

# **A critical evaluation of the environmental impact assessment system in Bangladesh using a holistic approach**

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**Declaration**

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent to this copy of my thesis, when deposited in the University Library, being made available for loan and photocopying subject to the provisions of the Copyright Act 1968.

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**‘Knowledge is a subset of that which is both true and believed’ (Plato, 424 BC- 348 BC)**

### **Dedication**

To my beloved grandparents who were illiterate but dedicated their lives to educating my brothers and me.

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## **List of publications from this research**

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Kabir, SMZ & Momtaz, S 2010, 'The strengths and weaknesses of legal provisions and effective EIA practice in Bangladesh', *Proceedings of (EME 2010) the Second IASTED International Conference Environmental Management and Engineering*, pp. 840-448, 15-17 July; Banff, Canada.

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## **Abbreviation and acronyms**

ADB-Asian Development Bank

BCAS-Bangladesh Centre for Advanced Studies

BCL-Bangladesh Construction Limited

BELA- Bangladesh Environmental Lawyers' Association

BRAC-Bangladesh Rural Advancement Committee

BUET-Bangladesh University of Engineering and Technology

BWDB-Bangladesh Water Development Board

CBD-Conventions on Biological Diversity

CEGIS-Centre for Environment and Geographic Information System

CI-Cumulative Impact

CCG- Combined Cycle Gas

CCGT-Combined Cycle Gas Turbine

CITES-Convention on International Trade in Endangered Species

CBD-Convention on Biological Diversity

CFSD-Centre for Sustainable Development

DOF-Department of Forest

DOF-Department of Fishery

DOE-Department of Environment

DC-Deputy Commissioner

ECR-Environmental Conservation Rules

ECA-Environmental Conservation Act

ECA-Environmentally Critical Area

ECC-Environmental Clearance Certificate

EIA-Environmental Impact Assessment

EIS-Environmental Impact Statement

EMP-Environmental Management Plan

EMAP-Environmental Management Action Plan

EOI-Expression of Interest

EPA-Environmentally Protected Area

EPWAPDA-East Pakistan Water and Power Development Authority

ESIA-Environmental and Social Impact Assessment

ETP-Effluent Treatment Plant

ESMP-Environmental and Social Management Plan

EU-Environmental Unit

FB- Fixed Budget

FCCC-Framework Convention on Climate Change

FGD-Focus Group Discussion

GOB-Government of Bangladesh

ICBD-International Convention of Biological Diversity

IUB-Independent University of Bangladesh

IESC-Important Environmental and Social Component

IEC-Important Environmental Component

IEE-Initial Environmental Examination

IWM-Institute of Water Modelling

ISCs-Important Social Components

IUCN-International Union of Conservation on Nature

JMBA-Jamuna Multipurpose Bridge Authority

JMBP- Jamuna Multipurpose Bridge Project

KJDRP-Khulna Jessore Drainage Rehabilitation Project

KWH-Kilo Watt Hour

MPL-Meghnaghat Power Limited

MPSA-Meghnaghat Power Site Area

MPP-Meghnaghat Power Plant

MOEF-Ministry of Environment and Forest

MW-Mega Watt

NBAPB-National Biodiversity Action Plan for Bangladesh

NEP-National Environmental Policy

NCS-National Conservation Strategy

NEC-National Environmental Council

NGOs-Non Governmental Organisations

NO<sub>x</sub>-Nitrogen Oxides

NTS-Non Technical Summary

PAPs-Project Affected Persons

PC-Planning Commission

PRA-Participatory Rural Appraisal

QCBS-Quality and Cost Based Selection

RCC-Resource Control Centre

RAP-Resettlement Action Plan

RRAP-Revised Resettlement Action Plan

SCF-Standard Cubic Feet

SO<sub>x</sub>-Sulphur Di Oxides

SUB-State University of Bangladesh  
SWMC-Surface Water Modelling Centre  
TBM-Tidal Basin Management  
TOR-Terms of Reference  
TRM-Tidal River Management  
UP-Union Parishad  
UK-United Kingdom  
USA-United States of America  
USAID-United States Agency for International Development  
VGD- Vulnerable Group Development  
WARPO-Water Resource Planning Organisation  
WB-World Bank  
WC-Water Committee  
WMC-Water Management Committee

**Abstract**

Environmental Impact Assessment (EIA) is an environmental management tool used widely in more than 100 countries and, by multilateral and bilateral agencies. Like many other jurisdictions, the EIA has been practiced in Bangladesh as an environmental management tool for projects with the aim of protecting the environment from impacts. While in developed countries a good number of studies are available, the evaluation of EIA systems in developing countries is a neglected area. The evaluation of an EIA system helps to understand how an EIA system is working, the strengths and weaknesses of the system and areas for further improvement.

In Bangladesh, the EIA system has been formally in place since 1995 but no comprehensive study has been conducted to understand how the system is working including its strengths and weaknesses. Therefore, a comprehensive investigation is warranted to identify any shortcomings, leading to suggestions for improvement of the EIA system in Bangladesh.

The study of an EIA system should focus not only on the practice of the EIA, but also on the necessary legal and administrative arrangements that support its practice and subsequent outcomes. With this in mind, this research used an integrated-holistic framework to understand the effectiveness of the EIA system in Bangladesh. This framework facilitated a comprehensive investigation of the EIA system covering institutional arrangements, the practice of EIA (i.e. the quality of EISs), and subsequent outcomes (i.e. the implementation of mitigation measures and monitoring).

The first area of investigation is the institutional arrangements of the EIA in Bangladesh. The study shows that, in Bangladesh, there is legislation for EIA practice and designated agencies to administer EIA implementation. These make a good foundation for EIA practice. However, there is a lack of comprehensive EIA legislation that clearly outlines the requirements of key stages of EIA process. The current legislation does not clearly define the key stages of EIA process (i.e. scoping, community involvement, mitigation and monitoring) and other procedural requirements, such as the contents and review of Environmental Impact Statements (EISs). A comprehensive provision of EIA requirements detailed in legislation is necessary in Bangladesh. Furthermore, the administrative capacity of the DOE is weak due to the shortage of trained staff, inadequate budget and lack of stable leadership. These weaknesses keep the DOE's efforts to implement EIA at a minimum.

The second area of investigation is the quality of EISs that is the product of an EIA process. This area examines to what extent the tasks of the EIA process (stages of EIA and other procedural requirements) are addressed in practice. Reviewing thirty (30) EISs, this study shows that the quality of EISs in Bangladesh is generally satisfactory. However, a significant proportion (34%) of EISs is still poor. The deficiencies in the contents of EISs include inadequate baseline data, poor impact prediction and evaluation of the significance of impacts, analysis of alternatives, and the poor presentation of information in a Non-Technical Summary (NTS). A number of factors influencing the quality of EISs have also been identified.

The implementation of mitigation measures, the third area of investigation, shows that they are poorly implemented in Bangladesh. Three projects from different sectors were investigated and the findings show that none of the projects' mitigation measures were fully implemented. Community participation and monitoring programs were inadequate during the implementation of environmental mitigation measures of projects. A number of factors behind the partial implementation of environmental mitigation measures, inadequate community participation and monitoring were identified.

Finally, after the identification of the current strengths and weaknesses of the EIA system, this study concludes that, while the EIA system in Bangladesh is heading in the right direction, more improvements are required to make the system effective. Interventions by the government of Bangladesh are needed to improve the institutional capacity, the quality of EIA reports, and the implementation of mitigation measures. Importantly, the proper implementation of mitigation measures is deemed to be essential to harness the benefits of an EIA as an environmental management tool.