

# On the Status Quos of the Strategic Environmental Assessment in Lancang-Mekong Basin



生态环境部对外合作与交流中心  
Foreign Environmental Cooperation Center



澜沧江 - 湄公河环境合作中心  
Lancang-Mekong Environmental Cooperation Center



中国 - 东盟环境保护合作中心  
China-ASEAN Environmental Cooperation Center



## Contents

<b>Chapter 1 Research on the Environmental Impact Assessment Systems of Countries along the Lancang-Mekong Basin</b>	4
1.1 Thailand’s EIA system	4
1.2 Analysis of Cambodia’s EIA system	8
1.3 Analysis of Lao’s EIA system	10
1.4 Analysis of Vietnam’s EIA system	13
1.5 Analysis of Cambodia’s EIA policies	14
<b>Chapter 2 Comparative Analysis on EIA Systems of Countries in Lancang-Mekong Basin</b>	16
2.1 Analysis of similarities of EIA systems of countries in Lancang-Mekong Basin	16
2.2 Analysis of the differences of EIA systems in countries of the Lancang-Mekong Basin	16
<b>Chapter 3 Comments on Strategic Environmental Assessment in Lancang-Mekong Basin</b>	20
3.1 Overview of SEA in Lancang-Mekong Basin	20
3.2 SEA for Vietnam’s Power Development Plan (PDP)	20
3.3 SEA practice in Vietnam’s tourism	22
<b>Chapter 4 SEA Development, Existing Problems in the Lancang-Mekong Basin and Corresponding Suggestions</b>	24
4.1 DEA development trend in Lancang-Mekong Basin	24
4.2 Existing problems	25
4.3 Suggestions and prospects	26

## Chapter 1 Research on the Environmental Impact Assessment Systems of Countries along the Lancang-Mekong Basin

For historical reasons, the economic development, political systems and cultures & traditions vary greatly from country to country in the Lancang-Mekong Basin, leading to unbalanced situations in terms of public environmental awareness and government policies in the region. This imbalance has hindered the cross-border exploitation and utilization of natural resources. Therefore, it is of great necessity to fully understand the environmental impact assessment (EIA) systems in the region.



### 1.1 Thailand's EIA system

The Enhancement and Conservation of the National Environmental Quality Act, B.E. 2535 defined the EIA system for the country in Chapter 3 Section 4. After that, the Thai Ministry of Science Technology and Environment released the Notice No. 1, No. 2, No. 3 on the Types and Scale of Government Departments, State-owned Enterprises and Private Projects Subject to Environmental Impact Assessment and the Notice No. 1, No. 2, No. 3 and No. 4 on the Procedures, Rules and Guidelines for the Production of EIA report. The Legal effects in Thailand are weak, although the country has formed EIA system, the system is scattered. That will surely push the EIA system of Thailand to be effectively implemented.

Despite the absence of a complete SEA system, Thailand has already started adopting some principles and methods for strategic environmental assessment (SEA) at national and provincial levels. In practice, it is more appropriate to refer to the SEA as strategic environmental impact (SEI) management. At present, Thailand mainly have three systems designed for SEA or SEI management: (1) the provincial action plan for implementing environmental quality management, (2) the decisions on ore sources in mining activities, and (3) EIA requirements for exploitation activities in forest reserves.

#### 1.1.1 The provincial action plan for implementing environmental quality management

The action plan mainly involves the following content:

- Types of ongoing projects in each province (involving environmental management project for encouraging public participation, environmental preservation project, research project on environmental management, and environmental recovery project)

- Time requirements for the implementation of the plan

- Budgets for the implementation of the plan

- Responsible person for the implementation of the plan

The engineering or project types are defined according to actual needs of each province. Currently, there are merely 22 types of project subject to EIA. Once confirmed, these projects will be guaranteed to receive corresponding funds to implement<sup>1</sup>. If a province decides to build a sewage treatment plant in a place, it must conduct EIA before the construction process begins.

#### 1.1.2 Decisions on ore sources in mining activities

According to the Cabinet resolution in 1995, it is in the role the Department of Mineral Resources to decide on the ore sources suitable for mining activities. Each province is required to identify the ore source first and then submit it to the Department of Mineral Resources for

<sup>1</sup> Office of Environmental Policy and Planning(OEPP), 1998, . Guidelines on the Preparation for EIA Report, Bangkok.

approval. The confirmation of ore sources will go through a series of complex investigations involving:

- Geological conditions of the area
- Geographical environment: geology, climate and hydrology
- Biotic environment: living things, vegetation and wild lives habitats
- Human utilization values: land utilization, industrial and agricultural utilization, transportation, construction, tourist areas or historical sites and those places with aesthetic values
- Human life values: habitation, economic and social service

### 1.1.3 EIA requirements for exploitation activities in forest reserves

The Cabinet resolution in 1994 specified the categorization methods for different EIA projects and activities for exploitation practice in forest reserves<sup>2</sup>, mainly involving the following three types:

- The projects that requires EIA results to be submitted to the Environmental Policy and Planning Office for approval from the Committee of Experts.
- The projects that require a primary environmental impact report to be submitted to the Environmental Policy and Planning Office for approval.
- The projects that require environmental information to be submitted to the Royal Forest Department for approval. Such information shall be prepared according to the formats provided by the Royal Forest Department that involve project profile, environmental analysis of the project's pre-implementation site, EIA, measures and monitoring methods for mitigating environmental impacts etc.

### 1.1.4 Thailand's project EIA/ SEA system

#### 1. Project EIA

According to the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Notice by the Ministry of Science & Technology and Environment, environmental impact report should be prepared for the 22 types of projects mentioned above<sup>3</sup>. These projects shall be categorized in a way mostly as required by the rules from the Mekong River Commission, which involve:

- Dams and reservoirs whose storage capacity reaches 1 billion cubic meters or whose surface areas exceed 15 square kilometers.
- Construction for irrigation whose irrigated areas exceed 12,800 hectares.
- Commercial ports that can accommodate ships with water displacement of more than 500 tons
- Projects of all types and all scales that are implemented within areas approved by the congress.

**The activities requiring EIA can be categorized according to (government or private) investors' or approving authorities' requirements in the following 2 types:**

1. Public-funded projects (involving those financed by governments, state-owned enterprises or state-private enterprises) requiring parliamentary approval (see Fig. 1.1).
2. Private funded projects requiring no parliamentary approval<sup>4</sup>

Thai law has made no specific time requirements for the procedures of such activities. If a project's EIA report fails to obtain parliamentary approval, the project implementer can revise the report and resubmit it to the PM Office's secretariat.

<sup>2</sup> The Cabinet Resolution on Type and Size of Projoeels in Forest ('observation Area that Require an EIA report, IEE repoi't, and Environmental List of Ini format ion, 1994, websit at: <http://www.forgest.go.th/permission/minister13-37.html>

<http://www.forgest.go.th/permission/envi24-05-36.html>

<sup>3</sup> OEPP, 2001. Study on the Development of Public Participation in EIA Process, Final Report, prepared by the Chulalongkorn Social Research Institute(CSRI)and the Chulalongkorn Environmental Research Institute(CERI), August, unpublished.

