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Evaluation of the Effectiveness of the Environmental Impact Assessment Process in Myanmar

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Abstract

The systematic management of Environment is necessary to mitigate impacts from various development activities due to Myanmar political and economic transformation and foreign investment, especially in natural resource ssectors. Myanmar promulgated the Environmental Conservation Law in 2012 to conserve the environmental conditions and stipulated the Environmental Impact Assessment (EIA) procedure in 2015 to enact the EIA framework. This research focuses to evaluate the environmental impact assessment process effectiveness in Myanmar, based on current EIA practices and finally, the recommendations for improving the effectiveness of EIA are presented. In this research, professionally qualified persons who deal specifically with EIA needed to be questioned and data from the questionnaires were analyzed using the **S**tatistical Package for the Social Sciences (SPSS) software. Wood's criteria were selected to evaluate the EIA process in Myanmar. Myanmar EIA process was found to partially meet the selected Wood's criteria. The findings of this research suggest that, with limited time and financial resources, EIA is effective to address several urgent environmental issues and the recommendations will improve the effectiveness of the Myanmar EIA process.

Keywords: Environmental Impact Assessment Process, Effectiveness, Myanmar, Wood's evaluation criteria

မြန်မာနိုင်ငံ၏ ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ် ထိရောက်မှုကို အကဲဖြတ်ဆန်းစစ်ခြင်း

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စာတမ်းအကျဉ်း

မြန်မာနိုင်ငံ၏ နိုင်ငံရေး၊ စီးပွားရေး အသွင်ပြောင်းမှုနှင့် နိုင်ငံခြားရင်းနှီး မြှုပ်နှံမှုများ (အထူးသဖြင့် သဘာဝသယံဇာတ အခန်းကဏ္ဍများ)များပြားလာခြင်းနှင့်အတူအဆိုပါ ဖွံ့ဖြိုးရေးလုပ်ငန်း စီမံကိန်းများမှ သဘာဝပတ်ဝန်းကျင်အပေါ် ဆိုးကျိုး သက်ရောက် မှုများအား လျော့ပါးစေရန် ပတ်ဝန်းကျင်ကို စနစ်တကျ စီမံခန့်ခွဲရန်မှာ လွန်စွာ အရေးကြီးလှပေသည်။ မြန်မာနိုင်ငံအနေဖြင့် ပတ်ဝန်း ကျင် ထိန်းသိမ်းရေးဥပဒေကို ၂၀၁၂ ခုနှစ်တွင် ပြဋ္ဌာန်းခဲ့ပြီး ပတ်ဝန်းကျင်ထိခိုက်မှု ဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်းအား ၂၀၁၅ ခုနှစ်တွင် ထုတ်ပြန်ခဲ့ပြီးဖြစ်ပါသည်။ ယခု သုတေသနစာတမ်း သည် ပတ်ဝန်းကျင်ထိခိုက်မှု ဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်အပေါ်အခြေခံ၍ မြန်မာနိုင်ငံ ၏ ပတ်ဝန်းကျင် ထိခိုက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ် ထိရောက်မှုကို အကဲဖြတ်ရန်နှင့် အကျိုးသက်ရောက်မှု တိုးတက်စေရန် အတွက် နည်းလမ်းများကို အကြံပြုတင်ပြ ဆွေးနွေးထားပါသည်။ ဤသုတေသနစာတမ်းတွင် ပတ်ဝန်းကျင် ထိခိုက်မှု ဆန်းစစ် ခြင်းနယ်ပယ်တွင် ပါဝင်ဆောင်ရွက်လျက်ရှိသော ပုဂ္ဂိုလ်များကို မေးခွန်းစစ်တမ်း ကောက်ယူပြီး ရရှိသောအချက်အလက်များကို လူမှုသိပ္ပံစာရင်းအင်း ဆော့ဖ်ဝဲလ်ကို အသုံးပြု၍ ဆန်းစစ်ခဲ့ပါသည်။ မြန်မာနိုင်ငံ၏ ပတ်ဝန်းကျင် ထိခိုက်မှု ဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်အား အကဲဖြတ်ဆန်းစစ်ရာတွင် Wood ၏ စံနှုန်းများကို အသုံးပြုရန် ရွေးချယ်ခဲ့ပြီး မြန်မာနိုင်ငံ၏ ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်သည် Wood ၏ စံနှုန်း သတ်မှတ်ချက်နှင့် တစ်စိတ်တစ်ပိုင်း ကိုက်ညီမှုရှိကြောင်း တွေ့ရှိခဲ့ပါ သည်။ ဤသုတေသန၏ တွေ့ရှိချက်များ နှင့်အကြံပြုချက်များသည် ပတ်ဝန်းကျင်ဆိုင်ရာ ပြဿနာ များကို ဖြေရှင်းရာတွင် ပတ်ဝန်းကျင်ထိခိုက်မှု လုပ်ငန်းစဉ် ထိရောက်မှုကို တိုးတက်စေမည် ဖြစ်ပါသည်။

