



Environmental impact assessment system in Thailand and its comparison with those in China and Japan



Kultip Suwanteep*, Takehiko Murayama, Shigeo Nishikizawa

Department of Environmental Science and Technology, Interdisciplinary Graduate School of Science and Engineering, Tokyo Institute of Technology, Japan

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ABSTRACT

This paper aims to find ways to streamline the Environmental Impact Assessment (EIA) system in Thailand to increase its effectiveness by comparative analysis with China and Japan. This study is mainly focused on review, update and comparison of EIA systems between these three countries. It is intended to clarify fundamental information of the EIA systems and characteristics of the key elements of EIA processes (screening, consideration of alternatives, prediction or evaluation of impact, and public participation). Moreover, the number of the EIA projects that have been implemented in all the provinces in Thailand are presented. The results identified the similarities and differences of the EIA processes among the three aforementioned countries. The type of EIA report used in Thailand, unlike those in China and Japan, is an Environmental and Health Impact Assessment (EHIA), which is concerned with the health and environmental impacts that could occur from the project. In addition, EIA reports in Thailand are made available to the public online and the shortcomings of the process have details of barriers resulting from the projects to help future projects with reconsideration and improvements. In this study, it is pointed out that Thai's EIA system still lacks local EIA authority which needs to be empowered by implementing a set of laws or ordinance.

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1. Introduction

Many countries have already implemented Environmental Impact Assessment (EIA) at the project level for many years and have accumulated a sound basis of knowledge and experience. Although the main EIA procedures are similar worldwide, the quality of Environmental Impact Statement (EIS) or EIA reporting varies from country to country. The EIA approach was established in East and Southeast Asia in the early 1980s. Many people in both developed and developing countries have studied their EIA processes continuously to increase the effectiveness of their systems (Kabir et al., 2010). Currently, Asian countries are also confronting the need to increase and improve the effectiveness and implementation of their EIA systems (Tsuji, 2015). However, there are arguments that the gap between high expectations and poor empirical performance is still significant (Nykqvist and Nilsson, 2009; Zhang et al., 2013).

Thailand implemented the EIA system after revision of the Enhancement and Conservation of National Environmental Quality Act (NEQA) in 1978 (ONEP, 2013). Although the EIA procedure in Thailand was established more than 30 years ago, it is still controversial. For example, Pantumsinchai and Panswad (2004) reviewed improvements needed in the EIA process and proposed several major issues for further revision

including steps in the EIA process, public participation, and the use of EIA expert panels. In addition, Stampe (2009) stated that the most important lessons from the studies of EIA in Thailand were that alternatives and scoping must be made and included in the early stage of EIA. It was also noted that public participation was the most crucial part of the recommended improvements in the EIA process. Similarly, Chesoh (2011) suggested in his finding to establish the law and regulation relating to public participation in every step of EIA process. This included processing of reports to include a code of conduct for consultants, and independent review by (external) committees. These recommendations show that the EIA process in Thailand still needs revision and improvement if it is to become more efficient.

The focus of many previous studies was on how to increase the effectiveness and quality of EIA systems. "Quality relates both to the Environmental Impact Statement (EIS) and to the EIA process. EIS quality can be assessed against various review frameworks in a structured and systematic way," (Glasson et al., 1997). Improvements to the effectiveness of EIA systems are a top priority that urgently requires attention on implementation rather than preparation (King and Olsen, 2013). However, there are many good approaches for streamlining EIA practice. Chanchitpricha and Bond (2013) summarized and conceptualized a set of effectiveness dimensions (procedural, substantive, transactive, and normative). This was intended to create a criteria-of-effectiveness framework for dealing with the aspects of impact assessment. In addition, Veronez and Montañó (2015) established integrative approaches by considering these different dimensions of effectiveness, to

* Corresponding author at: G5-9, 4259 Nagatsuta, Midori-ku, Yokohama 2268502, Japan.

E-mail address: suwanteep.k.aa@m.titech.ac.jp (K. Suwanteep).

understand more about the EIA practice, and to find the best ways to improve it (Chanchitpricha and Bond, 2013; Veronez and Montaña, 2015). One of the most practical and effective ways to improve the EIA processes is through procedural effectiveness (Veronez and Montaña, 2015; Bond et al., 2013). This is because the outcome from EIA implementation and practice relies on a highly effective EIA procedure. Furthermore, learning and gaining knowledge from one another's practices is another way to improve the EIA systems (Kurimoto, 2008). The key points in this study focused on the effectiveness of the EIA system. The EIA system in this study refers to the regulation of EIA, basic information such as the authority involved with EIA, and type of EIA report, including EIA processes that comprise a series of steps: screening, scoping, prediction of impacts, mitigation, monitoring, and public participation.

Even following similar basic EIA regulations, distinctions in each country lead to the establishment of its own form of implementation. Developed and developing Asian countries are the focus of this study. While China has much bigger number of EIA implementations than Thailand, it still struggles with controversial issues regarding the processes used, particularly the effectiveness of public participation (Zhao, 2010; Zhang et al., 2012; Enserink et al., 2015). However, there is another stage of the EIA process that should not be overlooked. Japan is one of the most developed countries in Asia, and has the longest implementation of environmental laws and regulations. In addition, EIA laws and systems in Japan were promulgated and implemented in the 1970s (The World Bank, 2006). Consequently, Japan can be a representative in the comparative analysis of the EIA systems. Even so, Japanese EIA law and processes still need to be revised and improved in such as public communication, simplified EIA and authority involvement (Hayashi, 2008). In addition, there has been no intensive study on the details of EIA processes in Thailand from which to observe gaps in the system that might need to be filled, and no statistical data is available on regional or sectoral EIA projects that have been implemented.

