

Developing-country EIA

Developing and evaluating environmental impact assessment systems for small developing countries

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This paper categorizes and reviews different approaches to environmental impact assessment (EIA) system evaluation. It then describes the application of Wood's (1995) 'ideal' EIA system evaluation criteria to the Republic of Maldives. Few of the criteria are actually met. Is the Maldivian EIA system therefore fundamentally flawed or deficient? Field observations suggest that this is not so and, while many improvements can be made, the system is quite locally appropriate. It is concluded that there are a number of factors contributing to the positive development of the Maldivian EIA system, and these should be added on to Wood's list as supplementary criteria appropriate to small developing countries.

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THE IMPORTANCE OF EIA in the mix of environmental policy instruments is now internationally accepted. It has only been in the last ten years or so, however, that the development of 'formal' EIA systems (those given legal or administrative backing) has accelerated. This rapid growth has been predominantly in the developing world, where multilateral and bilateral donors and development agencies have supported the formalization of EIA systems.

Clearly we now have much experience in the design of EIA systems at the national level. As a consequence we have a better understanding of how to compare and evaluate EIA systems, so as to strengthen and improve them.

The purpose of this paper is to apply a set of EIA system evaluation criteria to an existing impact assessment administrative process in a small developing country (the Republic of Maldives), as a method of review leading to administrative reform. It begins with a brief discussion focused on choosing an appropriate set of EIA system evaluation criteria. It then moves on to outline the historical development of the Maldivian EIA system.

The next section applies the chosen set of EIA system evaluation criteria to the Maldives EIA process and analyses the outcomes of the evaluation. The paper concludes by suggesting a range of EIA system evaluation criteria that might be appropriate for small developing countries.

Appropriate EIA system evaluation criteria

The issue of examining or evaluating EIA processes has been approached with differing intentions, and

by a range of commentators. While little work has been done on categorising EIA evaluation approaches, Emmelin (1998) provides a useful starting point. He claims that there are four categories of EIA evaluation, formed around two dimensions. This concept is explained graphically in Figure 1.

The first dimension is based on a distinction between EIA systems structures on the one hand, and implementation structures on the other. The idea here is that some attempts to evaluate EIA focus on the design of the administrative *process*, while others focus on *outcomes* by evaluating the impact that EIA has had on actual environmental performance.

The second dimension is based on a distinction between theory and practice. Emmelin (1998, page 132) explains this distinction when he says that:

“(a)ny EIA system might be said to have a theoretical side in the sense that it is *designed to operate* on certain principles. On the other hand there is the practice of how it operates.”

Using this two-dimensional categorization system, Emmelin distinguishes between four different types of evaluation of EIA.

Category 1 consists of approaches that focus on EIA system design from an administrative process point of view. The best known of these is the international comparative review work undertaken by Christopher Wood (Wood, 1995; Wood and Coppel, 1999). Other examples include Hollick (1986), Gibson (1993), and Leu *et al* (1996). These studies establish evaluation criteria based on one or more ‘ideal types’.

The second category consists of *ex ante* evaluations of EIA documentation against ideal type criteria for ‘good’ documents, or ‘good’ practice. The seminal literature representing this category is the Lee and Colley (1992) package for EIS evaluation. A more recent exemplar is an evaluation of EIA reports in eight EU countries by Barker and Wood (1999).

The third category of EIA evaluation approaches focuses on the practical implementation of EIA. In this category, implementation tends to be measured by way of case study surveys, with a specific interest in ‘effectiveness’. The best example of this approach is probably the work undertaken by Sadler (1996) and others for the International Study of the Effectiveness of Environmental Assessment.

Emmelin’s final category of evaluation approaches consists of those that attempt to understand the functioning of EIA, and the quality of processes and documents, in the context of organizational and professional culture. Emmelin (1998) uses this approach in his own analysis of Nordic and Netherlands EIA. Arguably, this approach is also followed by Ebisemiju (1993) in his prescription for EIA in developing countries.

