

*E*ffectiveness of Environmental Impact Assessment (EIA): Bangladesh Perspective

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Abstract: EIA as an environmental management tool has been successful in terms of global awareness raising over the last four decades. Due to its rationalist approach it has been criticised about the inherent aim of influencing development decision and protecting the environment. Numerous researches have been performed to measure the 'effectiveness of EIA' which is still evolving as a domain. Four major criteria's have been established till date. Effectiveness of Bangladesh EIA system has been explored with the help of those criteria. Procedural ineffectiveness seeks government measure in a couple areas mainly through institutional arrangement and capacity building. Substantive ineffectiveness reflects the global trend of failure to influence the development decision truly. Transactive effectiveness will be far reaching for a country like Bangladesh, dependent on foreign aid largely. Normative effectiveness is still little known, but mass awareness about the environment through the debate regarding an ES report is a recent experience.

Keywords: Environmental Impact Assessment; EIA; Effectiveness; Bangladesh

Introduction

Environmental Impact Assessment (EIA) is a tool to assess the impact of any proposed development prior to its commencement. It had introduction within the formal legislation during the course of National Environmental Policy Act (NEPA) in the USA in 1969 and has travelled more than a 40 year journey causing more mature and dynamic form of EIA. In all, 191 of the 193 member nations of the United Nations either have national legislation or have signed some form of international legal instrument that refers to the use of EIA. So it seems reasonable to say that EIA is a universally recognized instrument for environmental management which is firmly embedded in domestic and international environmental laws (Morgan, 2012).

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However, despite the international recognition and adaptation of EIA and its legal and procedural integration into many project planning and decision making systems, questions have increasingly been raised whether EIA is achieving its purposes. Its influence over the final decision appears to have been less than its originators anticipated (Sadler, 1996; Wood, 2003). Numerous studies have been undertaken to assess to what extent EIA is achieving its purpose. Majority of it focused on procedural requirement. However, increasing attention is being placed upon evaluating EIA according to more *substantive* criteria to judge whether EIA is resulting in the kind of outcomes that are typically sought. This has generally been referred in terms of EIA 'effectiveness' (Cashmore *et al.*, 2004).

This essay aims to explore the conceptual background of EIA effectiveness from a theoretical perspective. In doing so relevant literature and studies (Sadler, 1996; Cashmore *et al.*, 2004; 2010; Jay *et al.*, 2007; EU, 2009; IEMA, 2011; Morgan, 2012; Chanchitpricha and Bond, 2013) will be explored and analysed. Characterization, measuring criteria's and guidelines for improvements will be depicted. After portraying the criteria effectively, EIA effectiveness of *Bangladesh* will be judged.

Bangladesh is a country of transitional economy, having on an average 6% economic growth in the last decade (World Bank, 2013). Since early nineties there has been an increasing trend of Foreign Direct Investment(BOI, GoB 2012), which comes with the investment in industrial and infrastructure sector. Consequently causing environmental impact which brought EIA to measure the degree of intrusion first by the donors in the early eighties (Kabir, 2012). Bangladesh government formally introduced EIA within the legislative framework in 1995 (MoEF, GoB, 1995). Number of studies (Momtaz, 2002; Ahammed and Harvey, 2004; Kabir *et al.*, 2010; Kabir, 2012; Kabir and Momtaz, 2012; 2013; Momtaz and Kabir, 2013) has been conducted to assess the effectiveness of EIA in Bangladesh. But reflecting the broader trend majority focused on procedural effectiveness, which is logical for a rising legislative context like Bangladesh in terms of formal EIA practice. This essay will judge the EIA effectiveness Bangladesh in the light of applicable effectiveness criteria and available literature, guidelines and legal documents.

The next section of the essay will describe the EIA effectiveness in brief. The following section will assess the Bangladesh perspective and suggest improvement measures. At the end conclusions will be reached based on the findings.

