant and reliable data and information are needed in formulating an EIA report. In Bangladesh, usually such data and information are unavailable or inaccessible. Many government departments of Bangladesh, including the DoE, do not have sufficient and updated data and information relating to water, air, biodiversity, flora, fauna, etc. The collection of primary data is time consuming and needs resources. Therefore, many environmental consultants rely on whatever data is available or, alternatively, on the data of the nearest place of similar environmental settings. Using irrelevant or unreliable data results in failure to identify baseline conditions, which, in turn, lead to poor prediction of impacts.

3.5 Deployment of EIA Consultants

46. Both private and government sectors heavily depend on environmental consultants in preparing EIA reports for development projects. They are often not integrated with the project or design teams and, as a result, do not have the detailed information on the project. As a result, the EIA that they formulate on behalf of the project teams may not portray the full picture of the project which can act as a deterrent to impact identification and inadequate mitigation measures to rectify adverse environmental impacts of the project. Poor training and limited experience of

the EIA consultants combined with limited data and information available for them on the project could result in a poor quality EIA. This could have been avoided to a large extent, by recruiting them after considering their qualifications and field experience relevant to a project, including them in project teams, and sharing project information and data with them.

47. The quality of EIA reports also suffer when reference to site specific information is not made. Copy and paste is rampant in the environmental consultancy business and often time without context and relevance.

3.6 Tender Document and Environmental Management

48. Public agencies in Bangladesh procure contractors for project implementation as per their respective agency rules. The tender document that contains project description, work plan, ToR, compliance and conditions is a Manual for implementation of the project activities. Often, the environmental management plan (EMP) of the project is not part of the tender document. Instead, it includes a small section of the EMP concerning only environmental safety and does not elaborate activity-specific mitigation measures pertaining to both construction and operation (where applicable) phases. Accordingly, the contractor is left beyond any contractual obligation to follow the EMP. It was evident in both the case study projects.

3.7 Alternatives in EIA

49. In the Gas Pipeline case study, it was observed that GTCL conducted a route survey. The best route was selected from three alternatives considering various criteria, including length of route; minimal highway crossing; avoidance of railway track; avoidance of river crossing; avoidance of environmentally sensitive areas, historic and archaeological sites; avoidance of water bodies and swampy areas; minimal obstruction to habitation; and avoidance of homestead, school, graveyard, mosque, church, temple, cremation yard, etc. Through the route survey, GTCL avoided many environmental and social problems. The LGED also informed the technical assistance (TA) team that it usually conducts an analysis of alternatives in infrastructure projects, including roads, growth center, culvert construction, etc. However, analysis of alternatives regarding layout design, production process and raw material selection for industries or projects are usually ignored.

3.8 Public Consultation and Disclosure

50. Current laws and regulations do not prescribe public or stakeholder consultations or the disclosure of environmental assessment reports to the public. However, the DoE follows *ad hoc* EIA guidelines and on the premise of approving the ToR for the EIA, it usually prescribes that the project owner should include a phase for public consultation, if necessary. The two case studies found that both LGED and GTCL gave due importance to public participation and consultation in their EIA process. On disclosure of EIA, DoE informs the TA team that, the Summary of EIA report should be made accessible and available to the interested parties and the public.

3.9 Impact Identification and Mitigation Measures

51. Identification of potential environmental impacts for development projects can become a challenge due to incomplete project data and information, lack of public consultation and EIA disclosure, and poor quality consultants. As an example, the IEE report of the Gas Pipeline case study failed to identify potential significant environmental impacts. .Consequently, the EIA did not assess the environmental implications of the gas pipeline traversing through a national forest between the Monohordi and Dhanua sections rendering inadequate environmental mitigation and monitoring measures. As an afterthought, GTCL designed the appropriate remedial actions in consultation with the Forest Department. In the case of the RIIP-2 case study, the IEE report failed to identify environmental implications of constructing a bridge on floodplains and did not provide adequate mitigation measures to avoid damage to the prevailing environment. The earth filling activities and construction works at Raipura constructed on the Meghna river floodplain, disconnected several water pockets, thereby posing significant impacts on aquatic biodiversity, particularly during the dry season. In response, LGED constructed small culverts to ensure a functional fish pass. However, during the field visit on March 2013, the TA team found the culvert half silted with mud and observed that the fish pass constructed has not been functioning as a way for fish migration.

3.10 Environmental Monitoring of Projects

52. Environmental monitoring is normatively a continuous activity under any project. Monitoring may be divided into phases, such as short and long term monitoring.

53. In infrastructure development projects, the construction phase is when most of the short-term potential environmental impacts are generated. According to the IEE report of RIIP-2 project of LGED, the monitoring responsibilities during construction phase rests with the Project Implementation Office (PIO) located at the LGED Headquarters (HQ) in Dhaka. The Environmental Specialist of RIIP-2 conducts baseline surveys to prepare a pre-intervention report. This is then followed by a post-intervention assessment report after improvement works are completed. During discussion with the RIIP-2 Project Director at the LGED HQ, as well as with the key personnel at the Narsingdi district office, it was reported that construction phase environmental monitoring was satisfactory. However, environmental recordkeeping was found to be poor both at LGED HQ and district office at Narsigndi. As a result, the study could not verify the claim fully.

54. GTCL deploys their in-house staff for environmental monitoring during construction and operational phases. Monitoring reports are accessible and are being used by the environmental team as and when necessary.

55. Operational phase tasks comprise the formulation of a ‘continuous surveillance plan’ to monitor the effectiveness of environmental mitigation measures. The plan also includes any unanticipated project impacts found at the operation phase and suggested remedies. Monitoring responsibilities during the operational phase rest with the Executive Engineer’s office at the district level for LGED.RIIP-2’s long-term monitoring tasks include (i) regular surveillance of the pavement, embankments, culverts, and bridges ensuring prompt repair; (ii) checking and combating soil erosion from road and embankment slopes;(iii) monitoring of fish movement and production; and (iv) pollution of surface and ground water, etc. The operational phase of the gas transmission project includes (i) checking of transmission pipeline leakage;(ii) protection of

linear stretch (8 meter) of gas pipe line from excavation or plantation of trees; and(iii) proper disposal of condensate, etc.

3.11 DoE Resources and Capacities

56. The DoE is the national environmental regulatory and enforcement agency for all development projects in Bangladesh. It, therefore, needs adequate manpower, budgetary resources, and technical capability in terms of reviewing and granting ECC. With the government's impetus on infrastructure development, it has recently provided DoE with a good number of professionals and staff for the newly established 21 district offices. In its current form, however, full-scale compliance and monitoring activities can be an arduous task to perform. Adequate funds for human resource development, technical equipment and logistical support is needed to provide the necessary push and sustained operations.

3.11.1 Review of EIA Reports by DoE

57. The DoE reviews the EIA report and gives the project proponent feedback. An Environmental Clearance Committee consisting of 10 DoE personnel, headed by the Additional Director General, reviews the EIA reports. The Committee invites relevant expert(s) from relevant public agencies or other centers of excellence, depending on the nature of the project and impact significance. The report is returned to the proponent for revision for any significant changes suggested by the DoE review team. Revision can take place once or several times, as needed, until the DoE Environmental Clearance Committee finds it satisfactory. Still, the review committee can be more effective if an official technical EIA review committee consisting of relevant sectoral experts is formed.

58. The DoE HQ, and its six divisional offices, are responsible for reviewing, approving and issuing the ECC. The DoE with 15–20 professionals of varying capacities is expected to approve more than 5,000 ECCs from about 6,500 projects in a year. Among the total applications reviewed and cleared by the regional offices at Division level, 90% account for Green, Amber -A and Amber-B category projects. The remaining 10% (Red category) projects are reviewed and cleared by the DoE HQ with 2-4 reviewers. On average, 20-30 Red category EIA reports are reviewed by the DoE HQ per year. To overcome the acute shortage of qualified staff and to save time, the DoE often invites proponents (based on the sensitivity of project or ambiguity of the report) to present their EIA reports before the Environment Clearance Committee comprising of 10 DoE personnel headed by the Additional Director General. In such presentation meetings, the committee also invites relevant expert(s) from the relevant public agency or from other centers of excellence. In this process, the proponent receives comments and feedback from the DoE Environment Clearance Committee. The proponent subsequently rectifies the shortfalls and resubmits the EIA report to the DoE for approval.

59. Due to a shortage of qualified reviewers in the DoE and the lack of logistical support for visiting project areas, effective reviews cannot be conducted, which results into poor quality review assessment. In addition, the DG of the DoE as the head of EIA clearance committee holds power to accept or reject a project. This discretionary power of the DG invites external influence from the lobbyists or influential persons to facilitate issuance of the environmental clearance for their projects (WB, 2006). This also affects review results and final decision making.

3.11.2 Environmental Management Plan (EMP) and Post ECC Monitoring

60. The EMP is a major part of the EIA report which is also approved by the DoE to ensure the implementation of mitigation measures proposed in the EIA report. In this regard, the ECC dictates specific terms and conditions which need to be implemented by the project. Non-conformity with the EMP and the terms and conditions is considered as a violation of regulations. In addition, for all Red and Amber-B category projects ECR (1997) requires the submission of quarterly monitoring reports to the DoE. In practice, an understaffed DoE can hardly cope with required enforcement actions and any violations.

4. Equivalence Analysis

61. It appears from the analysis above and particularly from the legal inventory that the Environmental Safeguards Policies and Regulations in Bangladesh are still evolving. Where there are substantive legal provisions existing, it needs to adopt further comprehensive procedural mechanisms for effective processing and Implementation. A comparative analysis was made with the ADB and WB safeguard policies and laws of some developed and developing countries including recently adopted Canadian EIA Act in this report. Likewise the practice in processing and implementation as evident from the case study findings were compared with the corresponding policy and legal provisions and with the international best practices which provided related guidance for further action to be taken.

62. A matrix on equivalence comparing the Bangladesh national EIA system with the seven policy principles of ADB SPS (2009) relating to EA and EMP is attached as Appendix 1. This Equivalence Matrix illustrates that laws, regulations and guidelines of Bangladesh are 'Fully Equivalent' with 8 of the 49 (16%) key elements of ADB SPS (2009) policy principles; 20 (41%) are 'Partially Equivalent'; and 21 (43%) have 'No Equivalency'. In case of application of the country EIA system, only 7 of 49 (14%) key elements of ADB SPS policy principles are 'Fully compliant' with existing national laws and rules and international best practices, 28 (57%) elements are 'Partially Compliant' and 14 (29%) implementation and processing practices show 'No Compliance' with the laws and rules.

5. Action Plan

63. The gaps and weaknesses identified in the previous section(s) are major challenges to establishing a strong and effective EIA system in Bangladesh. A summary of key gaps & weaknesses, recommended actions based on the discussions with relevant stakeholders and key agencies to be engaged for implementation of the recommended actions are provided in the table below.

Table 1:

Gaps/Weaknesses	Actions recommended	Key stakeholders to be engaged
LEGAL		
ECA, 1995 (As amended in 2010) provided the guidance	Detailed rules on: - ECR 1997 that are currently under review by DoE should consider	- MoEF - Ministry of Law - DoE

Gaps/Weaknesses	Actions recommended	Key stakeholders to be engaged
to adopt certain rules which are yet to be framed under ECR 1997.	inclusion of dealing with petitions for challenging EIA reports under the Environment Court Act 2010. - Process and procedure of preparing Environmental Impact Assessment Report - Preparation of EMP - Consultation and disclosure of EIA reports needs to be made mandatory under ECR (1997) that is currently being reviewed by DoE. - Public Access to EIA-related information - Reduce EIA processing time - Reduce EIA approval time - Issuance of location clearance after approval of EIA report - Formation, structure and function of the Environment Clearance Committee - Appeal Procedures - Developing compliance and monitoring mechanism for post project activities. - Amendment of Environment Court Act, in the line with the Rules to file the petitions challenging EIA reports.	- NGOs/civil society - Development partners
Sectoral EIA guidelines – lack of legal authority/mandates	- Attempts to be made to approve and gazette EIA Guidance Manual being prepared under the TA - Harmonize all sectoral guidelines on the basis of provisions in the EIA Guidance Manual and to make gazette notifications	- MoEF - Line ministry - Ministry of Law - DoE
Absence of EPI	- Comprehensive study on relevant sectoral policies and laws to identify gaps and constraints and to address those through harmonization - Revision/amendment of sectoral policies in the context of EPI - Facilitate effective functioning of National Environmental Committee	- Sectoral policy makers - National Environmental Council - Parliamentary Standing Committee - Planning Division - DoE - Private sector
Incompetent EIA consultants and lack of	- Enlistment of competent EIA consulting firms by the DoE for	- MoEF/DoE - EIA consultants and

Gaps/Weaknesses	Actions recommended	Key stakeholders to be engaged
trained in-house staff	conducting EIA - Accreditation of consulting firms and/or individual consultants. - Establish in-house environmental unit in each infrastructure project executing agency with staff and personnel of relevant multidisciplinary expertise - Substantial training would likely be necessary to socialize project proponents and DOE to ensure that public disclosure and consultation are conducted in a timely, systematic and thoroughly documented manner and that stakeholder perception and views are taken thoroughly into account in EIA approval and issuance of ECC.	practitioners - Government executing agencies - Financing agency
PROCESSING & IMPLEMENTATION		
Weak/poor quality EIA report	- Alternative options have to be considered during project conceptual stage - Best available technologies that are suitable from Bangladesh's context should be included as alternatives - Communication of potential impacts and corresponding mitigation should be presented in reader friendly way for proper decision making - Avoid irrelevant information that can create bulky document and distract attention from important issues	- MoEF/DoE - EIA experts, consultants and academics - Government EA - Industry and business chambers - Development partners
Lack of environmental database and information, such as water quality and pollution data, ambient air quality, biodiversity status, research papers, etc. needed for EIA	- Establish an environmental data and information depository at the DoE HQ-level - Enhance accessibility to data depository - Establish one-stop service to ensure information sharing - Data collection and management training - Creation of accessible environment data repository can be further explored by government and ADB in succeeding country programming sessions	- MoEF/DoE - Data generating Public agencies (CEGIS, IWM, IUCN, National Herbarium, SRDI, BMRI, etc.) - Academic institutions - Development partners - Creation of accessible environment data depository can be further explored by government and ADB in succeeding country

Gaps/Weaknesses	Actions recommended	Key stakeholders to be engaged
		programming sessions.
Lack of effective methodologies to assess environmental and ecological loss and damage due to ineffective operations of projects and to determine the compensation and the corrective measures	- Scientific methodologies are to be established through an appropriate study	- MoEF - DoE - Academicians - Planning Division - Development partners
CAPACITY DEVELOPMENT AND INSTITUTIONAL STRENGTHENING		
Lack of institutional strength to effectively operate the EIA system in DoE	- Review and update DoE Strategic Plan 2010-2014 prepared under BEISP project - Strong facilitation to foster implementation of the DoE Strategic Plan	- MoEF - DoE - Planning Division - Development partners - Academics/researchers - Environmental consultants/practitioners
Lack of capacity of EIA individual consultants	Training, and education on EIA study with particular emphasis to - project and site description - reliable and representative data analysis - potential impact identification and assess significance and magnitudes of impacts - design EMP - design monitoring, surveillance and implementation plan - report writing with emphasis to strong communication perspective	- EIA practitioners - Interested academics - Universities - Consulting houses - Public agencies - Development partners
Lack of capacity of the EIA reviewers & implementers	Undertaking program to organize tailor made training for - Engineers in preparing the tender documents incorporating EMP - Contractors on implementing EMP - EIA reviewers from DoE - Personnel responsible for environmental units of key development institutions	- MoEF - Planning Division - Private sector - DoE - Key public institutions - Institute of Engineers - etc.

BEISP = B; BMRI = B; CEGIS = Center for Environmental and Geographic Information Services; DoE = Department of Environment; EA = executing agency; EIA = environment impact assessment; EMP = environmental management plan; EPI = environmental policy integration; HQ = headquarters; IWM = I; IUCN = I; MoEF = Ministry of Environment and Forests; SRDI = S;

6. Conclusion

64. There are fundamental legislative, administrative and judicial mechanisms in Bangladesh to deal with environmental protection and conservation. EIA processes and procedures are in place. However, further rules and regulations with appropriate institutional structure are required to protect and conserve the natural and built environment and to institutionalize public consultation and disclosure procedures that are integral to effective EIA.

65. Implementation of the current environmental management and safeguards system is weak, incomplete and lacks capacity in terms of trained human resources. The TA found a need to hire competent environmental consultants and develop in-house environmental team's capacity to assist key infrastructure project executing agencies; organize a series of environmental management and impact assessment capacity development training sessions for relevant stakeholders including DoE and other key public agencies and EIA practitioners.

66. An Action Plan that focuses on elaboration of EIA rules, harmonization of sectorial policies, and preparation of quality EIA documents by training competent EIA professionals and overall capacity development of both the regulator and implementers has been recommended.

Appendix 1: Legal Equivalence and Compliance Matrix (Bangladesh legal provisions compared to the ADB SPS)

ADB Safeguard Policy Statement	Corresponding Provisions in National Policy and Legal Instruments	Extent of Equivalence[36]	Compliance with the Corresponding National Laws and Rules Provisions[37]	Recommendations
(A)	(B)	(C)	(D)	(E)
Objectives: To ensure the environmental soundness and sustainability of projects and to support the integration of environmental considerations into the project decision-making process Environmental Safeguards				
Key Element[38] (1): Ensure environmental soundness and sustainability of the project	The Constitution of Bangladesh, 1972: Article 18A: The state shall endeavor to protect and improve the environment and preserve and safeguard the natural resources, bio-diversity, wetlands, forest and wild life for the present and future citizens. The Environmental Policy, 1992: Section 3.2.2: to undertake EIA for all new industries both in public and private sectors The ECA, 1995 (as amended	Full Equivalence: The Constitution (1972),the Environment Policy (1992), the ECA (1995) and ECR (1997) require environmental soundness and sustainability	Partial Compliance: Negligence and lack of willingness of the proponents to comply with the legal mandates -Weak compliance and monitoring mechanisms- Sectoral conflicts and contradictions on legal and institutional arrangements mandates	EIA legislation should be in place to clarify the implementation mechanism. Revisions/amendments of Sectoral Policies and laws are required to facilitate integration of environmental considerations, environmental soundness, and sustainability perspectives.

[36] "Full Equivalence" denotes that the national policy documents and legal instruments are in complete harmony with the corresponding ADB Safeguard Objective, Scope and Trigger, Policy Principle or Key Element thereof. "Partial Equivalence" denotes that the national policy documents and legal instruments are in partial harmony with the corresponding ADB Safeguard Objective, Scope and Trigger, Policy Principle or Key Element; and "No Equivalence" denotes that no policy provision or legal requirement can be found that corresponds to the particular ADB Safeguard Objective, Scope and Trigger, Policy Principle or Key Element. It is intended that the referenced text of the national policy documents and legal instruments be sufficiently clear to demonstrate the findings of Full Equivalence or No Equivalence without further explanation, except in those instances where an explanation would appear necessary and is given. A finding of Partial Equivalence normally requires the explanation provided. In some cases, there may be full equivalence for one issue, but only partial equivalence or no equivalence for one or more of the other issues governed by a particular legal instrument. In such cases, the degree of equivalence for each issue is indicated.

[37] "Full Compliance" denotes that EIA implementation and processing in Bangladesh is completely consistent with legal requirements of the Bangladesh Environment Safeguard Laws and Rules. "Partial Compliance" denotes that EIA implementation and processing requirements are partially met, and "No Compliance" denotes zero consistency with the national environmental laws and rules.

[38] The SPS sets forth Objectives, Scope and Triggers, and Policy Principles for each ADB Safeguard aspect (Environment, Involuntary Resettlement, and Indigenous Peoples). In this matrix, some of the Policy Principles are further subdivided into "key elements" to facilitate the analysis where a particular Policy Principle is compound in nature. Distinctive aspects of each element may be highlighted in **bold** font**.**

ADB Safeguard Policy Statement	Corresponding Provisions in National Policy and Legal Instruments	Extent of Equivalence[36]	Compliance with the Corresponding National Laws and Rules Provisions[37]	Recommendations
(A)	(B)	(C)	(D)	(E)
	in 2010) Section 12: Provides the requirement and procedures for obtaining an ECC in order to establish an industrial unit or project from the Director General of DoE in accordance with the manner prescribed by the Rules. Rule 7 of the ECR, 1997: Provides the rules for EIA			
Key Element (2): Support the integration of environmental considerations into the project decision-making process	The related provisions of the Environmental Policy, 1992, the ECA, 1995, the ECR, 1997 mentioned above are also applicable to ensure the integration of environmental considerations in to project decision making process.	Partial Equivalence: Absence of comprehensive procedural mechanism and integrated policy approaches Consideration of environmental issues during formulation/ development of a project are not the legal requirement for all the sectoral policies and laws	Partial Compliance: Revenue-funded projects very seldom consider environmental integration; however, donor-funded (ADB, WB, etc.) projects integrate environmental consideration in the decision-making process. Implementation of projects subject to obtaining the ECC from DoE. No legal provisions for public consultations in the EIA decision making process.	Comprehensive regulatory rules on EIA need to be adopted along with sectoral EIA guidelines. SEA should be adopted by the Planning Ministry of the Government to support environmental policy integration.
Scope and Triggers: Environmental safeguards are triggered if a project is likely to have potential environmental risks and impacts.				
Policy Principle 1: Use a screening process for each proposed project, as early as possible, to determine the appropriate extent and type of environmental assessment so that appropriate studies are undertaken commensurate with the significance of potential impacts and risks.				
Key element (1): Screen as early as possible	Rule 7 of the ECR, 1997: Screening is to be conducted as part of the IEE process to determine potential environmental impacts, their significance and possible mitigation measures	Refer to key element 2 below.	Refer to key element 2 below.	Refer to key element 2 below.
Key element (2):	Rule 7, of the Environment	Full Equivalence:	Full Compliance:	

ADB Safeguard Policy Statement	Corresponding Provisions in National Policy and Legal Instruments	Extent of Equivalence[36]	Compliance with the Corresponding National Laws and Rules Provisions[37]	Recommendations
(A)	(B)	(C)	(D)	(E)
Determine the appropriate extent and type of environmental assessment so that appropriate studies are undertaken commensurate with the significance of potential impacts and risks	Conservation Rules, 1997: Classified industrial units and projects into four categories including (a) Green, (b) Amber-A, (c) Amber-B, and (d) Red, for the purpose of issuance of the ECC and listed all these in Schedule-1 and this list identify the proposed projects and their responsibilities for EIA process. Project categories are subject to revision each year based on environmental impact significance of projects and industrial operations, as deemed necessary by the DoE EIA Guideline for Industries, Bangladesh, 1997: Screening to decide if and at what level EIA should be applied	The ECR sets forth categories of projects for purposes ensuring that EIA is conducted commensurate with significance of potential project impacts and risks.	Environmental assessment for projects with significant environmental risks and impacts are conducted at two levels: IEE to conduct preliminary assessment of potential environmental impacts. It also provides for ToR for a detail EIA, if required.	
Policy Principle 2: Conduct an environmental assessment for each proposed project to identify potential direct, indirect, cumulative, and induced impacts and risks to physical, biological, socioeconomic (including impacts on livelihood through environmental media, health and safety, vulnerable groups, and gender issues), and physical cultural resources in the context of the project's area of influence. Assess potential trans-boundary and global impacts, including climate change. Use strategic environmental assessment where appropriate.				
Key element (1): Identify indirect as well as direct impacts	Rule 7of the Environment Conservation Rules, 1997 (Only the industrial units and projects falling under the Red category need to submit an EIA report based on the approved ToR by the DOE in order to obtain an ECC)	Partial Equivalence: The law does not clarify about the type of impacts; however the *ad hoc* ToR of EIA report may clarify various impacts project-by-project	Partial Compliance: The ToRs of the EIA for a proposed project are approved by the DoE. ToR covers both direct and indirect environmental impacts.	A detail Rule on EIA needs to be adopted covering the issues as mentioned in the Policy Principle 2.

