# Evaluation of the EIA System in Bangladesh

Tanvir Ahmed[1] and Shakil Ahmed Ferdausi[2]
[1]Department of Civil Engineering, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh
[2]World Bank Office Dhaka, Agargaon, Dhaka, Bangladesh
Corresponding author: tanvirahmed@ce.buet.ac.bd

## Abstract
EIA has been practiced in Bangladesh since the late 1980s but it is through the enactment of the Environment Conservation Act, 1995 and the Environment Conservation Rules, 1997 EIA gained formal status in the country. Although a rigorous administrative procedure of submission and approval of necessary environmental documents are in place, evidence suggests that EIA has not yet evolved satisfactorily in Bangladesh. In this paper, an established set of evaluation criteria has been applied to evaluate the departure from ideality of the Bangladesh EIA system. The nature of the shortcomings of the EIA system in practice is discussed. Despite the many shortcomings, the basic structure of the Bangladesh EIA system can be considered to be sound. It is important for the country to improve on these limitations with an aim to building a robust EIA system for sustainable development.

## Introduction
In order for EIA to be effective, it has to be intertwined with the country's legal system and backed by a clear set of administrative protocols with sufficient institutional capacity. With a decent set of sectoral guidelines for conducting environmental assessment, a sound legal basis and established institutional framework for EIA review and approval, Bangladesh has a systematic mechanism in place for examining the environmental consequences of development initiatives. But evidence suggests that EIA has not yet evolved satisfactorily in Bangladesh in several aspects (Kabir and Momtaz 2013, Momtaz 2002). It is a widely speculated that in Bangladesh EIA still remains an instrument for project approval and not a tool that can promote the environmental sustainability of the project.

## Assessment of EIA system
In order to assess the effectiveness of the EIA system in Bangladesh, we use an evaluative criteria developed by Wood (1995) and modified by Annandale (2001). This system of evaluation assesses the EIA system under consideration under seven subcategories: 1. Legal/administrative backing, 2. Preliminary Assessment, 3. Detailed Assessment, 4. EIA study review, 5. Decision-making, 6. Follow-up and 7. Administrative support.Each subcategory was also supported by two to five sub-criteria (evaluative principles) (see Table 1). These evaluation principles were applied to the ECA 1995, ECR 1997, prevailing Administrative procedures of the Department of Environment.

**Table 1: Evaluation of the EIA system in Bangladesh**

| Evaluative principles | Rating | Comments |
|---|---|---|
| **1. Legal/ administrative backing** | | |
| Is the system based on clear legal provisions? | Yes | Basis provided in the ECA 1995 and ECR 1997 |
| Does the EIA system rest on detailed administrative procedures/guidelines? | Yes | These are outlined in ECR 1997 and other sectoral guidelines |
| Is there a broad and open process of proposal referral? | Yes | The proponent may appeal if the application for ECC gets rejected |
| **2. Preliminary assessment** | | |
| Does the EIA system require the analysis of | No | The provision of site clearance undermines the ECC as well as the |

