



Evaluation of the environmental impact assessment system and implementation in Myanmar: Its significance in oil and gas industry



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ARTICLE INFO

Keywords:

Environmental impact assessment
Myanmar
Natural resources
Oil and gas
Environment

ABSTRACT

Myanmar's political and economic transformation and drastic expansion of foreign direct investment in natural resource sector necessitate systematic safeguards to mitigate impacts from its development activities. Myanmar promulgated the first national EIA law and procedure only recently, in 2016, and the country's institutional and financial capacity is extremely limited to implement effective EIA. This article evaluates Myanmar's EIA system against a set of evaluative criteria developed by Wood (1995) and modified by Annandle (2001). The evaluation was based on the review of the literature, investigation of EIA legislative and administrative framework, and several other sources of data and information. Opinions of professionals from international and government agencies, and researchers are also solicited. The paper then evaluates the rate of EIA disclosure in O & G sector and whether EIA in Myanmar is significance in mitigating the impact of O & G operations on the environment. The review of EIA system indicates that Myanmar generally has sound legal and administrative framework for EIA, however, its practical implementation reveals several major challenges and weaknesses. The presence of more than one standard EIA procedure and lack of inter-departmental coordination and consultation are also major concerns. Overall, the quality of EIA reports and the level of disclosure in O & G sector is higher than that of other sectors in Myanmar. Through the analysis, the paper summarizes the fundamental challenges faced by companies and government, opportunities and good practices in implementing EIA systems and propose recommendations to strengthen EIA performance. The findings of this study expect to contribute to strengthening EIA system and performance in Myanmar and other developing countries, especially in Southeast Asia.

1. Introduction

EIA is a planning mechanism and systematic procedure established to examines the environmental impacts of a proposed project at an early stage (Briffett, 1999). It is designed to identify the significant impacts and mitigation measures, to avoid irreversible damage to the environment and to ensure sustainable use of natural resources (Badar, 2009). EIA is internationally recognized as standard environmental management tool for decision-making process (Naser, 2012). Principle 17 of the Rio Declaration on Environment and Development (1992) stated, "Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority" (Baird and Frankel, 2015). As Southeast Asian countries undergo rapid economic progress and associated industrial development and investments in natural resource sectors, assessment mechanisms of EIA have been increasingly playing an essential role for achieving over-arching goal of sustainable development

(Sano et al., 2016). Even though most of the Southeast Asian countries have EIA in place, or in the process of developing the procedure, the countries face various challenges in implementation of effective environmental and social safeguard through systematic EIA (Baird and Frankel, 2015).

In the case of Myanmar, environmental management is categorized as the one of the lowest in the world (Raitzer et al., 2015). Myanmar is still in the process of revising its policies and legislations on environmental protection (Myanmar Centre for Responsible Business, 2015). Environmental Impact Assessments (EIA) have been conducted arbitrarily and on an *ad hoc* basis for the projects operated by foreign corporations until recent announcement of EIA procedures signed by the Cabinet in the early 2016 (Shwe Gas Movement, 2013). Previously, the government did not possess the authority to require the commissioning for EIA and to make EIA publicly available (Shwe Gas Movement, 2013).

Myanmar is in the midst of critical transformation in the path of its development and modernization after more than 50 years of economic,

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social and political segregation (Japan International Cooperation Agency, 2015). Myanmar's remarkably abundant renewable and non-renewable natural resources, including onshore and offshore oil and gas, high-yielding ecological zones, human capital and strategic geographic location create a unique set of development opportunities (Lynn and Oye, 2014). Myanmar also is particularly rich in oil and gas resources both onshore and offshore. Despite the enormous wealth the country is bestowed upon, mismanagement, lack of responsible business conducts, poor governance and transparency have left Myanmar with some of the worst development indicators and environmental performance index that measures the environmental health and ecosystem vitality (Raitzer et al., 2015).

O & G industry account for 50% of government revenue and 45% of total export as single largest source of foreign income in Myanmar (The Burma Environmental Working Group, 2011). The country is drastically accelerating investment in its O & G sector by permitting a total of 36 new onshore and offshore blocks within a year (Myanmar Centre for Responsible Business, 2015). With systematic and effective responsible business conduct, Myanmar can reduce extreme poverty and boost shared prosperity (Myanmar Centre for Responsible Business, 2015). Nonetheless, there has been a distinct lack of public revenue transparency and public disclosure of information on financial interest, activities, environmental and social impacts, and role and responsibilities (Myanmar Centre for Responsible Business, 2015). It is unfortunate that oil and gas resources have potential to bring more physical and social harm to the people of Myanmar, especially in the oil-producing regions. O & G operations, both onshore and offshore, inevitability exert significant and deleterious pressures on the ecosystem and the society, caused by its chemical composition and complex operations (Pampanin and Sydnes, 2013). Physical adversities associated with oil and gas production in Myanmar can arise from onshore and offshore seismic surveys, exploratory and appraisal drilling and development of roads and production sites (Myanmar Centre for Responsible Business, 2015). Oil bearing communities in Myanmar are exceptionally vulnerable to the adverse impacts of oil contaminations on the environment due to their overwhelming dependence on natural resource for their livelihood (The Burma Environmental Working Group, 2011).