This categorization scheme suggests that researchers can make choices about how to approach the task of EIA system evaluation. Choices will be equally valid, but arguably should be explicit and targeted according to desired outcomes.

This paper reports on an exercise undertaken in the Republic of Maldives to review and reform an already existing EIA system. The purpose of the exercise was to compare the Maldivian system against an ‘ideal’, so as to pass comment on the system structure. According to Figure 1, this aim would require choosing an evaluation method from Category 1. Experience in the Maldives, however, suggests that there might be issues of organizational and jurisdictional culture that affect the performance, and hence design, of the national EIA system.

As a consequence, the EIA review reported in this paper used a combination of Category 1 and Category 4 approaches. The Category 1 model chosen for this exercise was the well known one developed by Wood (1995) for his comparison of EIA in seven jurisdictions.

Modifications were made to Wood’s criteria to take account of local organizational and jurisdictional cultural issues. The details of this modification are explained later in this paper. The next section provides a brief coverage of the development of EIA in Maldives.

History of EIA development in Maldives

The development of a bureaucratic system specifically aimed at environmental protection did not begin in Maldives until the mid-1980s. Perhaps the most significant driving force behind this development was the production of a study commissioned by UNESCO (UN Educational, Scientific and Cultural Organization) that examined the feasibility of establishing a ‘Man and the Biosphere’ reserve (Kenchington, 1983). Among other things, this report recommended the initiation of an Environmental Commission to advise the Government on environmental issues. This occurred in 1985 when

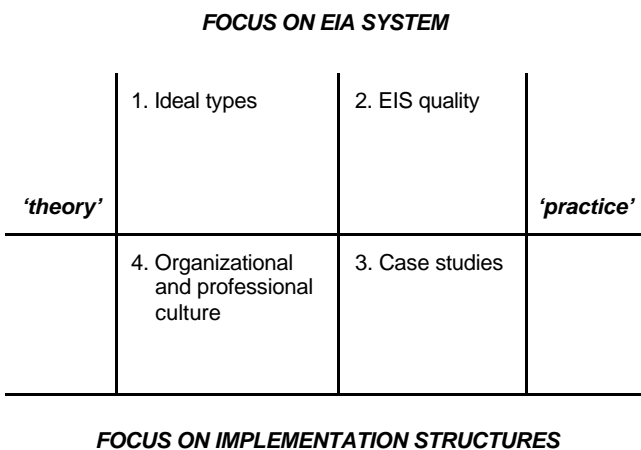


Figure 1. A categorization system for approaches to EIA system evaluation
 Source: Emmelin (1998)

the Government established a National Council for Environmental Protection, and an Environment Division within the Ministry for Home Affairs.

In the late 1980s, the possible impacts of climate change became a real concern for Maldives, given its extremely low topographic profile. UNEP (UN Environment Programme) assisted the Government to examine responses to potential sea-level rise and one of the outcomes was the first National Environmental Action Plan (NEAP), which was published in 1990. This recommended a number of policy responses, including the need for an environmental research capability and an EIA system. As a consequence of the NEAP recommendations, the President's Office issued a direction making EIA mandatory.

Eventually this direction was formalized, and in 1993 it became part of a broad, framework environmental law known as the *Environmental Protection and Preservation Act of Maldives* (Law No. 4/93). This Act sets the stage for regulations and policies related to protected areas/nature reserves, environmental impact assessment (EIA), and to some extent, waste disposal (including hazardous waste).

The benefit of a framework law such as exists in Maldives is that, as long as the power is explicitly provided in the law, it allows the delegated Government authority (in this case Ministry for Planning, Human Resources and Environment [MPHRE]) considerable discretion to develop its own more detailed administrative procedures.

With the help of the Asian Development Bank (Hatfield Consultants Ltd, 1994), a set of Administrative Procedures for EIA was written and agreed to by Cabinet in December of 1994. However, these procedures have not been closely adhered to, nor have they been officially designated as formal regulations.