ADB Safeguard Policy Statement	Corresponding Provisions in National Policy and Legal Instruments	Extent of Equivalence[36]	Compliance with the Corresponding National Laws and Rules Provisions[37]	Recommendations
(A)	(B)	(C)	(D)	(E)
		basis.		
Key element (2): Identify cumulative impacts	Rule 7 of the Environment Conservation Rules, 1997: Provides EIA requirements but there is no clear legal requirement to identify cumulative impacts of proposed projects.	No Equivalence:	Partial Compliance: While there is scope to include cumulative impacts, it is not explicit, and would rely on the experience and judgment of the EIA practitioner.	Rules on EIA need to be adopted under ECA (1995). Capacity building program on assessment of cumulative impacts among DoE staff, relevant staff of Government Executing Agencies and EIA professionals
Key element (3): Identify induced impacts	No corresponding policy provision or legal requirement.	No Equivalence.	No compliance.	ECR (1997) needs to adopt specific Rules on EIA for identification of induced impacts
Key element (4): Identify physical impacts	Rule 7 of the Environment Conservation Rules, 1997: It is implicit that identification of impacts is to include physical impacts.	Partial Equivalence: There are no specific rules to identify the physical impacts.	Partial Compliance: The ToR of the EIA for a proposed project is approved by DoE. In practice, this includes physical impacts (changes to the air, water, and soil quality).	ECR (1997) needs to be more explicit about the inclusion of physical impacts (what exactly these are).
Key element (5): Identify biological impacts	Rule 7 of the Environment Conservation Rules, 1997: It is implicit that identification of impacts is to include biological impacts.	Partial Equivalence: There are no specific rules to identify the biological impacts.	Partial Compliance: The ToR of the EIA for a proposed project is approved by DoE. In practice, this typically includes biological impacts (changes to vulnerable plants and animals, and biodiversity).	ECR (1997) needs to be more explicit about the inclusion of biological impacts (what exactly these are).(e.g. invasive species, ecosystem services, including natural habitats)
Key element (6): Identify socioeconomic impacts (including on livelihood through environmental health and safety, vulnerable groups, and gender issues)	Rule 7 of the Environment Conservation Rules, 1997: This identifies the need to examine socioeconomic impacts on local community in the project area.	Partial Equivalence: There is no full elaboration of all aspects of social and economic vulnerabilities.	Partial Compliance: The ToR of the EIA for a proposed project is approved by the DoE. In practice, this means that local communities in and near project sites have to be examined.	ECR (1997) needs to adopt a specific rule for identification of socioeconomic impacts (including on livelihood through assessment of impacts on environmental health and safety, vulnerable groups, and gender

ADB Safeguard Policy Statement	Corresponding Provisions in National Policy and Legal Instruments	Extent of Equivalence[36]	Compliance with the Corresponding National Laws and Rules Provisions[37]	Recommendations
(A)	(B)	(C)	(D)	(E)
				sensitivity).
Key element (7): Identify impacts on physical cultural resources	Rule 7 of the Environment Conservation Rules, 1997: This identifies the need to examine cultural resources at the project site.	Full Equivalence: Provisions related to site clearance before EIA process under Rule 7of the ECR (1997).	Full Compliance: Site clearance of a proposed project considers impacts on the physical cultural resources. Site clearance is a prerequisite for moving the environmental clearance process into the following steps. If a project is nearby any cultural site and obtains a Site Clearance, the ToR of the EIA, among others, includes a detailed impact study on that particular site.	
Key element (8): Identify impacts in the context of the project's area of influence	Rule 7 of the Environment Conservation Rules, 1997: It is implicit that the impacts from a project will occur within its area of influence.	Partial Equivalence: There is no specific rule to define what exactly is meant by a project's area of influence.	Partial Compliance: The EIA is expected to determine all impacts within the project area. There is also provision for identifying social issues that may arise outside of the project area.	Need for clearer definitions of "area of influence" in EIA Guidelines.
Key element (9): Assess potential trans boundary impacts	No corresponding policy provision or legal requirement.	No Equivalence.	No Compliance.	A law needs to be adopted and EIA Guidelines developed to address trans boundary impacts.
Key element (10): Assess potential global impacts, including climate change	No corresponding policy provision or legal requirement.	No Equivalence.	No Compliance.	Law and rules need to be adopted to ensure that climate change implications are factored into the project EIA, including project vulnerability to climate changes.
Key element (11): Use strategic environmental assessment where appropriate	No corresponding legal requirement.	No Equivalence.	No Compliance.	A Framework Policy SEA needs to be adopted.

ADB Safeguard Policy Statement	Corresponding Provisions in National Policy and Legal Instruments	Extent of Equivalence[36]	Compliance with the Corresponding National Laws and Rules Provisions[37]	Recommendations
(A)	(B)	(C)	(D)	(E)
Policy Principle 3. Examine alternatives to the project's location, design, technology, and components and their potential environmental and social impacts and document the rationale for selecting the particular alternative proposed. Also consider the no project alternative.				
Key element (1): Examine alternatives to the project's location, design, technology, and components and their potential environmental and social impacts	No corresponding rules.	No Equivalence: No Specific Rules: this is *ad hoc*, based on administrative decisions.	Partial Compliance : The approved ToR for an EIA may provide instructions to carry out a study of alternatives with respect to location, technology, or other project alternatives.	Specific rules are needed to make an assessment of project alternatives comprehensively and consistently.
Key element (2): Document the rationale for selecting the particular alternative proposed	No corresponding rules.	No Equivalence: No Specific Rules: *ad hoc* basis on administrative decisions.	Partial Compliance : The approved ToR for an EIA may provide some instructions on how to assess project alternatives.	Specific rules are needed to guide the examination of project alternatives.
Key element (3): Also consider the no project alternative	No corresponding rules.	No Equivalence.	No Compliance.	Specific rules are needed to include some assessment of the "no project alternative".
Operational Principle 4: Avoid, and where avoidance is not possible, minimize, mitigate, and/or offset adverse impacts and enhance positive impacts by means of environmental planning and management. Prepare an EMP that includes the proposed mitigation measures, environmental monitoring and reporting requirements, related institutional or organizational arrangements, capacity development and training measures, implementation schedule, cost estimates, and performance indicators. Key considerations for EMP preparation include mitigation of potential adverse impacts to the level of no significant harm to third parties, and the polluter pays principle.				
Key element (1): Avoid adverse impacts where possible.	Rule 7 of the Environment Conservation Rules, 1997	Full Equivalence.	Full Compliance: The approved TOR for an EIA makes provision for an EMP that is explicitly intended to avoid adverse impacts.	
Key element (2): Where avoidance is not possible, minimize and/or mitigate adverse impacts to the level of no	Rule 7 of the Environment Conservation Rules, 1997	Full Equivalence.	Full Compliance: The approved TOR for an EIA makes provision for an EMP that is explicitly	

ADB Safeguard Policy Statement	Corresponding Provisions in National Policy and Legal Instruments	Extent of Equivalence[36]	Compliance with the Corresponding National Laws and Rules Provisions[37]	Recommendations
(A)	(B)	(C)	(D)	(E)
significant harm to third parties			intended to avoid adverse impacts.	
Key element (3): Offset adverse impacts	No corresponding policy provision or legal requirement.	No Equivalence.	No Compliance.	A specific law and rules equivalent to the Policy Principle 4 of the ADB SPS needs to be adopted.
Key element (4): Enhance positive impacts.	No corresponding policy provision or legal requirement.	No Equivalence.	No Compliance.	A specific law and rules equivalent to the Policy Principle 4 of the ADB SPS needs to be adopted.
Key element (5): Prepare an EMP that includes the proposed mitigation measures	Rule 7 of the Environment Conservation Rules, 1997	Full Equivalence.	Full Compliance.	
Key element (6): Prepare an EMP that includes the proposed monitoring requirements.	Rule 7 of the Environment Conservation Rules, 1997	Partial Equivalence: Monitoring can be a condition of an ECC, but there is no specific rule on this.	Partial Compliance: The EMP typically includes a monitoring plan; however, monitoring of impacts and corresponding mitigation are not conducted properly, both by the proponent and the DoE.	Specific rules equivalent with the Policy Principle 4 of the ADB SPS need to be adopted. To operationalize EMP monitoring, DoE should instruct the proponent authority to designate a responsible person to ensure monitoring of EMP implementation and other environmental issues.
Key element (7): Prepare an EMP that includes the proposed reporting requirements	Rule 7 of the Environment Conservation Rules, 1997	Partial Equivalence: One of the legal requirements is to submit a report on the emission and discharge quality for Red and Amber -B category projects.	Partial Compliance: The environmental clearance issued from the DoE is conditional with EMP implementation reporting, but this is not done consistently.	Specific rules for more consistent EMP reporting are required.

ADB Safeguard Policy Statement	Corresponding Provisions in National Policy and Legal Instruments	Extent of Equivalence[36]	Compliance with the Corresponding National Laws and Rules Provisions[37]	Recommendations
(A)	(B)	(C)	(D)	(E)
Key element (8): Prepare an EMP that includes related institutional or organizational arrangements	No corresponding policy provision or legal requirements.	No Equivalence.	No Compliance.	Specific rules equivalent to the Policy Principle 4 of the ADB SPS (2009) need to be adopted.
Key element (9): Prepare an EMP that includes related capacity development and training measures	No corresponding policy provision or legal requirement.	No Equivalence.	No Compliance.	Guidance is required for elaborating the capacity development needs related to EMP planning and implementation.
Key element (10): Prepare an EMP that includes an implementation schedule	No corresponding policy provision or legal requirement.	No Equivalence.	No Compliance.	Specific guidance on EMP schedule requirements should be developed.
Key element (11): Prepare an EMP that includes cost estimates	Rule 7 of the Environment Conservation Rules, 1997	Partial Equivalence: Implicit requirement to budget for the EMP	Partial Compliance: As per approved ToR, EMP often incorporates cost estimates.	Rules need to be adopted to clarify EMP budget specifications.
Key element (12): Prepare an EMP that includes performance indicators	Rule 7 of the Environment Conservation Rules, 1997	Partial Equivalence: The EMP is implicit in stating what it is trying to achieve.	Partial Compliance: Some environmental quality parameters are specified and monitored to determine the quality of impact mitigation.	Clearer guidance on EMP performance indicators is required.
Key element (13): Consider the polluter pays principle in environmental management planning	Environment Court Act (2010) provides for the DOE or any person affected by environmental harm to file a case for remedial action including compensation	Full Equivalence	Partial Compliance: Polluters are penalized by the DoE based on the cost avoidance principle and are subject to the complaint procedures of the Environment Court	While there is some provision for legal remedies that extract the cost of environmental damage from those responsible, more explicit legislation is required, and perhaps could be embedded within the EIA requirements.
Policy Principle 5: Carry out meaningful consultation with affected people and facilitate their informed participation. Ensure women's participation in consultation. Involve stakeholders, including affected people and concerned NGOs, early in the project preparation process and ensure that their views and concerns are made known to and understood by decision makers and taken into account. Continue consultations with stakeholders throughout project				

ADB Safeguard Policy Statement	Corresponding Provisions in National Policy and Legal Instruments	Extent of Equivalence[36]	Compliance with the Corresponding National Laws and Rules Provisions[37]	Recommendations
(A)	(B)	(C)	(D)	(E)
implementation as necessary to address issues related to environmental assessment. Establish a grievance redress mechanism to receive and facilitate resolution of the affected people's concerns and grievances regarding the project's environmental performance.				
Key element (1): Carry out meaningful consultation with affected people and facilitate their informed participation	Section 12 of ECA, 1995 (amended in 2010).	Partial Equivalence: This does not provide the scope and methodology for public consultation.	Partial Compliance: Consultation is subject to the requirement as provisioned in the approved ToR of the EIA report.	Specific rules need to be adopted.
Key element (2): Facilitate [the] informed participation [of affected people].	No corresponding policy provision or legal requirement. But Section 12 of ECA (1995) (amended in 2010) is applicable.	Partial Equivalence: This does not provide the scope and methodology.	Partial Compliance: Informed participation is subject to the requirement as provisioned in the approved ToR of the EIA report.	Specific rules need to be adopted.
Key element (3): Ensure women's participation in consultation	No corresponding policy provision or legal requirement. But Section 12 of ECA, 1995 (amended in 2010) is applicable.	Partial Equivalence: This does not provide the scope and methodology.	Partial Compliance: It is implicit in the concept of public participation, but there is no explicit requirement to ensure women's participation in consultation, unless otherwise specified in the approved ToR of the EIA.	Specific rules need to be adopted.
Key element (4): Involve stakeholders, including affected people and concerned nongovernment organizations.	No corresponding policy provision or legal requirement.	No Equivalence.	Partial Compliance: Civil societies are usually involved in the public participation process (including NGOs).	Specific rules need to be adopted.
Key element (5): Involve stakeholders early in the project preparation process.	No corresponding policy provision or legal requirement.	No Equivalence.	No Compliance. The EIA process starts late. Obtaining an ECC is usually the only goal for the proponent.	Specific rules need to be adopted.
Key element (6): Ensure that stakeholder views and concerns are made known to	No corresponding policy provision or legal requirement.	No Equivalence.	Partial Compliance. In practice, views and concerns of different	Specific rules need to be adopted.

ADB Safeguard Policy Statement	Corresponding Provisions in National Policy and Legal Instruments	Extent of Equivalence[36]	Compliance with the Corresponding National Laws and Rules Provisions[37]	Recommendations
(A)	(B)	(C)	(D)	(E)
and understood by decision makers and taken into account.			stakeholders are considered in the process of decision making by Environment Clearance Committee of DoE.	
Key element (7): Continue consultations with stakeholders throughout project implementation as necessary to address issues related to environmental assessment.	No corresponding policy provision or legal requirement.	No Equivalence.	No Compliance.	Specific rules need to be adopted.
Key element (8): Establish a grievance redress mechanism to receive and facilitate resolution of the affected people's concerns and grievances regarding the project's environmental performance.	No corresponding policy provision or legal requirement.	No Equivalence.	Partial Compliance: As there are no legal requirements, it is only implemented if the project is donor-funded.	Specific rules need to be adopted.
Policy Principle 6: Disclose a draft environmental assessment (including the EMP) in a timely manner, before project appraisal, in an accessible place and in a form and language(s) understandable to affected people and other stakeholders. Disclose the final environmental assessment, and its updates if any, to affected people and other stakeholders.				
Key element (1): Disclose a draft environmental assessment including the EMP.	Rule 7 of the ECR, 1997 is applicable.	Partial Equivalence: The EIA report and associated documents are now accessible through DoE.	Partial Compliance: There is no EIA disclosure policy. EIA reports are disclosed in the locality or through website, as suggested by DoE.	Specific rules need to be adopted.
Key element (2): Disclose a draft environmental assessment in a timely manner prior to appraisal.	No corresponding policy provision or legal requirement. But Rule 7, of the ECR (1997) is applicable.	Partial Equivalence: As above.	Partial Compliance: There is no EIA disclosure policy. However, EIA reports are disclosed in the locality or through website for a particular period, as suggested by DoE.	Specific rules need to be adopted.

ADB Safeguard Policy Statement	Corresponding Provisions in National Policy and Legal Instruments	Extent of Equivalence[36]	Compliance with the Corresponding National Laws and Rules Provisions[37]	Recommendations
(A)	(B)	(C)	(D)	(E)
Key element (3): Disclose a draft environmental assessment in an accessible place.	No corresponding policy provision or legal requirement. But Rule 7of the ECR (1997) is applicable.	Partial Equivalence: As above.	Partial Compliance: There is no EIA disclosure policy. EIA reports are disclosed in the locality or through website, as suggested by DoE.	Specific rules need to be adopted.
Key element (4): Disclose a draft environmental assessment in a form and language(s) understandable to affected people and other stakeholders.	No corresponding policy provision or legal requirement. But Rule 7 of the ECR (1997) is applicable.	Partial Equivalence: As above.	Partial Compliance: There is no EIA disclosure policy. EIA reports are disclosed in the locality or through website in both local language and in English, as suggested by DoE.	Specific rules need to be adopted.
Key element (5): Disclose the final environmental assessment, and its updates if any, to affected people and other stakeholders	No corresponding policy provision or legal requirement. But Rule 7 of the ECR (1997) is applicable.	Partial Equivalence: As above.	No Compliance: Most affected are not further contacted after the project is approved.	Specific rules need to be adopted.
Policy Principle 7: Implement the EMP and monitor its effectiveness. Document monitoring results, including the development and implementation of corrective actions, and disclose monitoring reports.				
Key element (1): Implement the EMP	Rule 7 of the ECR, 1997 is applicable.	Full Equivalence.	Partial Compliance: Implementation of the EMP is usually inadequate due to lack of monitoring and enforcement from the DoE.	DoE staff capacity needs to be bolstered for more effective enforcement.
Key element (2): Monitor effectiveness of EMP	Rule 7 of the ECR, 1997 is applicable.	Partial Equivalence: DoE is expected to check for compliance, as the EMP is part of the ECC requirement.	Partial Compliance: DoE does not monitor compliance very effectively.	DoE staff capacity needs to be bolstered for more effective enforcement.

ADB Safeguard Policy Statement	Corresponding Provisions in National Policy and Legal Instruments	Extent of Equivalence[36]	Compliance with the Corresponding National Laws and Rules Provisions[37]	Recommendations
(A)	(B)	(C)	(D)	(E)
Key element (3): Document monitoring results, including the development and implementation of corrective actions	No corresponding policy provision or legal requirement.	No Equivalence.	No Compliance. However, DoE is expected to monitor the compliance of the proponent with the ECC conditions (not done very effectively).	DoE staff capacity needs to be bolstered for more effective enforcement.
Key element (4): Disclose monitoring reports	No corresponding policy provision or legal requirement. But Rule 7 of the ECR (1997) is applicable.	No Equivalence.	No Compliance: DoE does not publish compliance monitoring results.	A specific guideline for handling monitoring results is required.

ADB = Asian Development Bank; DoE = Department of Environment; ECA = Environment Conservation Act; ECC = environmental clearance certificate; ECR = Environment Conservation Rules; EIA = environmental impact assessment; EMP = environmental management plan; IEE = initial environmental examination; NGO = nongovernment organization; SEA = strategic environmental assessment; SPS = Safeguards Policy Statement; ToR = terms of reference; WB = World Bank.

Appendix II: Diagnostic Study: Legislative and Regulatory Frameworks of Environmental Impact Assessment (EIA) in Bangladesh

Strengthening Environment Impact Assessment System and
it's Implementation Practices"
under the TA7566-REG: Strengthening and Use of Country Safeguards
in collaboration with the Department of Environment and ADB

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Table of Contents

ABBREVIATIONS

ADB	Asian Development Bank
BELA	Bangladesh Environmental Lawyers Association
DoE	Department of Environment
EAC	expert appraisal committees
ECA	Environment Conservation Act of 1995
ECA	environmentally critical areas
ECC	environmental clearance certificate
ECP	environmentally critical projects
ECR	Environment Conservation Rules of 1997
EIA	environmental impact assessment
EIS	environmental impact statement
EMP	environmental management plan
ETP	environment treatment plant
EU	European Union
GTCL	Gas Transmission Company Limited
IEE	initial environmental examination
LCC	location clearance certificate
LGED	Local Government and Engineering Department
MoEF	Ministry of Environment and Forest
NEPC	National Environmental Protection Commission
NGO	nongovernmental organization
NOC	no objection certificate
OP	operational policies
PIL	public interest litigations
RIIP-2	Second Rural Infrastructure Improvement Project
SEA	strategic environmental assessment
SEAC	state level expert appraisal committee
SEIAA	State Environment Impact Assessment Authority
SPCB	The State Pollution Control Board
SPS	Safeguards Policy Statement of 2009
TOR	terms of reference
UTPCC	union territory pollution control committee
WB	World Bank
WARPO	Water Resources Planning Organization

CHAPTER ONE

1. Introduction

1. An initiative to reform the laws regulating Environmental Impacts Assessment (EIA), in the context of a particular country needs to start with the review and assessment of existing relevant legislations, policies and institutional arrangements in order to identify the scope, gaps and constraints. This assessment will help guide the EIA in adapting to existing governance process and/or new enactments of legislations. This study, therefore, aims to: (a) critically examine the existing EIA legislations, judicial orders and institutional structures supporting it, and scrutinize the effectiveness of the EIA regulatory regime; (b) identify best international practices on EIA, examine and assess the laws and policies of other countries and international financial institutions; and based on these assessments, (c) recommend changes in the regulatory regime of EIA in Bangladesh, as applicable.

1.1. Context of the Study

2. The origins of modern EIA legislation can be traced back to the United States National Environmental Policy Act of 1969. This innovative legislation spurred the introduction of similar EIA policies and legislation in other countries and international organizations. Article 17 of the Rio Declaration of 1992 obliges signatory States to enact national regulation on EIA, with appropriate institutional mechanisms to prevent, reduce and to manage environmental impacts from development activities within the auspices of sustainable development.[1] Bangladesh first adopted EIA-related legislation in 1995 as part of the development of a road environmental regulatory framework. The Environmental Conservation Act of 1995[2] was the basic legal framework on environment and ecology in Bangladesh that also set forth the legal requirements for EIA, which was supplemented through the adoption of the Environmental Conservation Rules in 1997.[3] Specific Rules on EIA were laid down under the said Rules of 1997, along with a set of sectoral guidelines on industries developed by the Department of Environment (DoE). It is worth noting that prior to the establishment of DOE in 1995; sectoral institutions such as the Ministry of Water Resources the Local Government Engineering Department (LGED) and the Water Resources Planning Organization (WARPO) had already set forth their own EIA guidelines between 1990 and 1992.

3. . However, the initial EIA process failed to regulate unplanned development activities to ensure sustainable development in the country, for example huge unplanned urbanizations in the country. In 2010, the Government amended the Environmental Conservation Act, 1995 with Act No. 50 of 2010, entitled The Bangladesh Environment Conservation (Amendment) Act, 2010. Act No. 50 substituted Section 12 which introduced the Environmental Clearance Certificate (ECC) for establishing industrial units or projects. Section 12 (4) of the (Amendment) Act, 2010, obliges Government, specifically the Ministry of Forest and Environment (MoEF), in this case, to develop further rules on Environmental Impact Assessment, Environmental Impact

[1] Article 17: environmental impact assessment (EIA), as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.

[2] Act No. 1of 1995.

[3] Gazette Notification: 1404/27, 1997.

Assessment Report, Environmental Management Plan (EMP), Judging of Public Opinion, Public Access to Information, Structure and Function of the Environment Clearance Committee, and Minimum Necessary Conditions for Clearance and Appeal.

4. Financial institutions and aid agencies like World Bank (WB) and the Asian Development Bank (ADB), as well as bilateral agencies such as US AID, CIDA and JICA have developed their own guidelines on EIA and obliged their development partner countries to follow said guidelines. Bangladesh, like other developing countries, occasionally fails to fully meet the obligations set forth by the financial institutions, due to limitations in its implementation capacity of and to some extent the absence of corresponding domestic legal requirements that would have the effect of institutionalizing EIA practices that are consistent with MDB safeguard requirements. Hence, this report, consistent with the objectives of TA 7566-REG: Strengthening EIA System and its Implementation Practices, which is being implemented by ADB in collaboration with DoE, Bangladesh endeavors to review the existing regulation on EIA with a view to suggest required changes to the existing legislative framework that would facilitate the institutionalization of international best practices on EIA in Bangladesh.

1.2. Scope of the Study

5. This study report focuses primarily on laws regulating EIA in Bangladesh and decision-making processes on prevention, reduction and management of adverse impacts of environment associated with development activities, programs and policies. Clarity is also significant in terms of procedural mechanism in response to violation of substantive rights guaranteed in existing legislations. As such, the report finally scrutinizes the existing traditional and formal dispute settlement mechanisms in Bangladesh in the context of the EIA. Particularly, this research study, aims to conduct:

- a critical review of the country's current legislation, policies, judicial orders and institutional arrangements;
- a comparative analysis of some other country's regulations on EIA;
- a critical analysis of international best practices and policies of international financial institutions; and
- propose recommendations for required legislative efforts of Bangladesh.