<sup>4</sup> EIA procedures of private-funded projects are subject to specific time restrictions.

**EIA for government-funded, SOE-funded or state-public-enterprise-funded projects should follow the procedures shown below:**

1. Prepare EIA report for the project when conduct feasibility investigation;
2. Project organizer or implementer should submit the Terms of Reference (ToR) for the EIA report to the Office of Environmental Policy and Planning and the Environmental Impact Evaluation Department (EIED); the EIED will provide comments on such report and submit it to the Committee of Experts for consideration.
3. Once the ToR for the EIA report get approved, the project organizer or implementer should submit the Environmental Impact Report to the Office of Environmental Policy and Planning.
4. The Office of Environmental Policy and Planning provides comments on the environmental impact report submitted.
5. The environmental impact report and the comments provided by the Office of Environmental Policy and Planning will be submitted to the Committee of Experts for consideration.
6. The comments provided by the Committee of Experts will be submitted to the National Environmental Bureau for further consideration; the environmental impact report will be finally deliberated on and approved by the Parliament.

During the deliberation process, the Parliament can consult foreign experts or academic institutes to reach final decision.

**EIAs on projects that are private funded and require no parliamentary approval should follow the procedures shown below<sup>5</sup>:** (See Fig. 1.2)

1. The project implementer should determine whether the EIA is needed in accordance with the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Notice issued by the Ministry of Science & Technology and Environment, and can ask for confirmation from the OEPP.
2. The finished EIA report should be submitted to approving authority or OEPP.
3. OEPP will deliberate on the EIA report within 15 days after submission; if the report is incomplete or need supplementation, it would be returned to the applicants.
4. The approved environmental impact report and initial comments provided by OEPP will be submitted to the Committee of Experts.
5. The Committee of Experts should finish the deliberation on the environmental impact report within 45 days since its submission; during the deliberation process, the Committee of Experts should review the report in collaboration with the OEPP.
6. If the environmental impact report finally gets approved, OEPP will inform the project implementer and the approving authority should issue a license certificate to the project implementer.
7. If the environmental impact report is not approved, the project implementer should revise the report in accordance with the comments provided by the Committee of Experts. The revised report should be resubmitted to the OEPP and the Committee of Experts. The deliberation on the resubmitted report will take 30 days.

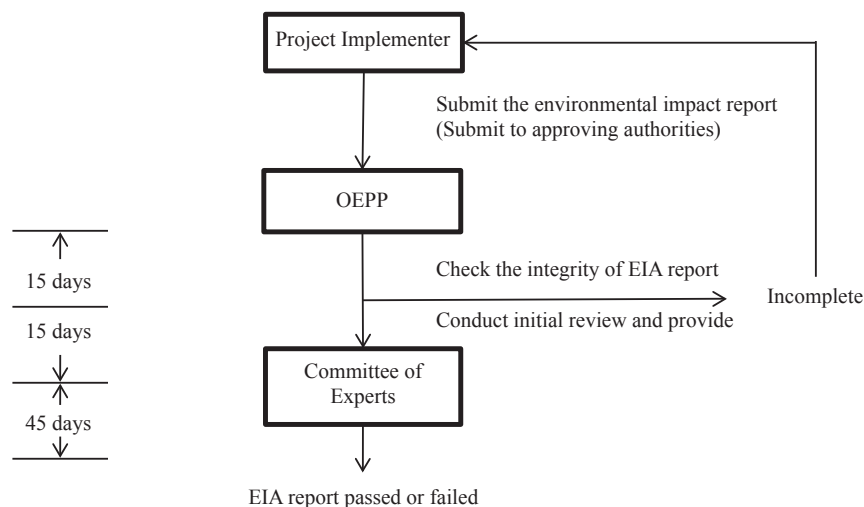


Fig. 1-2 EIA procedures for private funded projects not requiring parliamentary approval

<sup>5</sup> OEPP,2001. Information on Guidelines, Criteria for Consideration of the Action Plan for Environmental Quality Management

**2. SEA system**

At present, despite the absence of a mature SEA system, Thailand still can conduct environmental analysis for some environmental planning activities with the following procedures:

It is the responsibility of the governor of each province to develop the Provincial Action Plan for Environmental Quality Management (CAPEQM) and to ensure the implementation of such plan. That is a top-to-bottom process jointly initiated and participated by the governor of the administrative division where the project is implemented and the public.

1. Local government should develop a local action plan in accordance with the formats provided by the OEPP.
2. The local action plans should be submitted to the provincial offices and be categorized in accordance with the classification methods provided by the OEPP.
3. The deputy governor should organize an meeting for the environmental quality management group, which consist of provincial-level representatives, for initial consideration of the action plan.
4. The local action plan should be submitted to the Provincial Development Commission, which should be chaired by the provincial governor, for approval.
5. The approved action plan should be submitted to the Regional Environmental Office (REO) for classification.
6. The action plan that have been classified by the REO should be submitted to the OEPP to acquire financial supports.

These procedures will finally produce a list of activities for implementing and advancing environmental quality management, without specifying any time requirements.

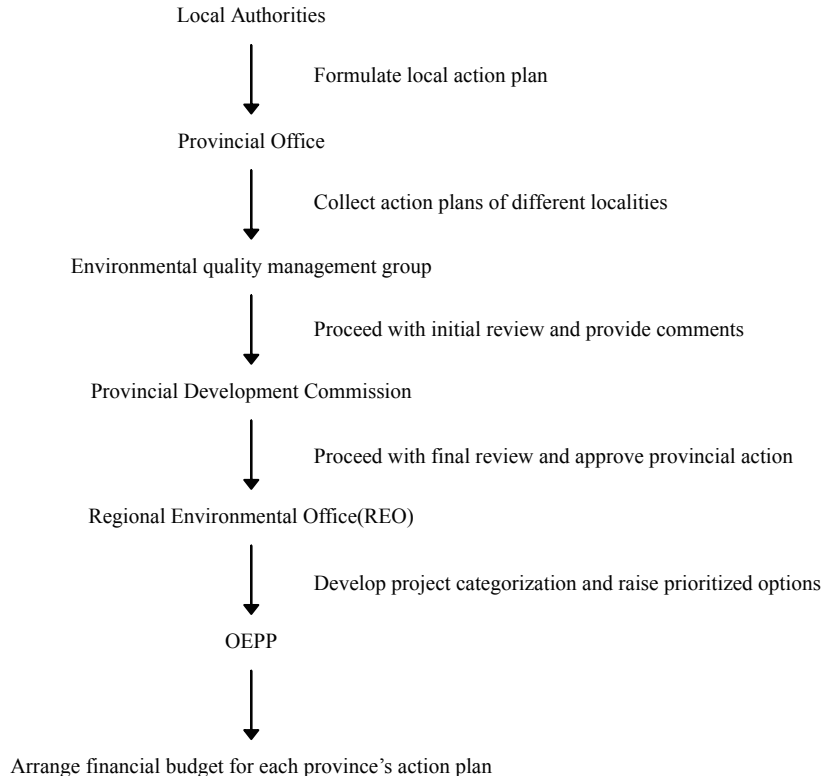


Fig. 1.3 Procedures for developing action plans for different provinces in Thailand