Evaluation of the Effectiveness of the Environmental Impact Assessment Process in Myanmar

1. Introduction

Environmental impact assessment (EIA) is a useful process in many countries around the world to examine the potential environmental impacts of the proposed projects (Sadler, 1996). EIA is a widely used tool to recognize the significant environmental impacts of the proposed projects and thereby give information to decision-makers for making environmentally sound decisions. The EIA process is an interdisciplinary and multistep procedure to inform decision-makers and the public about the potential environmental impacts of the proposed project before implementing it.

EIA practice in Myanmar began growing soon after Environmental Conservation Law (ECL) came into force. The ECL (2012) stipulates the fundamental principles and guidance for the matters of environmental conservation in a sustainable way. As indicated by this law, EIA implementation is essential to decide if the project done by any government organization, or individual may cause a significant environmental impact. Since its enactment, ECL has resulted in the preparation of well over full and partial EIA reports, and the EIA professionals have considerably increased. In this research, the perspectives of professionally qualified persons who work closely with EIA will be analyzed using a questionnaire survey. The results of this research suggest recommendations to improve EIA process effectiveness.

2. Objectives

The research objective is to explore the views of the EIA professionals and provide the recommendations for advancing the effectiveness of Myanmar EIA process.

3. Research Methodology

The methodology can be regarded as a qualitative research methodology. This research utilizes a range of data collection methods consisting of a review of EIA secondary sources, and questionnaires with environmental professionals. The questionnaire analysis was done by using the Statistical Package for the Social Sciences (SPSS) software. The evaluation of the EIA process was conducted via comparison to Wood's evaluation criteria.

The evaluation criteria of the Christopher Wood Model are the following:

1. Is the EIA system based on clear and specific legal provisions?
2. Does the screening of actions for environmental significance occur?
3. Must the relevant environmental impacts of all significant actions be assessed?
4. Must scoping of the environmental impacts of actions occur and the production of specific guidelines be produced?
5. Must the impacts of reasonable alternatives be demonstrated?
6. Are there prescribed content requirements for EIA reports and are checks to prevent the release of inadequate EIA reports performed?
7. Must EIA reports be publicly reviewed and are proponents required to respond to the points raised?
8. Are consultation and participation required prior to, during, and following EIA report publication?
9. Must the mitigation of impacts be considered throughout the EIA process?

10. Are EIA findings a central determinant of the decision (i.e. does the EIA influence the decision)?
11. Is project monitoring a requirement?
12. Must the EIA system be monitored and, if necessary, be amended to incorporate feedback from experience?
13. Are the financial costs and time requirements of the EIA system acceptable to those involved and are they believed to outweigh the discernable environmental benefits?
14. Does the EIA system apply to programs, plans, and policies, as well as to projects?

In this research, these evaluative ratings are employed for the process assessment, "Meets" – used to denote that the EIA process in Myanmar satisfactorily meets all of the elements of a selected criterion,

"Meets partially" - used to denote that the EIA process in Myanmar generally meets the elements of a selected criterion but that there are some observed weaknesses, gaps or deficiencies,

"Does not meet" - used to denote that the EIA process has substantial gaps or deficiencies and therefore does not satisfactorily meet the elements of a selected criterion.

4. Results and discussions

The analysis of the questionnaires is done by the Statistical Package for Social Sciences (SPSS) software version 23. Results are detailed under each of the headings of the evaluation criteria. Finally, a table synthesizing these results is provided. For this research, where time and financial resources are limited, the sample size has been fixed at 150 individuals. Care was thus taken to have a good mix of respondents representing Government officials from ECD and EIA consultants to receive the perceptions of a broad scope of EIA professionals. So, out of the 150 questionnaires sent out via email, 100 were sent back and the actually achieved response rate is 67%.

According to the questionnaire result, 30% of the respondents who answered the questionnaire are the government officials and 70% are the environmental consultants. The level of EIA experience acquired by the respondents is: 33% having specialized in the EIA field for 1–3 years, 18% for 3–4 years, 9% for 4–5 years and 40% for above 5 years. The assessment is based on the perspectives of EIA professionals. The analysis is presented below.