1.3. Methodology

6. The report aims to provide policy analysis on EIA based on mostly desk review of EIA-related legal and institutional frameworks. However, the methodologies followed in this study include:

(i) Literature review. Review of the literature related to EIA laws and regulations and to scrutinize the related provisions of legislations, policies and judicial orders of Bangladesh along with laws and some other countries and the international financial institutions.

(ii) Community Consultation. Relevant stakeholders including affected community, involved with EIA process, procedures and implementation in Bangladesh taking into account the sectoral approaches.

(iii) Expert Consultations. Expert consultation was held in order to share the methodologies and the initial findings of the study. The second expert

consultation was held to share the draft report and the expert views and suggestions were taken into account to finalize the report.

CHAPTER TWO

2. EIA Laws and Regulations in Bangladesh

7. The present legal system of Bangladesh owes its origin mainly to 200 years of British Rule and the legacy of the common law system. British-era legislation applied in Pakistan after 1947 and post-partition legislation enacted in Pakistan continued to form the basis of Bangladeshi statutory laws, but legal developments in Bangladesh since 1972 have been distinct. A Constitution was adopted in 1972 and part three of the Constitution guarantees some of the basic human rights including the *Right to Life*[4] which has been extended to include *Right to Safe Environment* through judicial activism in 1997.[5] Under the right to a safe environment, some public interest litigations (PILs) were filed and environmental harm was frequently discussed and elaborated on by the higher judiciary in such PILs. Some of the decisions of these PILs suggested for required environmental impacts assessment prior to initiate the development projects in the country.

8. In terms of statutory law, in 1995the Government of Bangladesh adopted a comprehensive environmental law for the protection and management of environment and ecology.Although theas noted above Environment Conservation Act (ECA) of 1995, [6]adopted many EIA-relevant provisions it did not include any specific provision for EIA. However, provisions related to ECC provided the mandates for EIA as a precondition for obtaining an ECC for establishing an industrial unit or project. The ECA (1995) was supplemented by the Environmental Conservation Rules, adopted in 1997, which provides detailed Rules for EIA. It is worth mentioning that a recent amendment to ECA (1995) provided a broader scope to frame the detailed Rules on EIA.

9. The ECA (1995) mandated establishment of DoE. The MoEF and the Conservation Rules, 1997 provided detailed administrative guidance to the DoE for EIA and dealt with the issue of environmental harm. Furthermore, special environmental courts were established to deal with environmental harm in accordance with the Environmental Court Act of 2000, which is now repealed and newly adopted in 2010. Thus, the legal, administrative and judicial mechanisms exist in Bangladesh to regulate EIA and to address environmental harm. However, EIA requirements and procedures are incorporated in environmental framework legislation in Bangladesh instead of a specific law on EIA.

2.1. Legal Provisions related to EIA Requirements and Procedures

The Constitution of Bangladesh, 1972

10. The Constitution of the Peoples' Republic of Bangladesh, 1972, a fundamental legal document of the country, does not contain any specific provision on EIA. However, its broader reference to environmental protection provides the mandates for taking measures for EIA. Even

[4] Article 31 of the Constitution of Bangladesh, 1972.

[5] The Appellate Division (1997) 49DLR(AD) stated in Art. 31 and 32 of the constitution… encompass within its ambit, the protection and preservation of environment, ecological balance free from pollution of air and water, sanitation without which life can hardly be enjoyed. Any act or omission contrary thereto would be violating of the said right to life.

[6] Act No. 1of 1995.

prior to the Constitution (?) a "Right to Environment" was recognized though the judicial activism which led to the implicit (?) incorporation of environmental protection into the meaning of *Right to Life as* guaranteed under Article 31 of Part III of the Constitution. A recent amendment incorporated an article [Article 18A], which stated that:

> "*The state shall endeavor to protect and improve the environment and preserve and safeguard the natural resources, bio-diversity, wetlands, forest and wild life for the present and future citizens*."[7]

11. Therefore, the said provision on the broader context of environmental protection of the Constitution obliges the government to take measures on EIA in order to protect and improve the environment and to preserve and safeguard the natural resources, biodiversity, wetlands, forest and wild life, since EIA aims to avoid and mitigate the environmental harm from development activities.

The Environment Conservation Act, 1995 (as amended in 2010)

12. Section 12 of the ECA, 1995 (as amended in 2010),[8] provides the requirement and procedures for obtaining an ECC in order to establish an industrial unit or project from the Director General of DoE in accordance with the manner prescribed by the Rules.[9] Amendment in 2012 of the Act requires obtaining an ECC for the industrial unit or project established before the enforcement of this amendment entitled the Bangladesh Environment Conservation (Amendment) Act, 2010.[10] It also requires obtaining an ECC in case of extension of an industrial unit or project.[11]

13. Section 12(4) of the Act of 2010 provides the guidance to adopt detailed Rules on inter alia EIA report, preparation of an EMP, Judging of Public Opinion, and Public Access to Information, Structure and Function of the Environment Clearance Committee, Minimum Necessary Conditions for Clearance, Appeal, etc. within the context of obtaining the ECC. This section also mandates the DoE to update the previous year's list of various industries and projects, which categories those for EIA requirements as to obtaining the ECC by 31 March, every year. It also mandates the DoE to fix the minimum qualifications and responsibilities of individuals or organizations working on the preparation of EIA or EMP, and to enlist and update them accordingly.[12]

14. Amendment to Section 12 of ECA, 1995 appended the obligation for obtaining ECC for previously established industrial units or projects and also for extension of an industrial unit or project. Moreover, it requires adopting further Rules on:

- *Process and procedure of preparing EIA report*
- *Preparation of EMP*
- *Judging of Public Opinion*
- *Public access to EIA related Information*

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[7] Article 18A was inserted by the Fifteenth Amendment, in 2011

[8] Act No. 50 of 2010 titled The Bangladesh Environment Conservation (Amendment) Act, 2010 substituted the section 12 regarding environmental clearance certificate for establishing industrial unit or project

[9] Section 12 (1), The Bangladesh Environment Conservation (Amendment) Act, 2010.

[10] Section 12(2), The Bangladesh Environment Conservation (Amendment) Act, 2010.

[11] Section 12(3), The Bangladesh Environment Conservation (Amendment) Act, 2010.

[12] Section 12(5), The Bangladesh Environment Conservation (Amendment) Act, 2010.

- *Formation, structure and Function of the Environment Clearance Committee*
- *Determine the Conditions of ECC*
- *Appeal Procedures*

15. Article 20(1) of the ECA (1995) provides for Rule framing power to the MoEF to fulfill the purpose of the Act. Section 20 (2) (f), in particular, mandates to frame the Rule to evaluate, review the EIA and approval procedure. Along with the amended Section, this section provides clear directive for the adoption of further Rules on EIA. Since the ECR, 1997 already adopted some of the Rules on EIA, it is important to scrutinize the existing provisions before making any further suggestions.

The Environment Conservation Rules, 1997

16. Rule 7of the ECR (1997) classifies industrial units and projects into four categories include (a) Green, (b) Amber–A, (c) Amber–B, and (d) Red for the purpose of issuance of the ECC and listed all these in Schedule-1.[13] Rule 7(3) provides that all existing and proposed industrial units and projects with a Green Category can be issued the ECC without any Location Clearance Certificate (LCC) or the EIA report.[14] On the other hand, industrial units and projects within the Amber–A, Amber–B and Red categories require LCC prior to obtaining an ECC. The Director General of DoE may directly issue an ECC without an LCC as he deems appropriate.[15] Only the industrial units and projects falling under the Red category need to submit an EIA report in order to obtain an ECC.[16]

Red Category and EIA Report

17. In case of a Red category, an EIA report is prepared after obtaining the LCC (footnote 17). Upon approval of the EIA and establishment of the environment treatment plant (ETP), the project then applies for an ECC.[17] Decision as to whether the ECC will be issued or rejected will be given within thirty (30) working days.

Validity of ECC and Appeal for No-issuance

18. For Green category projects, the ECC is valid for the next three years from the date of its issuance. ECCs for Amber–A, Amber–B and Red category projects are valid for one year and should file for renewal at least thirty days before expiry of its validity period.[18] In case the ECC application/renewal gets rejected, Rule 7(14) provides that a project can file an appeal with the appellate authority, per gazette notification dated 3 March 1997.[19] The decision of the appellate authority is final. No aggrieved person may file any case before the Court against such decision.[20]

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[13] Rule 7 (1 &2), The Environment Conservation Rules, 1997.
[14] Rule 7 (3), The Environment Conservation Rules, 1997.
[15] Rule 7 (4), The Environment Conservation Rules, 1997. For industrial units and projects falling in the Amber–A, Amber–B and Red categories, firstly an LCC and thereafter an ECC shall be issued. Provided that the Director General may, without issuing an LCC at the first instance, directly issue ECC if he, on the application of an industrial unit or project, considers it appropriate to issue such certificate to the industrial unit or project.
[16] Rule 7 (9)(D), The Environment Conservation Rules, 1997.
[17] Rule 7 (12)(B), The Environment Conservation Rules, 1997.
[18] Rule 8, The Environment Conservation Rules, 1997.
[19] The Gazette Notification of 3 March 1997, issued by MoEF, formed the appealed authority consisting of Secretary of the same Ministry (Chairman), and other two members which includes Joint Secretary (Development) and Deputy Secretary (Environment) of the same Ministry.
[20] Section 14, The Environment Conservation Act, 1995.

Monitoring and Compliance

19. Neither the ECA (1995) nor the ECR (1997) contains any provision related to the process and procedure for monitoring post-project establishment activities. However, the ECC provides terms and conditions pertaining to the obligation of environmental monitoring and monitoring report submission to the DoE. Submission time frames for the monitoring reports are decided on a case by case basis.

2.2. Related Provisions on Environmental Harm

Environment Conservation Act, 1995

20. Section 7 of the ECA (1995) provides for administrative and judicial options on remedial measures in case of injury to the ecosystem. It states, -*if it appears to the Director General that any act or omission of a person is causing or has caused, directly or indirectly, injury to the ecosystem or to a person or group of persons, the Director General may determine the compensation and direct the person to pay the same or in appropriate cases to take corrective measures, or do both and the person so directed shall be bound to comply with the direction*.[21] It further states that, if a person fails to comply with a direction issued under sub-section (1), the Director General may: (a) file a suit for compensation before the competent court, (b) file a criminal case for failure to comply with the direction or, (c) can file both. The Director General may impose duties in determining the compensation amount or for adopting corrective measures in accordance with Section 7(1) (footnote 23).

21. Section 7 of the ECA (1995) provides the scope for remedial measures including compensation and corrective measures. In terms of permanent damage, the DoE can engage related professional experts to assess the environmental damage and determine the compensation. On the other hand, in terms of temporary damage to environment and ecology, DoE can appoint experts on relevant fields to assess the damage and suggest corrective measures to repair the damage caused. EIA Reports of ECC-issued projects or industries which caused environmental harm are helpful in determining compensation and suggesting corrective measures. In this case, *detailed Rules need to be adopted to assess the extent of ecological harm done and, consequently, assess and determine compensation and corrective measures with required institutional structures.*

22. Section 8 of the Environment Act provides an opportunity to bring a remedial claim by a person aggrieved, or likely to be aggrieved, by the environmental pollution or degradation before the DoE under prescribed rules, to remedy the actual damage or apprehended damage.[22] The Director General may adopt measures, including public hearings, for settling an application made in the above manner.[23]Rule 5 of the ECR (1997) provides application procedures relating to environmental harm. It states that, any person affected or likely to be affected as mentioned in sub-section (1) of Section 8 of the ECA (1995), may apply to the Director General using Form-1

[21] Section 7 (1), The Environment Conservation Act, 1995.
[22] Section 8 (1), The Environment Conservation Act, 1995states that "any person affected or is likely to be affected from the pollution or degradation of environment, may apply to the Director General."
[23] Section 8(2), The Environment Conservation Act, 1995.

for remedy of the damage or apprehended damage. Three months upon receipt of the application, the Director General shall take action in accordance with sub-section (2) of Section 8 of the Act.[24] *Since the ECR adopted the rules and delegated power to the Director General to dispose of said application under the Act through any measures including public hearings, detailed Rules are still required in settling said application and institutional structures for effective procedure.*

23. Section 14 of the ECA (1995) offers an appellate option against an order. An Appeal Petition can be filed by the aggrieved party before the Appellate Authority formed by the Government. The order passed by the Appellate Authority shall be final and no suit can be filed in any court against such order.[25] Moreover, Section 17 of the Conservation Act (1995) allows litigation by a person, a group of people or the public, or by the DoE on behalf of a person, a group of people or the public, before the Environment Court for loss suffered by environmental pollution and degradation.

2.3. Judicial Forums and the Decisions related to EIA

24. Since right to safe environment is enshrined in the constitution and further development on PILs is gradually taking shape in Bangladesh, any person aggrieved due to environmental harm may file cases before High Court Division of the Supreme Court of Bangladesh.The PIL was first recognised in the judicial system through the case *Dr. Mohiuddin Farooque vs. Bangladesh*[26] where preservation and environmental protection was given due importance. The case was about the environmental ill-effect of a flood control plan affecting the life, property, livelihood, vocation and environmental security of more than a million people in the district of Tangail,Bangladesh. In formulating and implementing the scheme, the plight of local communities was not taken into consideration. The court ordered the District Authority to assess loss and damage caused by the project. Following the judgement, the initial project was suspended and the government and donors reformulated the project. This was the first case that touched upon the issue of ecological damage caused by a development project.[27]

25. In addition, the court decision also mandated the project proponents of Flood Action Plan (FAP) to introduce an EIA plan, which included consulting the local people in the project area. Prior to the court's decision, no proper EIA has been undertaken in relation to FAP projects despite the Resolution by the European Parliament declared on 24 June 1993. The Resolution dictates the urgent need to change the FAP`s classification, within the WB project scheme, from category `B` to category `A` requiring full environmental assessment for projects which appear to have significant adverse effect on the environment. It's worth mention that, the FAP project in Bangladesh was funded by Government of Netherland. [28]

26. Recently, Bangladesh Environmental Lawyers Association (BELA) filed a PIL seeking directions upon the respondents to prevent pollution and encroachments of Baghil, Dholai, Pakuria beels and Kornapara khal of Savar Upazilla under the Dhaka district and to protect the same in public interest. On 07.04.11, a division bench of the High Court issued the following order after hearing:

[24] Rules 5(2), ECR, 1997.
[25] Section 14, ECA, 1995
[26] 44 DLR (AD) (1997)
[27] 30 DLR, 1998 (HCD), 84, Decsion Para.39-41
[28] Farooque vs. Government of Bangladesh, WP 998 of 1994, CA 24 of 1995 (1996.07.25) (Flood Action Plan Case)

"Pending hearing of the Rule, respondents are directed to refrain from making any structural intervention within the said wetlands including construction of culvert on Beel Baghil, without undertaking EIA and Public consultation, as required under the law. The respondents are further directed to prepare an updated report as to:

i) the state of pollution of the said wetlands;
ii) the industries which are responsible for the pollution of the said wetlands and their record of compliance; and
iii) the measures needed to ensure compliance by the said industries and submit that report before the Court.[29]*"*

27. Therefore, under the constitutional provision, the High Court Division of the Supreme Court plays an important role regarding environmental disputes from the perspectives of the content of law and policy in Bangladesh. Successful legal persuasion of environmental issues has not only resulted into the increase of public interest environmental litigation but also prompted the establishment of environmental courts in Bangladesh. The enactment of the Environment Court Act (2000) [30] recognized the necessity of peaceful settlement of environmental disputes in Bangladesh through a special judicial forum. It also provided guidance for establishing specific environmental courts at Divisional levels. The Government may also establish such courts at the District Level provided they give notification through the official Gazette. The DoE, or any person affected by environmental harm, may file a case before the Environmental Court as discussed in the previous chapter.

28. The Environmental Court Act (2000) was repealed by the subsequent enactment Environment Court Act (2010),[31] which provides for establishing environmental courts at district levels. The Environment Courts were given power to directly take into cognizance any offense relating to environmental pollution and related compensation. [32] Environmental Court proceedings will be similar to criminal and civil courts considering the nature of the disputes. One important feature of this Act is that it has been given retrospective effect of any crime committed under environment laws and, thus, any crime previously committed but is not taken before any court can be taken before the Environment Court or any special *Magistrate. However, the Environment Court Act (2000) did not contain any provision to challenge any EIA report. Even the newly enacted Environment Court Act (2010) does not contain any provision on challenging an EIA report or to make mandatory EIAs for any specific projects or units reflecting judgments of/decisions by the Supreme Courts of Bangladesh.*

2.4. Sectoral Guidelines

29. In addition to the aforementioned statutory laws, there are some sectoral EIA guidelines prepared by concerned government agencies, which also provide some important guidance's to conduct EIA in Bangladesh. The EIA Guidelines for Industry (1997) for example, provide the guidance for conducting an initial environmental examination (IEE) or EIA for proposed industrial project. Moreover, WARPO under the Bangladesh Water Development Board (BWDB) and the LGED have adopted EIA guidelines to review and monitor their own projects. In recent

[29] WRIT PETITION NO 2922 OF 2011, Bangladesh Environmental Lawyers association (BELA) is the petitioner of the case.
[30] Act No. 11 of 2000. For the full text, see A Compilation of Environmental Laws administered by the Department of Environment.
[31] Act No. 56 of 2010.
[32] Section 7, The Environment Court Act, 2010.

years, under a Canadian assistance project titled Bangladesh Environmental Institutional Strengthening Project (BEISP), DoE has developed a good number of EIA guidelines in various sectors including Gas upstream and downstream, Roads and bridges, Coal-based power plants, Cement manufacturing and Pharmaceuticals. However, these guidelines are not legally binding for the proponents due to the legal mandate. The key features of EIA Guideline for Industries (1997) are outlined below.

30. The EIA Guideline for Industries was adopted in Bangladesh in 2007 by the DoE recognizing the EIA as a formal process used to examine the environmental consequences of proposed development projects, programs and policies and suggest relevant management actions.[33] The process and procedure set forth by EIA Guideline for Industries in Bangladesh are as follows:

31. The EIA is generally conducted in sequence. These tiers are identified in terms of the level of details necessary to appraise a project from the environmental angle so that a decision to implement a project can be taken at the earliest, before significant efforts and funds are committed for the implementation of the project. In Bangladesh the EIA procedure will pass through three tiers in order to optimize the resources required for conducting EIA studies. These three tiers are: (1) screening; (2) IEE; and (3) detailed EIA.

32. During the screening process, it is decided whether or not the EIA process should be applied to a development project. If required, it is determined whether an EIA or IEE will be required. An IEE helps in understanding the potential extent of environmental changes and finding ways to mitigate or enhance them by considering the available information or the past experience or standard operating practices. The EIA procedure carries out a more detailed impact examination by conducting surveys, monitoring studies, applying more rigorous impact prediction tools, where necessary, and ensuring effectiveness of the mitigation and enhancement measures.

33. The EIA can be carried out only up to a certain tier in which the environmental aspect of a project becomes clear thereby providing guidance in preparation for the next tier. Conducting EIA in tiers helps in optimizing the resources and increasing efficacy of the exercise by maintaining a better focus. Another advantage of this approach is that the extent of enquiry or examination extends with the advancing development of the project plans. Thus, the tiered process becomes a concurrent EIA process.

34. The project proponent responsible for the EIA and review of an EIA report is the responsibility of the DoE. Finally, the DoE will issue Environmental Clearance or reject or call for some more information. Such clearance will be subject to renewal after each one year period.

35. The EIA Process, in short, is

- Screening: to decide if and at what level EIA should be applied;
- Scoping: to identify the important issues and prepare terms of reference for the EIA study;
- Impact analysis: to predict the effects of a proposal and evaluate the significance;
- Mitigation and impact management: to establish measures to prevent, reduce, compensate for impacts;
- Reporting: to prepare the information necessary for decision making;

[33] Section 1.2 of Bangladesh EIA Guideline for Industries (2007).

- Review: to check the quality of the EIA report;
- Decision making: to approve (or reject) the proposal and set conditions under which it can proceed;
- Implementation and follow-up: to monitor, manage and audit the impacts of project implementation; and
- Public involvement: to inform and consult with all stakeholders.

Post-project monitoring program

36. According to Section 4.8 of the EIA Guideline for Industries (1997), suitable monitoring mechanisms are required for the industrial sector. The objective of the monitoring is to provide information to the regulatory agency on the environmental compliance and efficacy of the various mitigation measures. Hence, norms and standards for environmental quality and emission should be referred to in the EIA.

2.5. Evolution of Environmental Institutions in Bangladesh

Ministry of Environment and Forest (MoEF)

37. The MoEF is the principal Government institution to deal with the environmental activities in Bangladesh. It is the ultimate authority for formulating and implementing all matters relating to National Environmental Policy and regulatory issues.

> *"It was created with an objective to play a key role in planning, reviewing, monitoring and environmental initiatives and ensuring that environmental concerns are properly integrated into the national development process."*

The MoEF is now a permanent member of the Executive Committee of the National Economic Council (NEC), which is the major decision-making body for economic policy issues and also the approving authority of all public investment projects. The MoEF oversees the activities of the following technical/implementing agencies under it, namely: DoE, Forest Department, Bangladesh Forest Industries Development Corporation, Bangladesh Forest Research Institute, Institute of Forestry, University of Chittagong, Forestry Division of the Bangladesh Agricultural Research Institute, and National Herbarium.[34]

Department of Environment (DoE)

38. The DoE is the technical arm of the MoEF and is the agency responsible for environmental planning, management and monitoring. The Director General is the head of this organization. The DoE was established back in 1977 as the Environmental Pollution Control Board following promulgation of the Environment Pollution Control Ordinance of 1977. This Board was assisted by a Pollution Control Cell, which ultimately grew into the Department of Environment and Pollution Control and, subsequently, the DoE. It is the responsible body for reviewing and approving the EIA reports in Bangladesh (DoE, 1997). Under the provision of the ECA (1995), the DoE is authorized to issue environmental clearance for all types of industrial units and projects and mandated to formulate environmental guidelines and advise the Government to prohibit all activities likely to cause environmental pollution. The DoE is also mandated to coordinate the activities of any authority or agency as mandated by the Act. Wide

[34] Chowdhury *et al*, 1999, page 46.

powers have been given to the Director General of DoE by the ECA (1995) such as the power to do anything and everything in his power to meet the objectives of the Act and to issue written notices to the person tasked in discharging duties. The Director General is also empowered to direct immediate closure of any industrial plant and to monitor water quality standards.[35]

Planning Commission

39. The Planning Commission of the Ministry of Planning is in charge of preparing the Five-Year Plans. The Ministry controls the funding allocation of individual ministries responsible for implementing specific projects under the Five-Year Plan. The Planning Commission has the authority to supervise and coordinate cross-sectoral and interministerial activities affecting the use of natural resources and the environment.[36] Previously, the Planning Commission was responsible for conducting an EIA for projects.

2.5.1. Environmental Impact Assessment and the Institutional Arrangements

40. In accordance with Section 3(1) of the ECA (1995), the DoE was established and the Director General of DoE has been empowered to take all such steps, as may be deemed reasonable and necessary, for the conservation of environment, improvement of environmental standard and control and mitigation of pollution of environment and may give necessary direction.[37] Section 12 of the ECA mandates the Director General of the DoE to issue an ECC for establishing industrial units or projects, when the applications are filed in the manner prescribed by the rules. Rule 7(5) ECR (1997) requires the entrepreneur of the concerned industrial unit or project to coordinate with the concerned Divisional Officer of the DoE in obtaining an ECC. The DoE Director General then issues or refuses to issue the ECC based on the review of the proponent's application and EIA report.