| Evaluative principles | Rating | Comments |
|---|---|---|
| alternatives? | | necessity of alternate analysis. |
| Does the EIA system provide a mechanism for screening of actions for environmental significance? | Yes | Projects are screened as Green, Orange-A, Orange-B are Red based on their location and environmental burden. A list of industries are given under each of the categories which aids the proponent on choosing the correct administrative procedures |
| Does the EIA system require that the scoping of environmental impacts of actions take place? | Yes | Some sectoral guidelines prescribe methods for scoping of environmental actions. Based on IEE, DoE decides whether a full-scale EIA would be necessary. |
| **3. Detailed assessment** | | |
| Does the EIA system require that reports meet prescribed content requirements? | Yes | DoE has to approve the Terms of Reference of the study which usually contains an outline of the contents |
| Are the relevant environmental impacts of all significant actions assessed? | No | Depends on the quality and expertise of the consultants. |
| Do checks on content (by Government assessing agencies) occur before publication of the proponent's EIA study? | No | Report is reviewed by the DoE but not publicly disclosed. |
| **4. EIA study review** | | |
| Are the EIA studies presented for public review, and is the proponent required to respond to issues raised? | No | The current EIA system in the country does not have such a scope for public consultation and disclosure. |
| **5. Decision making** | | |
| Is the decision-making process of Government transparent? | Yes | The proponent gets an opportunity to present his EIA to the DoE |
| Is the decision, and the reasons for it, published? | Yes | The minutes of the decision meeting is made public through the DoE website. |
| Do these reasons include an explanation of how the EIA report and review influenced the decision? | No | No such explanation is provided. |
| Does the EIA system require that legally binding conditions be set? | Yes | The conditions put forward in the EMP (and additional conditions set by DoE, if any) is set as legally binding |
| Does the law/administrative procedures allow for a decision to be postponed until an EIA report has been prepared and reviewed? | Yes | The proponent needs to make amendments and resubmit the report; the decision is postponed until the report meets the expectations of the DoE |
| **6. Follow-up** | | |
| Does the EIA system require post-approval monitoring of action impacts to be undertaken? | Yes | through the legally binding conditions set through the EMP |
| Does the EIA system require that mitigation of action impacts be considered at various stages of the EIA process? | Yes | Same as above. |
| Is there a process for auditing proponents' commitments? | No | No such formal process is in place. The ECC renewal requirement can serve as a pseudo auditing mechanism. |
| Is there a process for monitoring and auditing the EIA system as a whole? | No | Same as above. |
| **7. Administrative support** | | |
| Is the EIA system given adequate resources? | No | DoE does not have enough staff to conduct post-EIA monitoring and follow up on the commitments in the EIA |
| Do existing staff have the appropriate skills to operate the EIA system? | Yes | DoE has the skills and expertise to review EIS, conduct monitoring |
| Does a well-qualified, private local consulting sector exist? | No | |

| Evaluative principles | Rating | Comments |
|---|---|---|
| Is the 'across-Government' environmental administrative system supportive of EIA? | Yes | The relevant government agencies implementing projects are sensitized with the need for EIA. However, some agencies may lack in technical expertise to monitor impacts and mitigation measures |

Superficially looking at Table 1 one can find that the Bangladesh EIA system is quite far from an 'ideal' system as it scored only 13 'yes' responses of the 23 criteria under consideration. The specific areas where the Bangladesh EIA system is lacking under the framework of the abovementioned evaluative criteria are discussed as follows:

***Analysis of Alternatives***

The DoE approves site clearance for the project before issuing the ECC which is issued after the EIA report has been reviewed. As per ECR 1997, the project proponent is allowed to develop the land (and invest resources) on the project site before approval of EIA when the site clearance is issued. This undermines the importance of the ECC and any analysis presented in the EIA (or any analysis of alternate sites) would only be there to justify the site already selected for the project. This greatly diminishes the value of any analysis of alternatives.

***Assessment of Significant Impacts and Overall Quality of Environmental Impact Statements***

The Environmental Impact Statement (EIS) is considered the fundamental indicator of the effectiveness of EIA as the information presented in the report reflects the technical and scientific quality of the EIA process (Modak and Biswas, 1999). Kabir and Mamtaz (2012), based on an empirical study, found that a significant portion (34%) of the EISs were still unsatisfactory. The quality of EIS of water and infrastructure sectors have been found to be better than that of the energy and industry sectors presumably because the former have relatively longer experiences in EIA practice compared to the latter (Kabir and Momtaz, 2011). It is often found that the type of baseline data collected for a particular project is largely irrelevant to the project and therefore not useful for impact prediction or post-EIA monitoring. The other factors resulting in poor baseline studies are (1) the proponent not allowing enough time for the consultant to conduct EIA studies, (2) inadequate resources to conduct a comprehensive baseline study (inadequate laboratories, available equipment etc.) as well as limited access to available baseline data and (3) inadequate funds allocated by the proponent.The impact identification and impact evaluation stages of the EIA are also poorly performed. This could be due to lack of technical expertise to quantitatively or qualitatively assess impacts, insufficient knowledge of impact assessment methodologies and poor presentation of scientific information.

***Public consultation***

Although the current EIA legislations do not recognize public consultation as a means for environmental decision-making, often the project proponent engages in some form of public interaction in various degrees typically for donor-funded projects where the requirement for public consultation is obligatory. It has been found that in most of the cases, the public consultation is made in a limited nature during EIA preparation stages but totally absent during the implementation of the EMP. Arrangements to record any complaints by the community people about any environmental impacts and a mechanism for redressing the grievances are also typically not found present in most cases (Kabirand Momtaz, 2011). The current legislations do not also require the proponent to disclose information regarding the outcome of the EIA to the public. So the stakeholders, though consulted in the early stages of the EIA, are usually unaware of the issues related to the EIA in the long run.