4.1. EIA legislation

The ECL (2012) sets out the fundamental standards and guidelines for environmental conservation. Environmental Conservation Rules (2014) outlines instruction for screening and EIA categorization. In accordance with ECL, MONREC issued the EIA Procedure (2015) which sets out the whole process of EIA and precise requirements for preparing EIAs, IEEs, and EMPs, detailing roles and responsibilities of the actors involved in EIA process and designating penalties for violating the requirements. Generally, six steps are included in the EIA process; screening, scoping, EIA investigation, EIA Reporting, review, and Approval process (EIA procedure, 2015). The National Environmental Quality (NEQ) (Emission) Guidelines (2015) set up the performance level for affluent and emission control for various environmental aspects.

As part of this research, respondents were questioned whether they assume that the Myanmar EIA legislation is clear and specific. Around 60% of respondents thought that the legislation for the EIA process is clear and specific. Another group of respondents (40%)

regarded the Myanmar EIA legislation to be poor. Around 65% of respondents considered that the EIA system is designed to cover all activities which have the possibility to harm the environment in the project area, and 35% considered the EIA system is not designed to cover these actions. Overall, it is concluded that Environmental legislation deals with EIA cases for the Myanmar EIA process but some legislation needs to revise with the current Myanmar situation. Therefore, the EIA process in Myanmar is assessed to partially meet the requirements for this criterion.

4.2. Screening

According to the EIA procedure (2015), the proponent submits a project proposal to ECD. The proposed project will be categorized as one of the three categories (EIA, IEE, or Non-IEE/EIA type project) depending on the scale and significance of the impacts likely caused by the proposed project. The process for categorizing is called screening.

Indeed, around 87% of respondents considered that in their current practice the EIA system provides a mechanism for the screening of environmental significant actions. The opposite view was expressed by 13% of respondents. There is a clear provision of the EIA procedure (2015) for screening purposes that establishes a list of the development types for which an EIA is needed. Thus, it is evident that the EIA process in Myanmar is assessed to meet the criterion for the screening of actions for environmental impacts.

4.3. Relevant impacts of all significant actions assessed

The EIA procedure (2015) describes the potential impacts to be considered in the preparation in the TOR. The ECD checks whether or not the impact assessment is described in the EIA report.

As part of this research, respondents were questioned whether they consider that the relevant environmental impacts for instance, environmental, economic, cultural, aesthetic, or social impact of all significant project activities are assessed in the current EIA process. Around 78% of respondents agreed that the relevant environmental impacts of all significant actions are assessed in the current EIA process and the opposing views were expressed by 22% of respondents. Most respondents indicated that the type and size of the proposal (52%) and the nature of the likely impacts (68%) are used for impacts identification methods.

Clear discussion that all anticipated significant impacts should be considered but there is some weakness in impact assessment. Overall, the requirements of the EIA process are deemed to partially meet the criterion for the relevant impacts of all significant actions to be assessed in the EIA process.

4.4. Scoping and specific guidelines

The proponent is responsible to undertake the scoping report and ToR for the EIA Report in a professional approach according to the EIA procedure (2015) and other EIA guidelines. As part of this research, around 89% of the respondents considered the scoping of environmental impacts of actions occurs but, the opposite responses were 11%.

EIA guidelines give an understandable instruction to the government organizations, project proponents, and EIA consultants in the preparation of EIA, IEE, and EMP reports and implementation of follow-up activities in line with the EIA procedure on how to develop reports. Around 47% of respondents considered the specific/ detailed guidelines provided for the EIA process to be sufficient, and 53% considered these guidelines to be poor.

The scoping requirement is simply outlined in the EIA procedure (2015), however the guidance materials are limited access for different sectors. Therefore, the criterion for the scoping of relevant environmental impacts and related guidelines is deemed to be partially met.

4.5. Alternatives assessment in EIA process

According to the EIA procedure (2015), the assessment of alternatives is considered during the IEE and EIA process. The proper selection of alternatives helps in reducing impacts on the environment and minimizing the cost of action under consideration.

As part of this research, respondents were questioned whether they think that the EIA system requires the analysis of alternatives. About 95% of respondents agreed that it is needed to consider the alternatives for the projects in the EIA process, but the opposite views were 5% of respondents. However, it is important to address alternative locations in practice, especially for large government projects. It is obvious from the above discussion that the EIA process partially meets its requirement.

4.6. Prescribed EIA report content and Checks to ensure adequate EIA reports

The EIA Report contains the followings according to the EIA procedure (2015):

- executive summary
- presentation of the project proponent and the environmental and social experts
- policies, legislation and institution
- description of the project
- selection of alternative
- overview of the project area (including the environment, social and so on)
- impact and risk assessment
- cumulative impact assessment
- measures of mitigation
- environmental management plan
- public consultation meetings and disclosure

If the EIA report does not meet the requirements as stated by the ECD, the project proponent is informed of the ministry's decision to reject the EIA report, and reasons for rejection by the ECD and then the proponent will undertake the necessary amendments.