41. In case of rejection in the issuance of an ECC, Rule 7(14) provides that an appeal petition can be filed before the appellate authority formed per gazette notification dated 3 March 1997. This Gazette notification, issued by the MoEF, formed an appellate authority consisting of the Secretary of the same Ministry (Chairman), and two other members, namely, the Joint Secretary (Development) and Deputy Secretary (Environment) of the same Ministry. The same appellate authority also deals with all petitions and files in accordance with Section 14 of the ECA (1995). *Therefore, in terms of institutional arrangements, Director General, DoE is basically responsible in dealing with the EIA. The Director General can delegate his power and functions to any officer of the DoE nominated by him. The Divisional Offices of the DoE are responsible to receive and proceeds with ECC applications. The Appealed Authority is responsible in hearing appeals and issuing decisions accordingly.*

2.5.2. Environmental Harm and Institutional Arrangements

42. Section 7 of the ECA (1995) mandates the Director General to determine the compensation and direct the accused person to pay the same or, in appropriate cases, to take corrective measures, or do both in case of ecological damage. If necessary, the Director General may impose duties upon a specialist or similar persons in determining compensation or adopting corrective measures for ecological damage. In the context of noncompliance of a direction or order passed by

[35] Government of Bangladesh (GOB), 1995, page 615.
[36] GOB, 1991, page 102.
[37] Section 4, The Environment Conservation Act, 1995.

the Director General, the Director General may file a suit for compensation in the competent court or file a criminal case or file both.

43. Section 8 of the ECA (1995) provides an opportunity for bringing a remedial claim by an aggrieved person or likely to be aggrieved by the environmental pollution or degradation before DoE in accordance with prescribed Rules, for remedying the damage or apprehended damage.[38] The Director General may adopt any measure necessary, such as public hearings, for settling an application made in the above manner.[39]Rule 5 of the ECR (1997) provides the procedure for application relating to environmental harm stating that, any person affected or likely to be affected as mentioned in sub-section (1) of Section 8 of the ECA (1995) may apply to the Director General using Form-1 for remedy of the damage or apprehended damage. Three months upon receipt of such application, the Director General shall take action in accordance with sub-section (2) of Section 8 of the Act.[40] *Institutional arrangements related to EIA and Environmental Harm is not structured. Further administrative authority and procedure, therefore, need to be developed in accordance with the legal provisions discussed above.*

[38]Section 8 (1), The Environment Conservation Act, 1995states that "any person affected or is likely to be affected from the pollution or degradation of environment, may apply to the Director General."

[39] Section 8(2), IThe Environment Conservation Act, 1995.

[40] Rules 5(2), ECR, 1997.

CHAPTER THREE

44. The preceding chapter identified the related legal provisions and institutional arrangements to EIA and environmental damage in Bangladesh. This chapter will examine the effectiveness of legal and institutional structures based on the two case studies conducted by the TA team. It also outlines the brief EIA process and procedure based on discussions made in the previous chapter.

3. EIA Process and Procedure in Bangladesh

Screening based on Schedule 1 of ECR

45. In accordance with Rule 7(1) of the ECR (1997), industrial units and projects are identified into four categories, namely: (a) Green, (b) Amber–A, (c) Amber–B, and (d) Red as listed in Schedule-1 and for the purpose of ECC issuance. Only Industrial units and projects falling under the red category require the submission of EIA Reports for ECC issuance.

Preparation of Initial Environmental Examination

46. After screening, the developer is required to prepare an IEE based on pre-feasibility level of information and defines the basic principles and objectives of the project. This document is similar to a scoping document and it identifies the proposed location of the project and the potential environmental and social impacts. While, conducting an IEE, the developer should consult related ministries and departments and other concerned to identify the issues and concerns that will need to be addressed in the EIA. The DoE will review IEE report and determine whether or not a full EIA is necessary.

Issuance of Site Clearance Certificate

47. Upon review and approval of the IEE and EMP, DoE will issue a site clearance. A full EIA is required, particularly for Red category projects or units.

Preparation of the Terms of Reference for EIA

48. After the site clearance is issued, the developer starts preparing a ToR for carrying out a complete EIA study. The developer consults with the relevant departments and ministries before submitting the TOR for review and approval. This will facilitate preparation of an acceptable TOR. The ToR will give a brief description of the proposed project, identify the issues and potential impacts of the project and provide the details of basis for further study.

Environmental Impact Assessment Report

49. The developer conducts a study to develop a draft EIA report within the timeframe outlined in the TOR. In the process, the developer consults with relevant government agencies such as the Departments of Agriculture, Fisheries and Forests. The draft EIA report includes baseline physical, biological and social conditions at the project site and potential impacts on the physical, biological and social aspects of the proposed project sites. The draft report should also contain proposed remedies as mitigation measures including resettlement and rehabilitation plans.

50. The draft EIA Report is submitted to the DoE for review and comments. The report is revised and submitted accordingly for final approval and issuance of authorization for the construction of the development project. The developer is notified of the approval of the final EIA report. Construction begins after EIA approval. The ECC for the project is issued only until the project construction is finished and becomes ready for operation. Prior to ECC issuance, however, the DoE will conduct an inspection of the project and will determine if the conditions of the site clearance and commitments made in the EIA are properly implemented.

Public Consultation

51. The ECR does not contain any specific provisions with regard to consultation with the project-affected people or other stakeholders. The ECR only requires that the developer conducts consultations with the DoE and other departments during the preparation of the IEE and draft EIA report. In cases where projects will be financed by foreign donors and lenders, an extensive consultation of the project affected people and stakeholders will be conducted per the requirement of donors and lenders.

3.1. An assessment of effectiveness of EIA legislations and institutional structures

52. To understand the existing practice of the EIA process and implementation in the context of legal mandates, the TA team has undertaken two case studies on the road and gas sector projects, namely: The Second Rural Infrastructure Improvement Project (RIIP-2) of the LGED, and the Monohordi-Dhonua-Elenga-East Bank of the Jamuna project of Gas Transmission Company Limited (GTCL), respectively. These two sector projects have been chosen in consultation with ADB and the DoE. The TA team collected relevant information from LGED and GTCL and conducted site visits to each of the agencies to oversee how effectively the current EIA system is being implemented. Gaps and weaknesses in processing and implementation have been looked into in order to determine the capacity building activities needed for the implementing agencies. Contents of this report are written based on the findings gathered from meetings, interviews, field visits and stakeholder consultations at GTCL, LGED and DoE. From a legal point of view, this report focuses on legal mandates and its implementation in order to examine the adequacy of EIA regulations in Bangladesh.

3.1.1. Case Study Findings: An assessment of Practices

Second Rural Infrastructure Improvement Project (RIIP-2) of LGED

53. Key Activities during the Construction Phase
   a. Upgrading/improvement of sub-district roads (SDRs): identified 434 SDRs in the 182 upazilas
   b. Project components include: Roads, Culverts, Bridge, Drains, Bazaar, Growth Centre, and Union Parishad Complex.

54. Screening process. Per ECR (1997),[41] and ADB Environmental Safeguard policy, RIIP-2 project identified as Amber-B and Category B respectively.

[41] List No. 60, Amber-B, Schedule 1, ECR, 1997.

55. Scoping. IEE for RIIP-2 was conducted by the ADB consultant under a TA project. ADB consultants, under the scope of TA project, prepared a TOR for Environmental Specialist which was suggested to be recruited under RIIP-2 for implementation of EMP during the construction phase.

56. Initial Environmental Examination (IEE). An IEE was conducted for RIIP-2 in accordance with the requirements and guidelines of the ADB and LGED. Participatory meetings with local people were organized to identify environmental impacts. Environmental conditions were considered before the start of the project. In addition, the potential positive and negative impacts of the project interventions were assessed. Impact assessment was mainly done through RRA methods. RRA methods used checklist, informal discussion with local people and opinions from key informants and direct observation.

57. Environmental Clearance Certificate (ECC). Based on the IEE report, an ECC was issued from the DoE with certain terms and conditions, including proper implementation of the EMP. As reported from the LGED, EMP implementation was carried out during the construction phase but during operation phase it has not been followed.

58. Monitoring and Compliance

a. LGED is one of the pioneer agencies that prepared Guidelines on Environmental Issues in 1992 to assist all LGED staff in carrying out IEE and EIA for their project as well as to incorporate avoidance/mitigation measures in the design of their projects.

b. LGED instituted an environmental division headed by an Executive Engineer at the LGED Headquarters. This division independently monitors environmental management practices of various projects implemented and operational across the country. However, manpower and resources deployed to execute responsibilities of environmental division at LGED are insufficient. The staff often does not have relevant educational qualifications and training on environmental safeguards and management. Even though staff lacks environmental knowledge, very rarely they are offered environmental training. As a large institute with great infrastructural facilities, the LGED can bring the entire engineering team under environmental management and safeguards training.

Gas Transmission Project of Gas Transmission Company Limited (GTCL)

59. Key Activities during Construction phase

a. Setting up Pipeline Route and Working Areas
b. Fences and Gates for Temporary Crossings
c. Grading to provide right of way access and ditch line preparation to complete construction
d. Route Selection
e. Stringing of pipe on the right of way (ROW)
f. Welding
g. Coating and wrapping of pipeline with 3 layer polyethylene coating
h. Horizontal directional drilling to cross rivers beneath the river bed
i. Pipe laying in the trench
j. Back filling

k. Reinstatement and clean-up

60. GTCL is a government-owned company under Petro Bangla (Bangladesh Gas Oil Minerals Corporation) of Ministry of Energy and Mineral Resources. GTCL is responsible for the transmission of pressurized natural gas trough laying pipelines across the country. GTCL has laid around 900 km of gas pipelines and there are more pipelines proposed to be laid. Among the transmission pipelines, ADB consultants, with suggestion from the GTCL, have visited the Monohordi–Dhanua section of the Monohordi-Dhanua-Elenga-East bank of Jamuna Bridge, a 30-inch 103 km diameter Gas Transmission Pipeline project. The team will also visit a Compressor station at Elenga to review environmental management components of the project. Within Monhordi-Dhanua section of pipeline, it was laid through cultivable land, roads, canals, rivers, forest and in rare case homesteads.

61. Screening. GTCL considers EIA and management both for donor and government-funded project. For most of the gas transmission projects, an IEE report is required from the donor (ADB or WB) and being a Red category project under Environmental Conservation Rules (1997) of Bangladesh, EIA is required. Thus to comply with the national regulation GTCL has to conduct both IEE and EIA for transmission pipeline.

62. Scoping. In practice, GTCL hires consulting firm to conduct EIA for any proposed gas transmission line project. An EIA consulting firm is hired based on quality- and cost-based selection. GTCL environmental staff works closely with the consulting firms, particularly during the development of ToR for EIA, local level meeting for impact identification and designing mitigation measures and their implementation process.

63. IEE / EIA. Potential environmental impacts on the surrounding environment are looked into. For the project, in particular, GTCL considered three routes for laying the pipeline based on route surveys conducted. Route surveys look into the economic benefits of a project. It also aims to avoid important areas such as graveyards, protected areas, archaeological sites, ecological hotspots and religious places/places of worship. An aerial shortest route that does not traverse along any of the areas that must be avoided is usually preferred. Upon identification of the significant environmental issues requiring further investigation under an EIA, mitigation measures have been sorted out.

64. The most critical part in the GTCL project is the Resettlement Action Plan under ADB's safeguard policy. The EIA is integrated as early as the project's planning stage. In the different phases of the project, interaction and consultation with stakeholders for impact identification, significance analysis and mitigation design is done continuously.

65. Monitoring and Compliance. GTCL hires a consulting firm to implement the Environmental Management Plan (EMP) during the construction phase.

Key Findings from the case studies

66. Both the projects from the road and gas sectors are being implemented with financial support from ADB and the environmental concerns were well taken into account. RIIP-2 did not require an EIA but conducted an IEE per the requirements of EIA legislation in Bangladesh and that of ADB. On the other hand, the Monohordi-Dhonua-Elenga-East bank of Jamuna project of GTCL conducted a full EIA in compliance with EIA legislation in Bangladesh and that of ADB. Studies showed that post-monitoring processes of both projects were weak. This can also be

attributed to the limitation of the EIA legislation in Bangladesh in compelling proponents to do monitoring and compliance activities.

CHAPTER FOUR

4. EIA Legislations and Related Provisions of other Countries

67. The recently amended ECA, 2010, mandates the MoEF to adopt detailed environmental safeguards including EIA, identifying the key relevant aspects particularly on EIA. The precedent sections provided necessary analysis on the scope and limitations of existing regulatory regime on EIA in Bangladesh. This section identifies the best practices and legal mandates of different countries and international financial institutions and provides comparative analysis. This section of the study would be imperative to suggest recommendations for improving governance regime of EIA in Bangladesh.

4.1 EIA legislations and process in India

68. The Environmental (Protection) Act, 1986, adopted EIA regulations in India within the context of obtaining ECC, and the further Rules of 1986 provided the scope of issuing a particular notification. The MoEF issued a particular notification on EIA regulation and made environmental clearance legally mandatory for expansion and modernization and for construction of new projects and listed in Schedule I of the notification of 1994. The notification of 1994 was superseded by the Notification of 2006[42] which provided the detail EIA process in India. Some of the important legal aspects of the Notification are discussed.

EIA process and the institutional structures

69. Sections 2 and 3 of the EIA Notification of India (2006) require all new projects or activities and the expansion and modernization of existing projects or activities listed in the Schedule to this notification, prior environmental clearance to obtain from the concerned regulatory authority. All projects or activities are categorized as Category 'A' and Category 'B' in the Schedule. Projects or activities listed as Category 'A' in the Schedule needs to obtain environment clearance from the Central Government in the MoEF. On the other hand, projects or activities listed as Category 'B' in the Schedule require obtaining environment clearance from the State level authority named the State Environment Impact Assessment Authority (SEIAA).

70. In accordance with Section 5 of the Notification, Expert Appraisal Committees (EACs) at the Central Government and the SEIAA at the State or the Union territory level shall screen, scope and appraise projects or activities in Category 'A' and Category 'B' respectively. Appendix 6 of the Notification provided the format of composition of the Expert Appraisal Committees and the SEIAA will be constituted by the Central Government in consultation with the concerned State Government or the Union territory Administration with identical composition.[43]

Screening, Scoping, Public Consultations and Appraisal

71. Section 7 of the Notification (2006) provided the four-stage approach for issuing the Environmental Clearance and the stages are Screening, Scoping, Public Consultation and Appraisal.

[42] S.O. 1533, 14th September 2006, Ministry of Environment and Forest, India.
[43] Appendix-VI, S.O. 1533, 14th September 2006, Ministry of Environment and Forest, India.

Screening

72. In case of Category 'B' projects or activities, this stage will entail the scrutiny of an application seeking prior environmental clearance made in Form 1 by the concerned State-level Expert Appraisal Committee (SEAC) for determining whether or not the project or activity requires further environmental studies for preparation of an EIA for its appraisal prior to the grant of environmental clearance depending up on the nature and location specificity of the project. The projects requiring an EIA report shall be termed Category 'B1' and remaining projects shall be termed Category 'B2' and will not require an EIA report. For categorization of projects into B1 or B2 except Item 8(b), the MoEF shall issue appropriate guidelines from time to time.[44]

Scoping

73. *Scoping* refers to the process by which the EAC (in the case of Category 'A' projects or activities) and the SEAC (in the case of Category 'B1' projects or activities, including applications for expansion and/or modernization and/or change in product mix of existing projects or activities) determine detailed and comprehensive ToR addressing all relevant environmental concerns for the preparation of an EIA Report in respect of the project or activity for which prior environmental clearance is sought.

74. *The EAC or SEAC concerned shall determine the ToR* on the basis of the information furnished in the prescribed application Form1/Form 1A including ToR proposed by the applicant, a site visit by a subgroup of EAC or SEAC concerned only if considered necessary by the EAC or SEAC concerned, ToR suggested by the applicant if furnished and other information that may be available with the EAC or SEAC concerned. All projects and activities listed as Category 'B' in Item 8 of the Schedule (Construction/Township/Commercial Complexes /Housing) shall not require Scoping and will be appraised on the basis of Form 1/ Form 1A and the conceptual plan.

75. The ToR shall be conveyed to the applicant by the EAC or SEAC as concerned within sixty days of the receipt of Form 1. In the case of Category A Hydroelectric projects, Item 1(c) (i) of the Schedule the ToR shall be conveyed along with the clearance for pre-construction activities. If the ToR are not finalized and conveyed to the applicant within sixty days of the receipt of Form 1, the ToR suggested by the applicant shall be deemed as the final ToR approved for the EIA studies. The approved ToR shall be displayed on the website of the MoEF and the concerned State Level EIA Authority.

76. Applications for prior environmental clearance may be rejected by the regulatory authority concerned on the recommendation of the EAC or SEAC concerned at this stage itself. In case of such rejection, the decision together with reasons for the same shall be communicated to the applicant in writing within sixty days of the receipt of the application.

Public Consultation

77. "Public Consultation" refers in Section 7 of the EIA Notification (2006) of India as to the process by which the concerns of local affected persons and others who have plausible stake in the environmental impacts of the project or activity are ascertained with a view to taking into account all the material concerns in the project or activity design as appropriate. Section 7,

[44] Ibid, Section 7(i).

requires all Category 'A' and Category 'B1" projects or activities to undertake Public Consultation and provided two components comprising of:

(a) a public hearing at the site or in its close proximity – district-wise, to be carried out in the manner *prescribed in Appendix 4*, for ascertaining concerns of local affected persons; and
(b) obtain responses in writing from other concerned persons having a plausible stake in the environmental aspects of the project or activity.

78. *The State Pollution Control Board (SPCB) or the Union territory Pollution Control Committee (UTPCC) concerned, will conduct the public hearing at, or in close proximity to, the sites in all cases in accordance with the specified manner* and will forward the proceedings to the regulatory authority concerned within 45 days. In case the SPCB or the UTPCC concerned does not undertake and complete the public hearing within the specified period, and/or does not convey the proceedings of the public hearing within the prescribed period directly to the regulatory authority concerned as above, the regulatory authority shall engage another public agency or authority which is not subordinate to the regulatory authority, to complete the process within a further period of 45 days.

79. On the other hand, for obtaining responses in writing from other concerned persons having a plausible stake in the environmental aspects of the project or activity, the concerned regulatory authority and the SPCB or the UTPCC shall invite responses from such concerned persons by placing on their website the Summary EIA report prepared in the format given in Appendix. After completion of the public consultation, the applicant shall address all the material environmental concerns expressed during this process, and make appropriate changes in the draft EIA and EMP. The final EIA report, so prepared, shall be submitted by the applicant to the concerned regulatory authority for appraisal. The applicant may alternatively submit a supplementary report to draft EIA and EMP addressing all the concerns expressed during the public consultation.

Appraisal

80. EIA Notification of India (2006) refers to Appraisal as to the detailed scrutiny by the EAC or SEAC of the application and other documents like the Final EIA report, outcome of the public consultations including public hearing proceedings, submitted by the applicant to the regulatory authority concerned for grant of environmental clearance. Section 7 of the Notification provided the appraisal procedures for EAC or SEAC through which they will make categorical recommendations to the regulatory authority concerned either for grant of prior environmental clearance on stipulated terms and conditions, or rejection of the application for prior environmental clearance, together with reasons for the same.

Post Environmental Clearance Monitoring

81. Section 10 of the EIA Notification of India (2006) mandates the project management to submit half-yearly compliance reports in respect of the stipulated prior environmental clearance terms and conditions in hard and soft copies to the regulatory authority concerned, on 1st June and 1st December of each calendar year. All such compliance reports submitted by the project management shall become public documents. Copies of the same shall be given to any person on application to the concerned regulatory authority. The latest such compliance report shall also be displayed on the web site of the concerned regulatory authority.

4.2. EIA legislations and process in Philippines

82. The EIA Act of 2007 was enacted by the Senate and the House of Representatives of the Philippines in order to enhance the Philippine EIA system. The basic features of the Act as follows:

83. Section 5 of the EIA Actor the Philippines (2007) provides the scope of EIA system stating that, the EIA system is intended to identify, forecast, and evaluate the adverse direct and indirect effects of a proposed project on the environment as a result of the implementation of the project or any of its components, including on the health of persons. This section further stated that, all persons, whether natural or juridical, and entities including government-owned or controlled corporations and local government units, intending to implement any project which may have adverse impacts on the environment shall undertake an EIA to disclose the potential impacts of the proposed project or activity for public review.

Screening

84. Section 7 of the EIA Act of the Philippines (2007) categorized the project into five categories and provided further guidance for appraisal. Type A identified Environmentally Critical Projects (ECPs); Type B, identified the Projects located in Environmentally Critical Areas (ECAs) tending to cause adverse environmental impacts; Type C identified projects not falling in any of the afore cited categories but may have significant or adverse environmental impacts; Type D identified the projects projected to create positive impact on the environment; and Type E identified the Exempted Projects. The National Environmental Protection Commission (NEPC) is authorized to review and update the current classification of programs and projects within the coverage of the System.[45] In accordance with section 9 of the Act, if a project is considered as an ECP or a Type A project, the proponent shall be required to prepare an Environmental Impact Statement (EIS). If the project is not considered an ECP but is located within an ECA or a Type B project, the proponent shall be required to submit an Initial Environmental Evaluation (IEE), without prejudice to the submission of an EIS or any part thereof as may be further required by the Commission upon review of the IEE. At its option, a proponent of Type B project may submit an EIS instead of an IEE, pursuant to guidelines to be promulgated by the Commission.

85. If a project falls under Type C, the proponent shall submit a Project Description to the NEPC. The Commission shall thereafter, and within a reasonable time after submission of the Project Description, determine whether the Proponent will be further required to submit an EIS or an IEE. The same shall apply to projects designed to create positive impacts on the environment (Type D). Projects which have already undergone assessment shall undergo a new assessment prior to any development or further activity not covered by the first assessment. Such development or further activity may be deemed as a separate and distinct project. Co-located projects shall be required to conduct an EIA that shall consider the cumulative environmental impacts of all the project components. A single ECC covering all co-located projects may be issued for such co-located projects except where the Commission determines that each or any component should be treated as a separate and distinct project. The Commission shall issue further rules and regulations, including guidelines for the

[45] Section 8 of EIA Act of the Philippines, 2007.

determination of exempted projects, as may be necessary to effectively implement the intent and purpose of this section.[46]

Preparation of Environmental Impact Statement

86. Section 10 of the EIA Act of the Philippines (2007) provided the guidance for preparation of EIS and suggested to include in EIS some of the important aspects of the proposed project including project description, including data on project location, specifically describing the primary and secondary impact zones, project rationale, alternatives, including alternative sites or actions, no action alternatives, and project phases; Social Acceptability Report; Environmental Risk Assessment, when appropriate; EMP; relevant national and local environmental laws and so on.[47] The Commission shall promulgate the rules and regulations necessary to effectively implement the procedure by which an EIS is required, produced and assessed.

Environmental Clearance Certificate (ECC) and Monitoring

87. Section 12 of the EIA Actof the Philippines (2007) provides the provisions for issuing ECC, which states that, an ECC will be issued only after favourable evaluation by the Commission of the pertinent environmental impact report, whether such is in the form of an EIS or an IEE, within a reasonable time. No program or project shall be implemented without an ECC. In evaluating environmental impact reports, the Commission may seek the assistance of other government agencies and concerned stakeholders, but in all cases shall be the lead agency in such evaluation. In every case, an ECC shall be issued subject to conditions set forth by the Bureau, the non-fulfilment or violation of which shall be grounds for revocation of the ECC and administrative, civil, or criminal charges. Moreover, Section 13 of the Act suggests for forming local monitoring bodies by the Commission consisting of representatives from the regional or local office of the Commission, the local government unit having jurisdiction, local communities and stakeholders, that shall monitor the compliance of a project or projects to the terms and conditions set forth in the ECC.[48]

[46] Ibid, Section 9.