EIA Effectiveness

Characterization

'The evaluation of EIA effectiveness is intended to determine how much difference EIA is making. Ideally, this question should be addressed with reference to the purposes underlying EIA, such as "restoring and maintaining environmental quality"' (NEPA, Section 101 (a) cited in Jay *et al.* 2007, p.290). On the other hand Cashmore *et al.* (2010)emphasised that the 'complex dynamic' of 'politics and power' should be a key focus when building a theory for measuring effectiveness. In contrast,

Retief (2010) identifies three broad themes based on a review of the international literature on environmental assessment:

- Theoretical Grounding – do we have a clear sense of the purpose of EA, and what it comprises?
- Quality – what is good practice, how do we judge quality, and what guidance do we provide?
- Effectiveness – what are we achieving through this process?

Criteria

“In the environmental assessment field, Sadler (1996) defined effectiveness as ‘how well something works or whether it works as intended and meets the purposes for which it is designed’ (p.37). Sadler (1996) tended to pay attention to the process and outcomes to ascertain whether the results of the process met the expected purposes, based on three categories of the effectiveness of environmental assessment: *procedural*, *substantive* and *transactive*. He suggested that procedural effectiveness means that the assessment complies with acceptable standards and principles, substantive effectiveness shows the achievement of expected objectives and transactive effectiveness is achieved where the outcomes are obtained with least cost in the minimum time frame. Baker and McLelland (2003) added *normative* effectiveness to the suite of categories developed by (Sadler, 1996). Bond and Morrison-Saunders (2013, p.45) argued that normative effectiveness reflected the extent to which normative goals, defined as a ‘combination of social and individual norms’, were achieved” (cited in and adopted from Chanchitpricha and Bond 2013, p.66).

Therefore, based on the review, effectiveness can be divided into 4 categories; procedural, substantive, transactive, and normative (Table 1).

Table 1: Effectiveness Categories and Descriptions

Category	Definition
Procedural Effectiveness	“Does the EA (environmental assessment) process conform to established provisions and principles?” (Sadler, 1996, p.39)
Substantive Effectiveness	“Does the EA process achieve the objectives set, e.g. support well informed decision-making and result in environmental protection?” (Sadler, 1996, p.39)
Transactive Effectiveness	“Does the EA process deliver these outcome(s) at least cost in the minimum time possible, i.e. is it effective and efficient?” (Sadler, 1996, p.39)
Normative Effectiveness	“Examination of the purpose involves finding out what normative goals are realised” (Baker and McLelland, 2003, p.586)

Source: Adopted and Reproduced in ‘Modified Form’ from Chanchitpricha and Bond (2013, p.67)

Deficiencies

Ortolano and Shepherd (1995, p.3) stated that EIAs have had ‘far less influence than their original supporters had hoped they would’ in influencing project and plan decision-making and identify a number of broad areas of concern: the different views about the nature and purpose of EIA and especially its relationship to decision making processes; institutional implementation issues; problems

associated with practice, including limited or no public participation; and the limited substantive effect of EIA as a process (cited in Morgan, 2012, p.7).

On the other hand, one of the major problems of EIA effectiveness assessment is to visualise the different scenarios with and without EIA. It is because of the difficulty to assess which environmental parameters will improve with the help of EIA. It becomes more complex while obscure terms like 'sustainable development' becoming the inherent goal of EIA, which is still ill-defined (Baker et al., 1997; Mebratu, 1998 cited in Jay et al., 2007).

Additionally, Wood and Jones (1997) examined the effectiveness of EIA in UK planning system by examining 40 planning applications and found that EIA influenced the decision in only one case. Summarizing that, EIA acted as confidence providing factor for the respective planning officer during his/her recommendation about the proposal. EIA lost its pre-assumed sole determinative role during the final decision stage while competing with other criteria's. They also found EIA's contribution for slight modification of the project design while overall types and scales of development were unaffected.

Similar conclusions were reached by Wood (2003) in a wider comparative review of seven EIA systems around the world. Wood concluded that EIA does exert some influences on development decisions, but it is common for the findings of EIA to be marginalised in favour of other considerations, such as *non-environmental objectives* and *political factors*.

In addition, European Union Commission in a recent study (EU, 2009) identified a number of areas where improvements in EIA practice are needed, including screening, scoping, consideration of alternatives, monitoring, public participation and EIA quality control. Furthermore, problems in four key areas of practice: screening, scoping and engagement, assessment and outcomes and outputs have been identified by IEMA (2011) while judging EIA process of UK.