It is, however, this combination of framework law and Administrative Procedures that will be evaluated in the next section, using the modified Wood criteria.

More recently, another step has been taken to review and extend the EIA process. In the early 1990s, the UNDP (UN Development Programme) in Maldives began a long-term project to strengthen the

environmental bureaucracy in the country. Towards the end of this project (known as Capacity Enhancement in Environmental Planning and Management) in 1997, the UNDP funded a short consultancy to review the existing EIA process. This work resulted in the redrafting of detailed EIA administrative procedures, with the hope that they will become official regulations under Law No. 4/93.

Applying the modified Wood criteria

Wood (1995, page 12) introduces 14 EIA system evaluation criteria, each of which consists of groups of 'sub-criteria'. For example, Wood's first evaluation criterion ("is the EIA system based on clear and specific legal provisions?") is applied to seven jurisdictions by way of seven sub-questions.

The approach developed by Wood can be applied to any jurisdiction. However, not all his EIA system evaluation criteria are relevant to small developing countries. In line with this paper's professed intention to take account of local organizational and jurisdictional culture issues, some modifications were made to Wood's criteria before they were applied to the Maldivian EIA system.

Wood's 14 criteria were regrouped into the following seven categories:

- legal/administrative backing;
- preliminary assessment;
- detailed assessment;
- EIA study review;
- decision-making;
- follow-up; and
- administrative support.

Each of these categories was supported by between two and five sub-criteria, and all are listed in Table 1. The resulting 'evaluation principles' were then applied to a combination of the *Environmental Protection and Preservation Act of Maldives* (Law No. 4/93), and the Administrative Procedures agreed to by Cabinet in 1994. Table 1 presents a summary of the application of Wood's criteria to the Maldivian EIA system. This kind of full evaluation is valuable because it provides a structure for discussion as to how individual elements of the EIA system might be improved. This is, in fact, what happened as part of the UNDP's Capacity Enhancement in Environmental Planning and Management project.

The evaluation is also useful because it allows for an overall judgement to be made about how a 'real', operating EIA system compares with an ideal-type.

A bald reading of Table 1 suggests that the Maldivian EIA system is a long way from meeting the ideal. Of the 23 criteria used, 'yes' responses are provided for only six. The question can then be raised as to whether the Maldivian EIA system is therefore fundamentally flawed or deficient.¹

In the late 1980s, UNEP assisted the Maldives Government to examine responses to potential sea-level rise: one outcome was the National Environmental Action Plan, which recommended a number of policy responses, including the need for an EIA system