***Underdeveloped private consulting sector within the country***

Some of the above deficiencies are associated withthe inadequate number of qualified consultants in the country to carry out EIA studies.There is no code of conduct for EIA consultants; nor there is any requirement of registration. A private consulting sector specialized in performing EIA studies is not totally developed yet, a situation which can only be improved through extensive capacity building.

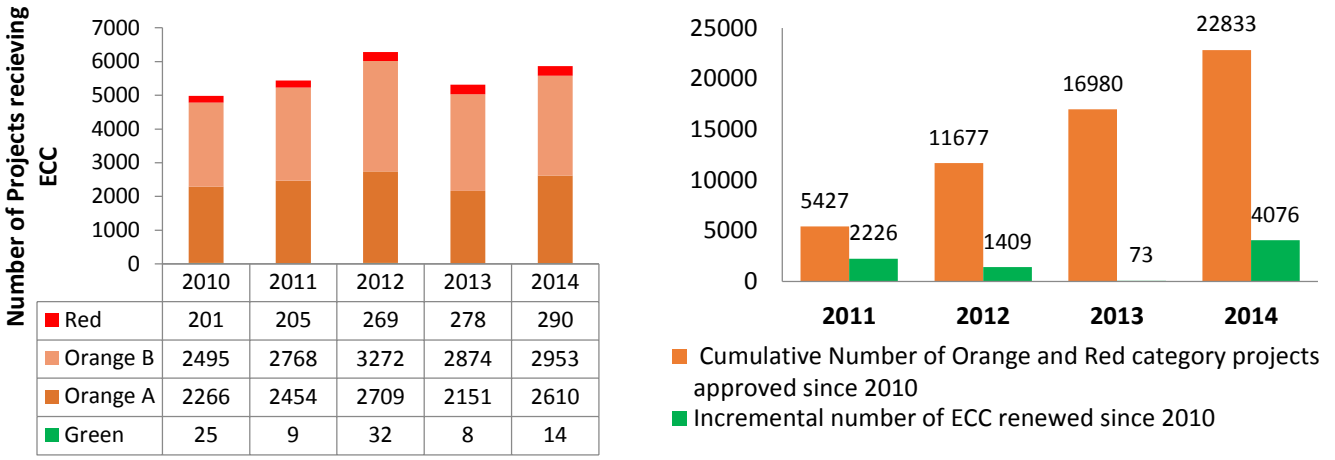


Figure 1: Number of different categories of projects given ECC during 2010-2014 in Bangladesh (*left*) and comparison between the expected number of ECC renewals and the actual number of renewals since 2010 (*right*). (Data source: Department of Environment)

***EIA implementation and follow-up***

Even if the EIA report is of adequate quality, the follow-up of the EIA, that is the implementation of mitigation measures and monitoring, determines the ultimate effectiveness of the EIA. Figure 1 (left) shows over 5000 projects have been receiving environmental clearance through the regulatory authority each year in Bangladesh over the last 5 years. In the Bangladesh EIA system, the EMP is a binding obligation for ECC and the project proponent is also has to apply for renewal of the ECC after a certain time period for the entire life-span of the project as per ECR 1997.The environmental clearance issued by the DoE remains valid for three years for green projects, and one year for other categories (ECR, 1997). The information that typically accompany with the application for the renewal of ECC are status of the project as well as environmental monitoring data which serves as an important indicator for the effectiveness of mitigation measures suggested in the EMP. In an ideal case, the number of renewals should theoretically match with the cumulative number of ECCs issued to-date. The ECC renewal data collected over the last five years show that the number of additional renewals is only a small fraction of this expected number (Figure 2 (*right*)). This indicates that the mechanism put forward through the ECR 1997 for post-EIA monitoring is practically ineffective since the proponents are not submitting renewal applications in within their stipulated time period as required by the provisions of ECR 1997. In many cases, it has been found that the proponents are totally unaware of this particular provision of ECR 1997. DoE is mandated by ECA 1995 to monitor the compliance of the project proponent with the ECC during the implementation and operation phase of the project. However inadequate capacity, both technical and financial, does not allow the agency to act on its mandate in an effective way at present. With an increasing number of projects being issued ECC each year along with the cumulative burden of all the previous years, the prospects of DoE to bring all the projects it has cleared under its monitoring wing remain uncertain. Kabir et al 2011 showed that even some donor funded projects in Bangladesh showed

poor of adherence to EMP despite EIA prepared as per requirements of the donor agencies and frequent donor oversight. For projects funded by GoB, Public Private Partnerships (PPP) and private entities, where DoE is the sole agency for overseeing the EIA follow-up, the implementation of mitigation measures is largely unknown.