### 1.1.5 Overview of Thailand's EIA system<sup>6</sup>

In 1978, Thailand government released the National Environmental Quality Promotion and Preservation Act, specifying the scale and type requirements for the 10 types of activities subject to EIA. Following that, the first notice on this matter came in 1981. In 1992, the Thailand government added some further details in the National Environmental Quality Promotion and Preservation Act, making the EIA system legally mature. The National Environmental Quality Promotion and Preservation Act specifies the types and standards of projects subject to EIA, and relevant procedures. Apart from that, the Thai Constitution stipulates in the 67<sup>th</sup> Article that the health impact assessment should be included into the EIA report. From June 1992 to December 1994, OEPP has received a total of 782 EIA reports, 52% of which need revision<sup>7</sup>. Since then, the quality of such reports gets greatly improved, with less proportion to be revised.

## 1.2 Analysis of Cambodia's EIA system

Cambodia's EIA system is still rather new, and thus practically inexperienced.

### 1.2.1 Evolution of the EIA system

Founded in July 1993, the Cambodian Ministry of Environment consists of 6 departments. Since its inception, it has been dedicated to establishing and enhancing policy systems and legal framework concerning natural resource conservation.

The first EIA draft bill technologically supported by UNEP was finished in 1995, and was reviewed and revised in 1997. In 1996, Cambodia released the Law on Environment Protection and Natural Resource Management, which stipulates in Chapter 3 Article 6 that all projects and activities, public or private, must go through review and assessment by the Ministry of Environment before reported to government for approval. The Sub-decree on Environmental Impact Assessment Process (1999) released in 1999 spells out the basic requirements, procedures and responsibilities of relevant organizations for EIA. In 2009, Cambodia published the guidelines for preparing the initial and comprehensive EIA report. As of now, there has been no legal document on SEA available in Cambodia.

### 1.2.2 Cambodia's EIA/ SEA system

Cambodia's EIA is aimed at all public and private projects.

EIA procedures:

- All project workers should participate in preparing the initial IEIA or comprehensive EIA to be submitted to the Ministry of Environment;
- The Ministry of Environment review the EIA report to determine whether the EIA is comprehensive or not;
- The EIA report that has been passed by the Ministry of Environment will be submitted to the Royal Government of Cambodia or the Council for the Development of Cambodia for review.
- The Royal Government of Cambodia or the Council for the Development of Cambodia will make the final decision on whether the EIA is approved or not.

### 1.2.3 Project types subject to Cambodia's environment impact assessment

The MRC classification methods require the following activities to conduct IEIA or EIA:

- Development of hydro-power projects
- Irrigation projects
- Port construction
- Dredging projects

6 Center for Agricultural Information. . 1999. Agricultural statistics of Thailand crop year 1997/98. Office of Agriculture Economics, Ministry of Agricultural Cooperatives, Bangkok, Thailand. Agricultural Statistic no.31/2542.

7 ADB Report 2002 (ADB2020)



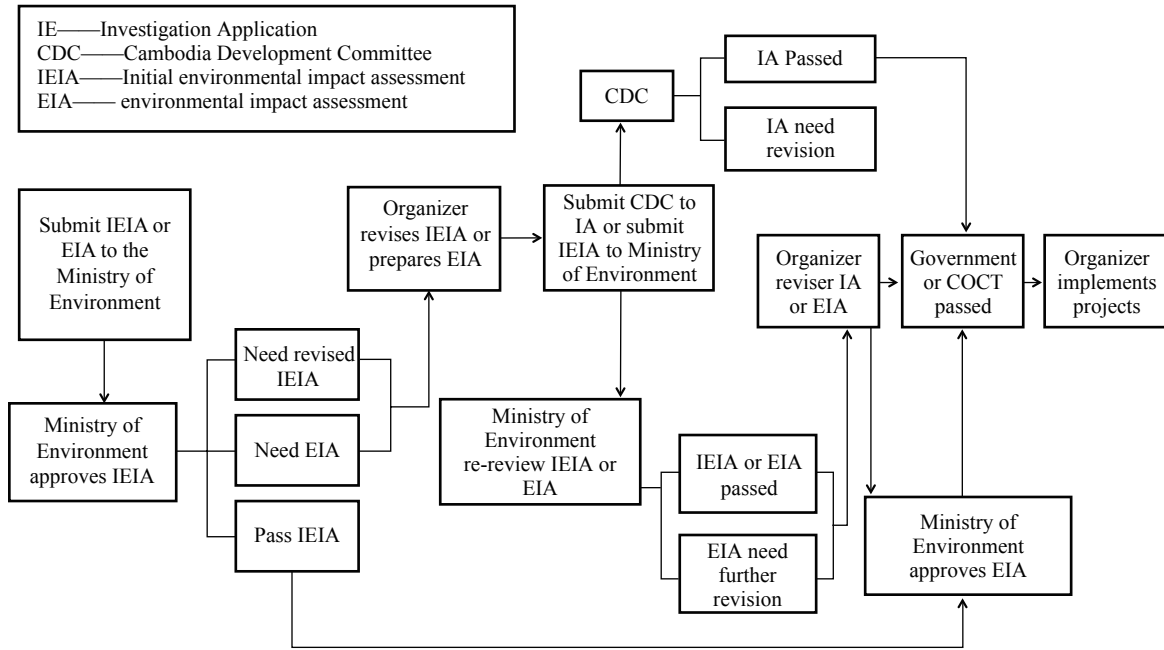


Fig. 1.4 Cambodia's EIA procedures

#### 1.2.4 Responsibilities of entities subject to Cambodia's EIA

In EIA procedures, different authorities will should different responsibilities. (See Fig. 1. 5)

Fig. 1.5 Responsibilities of entities of Cambodia's EIA

Tasks	Responsibilities
Survey	Finished by project implementer under guidance from relevant ministries
IEIA/EIA	Finished by project implementer under guidance from relevant ministries
IEIA review	Ministry of Environment
IEIA review	Ministry of Environment
EIA approval	Ministry of Environment /government bodies or government ministries

### 1.2.5 Content requirements for Cambodia’s EIA report

1, Overview	2, Project overview
3, Project goal	4, Project description
5, Overview of environment	6, Public participation
7, Comments on EIA	8, Measures to mitigate environmental impacts
9, Environmental management plan	10, Responsibilities of institutions
11, Conclusions and suggestions	

### 1.2.6 Summary of implementation of Cambodia’s EIA system

Since introduced in 1995, the EIA system of Cambodia hasn’t been maturely established as a complete system, being still practically inexperienced especially in agricultural and rural development projects. In 2001, the nation has only reviewed 3 EIA reports<sup>10</sup>.