The objective of this study is to find ways to streamline the EIA system in Thailand to increase its effectiveness by a comparative analysis with China and Japan. In order to find procedural shortcomings and to increase the effectiveness of the EIA systems among these countries, it is necessary to first study and to highlight the essentials of each EIA system and produce evidence on the areas of concern that need improvement. This could be done by comparing the key elements among these countries in terms of EIA processes, the quantitative data related to the EIA system, and fundamental information of the EIA system. The details of comparative analysis elements will be further described in the following section. With this study, we first provide the updated current situation of EIA regulation and processes in these three countries, namely Thailand, China, and Japan. In the section on EIA in Thailand, additional information of the overview of hindsight of quantitative data about EIA case studies is presented according to sectorial and regional trends to show the advantage of these data. In the later part of the paper, we present a comparative study of EIA systems and procedures between the three target counties to provide points of contention in order to increase the effectiveness of these EIA systems. Finally, we conclude with points of further discussion and recommendations for improvement of the EIA system.

2. Methodology

Based on the procedural effectiveness concepts mentioned by Veronez and Montaña (2015) and Chanchitpricha and Bond (2013), this study was undertaken in two stages.

For the first stage of the study, the main source of data collected was from documentary survey research or desk study. This was applied to examine the current situation about the EIA system of these three countries. EIA legislation and procedures in Thailand were gathered from the EIA guideline book and ministerial notifications (ONEP, 2013; ONEP,

2015; Notification of MONRE, 2009; Anon, 2014). In addition, updates of the EIA system information and processes not only were taken from literature review but were also directly provided by the staff of relevant authorities in the Office of Natural Resources and Environmental Policy and Planning (ONEP), by reviewing the official website of ONEP, by contacting EIA consulting companies by phone, and also by collecting some data from the EIA library at ONEP, Thailand. In the case of Thailand, a quantitative database of EIA implementation was collected, to present a profile of past EIA cases. The only Thai quantitative database was gathered as a case study to demonstrate how much benefit can be gained from these data, in relation to the EIA effectiveness. This was gathered from the official website of the Environmental Impact Evaluation Bureau at www.eia.onep.go.th/index.php. Moreover, EIA projects implemented in 76 provinces in Thailand were individually collected. Then the EIA-case data were analyzed and sorted by sectoral and regional trends. The quantitative EIA case data used in this study were dated January 1991 through August 2014. In addition, information on EIA legislation, systems, and processes in China and Japan were mainly gathered via the official website of the Ministry of Environmental Protection (MEP; People's Republic of China; www.english.mep.gov.cn) and Ministry of the Environment (MOE; Japan; www.env.go.jp/en/) respectively. The quantitative data about China's EIA system had been studied previously by our research group, while face-to-face discussion on 29th June 2015 with the government staff from MOE in the Department of EIA was conducted to gain more information about quantitative data on the EIA processes in Japan.

The last stage of the study, comparative analysis of EIA systems between Thailand, China, and Japan, was conducted by finding shortcomings in the system to increase the effectiveness of the EIA system. The comparative analysis frameworks of this study is divided into three points: 1) fundamental information about the EIA system (enforcement of EIA act, central authority, EIA authority, type of project EIA report, authority of the company preparing the EIS); 2) EIA processes (screening, alternatives, evaluation and prediction of impacts, and public participation); and 3) quantitative data (consulting firms, comprehensive EIA report, EIA annual reports, and timing of approval).

3. Overview of the EIA systems of Thailand

EIA in Thailand is a mandatory requirement established by The National Environmental Quality Act in 1978, which was revised in 1992. Enforcement, until recently, was authorized by the *Enhancement and Conservation of the National Environment Quality Act. B.E. 2535 (NEQA, 1992; Kititansasorchai and Tasneeyanond, 2000; ONEP, 2013)*. The EIA requirements and authorities involved are described in Sections 46 to 51 of *NEQA, 1992 (NEQA, 1992; ONEP, 2013)* which is a framework of the environmental law in Thailand (Kititansasorchai and Tasneeyanond, 2000). "The Ministry of Natural Resources and Environment (MONRE) with the approval of the National Environmental Board (NEB) will have the power to issue the notification prescribing of categories and magnitude of projects or activities of government agency, state enterprise or private project which are required EIA report to the ONEP and the Expert Review Committee (ERC) for consideration and approval before further processing" (ONEP, 2013). Recent MONRE notifications state that there are currently 36 types and sizes of projects or activities for which submission of EIA reports is required, and a newly added category is the coking industry (Notification B.E. 2557 (Vol. 6), 2014). The information on projects requiring EIA reports was recently updated (in March by ONEP, 2015) as shown in Table 1. In addition, Environmental and Health Impact Assessment (EHIA) is another type of EIA report inserted into the Constitution of the Kingdom of Thailand in 2007 in Section 67 (Chanchitpricha and Bond, 2015; ONEP, 2015). There are 11 types of projects or activities that might cause serious harm to communities; for which EHIA processes are required, as shown in Table 2.

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