It was observed from the questionnaire survey that around 92% of respondents thought that the EIA system requires that reports meet prescribed content requirements. Another group of respondents (8%) considered the EIA system does not require that reports meet prescribed content requirements. And then, about 85% of respondents think that checks on content (by government organizations) occur before the publication of the proponent's EIA study. Another group of respondents (15%) considered checks on content does not occur before publication. The content and format of the EIA report are precisely outlined in the EIA procedure. Checking of the content is not clearly presented in the EIA procedure. Overall, the Myanmar EIA process is concluded to partially meet the requirement for this criterion.

4.7. Public review of EIA reports

The EIA report is necessary to be easily accessible to the public during the EIA process. ECD has the responsibility for the public review of EIA reports in the current EIA process. MONREC, ECD, and the project proponent cooperate for public consultation/participation meetings and public disclosure processes at the relevant steps of

the EIA process (EIA procedure, 2015). Of the respondents, 95% think that the EIA reports are presented for public review, and the proponent is required to respond to issues raised, and the other 5% of respondents have the opposite views. It is argued that EIA reports (sometime in the form of an executive summary) are presented for public review, but distribution is not widespread and the public is not interested in the EIA report.

51% of respondents agree that the public is well informed on the steps of the EIA process and other respondents (49%) do not agree to that question. Because the public can't understand and have no knowledge as to the whole steps. EIA knowledge is not widespread in the general public. Third-party explanations at the public meetings gave them some knowledge. However, the Myanmar EIA process is deemed to partially meet the criteria for public review of EIA reports.

4.8. Participation prior to, during and following EIA report publication

The public participation is important in the whole EIA process to both release relevant information to the public and consult interested participants.

As part of this research, respondents were asked whether they felt that in current practice public consultation and participation are required prior to, during, and following the EIA report publication (Table 4.3).

Table 1. Results of the agreement level with public consultation and participation
Source: Questionnaire survey (2020)

Public consultation and participation are required -	Strongly disagree (%)	Disagree (%)	Unsure (%)	Agree (%)	Strongly agree (%)
prior to EIA report publication	6	3	4	42	45
during EIA report publication	4	9	12	42	33
following EIA report publication	6	8	14	49	23

Therefore, while the requirements of the EIA process are deemed to meet the criteria for public review prior to and during the EIA report publication, there are significant weaknesses with respect to participation following EIA report preparation, leading to an assessment of partially met against the selected criterion.

4.9. Mitigation of impacts

The EIA procedure (2015) states that the proponent describes the managing and implementing of significant impact assessment and mitigation measures with applicable laws, rules, regulations, standards, and guidelines for each project phase in the EIA report.

89% of the respondents agreed that the mitigation of impacts is considered at various stages of the EIA process and this compares with 11% with opposite views. Some respondents thought that mitigation measures are not included in some EIA report. The Myanmar EIA process is therefore deemed to partially meet the criterion for the mitigation of impacts to be considered in the EIA process although there are some observed weaknesses.

4.10. EIA influences decision

The decision-making on the EIA Report is a formal process decided by the ECC whether to approve an EIA report or not. MONREC has the authority to make a decision on the EIA report approval.

As indicated by the questionnaire survey result, 60% of the respondents thought that the stages of the decision-making and approval are made clear to all. This compares with 40 % who considered these stages are not made clear to all. Around 82% of respondents agreed that the findings in the EIA reports are considered as the key determinant in the decision-making process but another group of respondents (18%) did not agree that. Overall, the Myanmar EIA process is deemed to meet the requirement for EIA to influence the decision-making process though noted weaknesses are decision-making and approval stages, leading to an assessment of "partially met" against the selected criterion.

4.11. Project monitoring Requirement

Project monitoring is to decide whether the implementation of the project is as specified by the approved ECC or not. Around 95% of respondents believed that the monitoring of impacts by the project activities is required to be undertaken in the EIA process. A few respondents (5%) considered the monitoring of action impacts is not required to be undertaken in the EIA process. However, monitoring is accepted as a requirement in the Myanmar EIA process. This shows that the EIA process fully meets the requirement of this criterion.

4.12. Monitoring of the EIA system

ECD is mainly responsible for monitoring all project activities compared with the EIA report and conditions in the ECC and the monitoring report will be submitted to ECD. After issuance of an ECC, the project proponent takes part in the monitoring of all project activities.