Way Forward

Sadler (1996) refers to the influence that EIA process has upon decision making as the 'litmus test' of EIA effectiveness. In other words, we must turn to EIA's proximate, rather than substantive, aim to find measurable criteria of effectiveness. Additionally, clearer limits could be set for proposed developments according to the resilience or regenerative ability of the environments affected (Sadler, 1996).

Additionally, 'capacity building' has been seen for some years as an important strategy for the dissemination and improved practice of EIA. Training activities for practitioners, guidance on good EIA practice, and continuing research have been counted upon as means of establishing EIA and extending its influence (Jay et al., 2007).

Moreover, in the theory and principles of EIA the weakest connection between EIA goal and the EIA process has been made in relation to its post-decision stages which stimulate the suggestion to include better measure for the 'follow-up' of action after approval. One of the specific ways by which to address that is to establish stronger links between the EIA for a given project and its ongoing environmental management (i.e. mitigation, monitoring)(Morrison-Saunders and Arts, 2004; Slinn et al., 2007 cited in Jay *et al.* 2007).

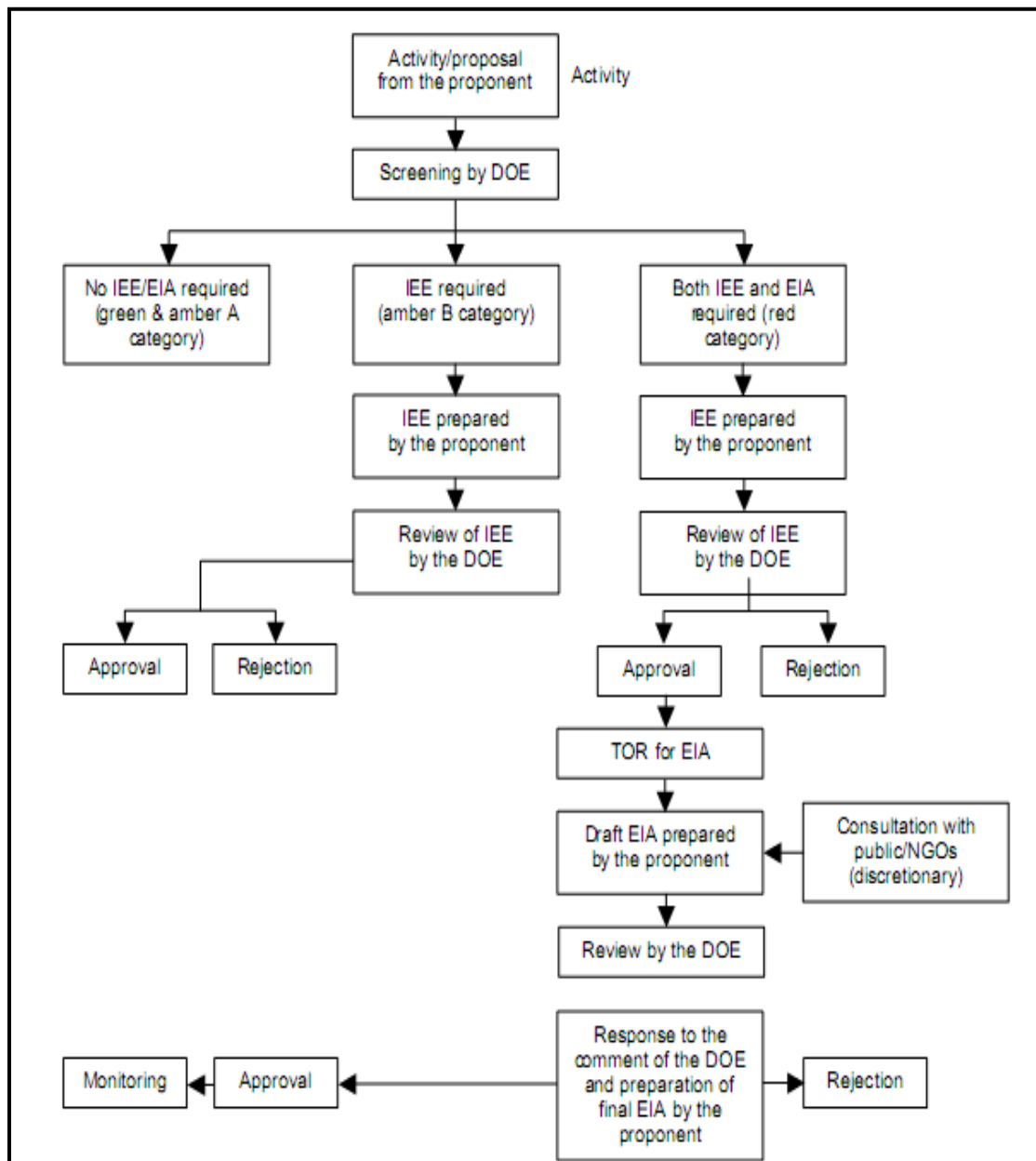


Figure 1: EIA Process of Bangladesh

Source: Ahammed and Harvey (2004, p.6)

Furthermore, another crucial limitation of EIA is, its ability to influence the decision in a true sense has remained unquestioned. However, the greater attention will be given to place EIA within the broader decision making processes, the more possibility of EIA being more closely adapted to those processes (Culhane *et al.* 1987; Bartlett and Kurian, 1999; Richardson, 2005 cited in Jay *et al.*, 2007).