## 1.3 Analysis of Lao’s EIA system

### 1.3.1 Legislation on Lao’s EIA

In 1993, Laos first raised the issue of EIA in its National Environmental Action Plan, giving a comprehensive framework for EIA procedures. At the end of 1999, the Lao’s Environmental Protection Law (EPL) was put into operation, requiring projects to be implemented must go through EIA<sup>11</sup>. In EPL’s Chapter 2 Article 8, it was stipulated that any construction projects that will or potentially will create environmental impacts must submit EIA report to environmental management authorities or inspection departments, and must obtain license certificate before being implemented. In addition, the law further specifies that the Science Technology and Environment Agency is responsible for formulating relevant EIA procedures and methods.

In October 2000, Laos released the Regulation on Environmental Assessment (No. 1770/STEA). Based on that, various departments have developed corresponding principles and methods on the matter<sup>12</sup>. Besides, the Regulation on Environmental Assessment of Laos also spells out the responsibilities, requirements, time procedures of varying level for implementing the EIA system, and specific contents of IEIA and ETA. As of now, Laos hasn’t enacted any legislation for planning, organizing or formulating policies for SEA.

<sup>9</sup> EIA Department, Royal Government of Cambodia (2001) Environmental Impact Assessment Process in Cambodia. Country Paper. Inception Meeting for EIA System for the Mekong River Commission, Phnom Penh.

<sup>10</sup> EIA Department, Royal Government of Cambodia (2001) Environmental Impact Assessment Process in Cambodia. Country Paper. Inception Meeting for EIA System for the Mekong River Commission, Phnom Penh.

<sup>11</sup> Science, Technology and Environment Agency (STEA), 2000. Regulation on Environmental Assessment in the Lao PDR, official version October 3, Vientiane. (Unofficial translation current ] under review by STEA)

<sup>12</sup> STEA, 2000. National Environmental Action Plan 2000 (Sustained Development), July, (draft/unofficial).

### 1.3.2 Lao’s EIA system

The Lao’s EIA system is aimed at construction projects and other activities, with a broad scope of targets almost involving all projects concerning economic development. Since the EIA in Laos only target basic projects, it does not have strategic significance. The specific procedures are shown below:

- Prepare project overview for inspection
- Conduct project review to determine whether EIA process is needed
- Prepare initial environmental examination if EIA is required
- Prepare Environmental Management Plan if EIA is not required
- Prepare EIA ToR if the IEE demands a further EIA
- Review IEE, EMP and ToR. If the IEE is complete as required and EMP is acceptable, the Environmental License Certificate can be issued. If the ToR and IEE that prepares EIA are complete as required, the project implementer can proceed with the preparation of EIA; otherwise, both the IEE and the ToR must be revised.
  - Prepare EIA and EMP.
  - EIA and EMP can be reviewed in the following cases:
    - Both EIA and EMP are acceptable, and Environmental License Certificate can be issued( if necessary, but under limited conditions)
    - If EIA and EMP are not acceptable, the project is rejected, or STEA would require a revised EIA.
  - Implement EMP, project inspection and assessment

**Table 1.8 Responsibilities of entities in EIA procedures in Laos**

Organization or Unit	Responsibility
Project organizer or project adviser	◆ prepare IEE and EMP or prepare TOR according to EIA ◆ prepare project overview
DPRAs (Foreign or domestic investment management office)	◆ implement EMPs ◆ Oversee and assess project environment ◆ Oversee and review IEE