As part of this research, respondents were asked whether the monitoring plan of the project, if essential, is modified to incorporate feedback from experience. Although some degree of disagreement (2% of respondents) with modification of monitoring plan is found, there are still a large number of respondents, 98%of respondents agree that the monitoring plan of the project, if necessary, is modified to incorporate feedback from experience. However, the Myanmar EIA process leads to the conclusion that the assessment criterion for project monitoring is met.

4.13. Financial costs and time requirements

EIA process takes financial and time resources to consider all steps from scoping to monitoring. The project proponent has full responsibility for legal and financial resources in mitigation of all adverse impacts. The EIA procedure (2015) clearly describes the time limit for ECD reply in the current EIA process.

Most of the respondents (76%) felt that the financial costs and time requirements of the EIA system are adequate to those involved and they are believed to outweigh the considerable environmental benefits, but the opposite views are 24% of respondents. There are clear timelines for EIA Review Panels to review TORs and EIA reports but these are frequently not met. Overall, the timing aspect and financial costs of the EIA process in Myanmar is assessed to be partially met.

4.14. EIA system application to programmes, plans, and policies (as well as projects) - use of SEA

Strategic Environmental Assessment (SEA) is an effective concept for incorporating the analysis of the environment into a strategic decision-making process and involves broad base planning, program, and policy when alternatives and the impacts of the environment cannot be determined effectively in EIA process at the project level. As part of this research, respondents were asked whether the EIA system applies to programmes, plans, and policies, as well as to projects. Around 88% of respondents think that the EIA system applies to programmes, plans, and policies, as well as to projects, but the opposing views were 12% of respondents. It is concluded that the Myanmar EIA process partially meets the criteria for the application of SEA.

Table4.4. Presents a summary of the results of the comparative analysis of the Myanmar EIA process against Wood's evaluative criteria for EIA in developing countries.

No	EIA Evaluation Criteria	Myanmar EIA process
1	EIA system based on clear and specific legal provisions	Partially Meet
2	Screening of actions for environmental significance	Meet
3	Relevant environmental impacts of all significant actions	Partially Meet
4	Scoping of the environmental impacts, and production of specific guidelines	Partially Meet
5	The impacts of reasonable alternatives	Partially Meet
6	Prescribed content requirements for EIA reports and Checks against the prescribed content to prevent the release of inadequate EIA reports	Partially Meet
7	Public review of EIA reports, including the proponent response to issues raised	Partially Meet
8	Public consultation and participation prior to, during and following EIA report publication	Partially Meet
9	Mitigation of impacts	Partially Meet
10	EIA findings as a central determinant of the Decision	Partially Meet
11	Project monitoring requirement	Meet
12	Monitoring of the EIA system, and incorporate feedback from experience	Meet
13	Financial costs and time requirements of the system	Partially Meet
14	EIA system application to programmes, plans and policies (as well as projects) - use of SEA	Partially Meet

Table 2. Evaluation of Myanmar EIA Process Using Wood Evaluation Criteria

5. Conclusions

Overall, three particular aspects of the EIA process (Screening, Project monitoring requirement, and monitoring of the EIA system) were found to clearly meet the defined criteria for EIA in developing countries, and other aspects of the EIA process were determined to partially meet the criteria with some identified weaknesses. The main strength in current EIA practice in Myanmar expressed by the majority of the respondents was procedure, instructions, and guidelines. Delays in initial review and approval of EIA are

regarded as the main weaknesses of the current EIA process in Myanmar, with 73% of the respondents questioned. Though some weaknesses are identified, overall, the EIA process in Myanmar is deemed to compare favorably to the selected evaluative criteria.

In order to improve the EIA process effectiveness in Myanmar, the conclusions of this research are also used to derive key recommendations as follows:

- setting up the specific responsibilities for project proponent, environmental consultants, and Government officials
- reviewing the EIA legislation and raising the conformity of EIA procedures and law enforcement in the implementation process
- developing guidelines and checklists for assessing EIA report quality
- increasing availability of existing EIA guidance materials
- implementing Public's environmental education and raising capacity building programs
- distributing of data across the site that is grouped according to sections specifically for EIA and convey relevant information to the public
- strengthening commitments to environmental monitoring and enforcement.
- funding for research and knowledge sharing.

In conclusion, the results generated from this research suggest ways to improve the effectiveness of the current EIA process for better environmental management and there are opportunities to implement these findings more broadly. It is believed that the proposed recommendations in this research are feasible and, if carried out successfully, will lead to increa.sed effectiveness of the Myanmar EIA process.

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