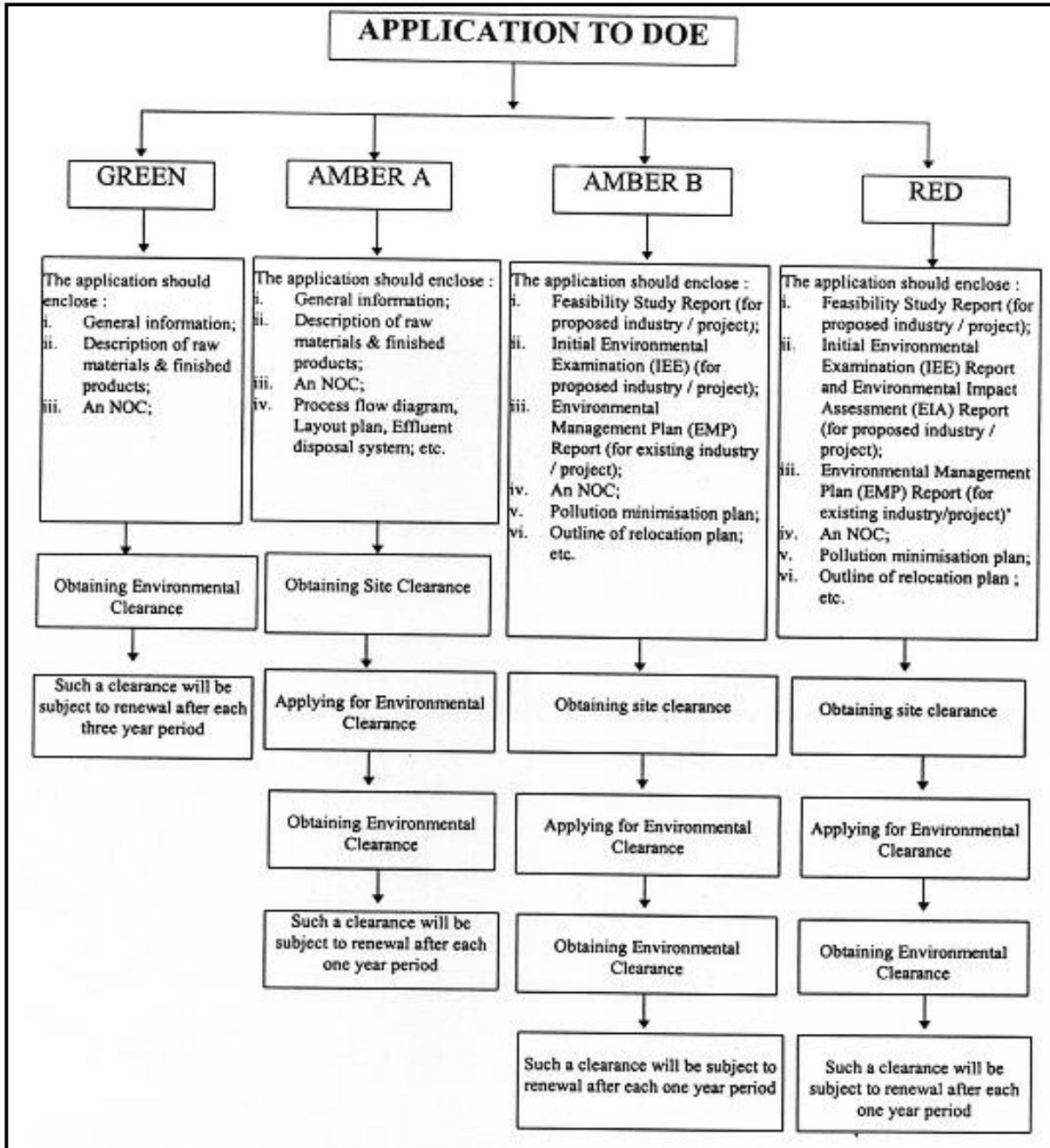


Figure 2: Steps for Environmental Clearance Certificate in Bangladesh

Source: Adopted from DoE, MoEF, GoB (1997, p.7)

Bangladesh Perspective

Legislative Context and EIA Process

EIA process was formally included in legislation of Bangladesh through incorporation in the National Environmental Policy, 1992 (1992 GoB, MoEF), which has been finally endorsed through Environmental Conservation Act (ECA), 1995 (MoEF, GoB 1995) and Environmental Conservation Rules (ECR), 1997 (MoEF, GoB 1997). This act and rule sets the detail context, procedures, standards and conflict resolution mechanism for EIA. Department of Environment (DoE) under the Ministry of Environment and Forestry (MoEF) is the responsible authority for EIA process and providing environmental clearance. DoE developed a guideline for EIA process (DoE, MoEF, GoB 1997) which acts as the basis for Environmental Statement Preparation (ES) in Bangladesh in all aspects. Proponents are responsible for preparing the ES. DoE is responsible for review and providing clearance. To optimize the resource use EIA process has been fragmented in three tiers (ibid. p.3): Screening, Initial Environmental Examination (IEE) and Detailed EIA (Figure 1). Projects are categorized into four classes (Green, Amber-A, Amber-B and Red) according to their potential threat and impact (Figure 2). For donor funded projects ES is prepared according to their prescribed guidelines (Momtaz, 2002).

Effectiveness of EIA Practice

Procedural:

Momtaz (2002) pioneered the EIA effectiveness research of Bangladesh. He observed lack of skilled professional in DoE for judging ES and implementing mitigation measures. Presence of dual standards (i.e. donor and DoE) and lack of unified approach for ES preparation among the consultants were also identified. Moreover, there is no mechanism in place to ensure