[47] Ibid Section 10 on EIS preparation guidance: The EIS shall include, but not be limited to the following: Project Description, including data on project location, specifically describing the primary and secondary impact zones, project rationale, alternatives, including alternative sites or actions, no action alternatives, and project phases; Scoping Report; Social Acceptability Report, detailing the process of public participation, and containing the Free and Prior Informed Consent document; Baseline Environmental Conditions for land, water, air, and people; Impact Assessment, including a discussion of the impact of the project or undertaking on the environment and public health; Environmental Risk Assessment, when appropriate; Environmental Management Plan; Proposals for Environmental Monitoring and Guarantee Funds when required; List of relevant national and local environmental laws, including but not limited to ordinances and land and water use plans, which require compliance; Supporting Documents, such as documents on technical and socio-economic data used, gathered, or generated; Accountability Statements of the preparer and the proponent; For projects located in ancestral lands or domains, as defined or to be defined by law, of indigenous communities, a specific chapter in the socio-economic impact assessment shall be devoted to a discussion of indigenous peoples' concerns and possible socio-economic, political and cultural impacts of the proposed project on such people; For projects or undertakings with significant impact on women, a specific chapter in the socio-economic impact assessment shall be devoted to a discussion and consideration of gender issues; For projects or undertakings with significant impact on population, a specific chapter on the socio-economic impact assessment shall be devoted to a discussion of the relationship among population, development, and the environment.

[48] Ibid, Section 13.

Free and Prior Informed Consent

88. Section 17 of the EIA Act of the Philippines (2007) requires ensuring the direct and meaningful participation of affected communities and sectors in the approval of policies, programs and projects with possible adverse impacts on the environment. The social acceptability of the project, in the form of the free and prior informed consent of affected persons or communities, shall be *a condition precedent* to the approval of any program or project. Toward this end, proponents of projects shall, at all times, be required to conduct scoping sessions and submit to public consultations. The same section also provided the nature and purpose of public consultations and scoping processes stated that, the environmental assessment process, including the public consultation and scoping procedures, are not conducted for the purpose of encouraging or soliciting the concerned communities' approval of or support for the project being discussed, but as a fair, truthful, and comprehensive forum where all parties may present relevant issues concerning the project and its perceived significant effects on the environment, including the health of persons and communities and their quality of life. It shall be incumbent upon project proponents and representatives from local government units and other government agencies and Commissions with jurisdiction over the project, to present all and any relevant data and aspects of the project that may affect the community, whether positively or adversely. Such data shall be complete, accurate, and unbiased.

Social Acceptability Report

89. Section 17 of the EIA Act of the Philippines (2007) also require to submit the Social Acceptability Report and it requires information on the proposed projects, including environment impacts, to be disseminated or presented in a manner and language understandable to the community. The proceedings shall be duly recorded, with such record being attached to the Social Acceptability Report that shall be rendered by the hearing officers designated by the Commission within fifteen (15) working days from the termination of the consultations. The Social Acceptability Report shall be part of the documentary requirements in the environmental impact report, whether in the form of an EIS or an IEE. The Commission shall issue necessary guidelines for the proper conduct of consultations to obtain the most truthful and accurate expression of people's consent to the proposed project. In the conduct of consultations, all parties shall adhere to the standards set by the Commission for such purpose.

Judicial Interventions

90. In accordance with the Section 18 of the EIA Act of the Philippines (2007), a court may issue a temporary restraining order or a writ of preliminary injunction against any project which shall attempt to operate in violation of any provision of the Act. Moreover, where an ECC has already been issued, and a temporary restraining order or writ of preliminary injunction issued for violation of the requirements or conditions set therein, such ECC shall be automatically suspended, and the proponent subject to the penalties set forth in this Act.

Administrative Action

91. Section 19 provides that without prejudice to the right of any affected person to file any other criminal or civic action, the Commission shall on its own instance or upon verified complaint by any person, institute administrative proceedings against any person who violates any order, rule or regulation issued by the Commission with respect to this Act.

Citizen Suits

92. Section 20 of the EIA Act of the Philippines (2007) provides the option for Citizen Suits for purposes of enforcing the provisions of this Act or its implementing rules and regulations and as such any citizen may file an appropriate civil, criminal, or administrative action in the proper courts against:

(a) Any person who violates or fails to comply with the provisions of this Act or its implementing rules and regulations;
(b) Any person who violates the terms and conditions set forth by the Commission in the ECC or CNC;
(c) The Commission or other implementing agencies with respect to orders, rules and regulations issued inconsistent with this Act; and/or
(d) Any public officer who willfully or grossly neglects the performance of an act especially required as a duty by this Act or its implementing rules and regulations; or abuses his authority in the performance of his duty; or, in any manner, improperly performs his duties under this Act or its implementing rules and regulations: Provided, however, That no suit can be filed until after thirty (30) days from notice given to the concerned public officer and the alleged violator or violators, and no appropriate action has been taken thereon.

Institutional Arrangements

93. In accordance with the Section 34, the NEPC is to be formed and will be responsible to carry out the policies herein set forth, and will be the primary government agency responsible for the implementation of this Act and the formulation of its implementing rules and regulations. It shall also be the lead agency in the conduct of environmental impact assessments and issuance of ECCs.

EIA Administration Fund

94. Section 46 suggested for establishment of an EIA Administration Fund to cover for administrative expenses, equipment purchases or leases and costs of other programs directly incurred in EIA review, assessment and monitoring. The Fund, which may be generated from various sources, shall entitle the donor or grantor thereof to corresponding exemption from income or gift taxes and all other related impositions by proper government agencies. All income likewise generated from fees, fines and penalties directly related to the implementation of the EIA System shall accrue to the Fund may be utilized directly by the Commission for the above purpose; Provided, That the Commission shall provide the proper guidelines for the sourcing, utilization and proper accounting of such funds; Provided further, That all information regarding the Fund, including, but not limited to, its transactions and its status shall be accessible to the public at any time. Section 47 also suggested for establishing Localized Management of EIA Fund and the Commission is made responsible to facilitate the creation of corresponding local structures and mechanisms for the localized sourcing and management of EIA administration funds.

4.3. EIA legislations and process in Canada

95. The Canadian Environmental Assessment Act of 2012 (CEAA 2012) and its regulations established the legislative basis for the federal practice of environmental assessment in most regions of Canada. CEAA (2012) came into force on 6 July 2012 and replaced the former

Canadian Environmental Assessment Act (1995). Environmental Assessment is defined as a planning tool to identify, understand, assess and mitigate, where possible, the environmental effects of a project.[49]The Act of 2012, offers an updated, modern approach that responds to Canada's current economic and environmental context. It implements central elements of the Government's plan for Responsible Resource Development to modernize the regulatory system and allow for natural resources to be developed in a timely and responsible manner. This overview provides details of CEAA (2012) as it applies to the Canadian Environmental Assessment Agency (the Agency).

Determination of Federal Environmental Assessment Requirement

96. Proponents must provide to the Agency a description of their proposed project if it is captured by regulations outlining projects likely to require federal environmental assessment. Upon receipt of the proponent's complete project description, the Agency has 45 days to determine if a federal environmental assessment will be required. This determination will be based on potential for environmental effects in areas of federal jurisdiction. This 45 day time limit includes a 20-day period during which the public is invited to provide comments.

97. Designated projects that are regulated by the Canadian Nuclear Safety Commission or the National Energy Board automatically require an environmental assessment by those regulators. Proponents of these projects are not required to submit a project description to the Agency. The Minister of the Environment may designate a project not identified in regulations if there is the potential for environmental effects in areas of federal jurisdiction or public concerns about such environmental effects.

Environmental Assessment by a Responsible Authority

98. The responsibility for conducting an environmental assessment rests with:[50]

- the Canadian Nuclear Safety Commission (for nuclear projects);
- the National Energy Board (for international and interprovincial pipelines and transmission lines); or
- the Canadian Environmental Assessment Agency (for all other designated projects).

[49] Canadian Environmental Assessment Act, 2012, S.C. 2012, c. 19, s. 52. An Act respecting the environmental assessment of certain activities and the prevention of significant adverse environmental effects

[50] Ibid, Section 15.

Review Panels

99. Within 60 days of the start of an environmental assessment, the Minister of the Environment may refer a designated project to an environmental assessment by review panel. A review panel is composed of experts with knowledge and expertise in the relevant field with the defined responsibility of assessing a project that may cause significant adverse environmental effects. A joint review panel may also be established in provinces with same jurisdiction. Review panels are required to hold public hearings and must do so in a manner that allows interested parties that are directly affected or that have relevant information or expertise the opportunity to participate. The panel must also consider written comments from the public and provide a summary of any comments received in its report. A review panel submits its report and recommendations to the Minister of the Environment.[51]

Timelines

100. The following timelines for the government to complete its work are set by CEAA (2012):

- 365 days from the commencement of an environmental assessment by the Agency to the final environmental assessment decision; and
- 24 months for an assessment by review panel from the time of referral to the final environmental assessment decision. The Minister will set project-specific timelines for each phase of the review panel process.

101. The Minister may extend these timelines for up to three months to enable cooperation with other entities or because of the special nature of the project. The federal Cabinet can extend timelines beyond the three months. The Minister must terminate a review panel that fails to meet its deadline, and may also terminate a review panel when he or she is of the view that it is not likely to meet its deadline. In both cases, the Agency is required to complete the environmental assessment. Timelines apply to government and panel activities and not to the periods of time required for the proponent to gather information needed to complete the environmental assessment.

Public Participation[52]

102. CEAA (2012) provides opportunities for public participation throughout the environmental assessment process:

- There is a new comment period in the initial steps when the Agency is determining whether an environmental assessment is required.
- An opportunity for public participation is provided during the conduct of all environmental assessments.
- The public is provided opportunities to comment on the draft environmental assessment report for projects assessed by the Agency.
- Review panels will be required to hold public hearings during which interested parties can participate. Panels also consider all written comments from the public.
- The Agency continues to provide funding to facilitate the participation of the public. Funding is received through the Agency's Participant Funding Program.

[51] Ibid, Section 38.
[52] Section 24, Canadian Environmental Assessment Act, 2012.

Internet site

103. Key project information and documents related to an environmental assessment are accessible to the public on the Canadian Environmental Assessment Registry Internet Site (CEARIS), such as:

- a summary of the proponent's project description;
- a notice that an environmental assessment has commenced;
- notices requesting public input;
- the factors that will be considered in the environmental assessment;
- the findings of the environmental assessment;
- consultation documents; and
- the decision statement.

Federal-Provincial Integration

104. If the Minister of the Environment is satisfied that the substantive requirements of CEAA (2012) can be met by a provincial process and if that province requests it, he or she must allow for the substitution of the federal environmental assessment process by the provincial process. The Minister of the Environment would make a decision about the project using the environmental assessment report prepared by the province. The federal Cabinet may exclude a designated project from application of CEAA (2012) if it determines that a province will undertake an equivalent assessment.

Cooperation and Communication with Aboriginal Peoples

105. Cooperation and communication with Aboriginal peoples with respect to environmental assessment is a key component of CEAA (2012). The definition of "environmental effects" includes provisions that explicitly relate to Aboriginal peoples and environmental effects that cause changes to their:

- health and socioeconomic conditions;
- physical and cultural heritage;
- current use of land and resources for traditional purposes; or
- structures, sites or things that are of historical, archaeological, paleontological or architectural significance.

106. Starting environmental assessments early in the planning of a project will assist the Government of Canada in discharging its legal duty to consult and, if appropriate, accommodate Aboriginal peoples when the Crown contemplates conduct (associated with designated projects) that might adversely impact existing or potential Aboriginal and treaty rights. To support Aboriginal engagement in environmental assessment and consultation, funding will be available through the Agency's Participant Funding program.

Decision-making and Enforcement

107. At the end of an environmental assessment, the Minister of the Environment determines whether the project is likely to cause significant adverse environmental effects, taking into account mitigation measures that were identified during the environmental assessment. If it is determined that a project is likely to cause significant adverse environmental effects, the federal Cabinet will then decide whether these effects are justified in the circumstances. A decision

statement is issued that sets out the decision and associated conditions with which the proponent must comply.

108. Failure to fulfill the conditions in a decision statement is a violation of CEAA (2012). Enforcement officers will verify compliance and the Minister may also seek an injunction to stop activities that violate CEAA (2012) or to prevent such violations. Contraventions of the CEAA (2012) can result in fines ranging from $100,000 to $400,000.

Follow-up Programs

109. Follow-up programs are mandatory after all environmental assessments. These programs are intended to verify the accuracy of the predictions regarding potential environmental effects and to determine if mitigation measures are working as intended.

Regional Studies

110. The Minister of the Environment has authority to establish a committee to conduct regional studies - a regional environmental assessment - for regions that are entirely composed of federal lands. The Minister may also establish a committee jointly with another jurisdiction or jurisdictions to conduct a regional study for regions outside federal lands.

Federal Lands

111. For projects on federal lands that are not designated projects, CEAA (2012) requires that before federal authorities make any decision that would allow a project to proceed, they must determine whether a project is likely to cause significant adverse environmental effects. Federal authorities will report annually to Parliament on the actions taken to fulfill this obligation. Projects outside Canada that receive federal funding or where the Government of Canada is the proponent are subject to this same standard.

Transition Provisions

112. Review panels started under the former *Canadian Environmental Assessment Act* (the former Act) will continue its functions in accordance with the new provisions of CEAA (2012). Comprehensive studies started under the former Act will continue to follow the requirements of the former Act. Those commenced after July 2010 must also be conducted in accordance with the *Establishing Timelines for Comprehensive Studies Regulations* (365 days of government time from the posting of the notice of commencement until posting of the comprehensive study report for public comment). For those commenced before July 2010, the comprehensive study report must be submitted to the Minister of the Environment no later than six months after the day on which CEAA (2012) came into force. Screening-type assessments of projects designated by the Minister must be completed under the former Act within 365 days of the coming into force of CEAA (2012). Screening-type assessments of projects not designated are no longer required when CEAA (2012) comes into force.

4.4. EIA legislations and process in European Union (EU)

113. European Union Directive (85/337/EEC) on Environmental Impact Assessments (known as the *EIA Directive*)[53] was first introduced in 1985 and was amended in 1997. The directive

[53]Council Directive 85/337/EEC on the Assessment of the Effects of Certain Public and Private Projects on the Environment

was amended again in 2003, following EU signature of the 1998 Aarhus Convention, and once again in 2009. The initial Directive of 1985 and its three amendments have been codified in Directive 2011/92/EU of 13 December 2011.[54] In 2001, the issue was enlarged to the assessment of plans and programs by the so-called Strategic Environmental Assessment (SEA). Directive (2001/42/EC), this is now in force. Under the EU directive, an EIA must provide certain information to comply[55] and there are seven key areas that are required:

1. Description of the project
   - description of actual project and site description
   - break the project down into its key components, i.e. construction, operations, decommissioning
   - list all of the sources of environmental disturbance for each component
   - all the inputs and outputs must be listed, e.g., air pollution, noise, hydrology for each component

2. Alternatives that have been considered
   - Examine alternatives that have been considered (e.g. in a biomass power station, will the fuel be sourced locally or nationally?)

3. Description of the environment
   - List of all aspects of the environment that may be affected by the development (e.g. populations, fauna, flora, air, soil, water, humans, landscape, cultural heritage)
   - This section is best carried out with the help of local experts, e.g. the RSPB in the UK

4. Description of the significant effects on the environment
   - The word significant is crucial here as the definition can vary.
   - 'Significant' needs to be defined
   - The most frequent method used here is use of the Leopold matrix
   - The matrix is a tool used in the systematic examination of potential interactions (e.g. in a wind farm a significant impact may be collisions with birds)

5. Mitigation
   - This is where EIA is most useful.
   - Once Section 4 has been completed it will be obvious where the impacts will be greatest
   - Using this information ways to avoid negative impacts should be developed
   - Best working with the developer with this section as they know the project best
   - Using the wind farm example again construction could be out of bird nesting seasons

[54] Directive 2011/92/EC of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment
[55] Directive 2001/42/EC of the European Parliament and of the Council

6. Non-technical summary (EIS)
   - The EIA will be in the public domain and be used in the decision making process.
   - It is important that the information is available to the public.
   - This section is a summary that does not include jargon or complicated diagrams.
   - It should be understood by the informed lay-person.

7. Lack of know-how/technical difficulties
   - It determines any areas of weakness in knowledge.
   - It can be used to focus areas of future research.
   - Some developers see the EIA as a starting block for poor environmental management.

Annexed projects

114. All projects are either classified as Annex 1 or Annex 2 projects. Those lying in Annex 1 are large-scale development projects such as motorways, chemical works, bridges, power stations etc. These always require an EIA under the Environmental Impact Assessment Directive (85, 337, EEC as amended). Annex 2 projects are smaller in scale than those referred to in Annex 1. Member States must determine whether these projects shall be made subject to an assessment subject to a set of criteria set out in Annex 3 of codified Directive 2011/95/EU.

4.5. EIA guidelines of International Organizations

4.5.1. EIA and Environmental Safeguard Policies and Procedures of World Bank

115. The World Bank (WB) requires that the activities it supports meet a variety of policies, including environmental safeguards. The WB's requirements for environmental and social safeguards are described within its operational policies (OPs). The WB applies a set of 10 safeguard OPs to ensure that potentially adverse environmental, social and legal consequences are recognized, minimized and mitigated at an early stage in project development. These policies receive particular attention during all project and/or loan preparation and approval processes. The key safeguard policy relating to environment is OP 4.01 on environmental assessment and it elements are described below:
Environmental Assessment

116. WB Operational Policy 4.0, related to EIA, intends to ensure projects proposed for financing are environmentally and socially sound and sustainable. It also wants to inform the decision makers on the nature of environmental and social risks involved in the project, so that national policy makers can take required effective measures in response. Importantly, WB Policy on EIA aims to increase transparency and participation of all project-affected people in the decision making process. In addition, the WB Operation Policy 4.01 provides guidance on its environmental assessment requirements within its *Environmental Assessment Sourcebook (Washington D.C., World Bank, 1991)* and subsequent updates, and in its *Pollution Prevention and Abatement Handbook, (Washington D.C., World Bank, 1998).*

117. The WB uses a screening approach which considers each project on a case by case basis and takes account of the sensitivity of the environment within which the project is being undertaken. For Category A projects, the WB requires a field mission to be undertaken, project affected people and local NGOs to be consulted and their views taken into account during

preparation of the ToR for a Category A EIA study. The World Bank must also approve the ToR of Category A EIA studies before they start the EIA study For the EIA report preparation, the World Bank requires that independent experts, not affiliated with the project, carry out the EIA study for Category A projects.

118. In terms of public consultation, the WB makes, either explicitly or implicitly, their requirements for public consultation including consultation with local residents or project-affected people. The views obtained from such consultations must be reflected in environmental safeguards documentation and will be taken into account in project decision making by the WB.

119. Information Disclosure. The WB requires that the public, including project-affected people or local residents, are provided with sufficient information about the project and its impacts to enable them to take part in meaningful consultation. The WB also requires that completed environmental safeguard documentation is made available to the public for up to 120 days before the WB will consider Category A or B projects or loans for approval.

Involuntary Resettlement

120. WB Operation Policy 4.12 intends to avoid or minimize involuntary resettlement and related economic disruption, including loss of livelihood. It provides the scope of transparent compensation procedures for the involuntary acquisition of land and other assets, so that people can resettle in a manner which provides them with sufficient investment resources and opportunities to share for the benefits of the project. This Policy would like to restore or improve the living standards of the project affected peoples and resettlement planning and mitigation measures are undertaken in consultation with affected people and through a participatory approach.

4.5.2. EIA and Environmental Safeguard Policies of Asian Development Bank (ADB)

121. ADB's Safeguards Policy Statement (SPS) 2009, endowed with the safeguard requirements on environment protection and the EIA process and the relevant provisions as follows:

Environmental Impact Assessment (EIA)

122. Depending on the significance of the project impacts and risks, the assessment may comprise a full-scale EIA for Category A projects and an IEE or equivalent process or a desk review is required for category B projects in accordance with the Safeguard Requirements One of ADB's SPS (2009). An EIA report is prepared with the inclusion of the following elements: (i) executive summary; (ii) description of the project; (iii) description of the environment (with comprehensive baseline data); (iv) anticipated environmental impacts and mitigation measures; (v) analysis of alternatives; (vi) environmental management plan(s); (vii) consultation and information disclosure; and (viii) conclusion and recommendations. The annex to this appendix provides further details. An IEE, with its narrower scope, may be conducted for projects with limited impacts that are few in number, generally site-specific, largely reversible, and readily addressed through mitigation measures.[56]

[56] ADB's Safeguards Policy Statement (SPS), 2009, Requirement D, 1. Environmental Assessment, para 9.

Environmental Planning and Management

123. The borrower/client will prepare an EMP that addresses the potential impacts and risks identified by the environmental assessment report. The EMP will include the proposed mitigation measures, environmental monitoring and reporting requirements, emergency response procedures, related institutional or organizational arrangements, capacity development and training measures, implementation schedule, cost estimates, and performance indicators. Where impacts and risks cannot be avoided or prevented, mitigation measures and actions will be identified so that the project is designed, constructed, and operated in compliance with applicable laws and regulations and meets the requirements specified in this document. The documents will be comprised of all the details and the complexities involved in the process. The priority of the identified measures and actions must commensurate the project's impacts and risks. Key considerations include mitigation of potential adverse impacts to the level of "no significant harm to third parties, the polluter pays principle, the precautionary approach, and adaptive management.[57]

Compensatory Measures

124. If some residual impacts are likely to remain significant after mitigation, the EMP will also include appropriate compensatory measures (offset) that aim to ensure that the project does not cause significant net degradation to the environment. Such measures may relate, for instance, to conservation of habitat and biodiversity, preservation of ambient conditions, and greenhouse gas emissions. Monetary compensation in lieu of offset is acceptable in exceptional circumstances, provided that the compensation is used to provide environmental benefits of the same nature and is commensurate with the project's residual impact.[58]

Information Disclosure

125. The borrower/client will submit to ADB the following documents for disclosure on ADB's website (i) a draft of full EIA (including the draft EMP) at least 120 days prior to ADB Board consideration, and/or environmental assessment and review frameworks before project appraisal, where applicable; (ii) the final EIA/IEE; (iii) a new or updated EIA/IEE and corrective action plan prepared during project implementation, if any; and (iv) the environmental monitoring reports.[59]

Consultation and Participation

126. The borrower/client will carry out meaningful consultation with affected people and other concerned stakeholders, including civil society, and facilitate their informed participation. Meaningful consultation is a process that (i) begins early in the project preparation stage and is carried out on an ongoing basis throughout the project cycle; (ii) provides timely disclosure of relevant and adequate information that is understandable and readily accessible to affected people; (iii) is undertaken in an atmosphere free of intimidation or coercion; (iv)gender-inclusive and responsive, and tailored to the needs of disadvantaged and vulnerable groups; and (v) enables the incorporation of all relevant views of affected people and other stakeholders into decision making, such as project design, mitigation measures, the sharing of development benefits and opportunities, and implementation issues. Consultation will be carried out in a

[57] Ibid Para 12.
[58] Ibid, Para 13.
[59] Ibid, Para 17.

manner commensurate with the impacts on affected communities. The consultation process and its results are to be documented and reflected in the environmental assessment report.[60]

Monitoring and Reporting

127. The borrower/client will monitor and measure the progress of implementation of the EMP. The project's risks and impacts will be commensurate by the extent of monitoring activities. In addition to recording information to track performance, the borrower/client will undertake inspections to verify compliance with the EMP and progress toward the expected outcomes. For projects likely to have significant adverse environmental impacts, the borrower/client will retain qualified and experienced external experts or qualified NGOs to verify its monitoring information. The borrower/client will document monitoring results, identify the necessary corrective actions, and reflect them in a corrective action plan. The borrower/client will implement these corrective actions and follow up on these actions to ensure their effectiveness.

