

The quality of Environmental Impact Statement (EIS) in Bangladesh

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Abstract

The aim of this paper is to investigate the quality of EIS that may contribute to the greening of a development project. The study finds that the quality of EIS in Bangladesh is satisfactory but still a lot of improvement for EIS quality is required. The study identifies the factors influencing the quality of EIS and makes recommendations for further improvement.

Key Words: Greening Economy, Quality, Environmental Impact Statements, Bangladesh.

Introduction

The greening of economy in a country depends on how effectively the environmental management tools are working to green the business and development activities. EIA is one of the environmental management tools contributing to green the economy. Although, there have been continuous studies on EIA effectiveness in many developed countries (Glasson:2005) and in some developing countries as well, no major study yet to be done in Bangladesh to see the how EIA is working to green the development projects. This study fills this gap.

The overall effectiveness of the EIA depends on many aspects but among these the quality of EIS is of particular importance (Lee et al.: 1999, p7). It is the fundamental indicator of the effectiveness of EIA as the information presented in the report reflects the technical and scientific quality of EIA process (Modak and Biswas: 1999). It is the most important door through which scientific knowledge is brought into the EIA process (Pinho et al.:2007).

The aim of this paper is to assess the quality of EIS to understand the effectiveness of EIA in Bangladesh. The paper is divided into three major sections; methodology, results followed by discussions and finally conclusion with a set of recommendations for the improvement of the quality of EIS.

2. Methodology

A set of review criteria following Lee and Colley (1992) review package has been developed in the context of Bangladesh. Moreover, a semi-structured interview was conducted to substantiate the results of the study. Review data and interview data were analysed using spreadsheet and NVivo (version 8) software respectively. A total of 30 EISs of different projects have been selected purposively from four major sectors in Bangladesh. The sectors are Industry, Infrastructure, Energy and Water Sectors.

2.1 Description of the review criteria

Box1 shows the review criteria for EIS quality involving 4 review areas, 13 categories and 39 sub-categories. The four review areas are:

- Area-1:** The description of development and baseline conditions,
- Area-2:** Identification and evaluation of key impacts,
- Area-3:** Environmental Management Plan and Follow-up, and
- Area-4:** Presentation of EIS.

Under each area there are categories (such as 1.1 and 1.2) and under each category there are sub-categories (such as 1.1.1 and 1.1.2) as outlined in the Box1.