monitoring of project impacts to identify and rectify impacts that were not picked up by the EIA. Ahammed and Harvey (2004) also pointed out this absence of EIA compliance and monitoring within the legislation. According to Environmental conservation Rules, 1997 (MoEF, GoB 1997) project proponents are only responsible to submit the monitoring and environmental management plan. But there is no provision or legal binding either on DoE or the proponents to follow-up the approved plan or implementation of mitigation measures (Kabir, 2012; Momtaz and Kabir, 2013).

Additionally Ahammed and Harvey (2004) pointed that scoping at the initial stage is not clear to the individuals and groups involved in the process of EIA and there is a need for clear guidelines spelling out the procedures and steps of EIA legislation (ECA, 1995 and ECR, 1997) which is also supported by Kabir (2012) and Momtaz and Kabir (2013).

On the other hand, Kabir et al. (2010) and Kabir and Momtaz (2012; 2013) through a couple of studies explored the quality of ES of Bangladesh (i.e. 35-40% still unsatisfactory) deteriorating the

effectiveness of EIA. They stated the reasons behind that - inadequate study time, lack of baseline data, weak EIA teams, lack of EIA experts, inadequate funds and weak Terms of Reference by DoE.

Substantive:

Momtaz (2002) observed proponents hire consultants to conduct EIA. Their intention is to get an EIA done that would highlight the benefits and justify the proposal in order to obtain environmental clearance from the DoE or from the donor agencies for the purpose of fund clearance. It is therefore the job of the consultants to satisfy the proponent's requirements rather than carrying out *EIA's objective* to ensure environmental and social soundness of projects. In addition, there are no codes of conduct by which the activities of the consultants are governed.