128. The borrower/client will prepare periodic monitoring reports that describe progress with implementation of the EMP and compliance issues and corrective actions, if any. The borrower/client will submit at least semiannual monitoring reports during construction for projects likely to have significant adverse environmental impacts, and quarterly monitoring reports for highly complex and sensitive projects. For projects likely to have significant adverse environmental impacts during operation, reporting will continue at the minimum on an annual basis. Such periodic reports will be posted in a location accessible to the public. Project budgets will reflect the costs of monitoring and reporting requirements.[61]

Unanticipated Environmental Impacts

129. Where unanticipated environmental impacts become apparent during project implementation, the borrower/client will update the environmental assessment and EMP or prepare a new environmental assessment and EMP to assess the potential impacts, evaluate the alternatives, and outline mitigation measures and resources to address those impacts. It also provided the detail outlines of an EIA, under Environmental Impact Assessment Guidelines (2003).

[60] Ibid, Para 19.
[61] Ibid, Para 21.

CHAPTER FIVE

5. Comparative Analysis on Best Practices of EIA and Legal and Policy Frameworks

130. Chapter Four identified the best practices on EIA and discussed related provisions of legal and policy instruments of some of the countries and international financial institutions (WB and ADB). Chapters two and three provided critical analyses on legislative and administrative arrangements on EIA in Bangladesh and identified the scope, gaps and limitations in order to update the existing EIA regulations. This section provides a comparative analysis on best practices in Bangladesh regulations in line with the EIA framework of other institutions. Ultimately, this section aims to provide insights into the development of a potential regulatory regime on EIA in Bangladesh.

Legal Frameworks for EIA

131. In Bangladesh, the ECA (1995) provides a broader environment regulatory legislation mandates for EIA within the context of obtaining ECC, and was supplemented by the Environment Conservation Rules (1997), which provided procedural mechanisms for EIA. In India, the EIA was introduced under broader environmental legislation called The Environmental (Protection) Act of 1986. Further, the Rules of 1986 provided the scope of issuing a particular notification as regards obtaining an ECC. The EIA Notification of 2006 provided the detailed EIA process and procedure in India. In the Philippines, the EIA of 2007 was enacted in order to enhance the EIA system. Similarly, in Canada, the Canadian Environmental Assessment Act 2012 (CEAA 2012) and its regulations established the legislative basis for EIA regulation in Canada. The European Union (EU) also adopted a particular Directive (European Union Directive-85/337/EEC on Environmental Impact Assessments) to provide guidance to its member countries. Financial Institutions like WB and ADB also adopted specific policies on environmental regulations and EIA. These policies receive considerable attention during loan preparation and approval processes.

Screening/ Criteria and procedure for determining which project require EIA

132. In Bangladesh, the ECR (1997) provides for project classification into four categories which include (a) Green, (b) Amber–A, (c) AmberB, and (d) Red. Only the industrial units and projects fall under the red category which requires submission of the EIA Report in line with the issuance of an ECC. In India, Sections 2 and 3 of the Notification issued in 2006 lists all new projects or activities (in the Schedule) and, based on set parameters, identified Category A and B. Category A needs the EIA report for obtaining the ECC. Category ‘B’ projects and activities in India require screening at the State level by the SEIAA. Category B projects or activities, which need to prepare an EIA report, will be re-categorized as B1.

133. The EIA of 2007 in the Philippines lists the projects or activities into five types where the Commission shall review and update the current classification of programs and projects within the coverage of the System. In the EU, all projects are either classified as Annex 1 or Annex 2 projects. Annex 1 covers large-scale development projects, such as motorways, chemical works, bridges, power stations, etc. These always require an EIA under the Environmental Impact Assessment Directive (85,337, EEC as amended). Annex 2 covers projects that are smaller in scale. Member States must determine whether these projects shall be made subject to an assessment, subject to a set of criteria set out in Annex 3 of codified Directive

2011/95/EU. World Bank and ADB also categorized the projects. The WB and ADB also use a category for screening process as to identify the EIA requirement.

Scoping

134. In Bangladesh, after screening, the developer is required to prepare an IEE, which is then reviewed by the DoE. After review, it is determined whether or not a full EIA is necessary. Proponent submits the ToR for preparing an EIA report and the DoE approves the ToR. In India, EACs at the Central Government and the SEIAA at the State or the Union territory level scope and appraise projects or activities in Category 'A' and Category 'B' respectively. In the Philippines, the Commission reviews the scoping report submitted by the proponent and, after consultation with the latter and the community, determines the actual scope of the EIS. In determining the scope of the EIS, the Commission shall take into account the concerns and the recommendations of stakeholders. For Category-A projects, the WB requires a field mission to be undertaken. Project-affected people and local NGOs are consulted and their views taken into account during preparation of the ToR for a Category "A" EIA study.

Format and requirement of EIA report

135. In Bangladesh, there is no legal mandate for an EIA report as regards format and requirements. In practice, after a ToR is drafted by the proponent and submitted to the DoE for review and approval, the proponent prepares an EIA report using WB guidelines. In India, the EAC or SEAC concerned shall determine the ToR on the basis of the information furnished in the prescribed application forms. The EIA report's general structure is enclosed as Appendix 3 in the EIA Notification of India (2006). Section 10 of the EIA Act of the Philippines (2007) provided the detail list for preparing EIS. The Commission shall promulgate the rules and regulations necessary to effectively implement the procedure by which an EIS is required, produced and assessed in Philippines. In Canada, designated authorities include the Canadian Environmental Assessment Agency is responsible for providing guidance for EIA report preparing. EU *Directive* (2001/42/EC) requires providing certain information to comply in the EIA report preparation. The WB requires that independent experts, not affiliated with the project, carry out the EIA study for Category A projects. EU directive provided seven key areas that are required for preparing EIA report by member countries. ADB's SPS (2009) provides specific guidance and format for preparing the EIA report.

Public Consultation

136. In Bangladesh, there is no clear legal mandate for public consultation under the EIA process. The ECR 1997 does not have any provisions for consultation with the project-affected people or other stakeholders. The only requirement for consultation is with the DoE and other departments during the preparation of the IEE and draft EIA report. However, if the project requires financial assistance from foreign donors or lenders, an extensive consultation of the project affected people and stakeholders are being conducted per the requirement of donors and lenders. In India, the public consultation ordinarily has two components, namely:

(a) a public hearing at the site or in its close proximity – district-wise, to be carried out in the manner *prescribed in Appendix 4*, for ascertaining concerns of local affected persons; and
(b) written responses from people with a plausible stake in the environmental aspects of the project or activity.

137. The public hearing at, or in close proximity to, the site(s), are conducted by the SPCB or the UTPCC. Proceedings are forwarded to the relevant regulatory authority.

138. In the Philippines, the EIA Act of 2007 ensures the direct and meaningful participation of affected communities and concerned sectors. It also requires the social acceptability of the project, in the form of Free and Prior Informed Consent of affected persons or communities. Project proponents conduct the public consultations, similar to scoping sessions. After scoping and the submission of the formal scoping report, a series of public consultations is initiated by the Commission to determine the social acceptability of the project. For this purpose, a *multisectoral committee* shall be created for the project to assist the Commission in ensuring that the requisite consent of affected persons or communities is obtained consistent with guidelines issued for such purpose. Section 24 of the CEAA (2012) requires public participation in order to provide opportunities for public participation throughout the environmental assessment process. ADB's SPS (2009) requires carrying out meaningful consultation with affected people and other concerned stakeholders, including civil society, and facilitating their informed participation.

Review of EIA, decision making process and institutional arrangements

139. In Bangladesh, the draft EIA Report needs to be submitted to DoE for review and comments. The draft report is revised based on comments during review, and submitted for approval. Authorization for the construction of the development project is then issued. EIA legislation in Bangladesh does not provide any guidance on the review process, procedure and institutional structures. Indian legislation requires the EAC or SEAC to review the Final EIA report and outcome of the public consultations including public hearing proceedings, submitted by the applicant to the regulatory authority concerned with the issuance of an environmental clearance. In the Philippines, the EIA Act of 2007 made responsible the NEPC as the lead agency in the conduct and review of EIAs and issuance of ECCs. In Canada, a review panel is composed of experts with knowledge and expertise selected to assess a designated project that may cause significant adverse environmental effects.

Continuing monitoring and compliance

140. Neither the ECA, 1995 (amended in 2010) nor the ECR (1997) provides the process and procedure for monitoring post-project establishment activities. However, the ECC itself provides terms and conditions with regard to the proponents' obligation for environmental monitoring and monitoring report submission to the DoE. In India, Section 10 of the Notification of 2006 requires the project management authority to submit half-yearly compliance reports in respect of the stipulated prior environmental clearance terms and conditions in hard and soft copies to the regulatory authority concerned on 1st June and 1st December of each calendar year. Canadian Environmental Assessment Act (2012) requires mandatory follow-up programs after all environmental assessments. These programs are intended to verify the accuracy of the predictions regarding potential environmental effects and to determine if mitigation measures are working as intended. EIA Act of 2007 in the Philippines, (Section 13) suggests for forming local monitoring bodies, by the Commission consisting of representatives from the regional or local office of the Commission, the local government unit having jurisdiction, local communities and stakeholders, that shall monitor the compliance of a project or projects to the terms and conditions set forth in the ECC.

Environmental Damage and Remedy

141. Section 7 of the ECA (1995) provides administrative and judicial options for remedial measures for non-compliance of post monitoring reports, which results into environmental harm. Moreover, Section 8 of the Environment Act provides an opportunity for a remedial claim by a person aggrieved or likely to be aggrieved due to environmental pollution or degradation before the DoE for remedying the damage or apprehended damage. Director General, on behalf of any person aggrieved, can file a case for compensation in the Environment Court in Bangladesh. In the Philippines, the EIA Act (2007) mandates the court to issue a temporary restraining order or a writ of preliminary injunction against any project which shall attempt to operate in violation of any provision of this Act or its implementing rules and regulations. For the purposes of enforcing the provisions of this Act or its implementing rules and regulations, any citizen may file an appropriate civil, criminal, or administrative action in the proper courts.

5.1 Key Findings and recommendations

142. After policy assessment, EIA examination and comparative analysis between the Bangladesh EIA system and other international institutions, a brief analysis on the key findings and a set of suggestions on the relevant aspects of prospective regulatory regime of EIA in Bangladesh are as follows:

(i) In the absence of maps and zoning ordinances, the formation of a Technical Review Committee will bring about the expertise needed to conduct IEE reviews and further scrutinizing of appropriate project sites in line with Location Clearance and ECC applications. For non-Red category projects, several practical aspects of environmental laws and policies of different countries and financial institutions, including the law of Philippines, provide ideals for replication. In terms of institutional aspects, the district administrative unit of DoE can act as lead agency in collaboration with the EIA Review Committee.

(ii) It is also suggested that the EIA Review Committee be established a national entity working in collaboration with the DoE on the EIA process. The Review Committee could be endowed with the following responsibilities, namely: (a) ToR approval for EIA report preparation; (b) facilitation of technical and public consultations; (c) public disclosure process monitoring; (d) environmental management review; and (e) determination of ECC conditions. Prescribed format needs to be adopted for related EIA process and procedures with the legal authority. Precedents of some other countries including India and financial institutions would be useful to structure and to define the functions of such Committee

(iii) This EIA Review Committee can also act as monitoring and compliance authority at the post environmental clearance in collaboration with district administrative unit of DoE. This EIA Review Committee can qualify the EIA consultant firms with due consideration of the professional expertise of the consultants and to recommend Department of Environment to enlist as qualified EIA Consultant Firms in the country.

(iv) The Environment Clearance Committee can be formed at Divisional and National levels to issue the ECCs based on the recommendations of the Technical

Review Committee for Screening and the EIA Review Committee for the non-red category and red category projects respectively.

143. While the EIA failed to avoid and mitigate environmental damage as a proactive response, administrative and judicial responses are required to address the residual damage. Remedial sanctions from administrative and judicial forums needs to be supported by effective methodologies of assessment of the damage and to determine the compensation and the corrective measures. This EIA Review Committee can assist the administrative and judicial forums to determine the losses and damages. However, common methodologies in the assessment of damage and determination of compensation and corrective measures need to be covered by a legal mandate.

144. EIA requirements and procedures are incorporated into environmental framework legislation in Bangladesh instead of a specific law on EIA. However, the recent amendment to the Environment Conservation Act, 1995 (as amended in 2010) provides the guidance to adopt detailed Rules on EIA. Article 20 (1) of the Environment Conservation Act (1995) provides Rule framing power to the MoEF to fulfill the purpose of the Act. The MoEF will take initiative to adopt the Rules in accordance with amended Environment Conservation Act (2010). In this light, the Environment Conservation Rules 1997 needs to be amended. At the same time, the MoEF can consider issuing a particular Gazette Notification on the EIA similar to India.

5.2 Concluding Remarks

145. Legislative, administrative and judicial mechanisms exist in Bangladesh to deal with environmental protection and conservation, which provide the scope to regulate the EIA process and procedure. However, further Rules and Regulations with appropriate institutional structure are needed to protect and conserve the environment and ecology using the EIA as an important tool. Critical analysis on existing mechanisms on EIA in Bangladesh along with laws and regulations of other countries and international financial institutions, endowed in this study provided the necessary guidance on proactive and reactive governance process of EIA, which will be useful for MoEF, Bangladesh for developing further regulatory regime on EIA. However, prior to drafting related provisions on EIA a holistic approach is needed and hence a comprehensive study would be useful on environmental safeguard mechanisms in Bangladesh.

APPENDIX 1: LEGAL INVENTORY OF POLICY AND LEGAL INSTRUMENTS RELATED TO ENVIRONMENTAL SAFEGUARDS AND EIA IN BANGLADESH

Legal instruments	Provisions related to environmental safeguard and EIA
The Constitution of Bangladesh, 1972	Yes
The Environment Conservation Act, 1995 (as amended in 2010)	Yes
The Environment Conservation Rules, 1997	Yes
Environment Court Act 2010	Yes
Water Act, 2013	Yes
Mega city, Divisional Town and District Town's municipal areas including country's all the municipal areas' playground, open space, park and natural water reservoir Conservation Act, 2000 (Known as Open Space Act, 2000)	Yes
The Building Construction Act, 1952	No
The Town Improvement Act, 1953	Yes
The Burning of Bricks (Control) Act, 1989	Yes
The Burning of Bricks (Control) Rules, 1989	Yes
The Bangladesh Petroleum Act, 1974	No
Ship breaking and Hazardous waste Management Rules, 2010 [Draft]	Yes
The Ground Water Management Ordinance, 1985	Yes
The water Resource Planning Act 1992	No
Water development Board Act, 2000	Yes
Upazila Parisad Act, 1998	Yes
The Acquisition and Requisition of Immovable Property Ordinance, 1982	No
Territorial Water and Maritime Zones Act, 1974	No
The Factories Act, 1965	Yes
The Private Forest Ordinance, 1959	No
The Forest Act, 1927	No
The Government Fisheries (Protection) Ordinance, 1959	No
The Displaced Persons (Land Settlement) Act,	No
The Wildlife Act, 2013	Yes
The Protection and Conservation of Fish Act, 1950	Yes
The Highways Act, 1925	No
The mines Act, 1923	No
The Public Parks Act 1904	No
The Environment Policy, 1992	Yes
The Water Policy, 1999	Yes
The National Energy Policy, 2005	Yes
The Forest Policy, 1979	Yes
The Fisheries Policy, 1998	Yes
The Coastal Zone Policy, 2005	yes
EIA Guideline for Industries, 1997	Yes
National Biodiversity Strategy and Action Plan for Bangladesh, 2004	Yes

Appendix 3: Capacity Assessment report on EIA Implementation and Processing in Bangladesh

Diagnostic Study Report on Environmental Impact Assessment and Its Implementation and Processing

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Md. Rakibul Haque
Capacity Development Specialist

Table of Contents

Abbreviation

ADB	Asian Development Bank
BAN	Bangladesh
CSS	Country Safeguards System
DG	Director General
DoE	Department of Environment
EA	Environment Assessment
ECA	Environment Conservation Act
ECC	Environment Clearance Certificate
ECR	Environment Conservation Rules
EIA	Environment Impact Assessment
ECA	Ecologically Critical Area
EU	European Union
FAP	Flood Action Plan
GoB	Government of Bangladesh
GTCL	Gas Transmission Company Limited
IEE	Initial Environment Examinations
LGED	Local Government Engineering Department
MoEF	Ministry of Environment and Forest
NEC	National Environment Committee
RETA	Regional Technical Assistance
RIIP	Rural Infrastructure Improvement Project
SPS	Safeguard Policy Statement
TA	Technical Assistance

1. Overview

1. The environmental impact assessment (EIA) system in Bangladesh is still evolving. The existing system emerges through the development of relevant legal provisions, EIA process and implementation guidelines and monitoring and enforcement of an environmental mitigation plan. An EIA report, the nucleus of an EIA system, describes the EIA process of a proposed project and the environment affected, forecasts the significant impacts likely to result from the implementation of the actions proposed and present an Environmental Management Plan (EMP) for mitigating the predicted impacts.

2. Apparently, there are both strengths and weaknesses in the EIA system of Bangladesh. The notable strengths are:

- development of policy framework that declared EIA compulsory in Bangladesh for certain industrial operations and projects;
- preparation of sectoral EIA guidelines, although inadequately used;
- development of institutional structure within the DoE to supervise developers and proponents in the preparation of EIA reports;
- review of EIA reports by the Department of Environment (DoE) for environmental clearance of the proposed project and approval of environmental management plan.

3. Weaknesses and shortcomings that have led to a weak EIA system in Bangladesh include inadequate legislations, procedural gaps, lack of statutory EIA guidelines and manual, lack of capacity of EIA practitioners, insufficient resource allocation for EIA purpose and poor enforcement against violations.

4. The subproject “BAN: Strengthening Environment Impact Assessment System and its Implementation practices” under the RETA 7566: ‘Strengthening and use of Country Safeguards System’ aims at improving the implementation of the country’s EIA system by formulating an EIA Manual and updating the existing EIA guidelines for two priority sectors. To understand the existing practice of EIA processing and implementation, this sub-project has undertaken capacity assessment diagnostic study with particular focus on two projects, one of which is from the ‘road’ sector and another from ’gas’.

5. This diagnostic report presents the strengths and opportunities of the existing EIA system and finds out gaps and weaknesses that make the system ineffective in protecting the environment from the ever growing development projects and industrial operations in Bangladesh. This report, in consultation with experts, has also identified actions and measures that should be implemented to eliminate the gaps and weaknesses emanating from the CSS in order to transform the EIA system into an effective one.

2. Methodology

6. The diagnostic study on EIA capacity assessment includes analysis and review of primary and secondary data, consultation with EIA experts through workshops and project site visit for field observation. For secondary literature review, environmental laws and regulations in

Bangladesh, academic and EIA related project documents, and international best practices for EIA have been reviewed and utilized in relevant parts of this report as reference.

7. The TA team, in consultation with the DoE and the Asian Development Bank (ADB), has identified two representative projects, one from the road and another from the energy sectors to conduct a capacity assessment diagnostic research specifically related to EIA processing and implementation procedures. The Second Rural Infrastructure Improvement Project (RIIP-2) of Local Government and Engineering Department (LGED)[1] has been selected as the road sector project and from gas sector, while the Monohordi-Dhanua-Elenga-East bank of Jamuna project of the Gas Transmission Company Limited (GTCL)[2] has been chosen (*please see the dotted red line inside the blue area in Figure 1*) for the gas sector. The TA team organized focus group meetings with the project directors, engineers and other concerned staff employed in sector department offices, both at the national level and field offices.

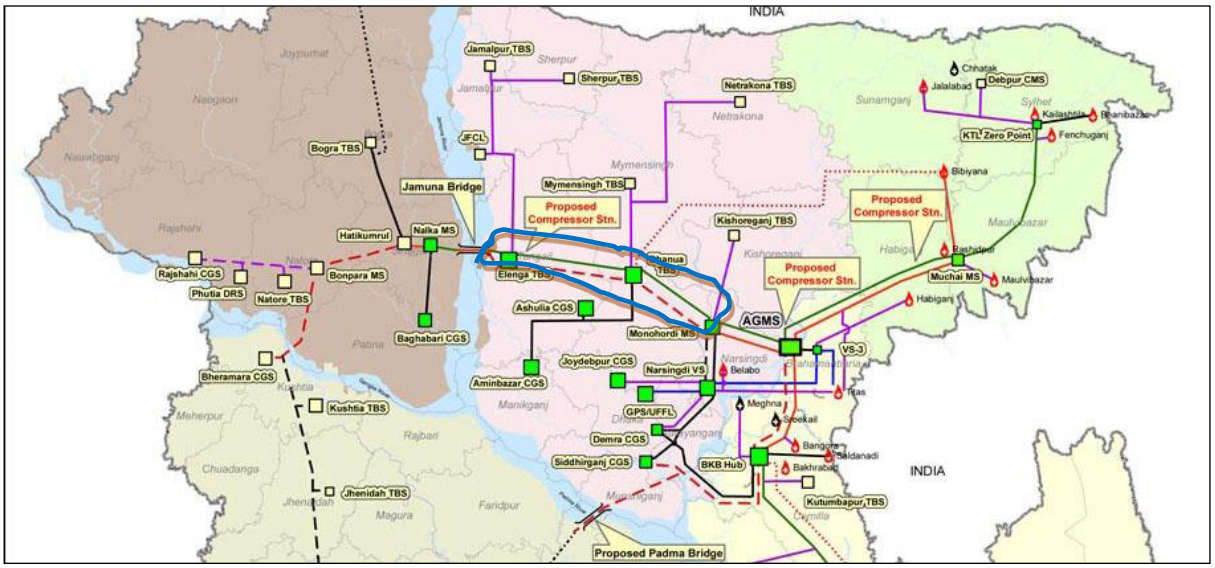

Figure 1: Monohordi-Dhanua-Elenga-Jamuna River East Bank gas transmission pipeline of GTCL

8. To observe environmental management in the field, the TA team, including staff from the DoE, visited the Monohordi to Dhanua gas pipeline intersection on 14 February 2012. The team conducted meetings and focus group discussions (FGDs) with the GTCL field staff and the community people at Monohordi and Dhanua Gas Metering Manifold Station, as well as the affected community people found along the stretch of the pipeline. For FGD, a list of specific questions was used, attached as Annex 1. Through a different drive on 20 February 2013, the team visited the RIIP2 site at Raipura Upazila of Narshingdi district and conducted meetings with the LGED Executive Engineer in Narshingdi and concerned Upazila engineers responsible for environmental management at the field level. In addition, the TA team conducted several meetings with the Project Director, project engineers, environmental staff of the LGED and

[1] Local Government Engineering Department (LGED) is a public sector organization under the ministry of Local Government, Rural Development & Cooperatives. The prime mandate of LGED is to plan, develop and maintain local level rural, urban and small scale water resources infrastructure throughout the country.

[2] Gas Transmission Company Limited (GTCL) is a company of Petrobangla dedicated to laying high pressure natural gas transmission pipeline across Bangladesh. GTCL works under the Energy and Mineral Resources Division of the Ministry of Power, Energy and Mineral Resource of the Government of Bangladesh.

GTCL and also with concerned staff at the DoE involved with EIA report review and environmental clearance process.

9. The TA team has organized expert level consultative workshop in participation with the relevant staff and professionals from various public agencies implementing infrastructure development projects and for that conducting EIA. The participants included Project Director, managers, environmental staff, project engineers, consulting firms and civil society groups in Bangladesh. The DoE was co-organizer of the consultative workshop and has taken the lead in giving the technical presentation, moderating the panel discussion and providing other technical inputs. The participants reviewed the capacity needs assessment findings with respect to strengths and weaknesses of institutional arrangement for development and implementation of EIA system and helped upgrading the diagnostic reports.

Figure 2: Consultative at DoE with participation of stakeholders from relevant public agencies.

3. EIA Processing in Bangladesh

10. The EIA processing fundamentally includes various components of EIA such as, screening, scoping, environmental impact identification, alternatives, public consultation, planning of impact mitigation and report preparation. The quality of processing may vary with management and technical capacities of each individual agency, their environmental mandate and quality of consultants involved with EIA. Processing and implementation of proper environmental assessment is still a challenge in Bangladesh. This project has reviewed two sectoral projects – a high pressurized gas pipeline project of the Gas Transmission Company Limited (GTCL) and the a rural infrastructure improvement project of the LGED – as case studies for their documented environmental assessment activities with respect to processing.