**Discussion on Evaluative criteria**

From the summary evaluation presented in Table 1, it appears that the Bangladesh EIA system is adequate in many respects while deficient in certain other criteria. Annandale (2001) suggested that a set of 'core' criteria must be met for an EIA system to be effective which are: the existence of legal and administrative backing of the EIA system, the involvement of regulators in the establishment of scoping guidelines, existence of transparent government decision-making and approvals and adequate administrative support and viable private consulting sector. Most of these core criteria are satisfied in the case of Bangladesh EIA system. Therefore, although much can be done to improve the EIA process in Bangladesh (e.g. increasing administrative resources for monitoring and follow-up, developing a good private consulting sector, improving the impact prediction methodologies and tools), the fundamental structure of the EIA system can be considered sound. It is important for Bangladesh to maintain an iterative and 'continuous improvement' philosophy, so that revisions can be made when necessary, in order to strengthen its EIA system.

**References**

Annandale, D., 2001, Developing-country EIA: Developing and evaluating environmental impact assessment systems for small developing countries, Impact Assessment and Project Appraisal, 19(3):187-193.

DoE, 1997, EIA Guideline for Industries, Department of Environment, Ministry of Environment and Forest, Govt. of the People's Republic of Bangladesh.

ECA, 1995, The Bangladesh Environment Conservation Act 1995, (Act no. 1 of 1995) Department of Environment, Ministry of Environment and Forest, Govt. of the People's Republic of Bangladesh.

ECR, 1997, The Environment Conservation Rules 1997, Department of Environment, Ministry of Environment and Forest, Govt. of the People's Republic of Bangladesh.

Kabir, S.M.Z., and Momtaz, S., 2011, Implementation of environmental mitigation measures and effective EIA practice in Bangladesh: a study of three development project, International Journal of Arts & Sciences, 4(27):1-18.

Kabir, S.M.Z., and Momtaz, S., 2012, The quality of environmental impact statements and environmental impact assessment practice in Bangladesh, Impact Assessment and Project Appraisal, 30(2):94-99.

Kabir, S.M.Z., and Momtaz, S., 2013, Fifteen years of environmental impact assessment system in Bangladesh: current practice, challenges and future directions, Journal of Environmental Assessment Policy and Management, 15(4):1-30.

Kabir, S.M.Z., and Momtaz, S., 2013, Sectorial variation in the quality of environmental impact statements and factors influencing the quality, Journal of Environmental Planning and Management, 57(11):1595-1611.

Momtaz, S., 2002, Environmental impact assessment in Bangladesh: a critical review, Environmental Impact Assessment Review, 22:163-179.

Nadeem, O., and Hameed, R., 2008, Evaluation of environmental impact assessment system in Pakistan, Environmental Impact Assessment Review, 28(8):562-571.

Paliwal, R., 2006, EIA practice in India and its evaluation using SWOT analysis, Environmental Impact Assessment Review, 26:492-510.

Wood, C., 1995, Environmental Impact Assessment: A Comparative Review (Longman, Harlow)
Sadler, B., 1988, The Evaluation of assessment: Post-EIS research and process development In P. Wathern (ed.),
Environmental Impact Assessment: Theory and Practice, Unwin Hyman: Boston. pp. 129-142.
Modak P.and Biswas, A. K., 1999,Conducting environmental impact assessment for developing countries, Tokyo: United Nations Press.
Fuller, K. 1999, Quality and quality control in environmental impact assessment. InHandbook of Environmental Impact Assessment, J Petts (ed.), Vol. 2, Chapter-4, pp.55–84. Oxford:Blackwell Science Ltd.
Sanchez, L.E. and Gallardo, C.F., 2005,On the successful implementation of mitigationmeasures, Impact Assessment and Project Appraisal, 23(3):182–190.