Table 1. Evaluation of the EIA system in the Republic of Maldives

Evaluative principles	Rating	Comment
1. Legal/administrative backing		
Is the system based on clear legal provisions?	yes	The system is supported by a framework law
Does the EIA system rest on detailed administrative procedures/guidelines?	yes	Cabinet has approved Administrative Procedures, but these are not closely adhered to
Are the relevant environmental impacts of all significant actions assessed?	no	Not all significant actions are assessed
Is there a broad and open process of proposal referral?	no	The process for referral of proposals is not clear to participants
2. Preliminary assessment		
Does the EIA system require the analysis of alternatives?	no	There is no mention of alternatives analysis in the Administrative Procedures
Does the EIA system provide a mechanism for screening of actions for environmental significance?	yes	There is mention of screening in the Procedures, but the process by which it happens is not clear
Does the EIA system require that the scoping of environmental impacts of actions take place?	yes	Scoping responsibility is clear in the Procedures, but the relationship between the proponent and the Ministry could be made clearer
3. Detailed assessment		
Does the EIA system require that reports meet prescribed content requirements?	no	There is no mention of report structure or content guidelines in the Administrative Procedures, although the Procedures do specify the need for a "work plan".
Do checks on content (by Government assessing agencies) occur before publication of the proponent's EIA study?	no	No checks are undertaken or required, except in relation to the 'work plan'.
4. EIA study review		
Are the EIA studies presented for public review, and is the proponent required to respond to issues raised?	no?	The Procedures specify a public review process, but this has not been used in practice and there is no requirement to take the public's concerns into account
5. Decision making		
Is the decision-making process of Government transparent?	no	On a world scale the environmental decision-making process in the Maldives is relatively clear; it could, however, be more transparent
Is the decision, and the reasons for it, published?	no?	No provision is made for publication of final decisions about proposals
Do these reasons include an explanation of how the EIA report and review influenced the decision?	no	Reasons for decision are not published
Does the EIA system require that legally binding conditions be set?	no	No mention is made of conditions in the Administrative Procedures, other than a general statement about proponent responsibility for monitoring
Does the law/administrative procedures allow for a decision to be postponed until an EIA report has been prepared and reviewed?	no	No mention is made of the primacy of the environmental assessment decision
6. Follow-up		
Does the EIA system require post-approval monitoring of action impacts to be undertaken?	yes	Specifically discussed in the Administrative Procedures, although not consistently undertaken in practice
Does the EIA system require that mitigation of action impacts be considered at various stages of the EIA process?	no	No specific mention of mitigation is made in the Administrative Procedures, although the proponent is required to respond to the outcomes of monitoring
Is there a process for auditing proponents' commitments?	no	No mention is made of either proponent commitments, or auditing follow-up by the Ministry
Is there a process for monitoring and auditing the EIA system as a whole?	no	No mention is made of this principle in the Law or Administrative Procedures, although it is being undertaken on an <i>ad hoc</i> basis by consultants

(continued)

Table 1 (continued)

Evaluative principles	Rating	Comment
7. Administrative support		
Is the EIA system given adequate resources?	no	The Environment Section of MPHRE does not have enough staff to assist proponents in the design of EIA studies, and in the evaluation of completed EIA studies
Do existing staff have the appropriate skills to operate the EIA system?	yes	Collectively, the Environment Section and the Environment Research Unit have the skills to make the EIA system work
Does a well qualified, private local consulting sector exist?	no	There is a strong need for the Government and donors to assist with the establishment of a local private consulting sector
Is the 'across-Government' environmental administrative system supportive of EIA?	no	Various reforms need to be undertaken before the administrative system for EIA will work efficiently and effectively

While acknowledging that much can be done to improve the EIA process in Maldives, especially in the area of administrative resources, personal experience suggests that the basic structure of the EIA system is sound. As a general rule, proponents prepare EIA studies that include predictions, evaluations as to the significance of impacts, and mitigation/monitoring recommendations. Bureaucrats assess the EIA documents, and Government approvals are given based on bureaucratic advice.

If this is the case, and the system is not fundamentally flawed, then further questions can be raised about which of Wood's criteria are 'core' (meaning that they *must* be met for the EIA system to be considered to be viable) and whether there might be additional criteria that should be added to Wood's list to better reflect the position of small developing countries.

'Core' EIA system evaluation criteria

The literature dealing with the effectiveness of EIA is still young. Recent research into effectiveness concentrates on outcomes, which is understandable. People want to know whether the public and private time and money invested in the EIA process actually leads to improved environmental quality (or at least, maintains the *status quo*).

As a consequence of this focus on outcomes in EIA effectiveness research, there is little that has been said about the organizational preconditions for success.

The first 'core' or necessary criterion that would appear to be undeniable is some kind of direction from government that EIA should take place. In the past, many jurisdictions relied on a system of *ad hoc* decisions from either bureaucrats or politicians about whether or not a proposal should undergo environmental assessment. These jurisdictions are in the minority now, as proponents demand a degree of certainty from regulators.

A law and/or written administrative direction

spelling out how the EIA process is to work would arguably be a necessary condition for a viable EIA system. As has already been mentioned, Maldives has a framework environmental law that requires EIA, and a set of more detailed Administrative Procedures that are currently being strengthened.