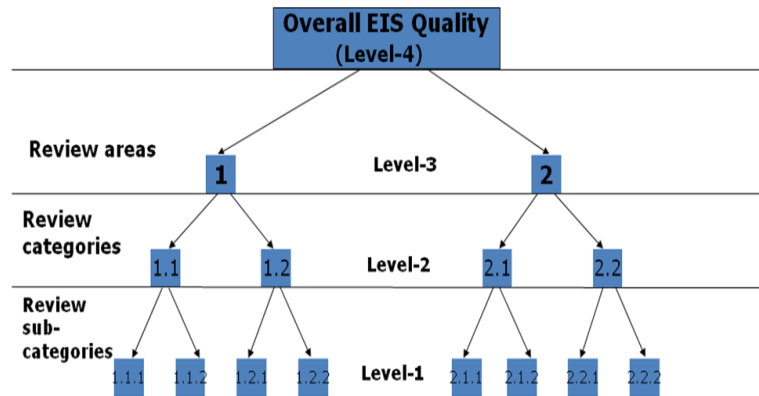
Box 1: Review criteria for EIS quality

<u>Criteria for EIS quality</u>	
1. Description of the development and baseline conditions (Area#1)	
1.1 <i>Description of project</i>	
1.1.1 Background and objectives of project	2.4 <i>Community involvement</i>
1.1.2 EIA aims and scope	2.4.1 Description of community
1.1.3 Policy and legal framework for EIA	2.4.2 Involvement of community at different stages
1.2 <i>Description of project</i>	2.4.3 Approaches of community involvement
1.2.1 Location of project	2.4.4 Findings of community involvement
1.2.2 Project components and activities	3. Environmental Management Plan and Follow-up (Area#3)
1.2.3 Selection of project alternatives	3.1 <i>Mitigation Measures</i>
1.3 <i>EIA: approach and methodology</i>	3.1.1 Description of adverse Impacts to be mitigated
1.3.1 Screening	3.1.2 Mitigation measures with justification
1.3.2 Scoping and bounding	3.1.3 Implementation arrangements of mitigation measures
1.4 <i>Environmental baseline</i>	3.1.4 Residual impacts
1.4.1 Natural physical environment	3.2 <i>Follow-up: Monitoring program</i>
1.4.2 Biological Environment	3.2.1 Parameters/activities to be monitored
1.4.3 Socio-economic environment	3.2.2 Monitoring Plan and implementation arrangements
1.4.4 Sources of data with justification	3.2.3 Reporting and communication of monitoring result
2. Identification and evaluation of key impacts (Area#2)	4. Presentation of EIS (Area#4)
2.1 <i>Identification of impacts</i>	4.1 <i>Layout</i>
2.1.1 Description of impacts identified at different phases	4.1.1 Logical arrangement of information
2.1.2 Beneficial impacts and adverse impacts	4.1.2 List of references
2.1.3 Methods used for identifying impacts with justification	4.2 <i>Presentation</i>
2.2 <i>Evaluation of impacts</i>	4.2.1 Comprehensible to non-specialist
2.2.1 Prediction of impacts	4.2.2 Defining technical terms
2.2.2 Significance of impact on affected community	4.2.3 Presented as an integrated whole
2.2.3 Significance of impact on bio-physical environment	4.3 <i>Executive summary</i>
2.2.4 Methods used for evaluation of impacts	4.3.1 Summary of main findings presented in a non-technical way
2.2.5 Risk and uncertainties	4.3.2 <i>Recommendations</i>
2.3 <i>Alternatives</i>	
2.3.1 Analysis of alternatives	
2.3.2 Selection of alternatives	

2.2 Assessment procedure

The review commences at the lowest level (figure1) that is sub-category level (level-1). Each sub-category is awarded an alphabetic symbol (A, B, C, D or E) as a grade according to the quality of information presented under that sub-category. Here, A= Excellent, B=Good, C=Satisfactory, D=Poor, E=Very Poor. An average grade then is calculated for each respective category at level-2. This way, the average grade has been calculated for the each area at level-3. Finally, from the grades given to each area, an overall average grade of the EIS is arrived at (level-4). Where there is no information under a sub-category or the sub-category is not attempted at all, 'N' is placed to keep the record.

Figure 1: Schematic view of assessment procedure from sub-category to overall assessment of an EIS



Source: Modified after Lee et al. (1999)

3. Results and analysis

3.1 Overall quality of EIS in Bangladesh

Figure 2: Overall quality of EIS in Bangladesh

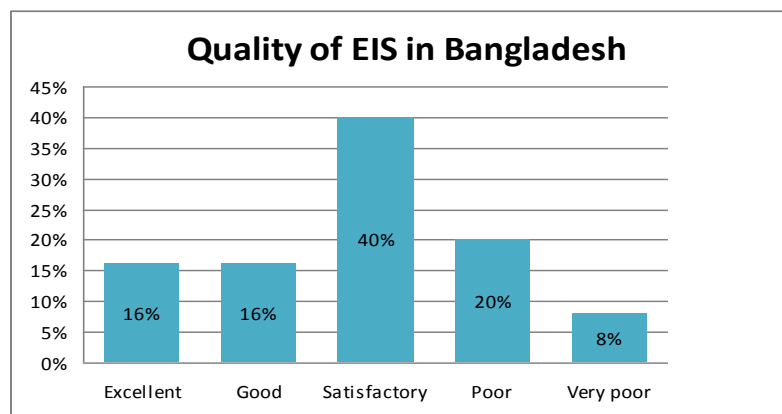


Figure 2 shows the overall quality of EISs of sampled 30 projects of different sectors in Bangladesh. Here, 72% of EISs are graded as overall satisfactory (graded C and above) and 28% EISs are graded as unsatisfactory (grades as D and E). Among EISs graded as overall satisfactory, majority of EISs (40%) are graded as satisfactory (graded as C). Among the rest, 16% EISs are good (B) and 16% EISs are found to be graded as excellent (A). On the other hand, among the unsatisfactory EISs, 20% EISs are poor (D) and 8% EISs are very poor (E).

Finally, results reveal that the average quality of EIS in Bangladesh is satisfactory. These findings broadly correspond to the findings of other similar studies such as (Glasson et al.: 1997, Barker and Wood: 1999, Cashmore et al.: 2002, Sandham and Pretorius: 2008) where the overall quality of EIS for a country of concern has been found satisfactory.