Figure 3: Monohordi Gas Metering and Manifold Station. *Photo taken during field visit on 14/02/2013*

11. The GTCL is the government-owned company under the Petro

Bangla (Bangladesh Gas Oil Minerals Corporation) of the Ministry of Energy and Mineral Resources of the Government of Bangladesh dedicated to transmission of pressurized natural gas through pipelines across the country. The GTCL has laid around 900km of gas pipelines and there are several hundred kilometers pipelines proposed to be laid in near future. ADB consultants, GTCL's request, visited the Monohordi – Dhanua section of the Monohordi-Dhanua-Elenga-East bank of Jamuna Bridge – a 30 inch 103 km diameter Gas Transmission Pipeline project. The Monohordi-Dhanua section of pipeline was laid through cultivable land, roads, canals, rivers, forest and in rare cases homesteads. EIA documents and activities of the selected gas pipeline project were evaluated by the TA consultants.

12. The RIIP-2 of the LGED covers 23 districts in Dhaka, Chittagong and Rajshahi divisions of the country. Project component includes construction and expansion of roads, culverts, bridge, drains, village market, growth center, Union Parishad Complex and landing stations. Based on the project type, RIIP-2 has been identified as an 'Amber-B' category project under Schedule 2 of the Environment Conservation Rules (ECR) of 1997[3] of the DoE and Category 'B' of the ADB Environment Safeguard Policy. To understand the environmental assessment processing, project documents, including the initial environmental examination (IEE) report, was reviewed for evaluation of environmental assessment and implementation.

13. The LGED is one of the largest public agencies in the country with wide ranging planning and implementation capacity. LGED implements small to medium scale infrastructure projects in the rural and urban areas of the country. Projects include roads, bridge, culverts, bazaar, growth center, union parishad complex, irrigation project and many more.

Screening in EIA

14. The EIA process of any project starts from making the decision on the need for Environmental Assessment. The ECR (1997) has provided a list of projects and industrial operations under four categories, such as Green, Amber-A, Amber-B and Red and also defines the type of environmental assessment is required for each project or industry, i.e. whether an EIA is mandatory and/or an IEE is adequate or neither of the assessments is required. Thus, requirement for an environmental assessment is pre-defined depending on the project type and size. Although screening is done by the law, the DoE may suggest any particular environmental assessment procedure through an approved Terms of Reference (ToR).

15. At the screening stage when the environmental category of a project is identified (Red, Amber-B or Amber-A), the project for which environmental assessment is required should be described properly so that environmental impact can be adequately understood. For example, a rural road may be categorized as Amber-B as per ECR (1997), but when the same road includes a bridge, the road may impose diverse environmental impacts and hence the environmental category of this project may be changed to 'Red'. The screening process should encompass each activity that may have potential environmental impacts. The RIIP-2 project in Narsingdi district constructed a 1,500m road at Raipura Upazila with a category 'Amber-B'. As required by law, an IEE was conducted for the project. During the TA team's field visit, it was found that the road included a bridge (Panthasala Bridge) of 240m length to connect the Raipura Upazila with the rural char areas. According to ECR, 1997, any bridge constructed with a length of more than 100m falls under the Red Category. Holistically looking at the road project and other infrastructure components, the screening result would have been different and a full

[3] The Environment Conservation Rules, 1997

scale EIA would have been required. By doing an IEE, the project might have failed to identify potential environmental impacts and implement mitigation measures.

16. It was observed that the IEE report of the RIIP-2 Case Study was weak. Project and site descriptions given in the IEE report were too sketchy and excluded several important project activities. As a result, the DoE could not assess the correct level of the project's environmental impacts. The RIIP-2 IEE report considered very broad geographic location wise (e.g. Western Zone, Central Zone and Eastern Zone) site description that led to improper environmental impact identification of various activities of project. Due to improper environmental impact assessment of RIIP-2 project, this large project extended across Bangladesh for various infrastructure developments may lead to serious environmental problem. The earth filling along with construction works for Panthasala bridge (240m long) at Raipura constructed on Meghna river floodplain disconnected several water pockets which may have significant impacts on the aquatic lives particularly during dry season. As LGED defended the argument was that they constructed small culverts to ensure a functional fish pass especially during dry season. During field visit in March 2013, the TA team found the culvert half silted with mud and comprehended that the fish pass constructed has not been serving the purpose of fish migration.

Figure 4: Approach road of Panthasala bridge constructed on Meghna river flood plain. *Photo taken during field visit on 20/02/2013*

17. The pressurized gas pipeline project of GTCL is categorized 'Red' in the ERC 1997. As required under DoE Rules, an IEE and a detailed EIA were prepared by the GTCL consultant. Based on the screening of environmental impacts of projects, project categorization is pre-defined in the ECR 1997 schedule. Although screening is not a concern of proponents, the law requires that environmental assessment should be conducted based on the project's environmental category. Screening is important and should be considered from the very beginning of project design.

18. Screening in India. Screening of projects or activities in India is similar to Bangladesh. Category 'A' and Category 'B' projects, which are 'Red' and Amber in Bangladesh, are scrutinized in the Schedule I of the Notification 2006 adopted under the Environmental Protection Act of India (1986). For Category B projects, SEAC determines whether a project requires a detail EIA or not. Projects requiring an EIA will fall under Category B1 (termed as Category Amber-A in Bangladesh) and others will be under Category B2 (which is Amber-B in Bangladesh). For environmental screening of projects, the MoEF provides required legal guidelines from time to time. Screening procedure in the EIA process in India is as similar as it is practiced in Bangladesh.

Scoping in EIA

19. Scoping plays an important role in the overall EIA system. In the absence of a legal provision on scoping, an IEE serves the purpose of scoping for Amber B and Red category projects in Bangladesh. IEE aims to identify a project's significant environmental impacts. It also lays the groundwork for a more in-depth examination of the environment through the conduct of an EIA per advice from the Environmental Clearance Committee of the DoE. An IEE also aims to identify key alternative sites based on preliminary considerations of land type and site constraints, if any. During this stage, the project proponents include a ToR for a detailed EIA, methodology and plan for public consultation and participation in their IEE reports.

20. With instruction from the DoE, the proponent conducts a scoping analysis and the ToR for the EIA is then submitted to the DoE for review and approval. More often than not, however, the EIA reports end up containing information not contained in the TOR because of proponents' non-compliance with the provisions. Collection and analysis of information for an EIA needs resources and time. Oftentimes, potential impacts become diluted and are not highlighted amidst the bunch of other impacts which may not be as severe. This type of documentation causes difficulties in terms of determining the range of potential environmental impacts and, consequently, the outcome in the DOE's decision making process.

21. The IEE report of RIIP-2 has rendered the scoping of the study weak, failing to identify needed impact identification and their mitigation measures. The Panthasala Bridge constructed on the Raipura–Bashgari road is 240m long which needed a detailed EIA. The IEE report contained inadequate project description and avoided identifying potential project activities, thereby, disabling the consultant or the DoE from conducting proper screening, which affected the scoping process. It was observed that environmental impacts of the 240m long bridge remained unaddressed in the IEE report of the RIIP-2 project.

22. EIA Scoping in India. India has a similar practice for scoping, analysis and preparation and approval of ToR for the EIA report to be produced for any proposed projects. In India, concerned expert level appraisal committee determines the ToR of project on the basis of information furnished in the prescribed application form including a ToR developed by the proponent. Unlike the scoping case of Bangladesh, some specific projects and activities (such as Construction/Township/Commercial Complexes/Housing) listed in the Item 8 of the Schedule of Notification 2006 under the Environmental Protection Act 1986 are appraised on the basis of information given in the application form (Form 1/ Form 1A). Also, for some projects (such as Hydroelectric project) the Project Appraisal Committee conveys the ToR along with the clearance for pre-construction activities. Applications for prior environmental clearance for pre-construction activities may be rejected by the regulatory authority concerned based on the recommendation of the expert appraisal committee in the scoping stage itself. In case of such rejection, the decision, together with reasons, is communicated to the applicant in writing within sixty days of the receipt of the application.

23. In Bangladesh, scoping or an approved ToR, does not give any clearance to the proponents for starting pre-construction activities of any project. It may be mentioned here that site development is possible only upon presentation of site clearance certificate obtained from the local authority.

EIA as Part of the Project Cycle

24. Although the EIA is a planning tool for environmental management integration starting from the project planning, it is not always practiced in Bangladesh. As an ADB-funded project, the RIIP-2 case study was required to do an environmental assessment to comply with the ADB SPS. The LGED conducted an environmental assessment and identified mitigation plans right from the planning process. In comparison, Government of Bangladesh (GoB) funded infrastructure projects are mostly implemented without environmental assessment and impact mitigation planning during the project design and development phase. Environmental assessment, if not avoided, is only pursued at a later stage of project implementation (e.g. after finalization of site selection, opening Letter of Credit for importing machineries) only for the sake of obtaining an Environment Clearance Certificate (ECC). Very seldom is the EMP complied with and implemented by the proponent. This practice usually brings about lost opportunities, on the part of the developer, to adopt preventive measures to address adverse environmental project impacts.

25. The RIIP-2 case study falls under Category B under ADB SPS and Orange-B under the ECR, 1997 in Bangladesh. Based on environmental screening, ADB financed a TA project that conducted an IEE for the RIIP-2 project. Environmental assessment is a pre-requisite for ADB funding and for that reason, environmental assessment and mitigation measures are integrated as early as the planning process. This is not the case for Government funded projects in Bangladesh. Apart from the varying practice in relation to funding sources, the country's DoE does not have adequate manpower and resources to conduct site visits to all GoB projects for compliance and monitoring purposes. This happens not just in the case of LGED, but also that of other government implementing agencies such as Bangladesh Power Development Board (BPDB) and Roads and Highways.

26. In the case of GTCL, it has been observed that the GTCL Environmental Unit is systematic in planning and they are part of the core planning division of the agency. The integration of EIA in GTCL projects starts from the early parts of the project concept irrespective of the funding sources and the environmental requirements given by the funding agencies. In particular, site selection considers alternatives from the beginning so that environmental risks and liabilities can be reduced from the early stage of project development.

27. Proponents in practice consider the EIA merely as a documentary requirement in getting the ECC from the DoE. This has led to project planning usually devoid of the EIA component. Moreover, neither the proponent nor the DoE maintains any relation with each other during project planning. The only time they coordinate is when there is a serious environmental issue that may hamper environmental approval process in the future.

Data and Information

28. Relevant and reliable data and information are prerequisite in the preparation of a good quality EIA report. In Bangladesh, the environmental data needed to prepare an EIA report is often unavailable or inaccessible. These scenarios, at times, lead the proponents to fabricate data. Most of the government agencies of Bangladesh, including the DoE, lack information related to quality of water, air, biodiversity, flora and fauna. The collection of primary data is time consuming and needs resources. Therefore, many consultants mostly rely on secondary data as they can be gathered without much effort or, alternatively, on the data of the nearest place with similar environmental settings. Irrelevant, or unreliable, data results into poor baseline

condition and setting, consequently resulting into unrealistic prediction of impacts in the EIA report.

29. The RIIP-2 case study project has prepared the IEE report based on sample environmental and social data collected from representative sub-districts of selected 23 districts in Bangladesh. Data representation is a potential area of concern particularly for RIIP-2 because of the diversity in geophysical, socio-economic and ecological systems of the districts situated across the country. The environmental impacts cited in the IEE report of RIIP-2 project were generic in nature. Generalization of environmental impacts leads to improper identification of potential environmental hazards that may cause serious environmental threats. While primary and secondary data have been used in the preparation of the detailed EIA for the gas transmission project for Monohordi-Dhanua-Elenga pipeline, data quality and analysis of environmental impacts may be considered satisfactory.

Figure 5: A rural road with a culvert in Narayanpur Union Parishad of BelaboUpazila in Narsigndi constructed under RIIP-2 of LGED. *Photo taken during field visit on 20/02/2013.*

Deployment of EIA Consultants

30. Both private and government sectors are heavily dependent on environmental consultants in preparing EIA reports to assess development projects. These consultants are often not integrated into the main project and/or design teams and, therefore, lack the required information on various project components e.g. detail project description, process type, raw materials, type and quantity of waste generation, disposal options, alternatives, etc. As a result, the EIA may not portray a full picture of the project and can potentially lead to misjudgment of the impacts and consequent inadequate mitigation measures. Lack of relevant qualifications and experience amongst the environmental consultants is also of major concern. Failure to collect adequate information combined with incompetency on the part of the consultants can result into a poor quality EIA which could have been avoided by working in close association with the project team and proponent's dedicated environmental staff.

31. Furthermore, external consultants are usually contracted out after EIA preparation, which hinders proper EIA implementation, particularly the EMP. For the RIIP-2 project, environmental consultants were deployed by the ADB to conduct the IEE. After the IEE was finished, so did the consultant team's contract. Apart from the IEE report used as reference, there was no proper turnover of knowledge acquired during environmental assessment from the consultant team to the project staff onsite. Therefore, when the Environmental Specialist was recruited under RIIP-2, his work covered environmental management issues and implementation of mitigation measures.

Tender Document and Environmental Management

32. Public agencies in Bangladesh procure contractors for project implementation per their respective business rules. The tender document that contains project description, working plan, terms of reference, compliance and conditions is a Manual for implementation of the project activities. Regrettably, in most cases, the EMP is not referred to in the tender document to address environmental issues by the project contractor. It was evident in both the GTCL and LGED projects. Tender documents included a measly section on environmental safety hindering implementation of EMP during construction phase by the contractor. Through this process, the contractor is not strictly obliged to follow the EMP.

33. To involve the project contractor in the proper implementation of environmental issues, tender documents should include the EMP for ready reference of the contractor during construction period. In addition, the contractor should be trained on the EMP implementation before starting project implementation.

Alternatives in EIA

34. Alternatives, as a means of preventing negative environmental impacts, are least considered in the EIA of Bangladesh. As Ogunba 2004,[4] along with others, considers that *'a practical examination of alternatives to the project in the assessment is central to any good EIA system*." Only a few proponents in Bangladesh, however, have given proper attention to alternatives in the EIA process. The ECR (1997) has not mentioned alternatives as mandatory for EIA. Insufficient emphasis on alternatives in the DoE guidelines has led to practices rarely of alternatives on the environmental ground. In Bangladesh, if compelled, the proponent considers alternatives only in terms of selecting the location of the proposed project,[5] since location clearance is the most important step to start in project development prior to getting an ECC from the DoE.

35. From the GTCL case study project, it was observed that the GTCL conducted a route survey. The best route was selected from three alternatives considering various criteria, including length of route; minimal highway crossing; avoidance of railway track; avoidance of river crossing; avoidance of environmentally sensitive areas, historic and archaeological sites; avoidance of water bodies and swampy areas; minimal obstruction to habitation; and avoidance of homestead, school, graveyard, mosque, church, temple, cremation yard, etc. Through this practice, GTCL avoids the environmental and social problems to a large extent. LGED also informed the TA team that they also have the practice of alternative analysis with respect to route or site selection for infrastructure projects, including roads, growth center, culvert construction, etc. However, alternatives with respect to layout design, production process and raw material selection for industries or projects are usually ignored.

[4] Ogunba, O. A. 2004. EIA system in Nigeria: evolution, current practice and short comings. *Environmental Impact Assessment Review* 24: 643-660.

[5] Momtaz, S. 2002. Environmental impact assessment in Bangladesh: A critical review. *Environmental Impact Assessment Review* 22: 163-179.

36. Alternatives, with respect to layout design, production process and raw material selection for industries or projects are often ignored in the EIA process. Lack of analysis on alternatives has reduced chances of implementing the BATNEEC (Best Available Technologies Not Entailing Excessive Cost) approach that could be used to reduce detrimental impacts of projects. The absence of a legally binding mandate to adopt BATNEEC in the development process in Bangladesh has further encouraged this practice of ignoring alternatives altogether.

Figure 6: Gas pipeline under subsurface between the two poles and it crosses the Old Brahmaputra River shown as crop field in the photo. *Photo taken during field visit on 20 February 2013.*

Public Consultation and Disclosure

37. There is no legal obligation to hold public or stakeholder consultation or disclosure of environmental assessment reports. By avoiding public consultation, the affected people of a proposed project are excluded from the decision making on environmental clearance and approval. The DoE follows *ad hoc* EIA guidelines based on the nature of impacts and project operation. Under these guidelines, it approves a ToR for the EIA report of the proposed project with provision of public consultation, if deemed necessary. Absence of public consultation in the process leads to improper or poor diagnosis of environmental and social problems at the local level caused by a proposed project.

38. The EIA guidelines published by the ADB, WB and even the Water Resources Planning Organization (WARPO), a public agency under Bangladesh Water Development Board, have considered compulsory public consultation and disclosure issues for their projects. According to the ADB Environmental Policy,[6] all projects under Category A (projects with potential adverse environmental impacts) require public consultation at least twice: once during the early stage of EIA field work and the second one when draft EIA report is available and prior to loan appraisal by the ADB. Momtaz (2006)[7] reported that public consultation recognizes the wealth of local knowledge of the stakeholders acquired through trial and error in the field over a period of time. The knowledge generated from public consultations can be integrated with the scientific knowledge of EIA and Social Impact Assessment (SIA) and help develop a management plan that is appropriate for each situation. On disclosure issue, the Summary EIA reports of both RIIP-2 and gas pipeline projects were made accessible and available to the interested parties and the public.

[6] Asian Development Bank. 2003. *The Environment Assessment Guidelines.* ADB: Manila.

[7] Momtaz, S. 2006. Public Participation and Community Involvement in Environmental and Social Impact Assessment in Developing Countries. *International Journal of Environmental, Cultural, Economic and Social Sustainability* 2(4): 89-97.

39. Public Consultation and Disclosure in Indian Environmental Law. Unlike the environmental laws of Bangladesh, Indian Environmental Protection Act (1986) under the EIA Notification (2006) has provided specific legal scope for public consultation particularly with the affected persons and stakeholders. The law has also provided specific guidelines for conducting public hearing in the schedule of the notification.

Impact Identification and Mitigation Measures

40. Identification of potential environmental impacts is a challenge for any proposed project. Deficiencies in data and information availability; lack of public consultation and disclosure; lack of consultants' competencies, etc. have been responsible in the formulation of unsatisfactory statements related to key impact identification and their mitigation measures in most EIA reports of Bangladesh. EIA reports often state impacts significance and magnitudes without mentioning the method – how these are done in the EIA. The IEE report of the Gas Pipeline case study failed to identify potential significant environmental impacts which in turn could not alert the EIA investigation. Consequently, the EIA did not assess the environmental implications of the gas pipeline traversing through a national forest between Monohordi and Dhanua section rendering inadequate environmental mitigation and monitoring measures. As an after-thought, GTCL designed the appropriate remedial actions in consultation with the Forest Department. In the case of the RIIP-2 case study, the IEE report failed to identify environmental implications of constructing a bridge on floodplains and did not provide adequate mitigation measures to avoid damage to the prevailing environment. The earth filling activities and construction works at Raipura constructed on the Meghna river floodplain, disconnected several water pockets, thereby posing significant impacts on the aquatic biodiversity, particularly during dry season. In response, LGED constructed small culverts to ensure a functional fish pass. During the field visit on March 2013, however, the TA team found the culvert half silted with mud and observed that the fish pass constructed has not been functioning as a way for fish migration.

EIA System in Canada: Review from the International Best Practice Perspective

41. EIA system in Canada is different than that of Bangladesh or India. The Canadian Environmental Assessment Act, 2012 (CEAA, 2012) and its regulations established the legislative basis for the federal practice of environmental assessment in most regions of Canada. Through this Act, the Canadian Government implements central elements of the national plan for responsible resource development to modernize the regulatory system and allow for natural resources to be developed in responsible and timely way for benefit of all Canadians. Under the scope of the CEAA, 2012, a proponent aspiring to obtain an environmental clearance for a project has to apply to the Federal Environment Assessment Agency with a description of the proposed project. Upon receipt of the proponent's complete project description, the Federal Environment Assessment Agency review the same based on the potential environmental impacts in areas of federal jurisdiction and determine whether or not a federal EIA is required. This assessment also includes public comment on the proposed project in terms of environmental impacts on the project area. In most cases environmental assessment of projects are conducted by the Canadian Environmental Assessment Agency. Environmental assessment of some specific projects such as nuclear and energy projects are vested with their respective agencies. Thus, it is found that environmental assessment is conducted by the regulatory agency, while a project proponent only submits the project description.

42. In the EIA process a review panel composed of relevant experts is set up by the Minister of the Environment to assess the proposed project. The EIA process in Canada considers a

major focus on the public participation. The review panel is responsible to hold public hearings with the directly affected people and subsequently submit the report to the Minister for review. At the end of an environmental assessment the Minister determines whether a proposed project is likely to cause significant adverse environmental effects, taking into account mitigation measures that were identified during the environmental assessment.

43. In Canada an environmental assessment is conducted by the expert regulatory agencies and the review panel, an independent body reviews the EIA process, contents and public feedback that form major decision making for approving or rejecting a proposed project. So, compared to EIA system in Bangladesh, the Canadian system can be evaluated as more effective for protecting the environment.

4. EIA Implementation Practice in Bangladesh: Review Findings from Case Studies

4.1 Environmental Management Practices in GTCL

44. The GTCL has established an environmental division headed by a Deputy General Manager under its Planning Division. Three staff members, including one Environmental Manager, one Assistant Manager and one Assistant Engineer, are responsible for environmental management and assessment activities with GTCL. In practice, GTCL hires consulting firms to conduct an EIA for any proposed gas transmission line project. The GTCL environmental staff works closely with the consulting firm particularly during TOR development of the EIA report, public consultations, and mitigation measures design and implementation processes.

45. Both private and government agencies in Bangladesh are often reluctant to conduct environmental assessment unless there is no strong obligation from the project funding agencies. GTCL considers environmental assessment right from project planning irrespective of the funding sources. For most of the gas transmission projects, IEE report is required per donor conditions (ADB or WB) and as required of a Red category project under ECR 1997 of Bangladesh. To comply with the national regulation, GTCL conducts both IEE and EIA for transmission pipeline project. Depending on the funding sources, GTCL follows respective environmental assessment guidelines of the donor or the DoE. GTCL allocates sufficient budget for conducting an IEE/EIA.

Observation on GTCL Environmental Monitoring

46. GTCL activities impose significant environmental threats. Considering the significance of environmental management, the environmental division of GTCL integrates EIA into the core pipeline layout plan. As observed in the interview and FGD with GTCL staff and relevant stakeholders of the Monohordi–Dhanua pipeline project, GTCL has deployed adequate manpower, including in-house staff and consultants, and resources to execute environmental duties, particularly during the construction phase. The environment division independently monitors environmental management practices of pipeline projects. GTCL environmental team perceives environmental impact as minimal during the operation phase of the project. It is for this reason that environmental compliance monitoring is rarely conducted. However, GTCL emphasizes strong surveillance for proper protection of the pipelines during the operation phase.

4.2 Environmental management at the RIIP2 Project of LGED

47. Adoption and institution of environmental management in the LGED project happened in the early 1990s which was a pioneer initiative of this kind in Bangladesh. Despite the leadership of the LGED in awareness raising on environmental issues in the infrastructure development works in the country, there is a clear need for further strengthening its capability in this sector. Unlike the GTCL, the environmental unit of the LGED is small in size and is headed by a Superintending Engineer, who has full-time responsibilities in other capacities at the LGED. Currently, the unit has two full-time positions: one Executive Engineer and one Assistant Engineer. With such a small team, it is not capable of performing adequate environmental monitoring and surveillance for the vast number of LGED projects across the country.

48. In addition to the LGED environmental unit, the LGED project often deploys environmental staff to manage and implement environmental issues. RIIP2 project recruited an Environmental Specialist for an initial two years of the five year projects. For that reason, environmental monitoring was conducted only during the initial construction phase. After the environmental specialist's term finished, EMP implementation has been ignored which caused the proponents to overlook significant environmental threats during the project's succeeding phases, e.g. post-construction/abandonment and operational phases.

