



Strategic environmental assessment implementation in China – Five-year review and prospects

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ABSTRACT

Through literature review and questionnaire survey, the purpose of this study is to understand current status and major fields of SEA implementation in China, and then to provide advice for future improvement of SEA system, according to objective evaluation of the effectiveness of SEA implementation. Major types and fields of SEA implementation were firstly studied to conclude that the attitude of decision-makers and competent authority of SEA implementation does generate direct impacts on SEA implementation. Current status of SEA implementation were then studied, in terms of timing, techniques and methodologies, public participation, information disclosure, alternative, and review organization, to conclude that SEA implementation in China is “impact-based SEA” and the major problems of SEA implementation are resulted from deficient and defective management of SEA system, such as laws, regulations, and means of management. In order to have objective evaluation on the effectiveness of SEA implementation, to understand good practice of SEA implementation, and to provide advice for future improvement of SEA system, it is necessary to establish reasonable and feasible evaluation criteria for the effectiveness of SEA implementation, based upon foreign experience and political, legislative, administrative and cultural characteristics of China. Various types and stages of SEA should be carefully considered to be included into the evaluation criteria for the effectiveness of SEA implementation.

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1. Preface

Strategic environmental assessment (SEA) was initially introduced into China in early 1990s. Now in China, SEA is mainly implemented at three significant decision-making levels, regional environmental impact assessment (REIA), plan environmental impact assessment (PEIA), and policy environmental impact assessment (Policy EIA), respectively. SEA implementation was greatly promoted as the “Law of the People's Republic of China on Environmental Impact Assessment” (the EIA Law) became effective in September 2003. As explicitly regulated in the EIA Law, PEIA is the legal requirement and shall be implemented for major economic development activities, integrated plans (such as land use, regional development, watershed development, and marine development), and special plans (for example, industry, agriculture, husbandry, forestry, energy, water conservancy, transportation, municipal construction, tourism and natural resources development).

For the past five years, there are remarkable progress on SEA development, especially for PEIA, in many aspects, such as infrastructure construction, methodologies and techniques improvement, and

practitioners training. In addition, abundant practical experience was gradually accumulated through many pilot studies and empirical cases. Nevertheless, there are many major and serious challenges to SEA implementation according to the perception of practitioners actively engaged in the planning and implementation of PEIA in China. Thus, the study is firstly to understand current status and major fields of SEA implementation in China through literature review and questionnaire survey. And secondly, reasonable advice for future improvement of SEA system is then provided according to objective evaluation of the effectiveness of SEA implementation.

2. Methodology

Many international and domestic literatures from 2003 to 2009 were reviewed to appraise the progress of SEA implementation in China, in terms of major fields of applications, and technical and methodological research. A survey on current status and effectiveness of SEA implementation in China was also conducted through questionnaire during ‘China Strategic Environmental Assessment Forum’ in Hong Kong, in February 2009. The questionnaire composed of questions with pre-defined answers was divided into four parts. The first part is focusing on SEA experiences of the participants. The second part is designed to find out the techniques and methodologies

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used during SEA implementation. Then participants will be asked to give their opinions on the effectiveness of SEA implementation in China. Finally, the participants will be requested to identify key issues to affect the effectiveness of SEA implementation in China. Major questions of the questionnaire are listed in Table 1.

About 180 persons attended the Forum mostly professional practitioners and officers from government agencies and competent authority of environmental affairs. There are 81 completed questionnaires retrieved (45% of 180), 7 from central and local government agencies, 7 from environmental assessing and consulting institutes, 38 from colleges and universities, and 29 from environmental research organizations, as shown in Table 2.

3. Major fields of SEA implementation

As described, the main modes of SEA implementation in China are REIA, PEIA, and Policy EIA. REIA is the earliest mode of SEA implementation in China, which has been implemented since late 1980s (Lam et al., 2009; Li et al., 2008). After the EIA Law became effective in 2003, PEIA has gradually become the main mode of SEA implementation in China. Since the major differences between REIA and PEIA can be easily identified in many aspects, such as applicable scope, assessing objects, and management procedures for assessment (Li et al., 2008), REIA still plays a very important role in SEA implementation. Policy EIA was mostly performed by the policy-making department, voluntarily. Nevertheless, same as other countries and regions where SEA system is implemented, there are no specific regulations to require Policy EIA should be performed for policies, and national economic and social development plans, so far. However, after the EIA Law became effective, it is increasingly realized by many regions and departments that environmental issues should be included into the decision-making process. Policy EIA was then performed by some policy-making departments through the collaboration with environmental departments. Though with years of practical experience in SEA implementation, unfortunately, there are lacks of statistical information regarding how many cases of SEA implementation, due to SEA was organized, performed and reviewed by governments and competent authority at various levels.