The second 'core' criterion that is arguably a necessary organizational precondition for success relates to the preparation of a set of guidelines by which the EIA study should be undertaken. Clearly proponents will do this themselves as a project management imperative. The involvement of a regulatory agency is crucial, however, because it allows negotiation about the issues to be focused on, and an agreement to be reached about the technical content and style of the EIA document itself.

Once the conditions for an EIA study and its conceptual framework have been established through a scoping and guidelines-setting stage, the next fundamental requirement of an EIA process is a decision-making stage by government. EIA is a technical process, but it is also part of the politics of project approvals. It could be argued that a successful EIA process needs to have a transparent government decision-making and approvals stage where what is required of proponents and government agencies is made clear to all.

The final 'core' precondition for success appears to be adequate administrative support. One

The final 'core' precondition for success is adequate administrative support, one component of which is to have enough regulatory agency staff to ensure that the scoping/guidelines and the government decision-making core preconditions are met

component of this requirement is the existence of enough regulatory agency staff to ensure that the scoping/guidelines precondition, and the government decision-making core precondition are met.

Another, perhaps less obvious, component of this administrative support precondition is the existence of a well qualified, independent private consulting sector. The Republic of Maldives is handicapped in this regard because it has a small population and most of its qualified environmental professionals work inside the Government. It is faced with a conflict-of-interest problem where proponents hire environmental professionals to produce EIA studies who also often happen to work for Government agencies with an environmental mandate. The solution to this problem is for proponents to begin to hire their own environmental staff, and for donor agencies to assist in the development of a private consulting sector.

Additional EIA system evaluation criteria

The above discussion outlines the four fundamental criteria that need to be met before a jurisdiction's EIA process can be considered to be viable. This implies that the remainder of Wood's criteria are not necessary preconditions for viability, but add to the skeleton provided by the four core requirements and give it strength.

Based on experience with the development of the Maldivian EIA system, it appears that there are additional, non-core EIA system evaluation criteria that are not in Wood's list, but are nonetheless important determinants of viability for small developing countries. Five of these additional criteria will now be briefly introduced.

The first relates to the speed of development and implementation of the first-mentioned 'core' precondition: the legal/administrative hierarchy. It was effectively almost ten years from the time that EIA was first mooted until it became enshrined in Maldivian law. This relatively lengthy period allowed proponents, many of whom were Government agencies, time to adapt to the concept of EIA and learn how to produce EIA studies, and integrate them into project planning. While this concept of integration is by no means universally accepted, the coming of the law in 1994 did little more than formalize an already existing part of project development.

It is suggested then that gradual development over time of a formal legal/administrative structure for EIA is a factor contributing to a successful EIA system in Maldives. The point here is that small developing countries cannot easily adapt to regulatory 'shocks'. It should be noted, however, that time limits do need to be placed on the development of EIA systems, and these limits need to be specified publicly as a policy goal.

The second additional criterion is closely related to the first. Until the *Environmental Protection and Preservation Act of Maldives* was promulgated, EIA

was undertaken on an *ad hoc* basis when required by Ministers and bureaucrats. While this is not an ideal system for proponents, who are never sure whether their particular project is going to require EIA, it is a practical method for under-resourced environmental regulators coming to terms with the demands of administering an EIA system.

It is therefore suggested that *ad hoc* application of EIA requirements working in parallel with the development of a structured legal/administrative system is another factor contributing to a successful EIA system in Maldives. However, it needs to be acknowledged that structured legal/administrative systems are the end goal, and that *ad hoc* application of EIA should cease as soon as more rigorous administrative procedures are in place.

As with other areas of development in Maldivian society, environmental policy has expanded rapidly over the last 15 years. Despite its small size, Maldives is a major player in international environmental policy-making, especially in relation to the issues facing island developing states. It participates in all significant international environmental treaties and agreements.

As a consequence, it has had to develop its own national suite of environmental policies, if only to meet the reporting requirements of international agreements. A positive aspect of being small is that policies can be developed in an inclusive, integrative fashion. While Maldives is not immune to bureaucratic isolationism, it shows evidence of real attempts to build policy 'bridges'.