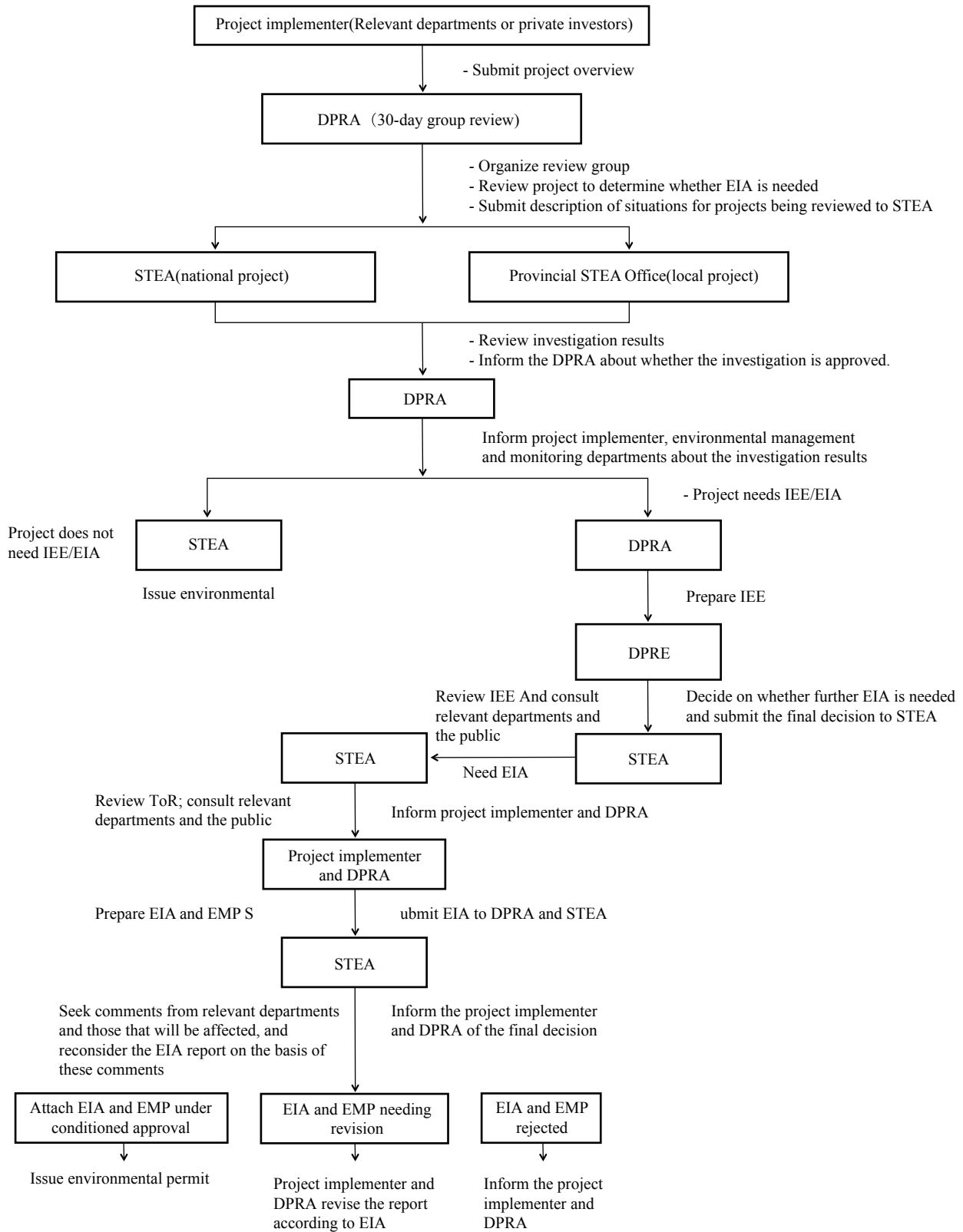


Fig. 1.7 Laos' EIA system

### 1.4 Analysis of Vietnam’s EIA system

#### 1.4.1 Vietnam’s legal system for environmental protection

Vietnam’s EIA system is made up of several laws and regulations. In December 1993, the Law on Environmental Protection of Vietnam made the first reference to EIA in the Article 18. In 1994, the country passed a government bill for implementing the environmental protection law, as an important guidance to implement EIA. The Law on Environmental Protection published in 2014 defines requirements for EIA, where certain investment projects are required by existing regulations to submit EIA report. In addition, there are also some comments on EIA for basic plans and related projects as shown in Fig. 1.9, as part of the scope of SEA.

#### 1.4.2 Procedures of Vietnam’s EIA system

According to Vietnam’s EIA laws, the EIA system can be broken down into 4 steps: inspection, investigation, preparation of detailed EIA report, and approval of EIA report<sup>13</sup> (see Fig. 1.10). The inspection step will determine whether the applied projects need EIA. In Vietnam, the projects are classified into 2 categories:

- Type 1: projects that have environmental impacts and are required to prepare EIA reports, including hydro-power projects (with storage capacity of more than 100,000 cubic meters), ports (that can accommodate ships with displacement of more than 10,000 tons) and irrigation projects.

- Type 2: projects that don’t require EIA reports. These projects should also be implemented under approval according to environmental standards. This system is called Registration for Ensuring Environmental Standard.

Vietnam’s EIA mainly consists of 3 stages: First, project owner decide on which type the project belong to, and projects belonging to Type 2 should ensure registered and submitted for approval according to the environmental standards; Second, project owner send application to regulatory authorities; Third, regulatory authorities approve EIA report.

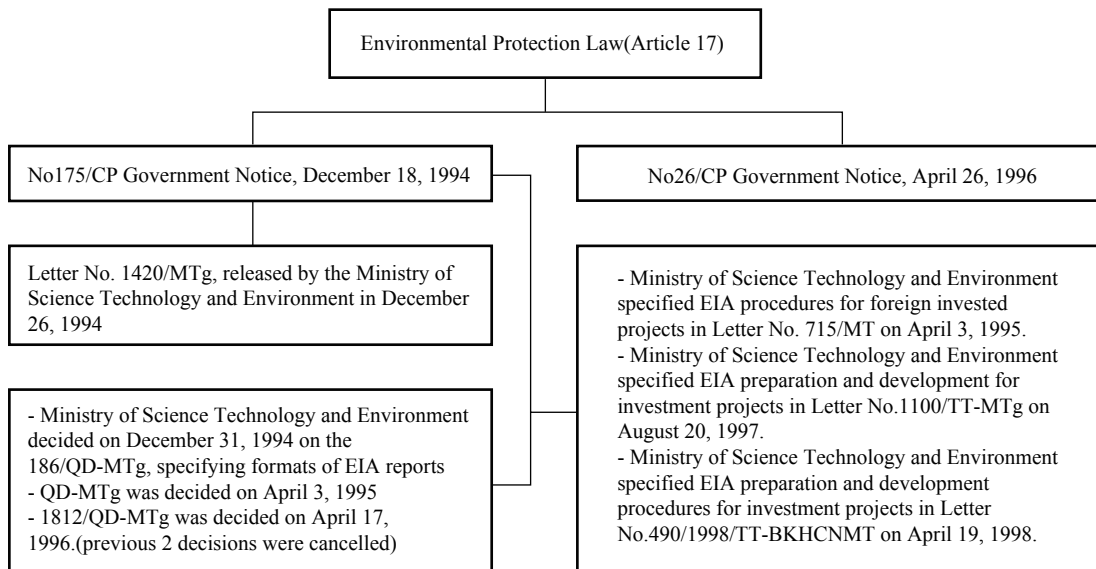


Fig. 1.9 Vietnam’s EIA legal framework

<sup>13</sup> Project wCapac i tv Building for Environmental Management in Vietnam" funded hv 1 he European Commission including papers of proceedings of the 15, , 2& and 3,d workshops, general guideline book for EIA of decelopment projects and tourism development.

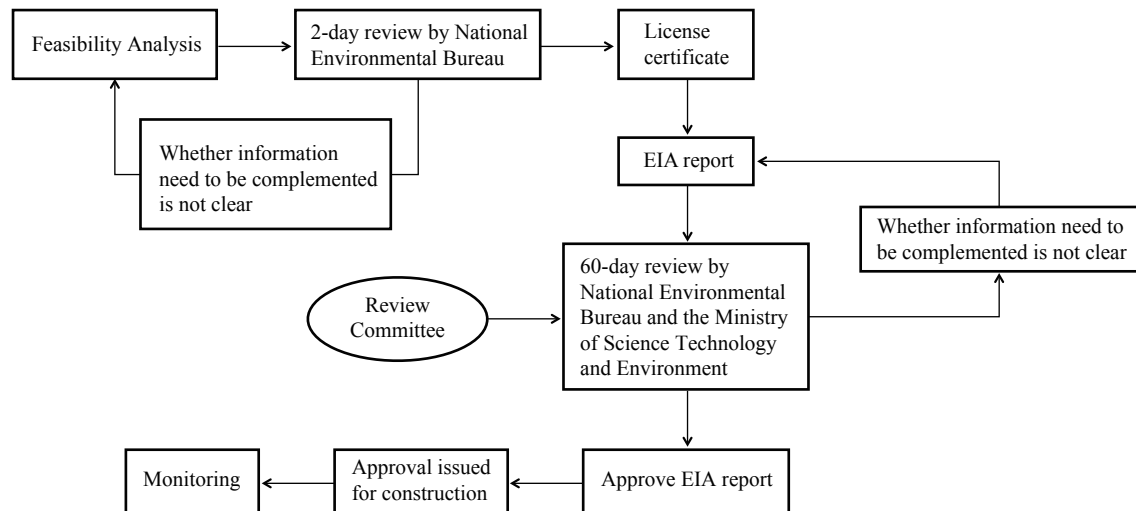


Fig. 1. 10 Procedures of Vietnam's EIA system

## 1.5 Analysis of Cambodia's EIA policies

### 1.5.1 Cambodia's EIA policies

In 2012, Cambodia released the Law on Environmental Protection, setting out that the Ministry of Environmental Protection and Forestry and the Environmental Protection Committee are the main regulatory bodies for environmental protection. The Ministry of Environment Protection and Forestry requires that enterprise must prepare EIA report based on initial EIA process or EIA before operation. In 2014, the country released the Environmental Protection Regulations, requiring that the Ministry of Environmental Protection and Forestry should specify the types of projects or commercial business subject to EIA. In 2016, the Ministry of Environmental Protection and Forestry published the Procedures for Environmental Impact Assessment and Social Impact Assessment to implement the EIA system. The EIA system in Cambodia is aimed at various corporate projects and businesses.