Environmental Monitoring of Projects

49. Environmental monitoring is a continuous activity under any project. Monitoring may be divided into phases, such as short and long term.

50. As far as infrastructure development project is concerned, construction phase is where most of the short term potential environmental impacts are generated. It is observed from the IEE report of RIIP2 project of LGED that monitoring responsibilities during construction phase rests on the Project Implementation Office (PIO) located at the LGED HQ in Dhaka. The Environmental Specialist of RIIP2 conducts baseline surveys to prepare a pre-intervention report, to be followed by a post-intervention assessment report after improvement works are completed through a sub-project. Through field observation and discussion with the RIIP2 Project Director at the LGED HQ, as well as with the key personnel at the Narsingdi district office, it has been reported that construction phase environmental monitoring was satisfactory. However, environmental recordkeeping was observed to be poor both at the LGED HQ and district office at Narsingdi. For this reason, the statement made by the LGED staff that "monitoring was satisfactory" could not be verified.

51. GTCL considers environmental assessment as early as the planning stages of a gas transmission pipeline project. As a Category 'B' project of ADB, the project requires an IEE report for environmental clearance. On the other hand, the DoE categorizes the project as 'Red' per local laws and regulations, requiring both IEE and EIA reports prior to the issuance of an environmental clearance. To comply with the environmental requirements of ADB and the DoE, GTCL conducts both IEE and EIA for transmission of pipeline. GTCL deploys their in-house staff for environmental monitoring during construction and operation phases. Monitoring reports are accessible to the environmental team as and when necessary. Compared with many public agencies in Bangladesh, GTCL ensures considerable efforts to manage and protect environmental issues.

52. Long-term or operational phase tasks comprise a continuous surveillance plan to monitor the effectiveness of the mitigation measures including any unprecedented impact that may have been encountered due to the project and while assessing the needs for future actions. Monitoring responsibilities during the operational phase rest with the Executive Engineer's office at the district level for LGED. Monitoring tasks of RIIP-2 in the long-term include regular surveillance of the pavement, embankments, culverts, and bridges ensuring prompt repair; checking and combating soil erosion from road and embankment slopes, monitoring of fisheries movement and production, pollution of surface and ground water, etc. During the operational phase, monitoring activities for gas transmission project include checking of leakage, protection of linear stretch (8 meters) of gas pipe line from excavation or plantation of trees, proper disposal of condensate, etc. The GTCL environmental team conducts environmental monitoring and ensures needed actions based on monitoring and surveillance. It was observed during field visit that in many cases, lands above gas pipeline laid are used for crop cultivation as it was used before (see Figure 7). This kind of practice should be strictly prohibited to ensure safe operations of the transmission pipeline and for safety of the community people. GTCL monitoring and surveillance has been reluctant on this issue.

Figure 7: Land above GTCL gas pipeline, laid subsurface between the two poles, is being used for rice cultivation. *Photo taken during field visit on 14 February 2014.*

Independent Environmental Monitoring

53. Establishing an effective and efficient independent environmental monitoring system is very important to evaluate project efficiency in terms of environmental impact management avoiding all bias. In Bangladesh, environment monitoring team staff is not often adequately trained in environmental management issues. This unit may not have relevant educational background and training in environmental safeguards and management. However, despite the lack of environmental knowledge, they are rarely offered environmental training.

54. In the RIIP-2 project review, it has been observed that an environmental division has been established at the LGED HQ headed by an Executive Engineer. This division independently monitors environmental management practices of various projects implemented and operational across the country. Environmental monitoring was apparently satisfactory during the construction phase, which often tilted to 'unsatisfactory' during the operation phase of project. Some issues, like drainage channel, functioning capacity of culverts, fish pass etc. happen to be monitored by the LGED sporadically. Ambient air quality was monitored during construction, along with other environmental parameters, such as noise and water turbidity. However, long term impacts of project activities on fisheries and other aquatic and terrestrial bio diversities are not monitored properly that may lead to significant harm for the biodiversity in the project locality. As a large organization with widely ranging infrastructure development activities,

the entire engineering team managing projects from various capacities should be trained in environmental management and safeguards.

55. In addition, lack of funds and technical expertise hinders quality performance on the part of the LGED environmental monitoring team. Adequate budget and resources should be allocated for effective management and recordkeeping of environmental information and database and monitoring of EMP implementation by the independent monitoring team of the LGED.

5. Capacity of the Department of Environment

56. The DoE has not enacted any statutory EIA guidance manual which could be used as a framework for the preparation of sectoral guidelines. The only EIA Guidelines for Industries (DoE, 1997) was prepared for industrial projects. There have been few EIA guidelines prepared under the BEISP for specific industrial operations and projects which are yet to be circulated for wider use. There is an extreme lack in mainstreaming these guidelines at the user level leading to proper processing and implementation of EIA system in Bangladesh.

DoE Resources and Capacities

57. The DoE is the national environmental regulatory and enforcement agency. As an agency of a fast growing country like Bangladesh with huge infrastructure development potential, the DoE needs to be equipped with adequate technical and financial resources. In reality, the DoE's lack of adequate manpower and resources to maintain a systematic surveillance program, plus the political pressure of delivery of infrastructure program on organizations like LGED, often times encourage project management to turn a blind eye on their projects' environmental concerns. If the DoE persists, however, then environmental assessment is complied with on a nominal basis. The situation is much more different for donor-driven projects where donor policies on environmental assessment are strictly complied with. Perception is another major factor in the treatment of environmental impacts. Road and infrastructure development projects are often perceived as less risky, therefore, they usually fall under the non-Red category irrespective of site specific environmental sensitivities. On the other hand, gas pipeline projects are often perceived as risky. Hence, the default Red category is assigned to a project listed under this business. Legal requirement as detailed in Schedule 1 of ECR 1997 also plays a major role in that a project originally listed under the non-Red category may eventually become Red due to additional project components, e.g., construction of a bridge that is more than 100m long. Environmental treatment in terms of report generation and the depth of examination, therefore, changes.

58. Ogunba (2004)[8] reported that the EIA monitoring agency must possess substantial analytical capabilities for field work, laboratory testing, research, data processing and predictive modeling. These requirements are, however, very little met in the DoE. Also, the DoE should adopt certain levels of standard for EIA implementation which requires to be maintained by all EIA practitioners in the country.

[8] Ogunba, O. A. 2004. EIA system in Nigeria: evolution, current practice and short comings. *Environmental Impact Assessment Review* 24: 643-660.

EIA Report Review by the DoE

59. After preparation of the EIA report, the proponent submits it to the DoE for review and feedback. The report is returned to the proponent for any significant changes as suggested by the DoE review team. In general, EIA reports prepared for large scale infrastructure projects or industries are returned to the proponents for revision at least once or even several times until they are made satisfactory for the DoE environmental clearance team. A Strategic Plan 2010-2014[9] was devised under the Bangladesh Environmental Institutional Strengthening Project (BEISP)[10] to strengthen DoE capacity including the EIA implementation and processing for projects and industrial operations.

60. The DoE Headquarters and its six divisional offices are responsible for reviewing, approving and issuing the ECC. The DoE has a review team of 15-20 professionals of varying capacity which has approved more than 5,000 ECCs from about 6,500 applications. Among the total applications, Green, Amber-A and Amber-B category projects accounted for around 90% of applications which were reviewed and cleared by the regional offices at Division level. The remaining 10% Red category projects were reviewed and cleared by the DoE Headquarters working with an average of 2-4 reviewers. On average 20-30 Red category EIA reports are reviewed by the DoE HQ reviewers every month. To overcome the acute shortage of qualified staff and to save time, the DoE often invites proponents (based on the sensitivity of project or ambiguity of the report) to present their EIA reports before Environment Clearance Committee comprising 10 DoE personnel headed by the Additional Director General. During these presentation meetings, the committee also invites relevant expert(s) from the relevant public agency or from other centers of excellences. In this process, the proponent receives quick comments and feedback from the DoE Environment Clearance Committee. The proponent subsequently rectifies the shortfalls and submits the EIA report to the DoE again for approval.

61. A shortage of qualified dedicated reviewers in the DoE and lack of logistical support for visiting project areas has resulted into poor quality assessments. In addition, the DG of the DoE, as the head of EIA clearance committee, holds supreme power to accept or reject a project. The DG's discretionary power as assigned by the ECA 1995[11] invites external influence from the lobbyists or influential persons to facilitate issuance of the environmental clearance for their projects[12]. This also affects review results and final decision making. As recommended by participants in the Diagnostic Consultative Meeting at the DoE, the effectiveness of the EIA review committee could be enhanced by forming a technical EIA review committee consisting of relevant sectoral experts.

62. In India, the expert appraisal committee evaluates the application and other documents like the Final EIA report, outcome of the public consultation including the public hearing proceedings. The Environmental Protection Act of India through its Notification 2006 provides an Appraisal Procedure for the expert appraisal committee. Per Indian law, the appraisal committee makes categorical recommendations to the environmental regulatory authority concerned either for granting environmental clearance on the stipulated terms and conditions, or

[9] Department of Environment. 2008. Strategic Plan. Dhaka: DoE.

[10] Bangladesh Environmental Institutional Strengthening Project (BEISP) was a project to enhance institutional capacity of the Department of Environment for proper implementation of DoE Strategic Plan. BEISP was supported by the Canadian International Development Agency (CIDA).

[11] The Environment Conservation Act, 1995.

[12] World Bank. 2006. *Bangladesh development series: Bangladesh country environmental analysis.* Dhaka: The World Bank.

rejection of the application together with reasons for the same. In Bangladesh, the environmental laws have neither stipulated any legal guidelines to form the expert appraisal committee nor an appraisal procedure which is independent of the DoE, rather the core staff of the DoE themselves review all EIA reports for clearance purpose. For a special case, if the DoE deems necessity of including any technical experts for reviewing an EIA report or project, they may conduct it with an office order from the office of the Director General of the DoE.

Issuance of ECC

63. Obtaining an ECC for an ECR-listed project is mandatory. Irrespective of Green, Amber A, Amber B and Red categories, a project proponent needs to apply for the ECC from the DoE. This process is technical and often lengthy due to several numbers of approvals needed in various steps of ECC processing. For example, a 'Red' category project requires at least 5-6 months of time to deal with a feasibility study, location clearance, IEE and EIA, provided that the EIA report submitted is cleared by the DoE in one review. 'Amber-B' and 'Amber-A' projects take between 45-90 days for ECC processing and awarding. ECC processing is time consuming and, therefore, proponents would rather skip the ECC to get their projects moving. It is recommended that the ECC processing time should be made realistic and reasonable which should not hamper business and hurt project development pace.

Environmental Management Plan (EMP) and Post ECC Monitoring

64. The EMP is a major part of the EIA report which is also approved by the DoE to ensure proper implementation of mitigation measures proposed in the EIA report. In this regard, the ECC dictates specific terms and conditions which need to be implemented by the proponent. Non-conformity with the EMP and the terms and conditions is considered as violation of the regulation. In addition, for all Red and Amber-B category projects, ECR 1997 requires submission of quarterly monitoring reports to the DoE. As stated in the Indian EIA Notification 2006 post environmental clearance monitoring, the legal provision is quite similar to the legal procedure stated in ECR 1997 in Bangladesh. Unlike Bangladesh, proponents of India have to submit half yearly monitoring report to the regulatory authority on 1st June and 1st December of each year and all such documents are public documents and have to be made available by the regulatory authority upon request from any person.

65. In practice, an understaffed DoE can hardly cope with required enforcement actions and any violations. The DoE should ensure proper implementation of the EMP through the conduct of periodical and unannounced inspection throughout project phases and required enforcement action for any non-conformity observed.

6. Compliance Analysis of EIA Implementation and Processing in Bangladesh

66. EIA implementation and processing is weak and inadequate in terms of identifying potential impacts and their magnitudes, until eventually these impacts remain unaddressed due to improper design of the mitigation plan. A compliance analysis matrix has been integrated with the legal equivalence matrix to show the extent of compliance and specific recommendations that have been made to transform the environmental safeguard system into an effective mechanism (see Appendix 1 of Consolidated Report). In the analysis, Full Compliance, Partial Compliance and No Compliance have been marked to assess extent of compliance of EIA

implementation and processing as compared to the existing laws and regulations in Bangladesh as well as with international best practice.

7. Opportunity and Scope to Improve the EIA System in Bangladesh

Implementation of the DoE Strategic Plan

67. In 2003, the DoE prepared a Strategic Plan to make the department more effective and efficient through a revised organizational structure, increased staffing and enhanced presence of the DoE at the division and district levels in the country. In 2006, in a project funded by the Canadian International Development Agency with BEISP support, the DoE has focused to implement 10 priority areas related to institutional strengthening of the DoE, capacity building, development tools and guidelines for more effective operation, and increased partnership between the DoE and civil society identified in the Strategic Plan. In 2008, BEISP facilitated a review of the First DoE Strategic Plan, which included assessment of progress in each of the priority areas and also made necessary revision to implement the strategic plan during a five year plan spanning 2010-2014.

68. Of the 10 priority initiatives of the strategic plan, at least 6 are directly related to improved processing, implementation and enforcement of environmental assessment, management and clearance procedure. A number of guidelines, proposals, and new concepts have been produced, some of which have been implemented and many are still constrained by resource shortage and, to some extent, lack of control over the DoE day-to-day operations which limits the DoE's capacity to implement the strategic plan. Despite all the limitations, the DoE has increased its presence and capability over last 5-8 years by enhancing the number of staff and expanding office operations in 21 districts for strengthened monitoring and enforcement against environmental non-compliance and violation.

69. In the 2010-2014 Five-Year Strategic Plan, among others, the DoE emphasizes to work on the following issues:

- to enhance technical capacity, for example – engineering skill on pollution abatement technology, cleaner production. The DoE needs to be competent in making sound technical arguments and articulating the most appropriate solutions;
- to develop public awareness messages, or slogans to increase public awareness on environmental issues;
- to increase its ability to influence other government agencies. The DoE feels constrained by the lack of technical know-how when dealing with agencies like Bangladesh Power Development Board (BPDB), Dhaka Water Supply and Sanitation Authority (DWASA), LGED, etc. The DoE database needs to be functional, producing good information on the effectiveness of environmental management that can be used to increase awareness within Government of the issues, and also to reflect the increasing effectiveness of the DoE in enforcement;
- to promote environmental assessment at the strategic level, the DoE needs to increase its capacity to influence Government policy, to mainstream proper environmental management in the national development process. The DoE

needs to develop a strong voice within the Government circles as policy is developed;
- to establish a resource center – making information available to all DoE staff and the public.

70. The DoE Strategic Plan 2010-14 also puts emphasis on six areas, which are:

- Increasing environmental compliance
- Mitigating potential environmental impacts, through environmental assessment and clearance process;
- Spearheading efforts to address critical urban air and water quality problems;
- Facilitating meaningful stakeholder participation in environmental management;
- Natural resource conservation through identifying ecologically critical areas, and
- The DoE serving effectively, efficiently and accountably.

71. Implementation of the 2010-2014 Strategic Plan should be facilitated to foster the DoE capacity strengthening process.

Preparation of EIA Guidance Manual

72. The EIA's quality control function is normally performed by the national environmental agency or the agency deploying consultants responsible for conducting environmental assessment. The DoE may facilitate in the EIA system's quality improvement by providing adequate policy guidelines and ensuring enforcement against non-compliance with the EIA report. The opportunity to develop an EIA Guidance Manual under the scope of this RETA 7566 will provide required direction to design, implement, monitoring and review EIA. Various sectoral EIA Guidelines will be developed in consistency with the procedure of this EIA manual. It is anticipated that by using this manual, problems related to EIA processing as discussed in the previous sections will be eliminated, thereby improving EIA quality to a large extent. Additionally, for qualitative improvement of the EIA system, environmental assessment should be practiced widely. Improvement can be accelerated through inclusion of EIA in academic courses, training and capacity building of environmental professionals, project developers and managers, consultants and enhancing capacity of the DoE.

8. EIA Capacity Development Action Plan

73. The gaps and weaknesses identified in the previous sections are major challenges to establishing a strong and effective EIA system in Bangladesh. A summary of gaps & weaknesses, recommended actions based on the discussions with relevant stakeholders and key agencies to be engaged for implementation of the recommended actions are provided below in the table.

Gaps/Weaknesses	Actions recommended	Key Stakeholders to be engaged
Sectoral EIA guidelines – lack of legal authority/mandates	- Attempts to be made to approve and gazette EIA Guidance Manual - Harmonize all the sectoral guidelines on the basis of provisions in the EIA Guidance Manual and to	- MoEF - Line ministry - Ministry of Law - DoE

Gaps/Weaknesses	Actions recommended	Key Stakeholders to be engaged
	make gazette notifications	
Absence of Environmental Policy Integration (EPI)	- Comprehensive study on relevant sectoral policies and laws to identify gaps and constraints and to address those through harmonization. - Revision/amendment of Sectoral Policies in the context of EPI - Facilitate effective functioning of National Environmental Committee	- Sectoral policy makers - National Environmental Council - Parliamentary Standing Committee - Planning Division - DoE - Private sector
Incompetent EIA consultants and lack of trained in-house staff	- Enlistment of competent EIA consulting firms by the DoE for conducting EIA - Accreditation of consulting firms and/or individual consultants - Establish in-house environmental unit in each infrastructure project executing agency with staff and personnel of relevant multidisciplinary expertise. - Informal consultations can be formalized through rule adoption on specificity of disclosure and consultation - Encourage DOE to let proponent invite more qualified facilitators to conduct public consultation to help build DOE capacity as well - - Training and education on EIA study with particular emphasis to (i) Project and site description (ii) Reliable and representative data analysis (iii) Potential impact identification and assess significance and magnitudes of impacts (iv) Design environmental mitigation plan (v) Design monitoring, surveillance and implementation plan (vi) Report writing with emphasis to strong communication perspective	- MoEF/DoE - EIA consultants and practitioners - Government executing agencies - Financing agency
Weak/poor quality EIA report	- Alternative options have to be considered during project conceptual	- MoEF/DoE - EIA experts,

Gaps/Weaknesses	Actions recommended	Key Stakeholders to be engaged
	stage; - Best available technologies that are suitable from Bangladesh's context should be included as alternatives; - Communication of potential impacts and corresponding mitigation should be presented in reader friendly way for proper decision making; - Avoid irrelevant information that can create bulky document and distract attention from important issues	consultants and Academics - Government Executing Agency - Industry and business chambers - Development partners
Lack of environmental database and information, such as water quality and pollution data, ambient air quality, biodiversity status, research papers, etc. needed for EIA.	- Establishing an environmental data and information depository at the DoE HQ level - Enhance accessibility to the data depository - Establish one stop service to ensure information sharing - Data collection and management training - ADB could plan for designing a TA to address this gaps on data, information and knowledge management and also capacity building.	- MoEF/DoE - Data generating Public agencies (CEGIS, IWM, IUCN, national Herbarium, SRDI, BMRI, etc.) - Academic institutions - Development partners
Lack of institutional strength to effectively operate the EIA system in DoE	- To review and update DoE Strategic plan 2010-2014 prepared under BEISP project - Strong facilitation to foster implementation of the DoE Strategic Plan	- MoEF - DoE - Planning Division - Development partners - Academics/researchers - Environmental consultants /practitioners
Lack of capacity of individual EIA consultants	- Training and education on EIA study with particular emphasis to (i) Project and site description (ii) Reliable and representative data analysis (iii) Potential impact identification and assess significance and magnitudes of impacts (iv) Design environmental mitigation plan (v) Design monitoring, surveillance and implementation plan (vi) Report writing with emphasis to	- EIA Practitioners - Interested academics - Universities - Consulting Houses - Public agencies - Development partners

Gaps/Weaknesses	Actions recommended	Key Stakeholders to be engaged
	strong communication perspective	
Lack of capacity of the EIA Reviewers & the implementers	Undertaking program to organize tailor made training for - Engineers in preparing the tender documents incorporating EMP - Contractors on implementing EMP - EIA Reviewers from DoE - Personnel responsible for environmental units of key development institutions.	- MoEF - Planning Division - Private sector - DoE - Key Public Institutions - Institute of Engineers

9. Conclusion

74. The EIA system in Bangladesh is in transition and significant efforts have to be made to transform this into an effective system. It has been found from the diagnostic study that there are both strengths and weaknesses in the country's EIA system. Of the notable strengths, development of policy framework that declared EIA compulsory in Bangladesh for certain industrial operations and projects may be mentioned; others include preparation of sectoral EIA guidelines, although inadequately used; strengthening of the DoE institutional structure to ensure effective environmental monitoring and enforcement against violation of EIA and EMP implementation also happened; review of EIA report for environmental clearance approval; and also improved waste management and promoting cleaner production technology and practices occurred in Bangladesh. Among the weaknesses and shortcomings in legislations, procedural gaps, lack of statutory EIA guidelines and manual, lack of capacity of EIA practitioners, lack of resource allocation for EIA and poor enforcement against violations are barriers that need to be eliminated for improvement of efficiency of the EIA system.

75. The TA team observed that the current environmental management and safeguards system is weak and incomplete and lacks capacity for enforcement by trained human resources. The TA team felt the need to facilitate development of competent environmental consultants and in-house environmental team in key infrastructure project executing agencies; organize series of environmental management and impact assessment capacity development training for relevant stakeholders including the DoE and other key public agencies and EIA practitioners. Environmental assessment should also be integrated as early as project design and planning phase and, most importantly, adequate budget and resources should be allocated to execute EIA in various phases of project.

76. An Action Plan has been recommended that focuses elaboration of EIA rules, harmonization of sectoral policies, and preparation of quality EIA documents by training competent EIA professionals and overall capacity development of both the regulator and implementers.

Attachment 1: Checklist of Questions for FGD

EIA capacity assessment questions:

A. General Questions

(i) What kind of project does your institute implement?

(ii) Do you screen your projects based on environmental impacts at the design/planning stage?

(iii) Do you have environmental management staff in your office? If so, how many and what are their qualifications?

(iv) How do you categorize a GOB funded project particularly to decide whether an EIA to be conducted? Whose guidelines are followed in this case?

(v) If so, what is your decision when any project has irreversible environmental impacts?

(vi) How many projects you have undertaken during the last fiscal year (2011-12)?

(vii) How many of these projects are donor funded and how many are GOB funded?

(viii) How many of the projects required EIA as per EIA system of the country?

(ix) Did the projects have budget provision for conducting EIA?

(x) How many of their projects prepared EIA reports and have adequate fund for EMP implementation?

(xi) For how many projects, submission of application of environmental clearance was made to DoE with EIA report.

(xii) To what extent EIA system may reduce environmental impacts of a project. How can environmental management performance of a project be improved?

(xiii) How frequently project is inspected to check EMP implementation status?

(xiv) How is overall quality of EIA reports you receive from the consultants?

(xv) Do you think EIA regulation in Bangladesh is adequate to implement EIA system properly?

(xvi) If no, why and what can be done to improve EIA system?

(xvii) What do you recommend to promote improved EIA system in Bangladesh?

B. EIA Report Specific Questions (questions on selected project)

(i) How do you initiate EIA proposal? Please detail out institutional process.

(ii) Who prepared the TOR? How was the bidding and selection process for the consultant?

(iii) Did you find the consulting firm competent for conducting the EIA study and preparation of report as you expected?

(iv) When did you proceed for EIA? Was it during feasibility stage?

(v) Did the EIA finding influence the project design for addition or alternation?

(vi) Did you consult with stakeholders in the impact area during EIA process and disclose the EIA findings with them?

(vii) Which part of the report is strong and which part is weak?

(viii) Did you make any follow up monitoring during implementation of EMP? if so, how frequently.

(ix) What actions do you take if EMP is not properly implemented to minimize stipulated environmental impacts in EIA report?

(x) What are the opportunities and barriers you have faced to implement this EIA system?