For example, the country recently embarked on a consultative process to draft a Second National Environmental Action Plan (NEAP) (the first was published in 1990). Produced with wide consultation across Government, the NGO (non-governmental organization) sector and the private sector, the Second NEAP makes specific recommendations about strengthening the EIA process, and draws links to other areas of environmental policy.

A second example relates to the process for development planning. In common with many developing countries, Maldives produces regular National Development Plans (on a five-yearly basis). The recently completed Fifth National Development Plan stresses, in a number of places, the importance of EIA in both strategic planning and project approval.

This direction is carried through from high-level policy to specific project development. Public-sector project feasibility studies have an environmental impact checklist component, and designs for projects such as tourist resorts are required to meet environmental criteria.

The third suggested additional EIA system evaluation criterion is that there should be a strong link between revision and improvement of the EIA system and other areas of policy development, particularly those relating to national economic development and the approval of new projects.

This criterion points to the importance of

consultation across traditional departmental lines. The EIA system in Maldives has benefited from additional ongoing consultation with proponents and NGOs. The drafting of the Second NEAP was achieved using a range of working groups, one of which focused entirely on EIA procedures and involved active participation from private proponents, public proponents and NGOs. They all provided verbal input to meetings, and detailed written comments on proposed new procedures for EIA.

A fourth suggested additional EIA system evaluation criterion is the necessity for regular involvement of proponents (public and private) and NGOs in ongoing revision and strengthening of the EIA system.

Finally, a common thread throughout this paper is the importance of deliberation and incremental change in reforming the Maldivian EIA system. A fifth suggested additional EIA system evaluation criterion is the importance of maintaining an iterative and 'continuous improvement' philosophy.

Conclusion

The strong international interest in developing EIA systems over the last 20 years has necessitated the establishment of 'models' that can act as guides. The literature dealing with comparative analysis of EIA systems has also grown over this period, to the point where countries, and other jurisdictions developing new administrative systems and reforming old ones, have plenty of guidance.

This paper compared the EIA system of the Republic of Maldives against one recent 'ideal-typical' model (Wood, 1995) and concluded that, although practical experience with the operation of the administrative process appeared to indicate that it was fundamentally well designed, it failed to meet many of the performance standards implied by the model.

This led to the conclusion that there is perhaps a set of 'core' criteria that must be met for an EIA system to work, and there may be additional criteria missing from Wood's list that are especially appropriate and important for small developing countries.

We suggest that the required 'core' criteria are:

- the existence of legal and administrative backing for the EIA system;
- the involvement of regulators in the establishment of 'scoping' guidelines;
- the existence of a transparent government decision-making and approvals stage; and
- adequate administrative support and a viable private consulting sector.

A further analysis of the Maldivian EIA system indicated that there are perhaps five additional criteria that should be added to Wood's list for the specific attention of small developing countries. This is because the additional criteria are based on a philosophy of incremental improvement that is most

appropriate for countries that will always tend to be under-resourced. The suggested criteria are:

- the importance of gradual development over time of a formal legal/administrative structure for EIA;
- the *ad hoc* application of EIA requirements working in parallel with the development of a structured legal/administrative system;
- the importance a strong link between revision and improvement of the EIA system and other areas of policy development, particularly those relating to national economic development and the approval of new projects;
- necessity for regular involvement of proponents (public and private) and NGOs in the ongoing revision and strengthening of EIA systems; and,
- the importance of maintaining an iterative and 'continuous improvement' philosophy.

Note

1. It should be noted at this stage that Wood (1995) does not suggest that an EIA system must provide affirmative answers for all criteria before it can be considered to be 'successful' or well designed. The question of how to determine the effectiveness of an EIA system is a complex one. Wood's aim is rather to point to the many different aspects of EIA system design that lead to an 'ideal-typical' model.

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