The Ministry of Environmental Protection and Forestry is responsible for determining the types of projects subject to EIA. The procedures consist of 2 steps: the first step is initial environmental assessment conducted by the Ministry of Environmental Protection and Forestry. After the initial environmental assessment, if the Ministry of Environmental Protection and Forestry decides the EIA is needed, the second step will be activated. The EIA will be conducted by a third party EIA agency approved and certified by the Ministry of Environmental Protection and Forestry. In addition, the Law on Environmental Protection also provides some environmental liabilities.

Although Cambodia has passed some environmental laws and regulations, it has yet formed a complete system on EIA. To attract more international financial aid, Cambodia would introduce EIA systems and policies developed by the World Bank and Asian Development Bank in some major projects.

### 1.5.2 Analysis of the World Bank's EIA system

The EIA policies of the World Bank were developed in accordance with the Directive 4.01, in the form of a dedicated World Bank EIA Manual. Directive 4.10 provides some relatively flexible procedures that allow implementation of EIA depending on different types, scales and time requirements of projects.

### 1.5.3 Analysis of the Asian Development Bank's EIA system

In 1990, the Asian Development Bank released the Environmental Guidelines for Selecting Projects. In 1991, the Environmental Considerations in Bank Procedures was published. In 1993, the Environmental Guidelines for Development of Industrial and Power Projects was released. The Asian Development Bank requires its environmental department and project officials to carry out projects selection according to the standards provided by the ADB and developing countries and classify the potential EIA projects into 3 categories: Type A, projects that have major harmful impacts to the environment; Type B, projects that have major harmful impacts to the environment but the impacts can be mitigated or remedied; Type C, projects that have no major harmful impacts to the environment. Projects passing the selection process and eligible for the EIA process should going through a initial EIA that aims to provide a initial assessment of the projects' potential impacts to the environment, based on which EIA will be determined necessary or not.



## Chapter 2 Comparative Analysis on EIA Systems of Countries in Lancang-Mekong Basin

This chapter will focus on comparative analysis on the EIA systems of the six countries in the Lancang-Mekong Basin, comparing the legal systems, mechanisms and methods on EIA in these countries, so as to study the difference and similarities on the matter.

### 2.1 Analysis of similarities of EIA systems of countries in Lancang-Mekong Basin

Among the 6 countries, except for China whose EIA system includes project EIA and planning EIA, the rest 5's EIA only refers to project EIA. In reality, all of the six countries haven't made specific requirements on policy EIA<sup>14</sup>, and Thailand and Vietnam have adopted SEA principles<sup>15</sup>. The EIA systems of China, Thailand, Vietnam and Cambodia have included directory for EIA classification management. Each country has required the preparation of EIA reports<sup>16</sup>, whose basic contents involve:

- Finish initial environmental impact assessment (IEIA) or a complete EIA
- The EIA report should include project overview, environmental background, assessment of impacts, conclusions and suggested measures
- Designate a authoritative agency to review the EIA report
- Issue approval to the EIA report

### 2.2 Analysis of the differences of EIA systems in countries of the Lancang-Mekong Basin

Despite the similarities, differences still exist in the EIA systems of countries of Lancang-Mekong Basin:

- The EIA standards for same projects are different or not
- Liability subjects for managing and implementing EIA are different
- Degrees of public participation before and after EIA are different.
- Guidelines for implementing EIA and public participating are different
- Legislative bodies of EIA systems are different
- Rules for EIA are different

In addition, the perception of whether there are major impacts to the environment varies greatly from country to country. Theoretically, there are 2 ways to determine whether the major impacts exist: the first one is based on environmental quality standard, and the other one is based on the environmental priority principle. Due to the great difference in environmental quality standards, views of development and ecological ethics, the six countries also face great disagreement in terms of issues concerning major impacts to the environment.

#### 2.2.1 Difference in EIA scopes

The Law on Environment Impact Assessment of People's Republic of China stipulates in Article 2 that the EIA referred herein means the tracing and monitoring methods and systems for conducting analysis, forecast and assessment for the potential impacts to the environment after the planning or construction projects are implemented, and then putting forward some strategies and measures to prevent or mitigate the harmful impacts to the environment. The Environmental Protection Law of People's Republic of China set out in the Article 19 Clause 1 that projects regarding exploitation and utilization planning that have impacts to the environment should prepare EIA report according to the law. It follows that the scope of EIA of China is limited to exploitation and utilization planning projects and construction projects.

<sup>14</sup> For example, Strategic Environmental Assessment (SEA) and Cumulative Effects Assessment of CEA.

<sup>15</sup> SEAs in Thailand and Vietnam are only restricted to local policies and planning.

<sup>16</sup> The case for Myanmar is different.



The EIA system of Cambodia is aimed at various corporate projects and businesses, and the types and projects subject to EIA are determined by the Ministry of Environmental Protection and Forestry. The EIA system of Laos is aimed at construction projects and other activities. Thus, the EIA system of Laos has broad scope of target, almost involving all projects related to economic development. Vietnam has elaborated the scope of targets subject to EIA, which mainly involves investment projects, and basic plans and relevant policies also falls within the scope. Notably, Vietnam's EIA for basic plans and policies belong to the scope of SEA. The EIA system of Thailand is aimed at projects and activities that have been classified according to the types and sizes, including private ones and public ones. Cambodia's EIA targets all private and public projects.

Generally, each country has its own scope of EIA, with varying sizes. The scope of EIA of China and Laos are wide, and that of Myanmar, Vietnam, Thailand and Cambodia are relatively narrow. EIA systems are designed to prevent or mitigate the impacts caused by human activities to the environment, and thus a broader scope usually bears more practical values.

### **2.2.2 Difference in procedure requirements of EIA**

The procedures of EIA of China involve steps like assessment, hearing and approval. For Cambodia, the EIA procedures consist of 2 steps: the first one is IEIA, and the second one is EIA conducted by a third-party EIA agency approved and certified by the Ministry of Environmental Protection and Forestry. In Laos, the project owner need to submit relevant documents to project development authorities for initial EIA, and the Ministry of Science Technology and Environment will have the final say on whether the project has passed the EIA and issue relevant certificate. Vietnam's EIA generally take 3 stages: project owner prepares EIA reports for the project, and submit EIA application to regulatory authorities; the regulatory authorities issue approval for the EIA report. In Thailand, the EIA procedures for public and private projects are different, and the EIA procedures for private projects are stricter. In Cambodia, all project workers need to participate in preparing an initial EIA report or a complete EIA report, which will be reviewed by relevant procedures.