3.2 Review results of the quality of EIS by area

Figure 3: Comparison between areas of EIS

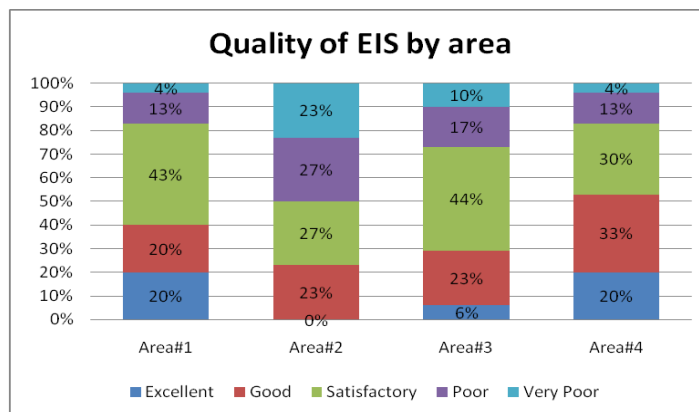


Figure 3 shows the performance of each area in EIS based on review results. The contents of an EIA report is divided into four major areas described in the Box 1 under the section 2.1 where under each area there are a series of tasks (category and subcategory). From the figure 3, it is obvious that the quality of EIS significantly varies by areas. The graph shows that the performance of area#1 and area#4 is better than the area#2 and area#3 where area#4 is the best performed area and area#2 is the worst performed area. For area#1 and area#4, there are only 17% unsatisfactory (graded as D and E) EISs in each cases. On the other hand, area#2 and area#3 involve 50% and 27% unsatisfactory EISs respectively. Therefore the percentage of unsatisfactory EISs for area#2 and area#3 are much higher than those of area#1 and area#4.

3.3 Quality of EIS by sector

The study shows that Water and Infrastructure Sectors are better performing sectors than Energy and Industry Sectors. Among all sectors, Industrial Sector is the worst. No EISs found in Infrastructure and Water Sectors are unsatisfactory (poor or very poor). On the other hand, 36% and 80% of EISs in Energy and Industry Sectors are found overall poor or unsatisfactory respectively. One of the reasons for better performance of Water and Infrastructure Sectors is that both the sectors have EIA guidelines and have longer experiences in EIA practice than relatively new industry and energy sectors. Therefore, it is not surprising that the quality of EIS of infrastructure and water sectors is better than two other sectors as industry and energy.

4. Discussions

4.1 Factors influencing the quality of EIS in Bangladesh

This study identified a range of factors in the context of Bangladesh responsible for satisfactory and unsatisfactory (poor) quality EIS. The factors behind the satisfactory quality of EISs in Bangladesh are:

First, the projects are under study are large in size and implemented by the national (central) government. **Second**, donor agencies such as the World Bank and the Asian Development Bank have played a vital role for a good quality of EIS (Momtaz: 2005) where many of the large projects are donor funded in Bangladesh. **Thirdly**, EISs under this study are on average about 200 pages ranging from 50 pages to 300 pages. Ideally, the length of a good EIS should be 150-200 pages (Morrison-Saunders et al.: 2001). **Finally**, EISs under this research have found to be done by an interdisciplinary team consisting 7 members with relevant background on an average.

4.2 Factors influencing poor quality of EIS in Bangladesh

Despite the fact that the average quality of EIS in Bangladesh is satisfactory, a significant number of EISs (28%) have been found to be poor and below the poor category. The major factors influencing the poor quality of EIS among others are (1) the lack of adequate time for

conducting an EIA study, (2) inadequate baseline data and limited access to available baseline data, (3) inadequate funds allocated by the proponents, (4) the narrow attitudes of proponents and consultants, and (5) the weak Terms of Reference (TOR).

5. Conclusion and Recommendations

The study shows that there are deficiencies in the contents of EIS in Bangladesh despite the fact that some EISs are found to be good and excellent. Especially the most important chapter that is impact prediction and assessment chapter is the worst (50% EISs are unsatisfactory) comparing with other chapters in the EISs. Also there is a variation in quality of EIS by sector. Finally, this study has identified a set of factors influencing the quality of EIS in Bangladesh.

A lot more improvements in the quality of EIA reports are still required in Bangladesh to contribute in decision-making process of greening the development projects. This study recommends for the improvement of the quality of EIS includes:

- Improvement of capacity of Department of Environment(DOE) including efficient review mechanism;
- Establishment of an up-to-date baseline data bank;
- Adequate time and fund for EIA study;
- More awareness among EIA actors particularly among proponents and consultants ; and
- Set the code of conduct for EIA consultants.

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