According to literature review, the top five interested fields of SEA research are land use (35.57%), transportation (14.77%), urban construction (12.42%), industries (9.73%), and regional development (6.71%). Through questionnaire survey, we have found that five main areas of SEA implementation are identical to five interested fields of SEA research with different ratios, such as regional development (28.44%), urban construction (20.00%), land use (9.78%), industries (9.78%), and transportation (8.00%). Apparently, most of the interest and effort of SEA research and implementation were focusing on regional development, urban construction, industries, and transportation, due to fast trend of industrialization, urbanization, and

Table 1
Major questions of the questionnaire.

1. Which fields of SEA have you undertake or review?
2. Which guidance did you refer to whilst undertaking the SEA?
3. Which techniques have been used in each stage of the SEA process?
4. Did the alternatives be evaluated in the SEA project you undertake or reviewed?
5. If the public participation is effective in the SEA project you undertake or reviewed?
6. The method of public participation has you used?
7. Do you think the information used in public participation is clear and easy to understand?
8. What are the main shortcomings of public participation from your experience?
9. Which sector usually leads the review team from your experience?
10. The timing of initiating SEA during the planning process.
11. What is the attitude of planning departments towards the SEA solutions according to your experience?
12. The key issues to affect the effectiveness of SEA implementation in China.

Table 2
Participants from retrieved questionnaire.

Categories	Amount	%
Central and local government agencies	7	8.64
Environmental assessing and consulting institutes	7	8.64
Colleges and universities	38	46.91
Environmental research organizations	29	35.80
Total	81	100.00

modernization from high economic development and growth. And, little interest and effort of SEA research and implementation were spent on forestry, husbandry, and agriculture, as shown in Table 3.

For regional development planning, as the earliest mode of SEA implementation in China, REIA has been implemented since late 1980s. Therefore, many regulations have been promulgated and enforced. In 1993, EIA for development zones and total emission control on pollutants were explicitly regulated in “Some Suggestions on Further Improvement for Environmental Protection Management on Construction Projects,” promulgated by National Environmental Protection Agency (NEPA). In 1998, as stated in Article 31 of “Regulations on Environmental Protection Management for Construction Project,” EIA must be performed for regional development plans, such as the development of watershed, the construction of development zones, new urban districts construction and old urban districts reconstruction, prior to compiling construction plans, which has further defined the requirement of REIA. In 2002, it is regulated that EIA must be performed and environmental impact statement (EIS) must be compiled prior to compiling regional development and construction plans, in “Notice on Questions Concerning the Enforcement of REIA Implementation on Developing Zones,” promulgated by the State Environmental Protection Agency (SEPA). Though various regional development activities with construction plans have been gradually included into PEIA management system after the effectiveness of the EIA Law (Li et al., 2008), REIA is still the most prolific part of SEA implementation in China, through accumulation of years of practical experience and direct management from competent authority of environmental protection.

For urban planning, land use planning and transportation planning, the planning management system is well established. In addition, detailed articles on urban planning, land use planning and environmental protection requirement were regulated in the “Law of the People’s Republic of China on Land Management” (2004) and the “Law of the People’s Republic of China on Urban and Rural Planning” (2007). Furthermore, various articles and technical guidance on PEIA implementation were promulgated by competent authority, such as:

- “Notice on Some Questions Concerning PEIA Implementation on Transport Sector” by Ministry of Transport in August 2004.
- “Technical Guidance for PEIA Implementation on Integrated Planning for Provincial Land Use” by Ministry of Land and Resources in December 2005.
- “Notice on the Enforcement of EIA Implementation on Highway Planning and Construction Projects” by SEPA in December 2007.

For agriculture, husbandry and forestry planning, there were few cases of SEA research and implementation. According to the survey, there was no case of SEA implementation on forestry plans, so far. As a matter of fact, Ministry of Forestry rejected the ideas to conduct environmental impact assessment on any forestry plans, during the discussion and review on the draft EIA Law (Bian, 2003). As indicated in an investigation of SEA implementation in China in 2006, there were no cases of SEA implementation on agricultural plans and husbandry plans, as pointed out by an officer from Ministry of Agriculture (Zhu and Ru, 2008). The results of this investigation and related studies have shown that the attitude of decision-makers and competent authority toward SEA will directly affect SEA implementation.

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