With the growing concerns of serious environmental predicaments, including climate change, deforestation, accelerated loss of diverse biodiversity and air pollution, Myanmar requires due diligence to determine the environmental impacts of its development activities and robust approaches like Environmental Impact Assessment (EIA) that can strike a balance between the development benefits and conservation of the environment. Implementing EIA regulations as a mandatory legislative requirement is a key to prevent the potentially negative consequences of extractive sector in Myanmar. Hence, quality review of Myanmar EIA system and the state of its implementation in oil and gas industry can be beneficial not only to the oil bearing communities but also to the oil companies.

The primary objective of this paper is to evaluate the current state of EIA system in Myanmar based on the newly published 2016-EIA procedure. The study also identifies their significance in mitigating the environmental impact of extractive sector in Myanmar, particularly in O & G industry. O & G industry is chosen because it is a key industry in terms of size and economic contribution in Myanmar extractive industry, and wide-ranging environmental impacts of its operations have been well documented. Even though an effective and rigorous EIA system is vital to safeguard the environment and socioeconomic structure of the nation, the research done to assess the quality and implementation of EIA, let alone EIA in O & G sector, is extremely limited in Myanmar. There is merely no research focused on EIA in O & G sector, apart from the study commissioned by Myanmar Centre for Responsible Business (MCRB) which examined the state of disclosure of EIA in O & G sector. This current paper aims to fill this gap by examining the strengths and weaknesses of EIA procedure in Myanmar and highlight its significance in O & G industry. Unravelling this

knowledge gap in the understanding of EIA implementation, especially in O & G industry, might be beneficial for the investors in Myanmar, especially in extractive industries to prevent potential challenges. The results of this study could contribute to up-to-date information on the EIA system and practice in Myanmar. The study expects to provide useful findings that can be utilized to strengthen EIA procedure not only in Myanmar but also in other developing countries, especially in Southeast Asian region.

2. Methodology

In order to evaluate the performance and effectiveness of Myanmar's EIA system, this study utilizes a set of evaluative criteria proposed by Wood (1995) and modified by Annandle (2001). National EIA systems have been widely reviewed against international ideal standards in many countries, so as to improve EIA applications (Zeremarian and Quinn, 2007). Among them, the researchers have been particularly interested in EIA implementation in developing countries (Zeremarian and Quinn, 2007). Wood (1995) developed a set of 14 comprehensive evaluation criteria to assess EIA in its international context. These criteria are based on the EIA legislation, administration, process and measures to improve effective EIA system (Badar, 2009). However, Annandle (2001) slightly modified Wood's criteria to incorporate small developing countries' organizational and jurisdictional cultural issues (Annandle, 2001). Ahmad and Ferdausi (2016) also used Annandle's modified Wood criteria to evaluate EIA system in Bangladesh. This modified system of evaluation regrouped Wood's 14 criteria into seven categories, such as legal/administrative backing, preliminary assessment, detailed assessment, EIA study review, decision-making, follow-up and administrative support (Annandle, 2001).

This evaluation principles were applied to Myanmar's newly published 2016-EIA procedure, 2012-Myanmar Environmental Conservation Law and 2014-Environmental Protection rules. Summary of the evaluation results of Myanmar's EIA system under the adopted criteria are presented in Table 1 in the next section. This study relies on the review of the literature on the investigation of EIA system in Myanmar and several other sources of data and information. Moreover, given the limitation of the amount of literature on EIA system and implementation in the country, opinions of professionals from international and governmental agencies, and researchers are solicited. Targeted EIA practitioners represent government authorities, researchers from environmental NGOs, and O & G companies. Semi-structured interviews based on the adopted evaluation criteria were conducted. Additionally, available published data and grey literature related to EIA implementation in O & G industry are gathered from Ministry of Natural Resources and Environmental Conservation (MONREC), State-owned Myanmar Oil & Gas Enterprise (MOGE), Asian Development Bank and Myanmar Centre for Responsible Business. It then evaluates the rate of EIA disclosure in O & G sector and whether EIA in Myanmar is significance in mitigating the impact of O & G operations on the environment.

3. Results and discussion

3.1. Environmental impact assessment (EIA) in Myanmar

Environmental Impact Assessment (EIA) in general is designed to anticipate, identify and predict the potential environmental consequences of any new development on the environment before the project is approved (Sadler, 1996). It is a planning mechanism for relevant mitigation measures to prevent any environmental problems arise from the project activity (Sadler, 1996). It safeguards that the potential problems can be tackled at an initial stage of the operation and avoid irreversible mistakes in implementation process. In many countries, EIA is a mandatory requirement under the environmental protection law and recognized as a preventive and precautionary

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