In addition, Ahammed and Harvey (2004) investigated that proponents holds all the relevant information regarding the project which places them in an advantageous position to identify and assess potential impacts with better confidence. So they argued strongly in favour of independent bodies to conduct EIA. They also identified that proponents consider EIA as a permission seeking tool not a way to reduce the impact for the betterment of environment, this way neglecting the intrinsic value of EIA.

Transactive:

According to Momtaz (2002) EIA practice in Bangladesh is resource intensive (i.e. time and money). Because most of the EIA is donor funded. He suggested the need to develop simplified EIA procedures that would be consistent with the availability of resources within the country. Dependence on donor agencies to meet the cost of EIA undermines the whole idea of using EIA as a tool for sustainable development.

Normative:

Adequate study to assess this criteria of effectiveness for Bangladesh is still absent. Through the analysis section titled 'policy initiative towards EIA' by Alshuwaikhat *et al.* (2007, pp.233–235) it can be found that wider practice of EIA through ECR, 1997 acted as a catalyst behind the inclusion of EIA guideline for water resource management project (WARPO, MoWR, GoB, 2005) under National Water Management Plan. Additionally, recent mass protest against the '*poor and intentional*' EIA of 'Coal Based Thermal Power Plant at *Sundarban*' (the largest mangrove forest of the world and an UNESCO heritage site), Bangladesh (Muhammad, 2013) is a sign of people's awareness about EIA. The wide practice of EIA and its significance within the decision making system, brought this change in people's value system about environment and sustainability definition as a whole.

Strategies for Improvement

According to Kabir (2012) and Momtaz and Kabir (2013) the EIA legislation (ECA, 1995 and ECR, 1997) should be amended to include the stages of the EIA process (scoping, analysis of alternatives,

evaluation of impacts and contents of an ES) and other requirements such as provision of EIAs for the extension of project and the review process of EIA reports.

Momtaz (2002) exerted the need of coordination among the concerned agencies and put forward a unified guideline for EIA sensitive to the socio, economic and political context of Bangladesh. He also identified the need to judge the ES by independent reviewer bodies to achieve the inherent goal of EIA, which is to influence the decision in a true sense. He explained his proposition due to the presence of high rate of corruption and rigid administrative mechanism of government. In contrast capacity building at various levels both within and outside the government has been suggested by Ahammed and Harvey (2004).

Moreover, consultation with local people and their representation in project development process has been suggested to ensure better decision making (Momtaz, 2002). Additionally, an increase of manpower and a restructuring of the DoE seem to be essential although it is recognized that there are financial constraints for the government according to Ahammed and Harvey(2004). They also conclude to build the capability of the DoE staff in impact prediction and IEE/EIA review and to establish a strong enforcement practice. Finally, MoEF/DoE should establish formal linkages with universities, research organizations, and NGOs within the county to share expertise.

Furthermore, Alshuwaikhat et al. (2007)proposed the introduction of Strategic Environmental Assessment (SEA) in Bangladesh where major development programs are being implemented by a number of local and international agencies. This will provide the decision makers with more time to consider environmental consequences at an early stage. SEA would also allow the consideration of cumulative impacts of various projects.

Conclusion

EIA as an environment management tool has been successful in terms of global awareness raising over the last four decades. Due to its rationalist approach it has been criticised for the inherent aim of influencing development decision and protecting the environment. Numerous researches have been performed to measure the 'effectiveness of EIA' which is still evolving as a domain. Four major criteria's have been established till date. Effectiveness of Bangladesh EIA system has been explored with the help of those criteria's. To conclude, EIA system in Bangladesh is on the right track with effort being made by the government through establishing basic legal and administrative setup. However, the EIA system is still far from fulfilling good practice requirements. Procedural ineffectiveness seeks government measure in a couple areas mainly through institutional arrangement and capacity building. Substantive ineffectiveness reflects the global trend of failure to influence the development decision truly. EIA in Bangladesh still considered as requirement for getting environmental clearance from DoE, not as a sustainable development tool. Transactive effectiveness will be far reaching for a country like Bangladesh, depended on foreign aid largely. Normative effectiveness is still little known,

but mass awareness about the environment through the debate regarding an ES report is a recent experience. Bangladesh as an effective EIA system is still far reaching but through awareness raising, research and learning, donor pressure and proper government initiative it is achievable.

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