Generally, the EIA procedures can be summarized into 3 modes: the first mode is project owner designates a professional EIA agency to conduct EIA, which will be submitted to regulatory authorities for approval, which China adopts; the second mode is project owner prepares the EIA report, and the regulatory authorities are only responsible for reviewing them and issue approval, which Laos, Vietnam, Thailand and Cambodia adopt; the third mode is regulatory authorities designates a third-party EIA agency to prepare the EIA report, which Myanmar adopts. Generally, the second mode is more popular, but is inefficient as a result of the complex review process where abuse of power exists. Relatively speaking, it is more reasonable to adopt the mode of designating a third-party EIA agency to conduct EIA, which can ensure both efficiency and fairness.

### **2.2.3 Implementation of EIA**

Among the six countries in the Lancang-Mekong Basin, Thailand is the first one to introduce the EIA requirements, which was required in the National Environmental Quality Act released in 1978. Myanmar is the latest one among them. Overall, each country in the region has established its own EIA system, despite in different time.

In 2016, the Burmese Ministry of Environmental Protection and Forestry released the Procedures for Environmental Impact Assessment and Social Impact Assessment and the Environmental Quality Standard, spelling out requirements on EIA. In 2000, Laos published the Rules on Environmental Impact Assessment, spelling out some requirements and procedures on EIA. In 2015, Laos released the Procedures on Environmental Impact Assessment, giving some details on EIA system. Vietnam specified its requirements on EIA in the Environmental Protection Law in 2014. As of now, Thailand's EIA system mainly originates from the rules set out in the Enhancement and Conservation of the National

Environmental Quality Act, which details the requirements on EIA that EIA reports must be prepared according to the scales and types of proposed projects and activities. In the Chapter 3 of the Law on Environment Protection and Natural Resource Management enacted in 1996, Cambodia also required EIA.

Currently, the EIA in China is conducted in accordance with the rules set out in the Environmental Impact Assessment Law and the Environmental Protection Law. Against the background of pursuing progress in ecological civilization, the EIA system has been executed rather well in China. In comparison, the laws on EIA have not been well implemented in the Lancang-Mekong Basin, as a result of low degree of public participation, insufficient disclosure of information, the lack of coordination between central government and local departments, and financial shortages. The EIA system will lose its value if not well executed.

#### **2.2.4 Information disclosure and public participation regarding EIA**

Public participation plays an important role in the EIA system, while information disclosure serves as the precondition and guarantee for public participation. If requirements on information disclosure are absent, then public participation merely become a formality. For China, problems exist in terms of information disclosure and public participation within its Environmental Protection Law, such as rules on public participation being over rigid as principles, as a result, public and social organizations haven't been able to be practically engaged in EIA.

Myanmar hasn't made any specific requirements on information disclosure and public participation in its legal system. Laotian Laws has defined public participation as the responsibility of regulatory authorities and project owners, with detailed requirements on that matter, such as the duty of informing stakeholders and publishing information concerning projects' impacts. Vietnam has provided some guidance on public participation but has not compulsory rules in this respect; in addition, the existing EIA system in Vietnam falls short of procedures and requirements on information disclosure. Thailand, in the Article 67 of its Constitution, has required that any engineering or activities that have potential major impacts to the environment, natural resource and public health should be prohibited, unless the impacts to the environment and the health of community residents have been studied, assessed, and have been negotiated with the public and stakeholders; however, the country hasn't made any detailed requirements on public participation. Cambodia encourages public participation in the laws on EIA, yet hasn't set out any details on the matter, nor on information disclosure.

**Table 2.1 Comparative analysis of EIA systems in countries in the Lancang–Mekong Basin**

Comparison	Main projects subject to EIA system	Initial EIA	EIA finished	Review EIA report	Approve EIA report	Public participation	SEA
China	Environmental Protection Law of PRC, Environmental Impact Assessment Law of PRC, Regulations on Environmental Protection Management for Construction Projects	Planning: relevant departments of the State Council, the people's government of municipal level and above and its affiliated departments Project: constructor	Planning: relevant departments of the State Council, the people's government of municipal level and above and its affiliated departments Project: professional agency	Planning: State Council, environmental authorities and relevant departments Planning: State Council, environmental authorities and relevant departments Planning: State Council, environmental authorities and relevant departments Planning: State Council, environmental authorities and relevant departments Planning: State Council, environmental authorities and relevant departments Planning: State Council, environmental authorities and relevant departments	Planning: State Council	Various stages of EIA	has EIA requirements for planning
Cambodia	Environmental Protection Law (2012) Environmental Protection Regulation (2014) Procedures for Environmental Impact Assessment and Social Impact Assessment World Bank's and Asian Development Bank's EIA	Project developers	Third-party EIA agency approved and certified by the Ministry of Environmental Protection and Forestry	Ministry of Environmental Protection and Forestry	Ministry of Environmental Protection and Forestry	No rules specified	No compulsory requirements
Laos	Regulation on Environmental Impact Assessment of Laos (No. 1770/S TEA)	Regulatory authorities build a review group	Project developer	Ministry of Science Technology and Environment; regulatory authorities	Ministry of Science Technology and Environment	Various stages of EIA	No compulsory requirements
Thailand	Enhancement and Conservation of the National Environmental Quality Act B.E. 2535; Notice No. 1, No. 2, No. 3 on the types and scale of government departments, state-owned enterprises and private projects subject to EIA; Notices No. 1, No. 2, No. 3 and No. 4 on the procedures, rules, formulas and guidelines for the production of EIA books	Project developer	Project developer (agency conducting EIA must obtain license from the Office of Environmental Policy and Planning)	OEPP, National Environmental Committee, and Committee of Experts	Parliament--public projects Review Committee of Experts--private projects	There is no compulsory requirements, but public participation in the initial review, preparation and production of EIA newspapers is encouraged	There is no compulsory requirement, but in some cases the principles and methods of SEA will be adopted
Cambodia	Regulation on Environmental Protection and Natural Resource Preservation Sub-decree on EIA Procedures Water Pollution Control Act	Project developer	Project developer	Ministry of Environment	Ministry of Environment	Required at the stage of initial assessment, preparation and development of EIA report	No requirements
Vietnam	Environmental Protection Law (175/CP Decree) in December 1993, Vietnam	Large projects--Ministry of Science Technology and Environment General projects--local department of science technology and environment	Project developer	Ministry of Science Technology and Environment or local department of science technology and environment Approval committee	Ministry of Science Technology and Environment or local department of science technology and environment Approval committee	No compulsory requirements	No compulsory requirements

## Chapter 3 Comments on Strategic Environmental Assessment in Lancang-Mekong Basin

Strategic Environmental Assessment (SEA) means to conduct a standardized, systematic and comprehensive assessment on the potential environmental impacts of policies, plans and programs (PPP) and their alternatives, and to apply the assessment results into the decision-making process of public responsibilities. It aims to remedy the defects of EIA. SEA involves assessments for cumulative impacts, usually deals with broad strategic issues concerning multiple projects, and identifies methods for managing these issues. SEA follows steps similar to EIA, but is more limited in terms of time, space and topic coverage.

### 3.1 Overview of SEA in Lancang-Mekong Basin

Internationally, SEA has been considered an important tool in the strategic planning process to be widely applied. Countries like China and Vietnam in the Lancang-Mekong Basin has adopted national SEA system. However, differences among various countries are great in laws and policy systems on PPP, and the development of institutional arrangement and capacity building.

Countries in the Lancang-Mekong Basin have only limited information on SEA system. Among them, China and Vietnam have the most advanced SEA systems, which have been included into legal rules for standardization. The legal frameworks of other countries focus more on government planning and planned EIA/SEA, without any reference of this matter on government policies. The legal frameworks and implementation guidelines generally are kept in step with SEA technical guideline developed by OECD. Vietnam has made fast advance on this matter recently and secured more practice in social and economic development planning, land use planning, hydro-power, agricultural and industrial projects both on national and provincial levels. The rest of the countries like Cambodia, Laos, Myanmar and Thailand have also been promoting legal framework on SEA, and are still at the beginning stage with less practical cases through. Among them, the SEA procedures of Myanmar are the least complete. Although the country has conducted policy planning for SEA back in 1997, they have yet been fully implemented, and EIA is conducted only under a certain special conditions, and its institutional construction and capacity building on SEA are largely limited.

### 3.2 SEA for Vietnam's Power Development Plan (PDP)

Power Development Plan, or PDP, is a first level strategic development plan for power generation and utilization in Vietnam. It manages to provide a long-term strategic framework guiding the development of power sector from 2011 to 2030. SEA aims to optimize the potential contribution, social fairness and environmental sustainability of the power sector to national development through strategic planning that helps balance economic development.

#### 3.2.1 Assessment process

PDP forecasts the future demand pattern with 3 growth indicators: 1) to keep economic growth above 9% by 2030; 2) to secure a basic growth speed of around 8%; 3) to keep the economic growth rate at a range between 7%~7.66% during the planning period. The diagram of power demand forecast is shown in Fig. 3-1.

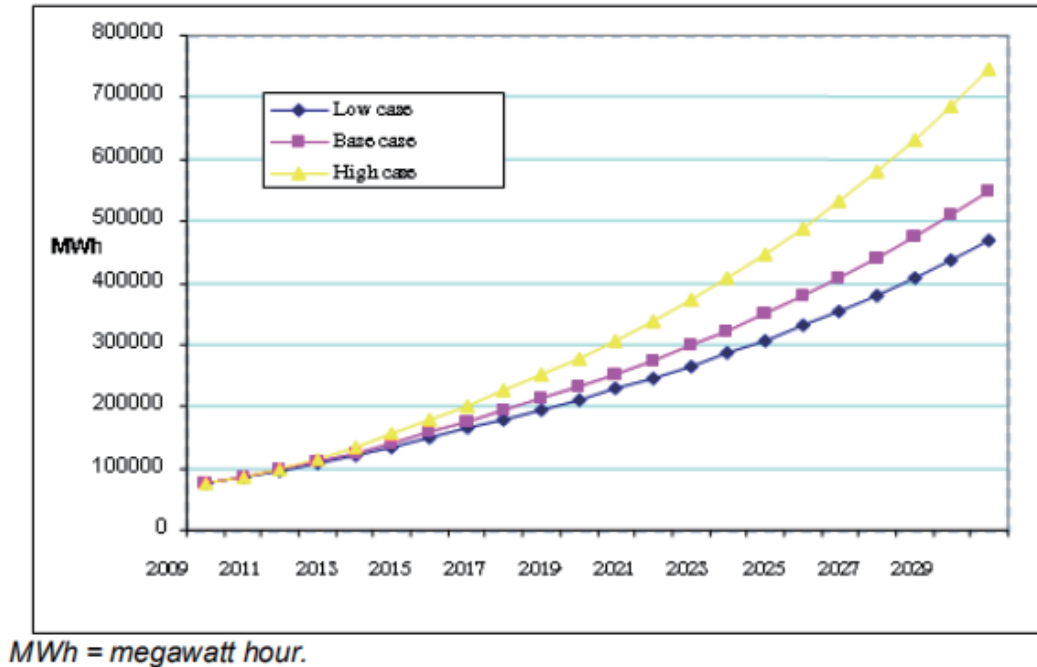


Fig. 3-1 Forecast of power demand from 2010 to 2030

### 3.2.1 Impact assessment

As of now, thermal power generation is the largest contributor of Vietnam’s power sector, and fossil fuel (especially coal) is the main environmental and social risk factor causing atmospheric pollution. According to the supply-demand forecast of PPP, by 2030 the emission of Co<sub>2</sub>, PM and SO<sub>2</sub> will become 7 times larger than now, and the emission of NO<sub>x</sub> will increase by more than 3 times, with severe and broad impacts. It is estimated that if no action is made to reduce air pollutant, especially those from thermal power generation, by 2030, the environmental and social impacts (such as acid rain, health risks and productivity losses) will cause Vietnam lose nearly 9 billion dollars every year.

According to SEA estimate, the 21 candidate hydro-power power plants confirmed in PDP will submerge an area of 25,133 hectares, causing economic losses for goods and service by around 75 million dollars. If all of the 21 planned projects are completed, 61,571 people will lose their home;

### 3.2.3 Potential of alternative assessment proposals

Promote energy efficiency. According to estimates of demand management assessment research by the Electricity of Vietnam (EVN), the housing, industrial and commercial sector will have energy-saving potential of 36%, 20% and 12% respectively. The key to reducing coal consumption for power generation lies in continuously improving the energy efficiency. By 2030, it is expected to save 56 million tons of coal.

Increase the consumption of renewable energy in power generation. The second factor of lying ahead of reducing coal consumption for power generation is power generation energy. Further promoting the power generation with renewable energies becomes the best choice for reducing coal consumption.

### 3.2.4 SEA suggestions and conclusions

The Vietnam’s PDP SEA program is an important step to include environmental and social costs into power development plan. This is the first time that Vietnam has implemented the SEA within its national development plan, and has incorporated relevant environmental and social costs/ returns into PDP process, which has been to some degree embedded into the basic scenario calculations. The energy efficiency and renewable energy goal have been reviewed and adjusted. The main suggestion is to ease the heavy reliance on coal consumption. By 2030, the impact of coal consumption will contribute to a loss of billions of dollars.

## 3.3 SEA practice in Vietnam’s tourism

### 3.3.1 Overview

In 2006, the Asian Development Bank provided technical help to Cambodia for conducting SEA on sustainable tourism planning. The possible results of developing sustainable tourism in Cambodia are compared by simulating three different alternative development strategies and growth rate scenarios. These scenarios include high growth mode, and balanced growth mode with relative low growth rate (which is still pretty high compared with global standard), strictly controlled ecological tourism development strategy and purposefully controlled growth mode.

#### Scenario 1: strict ecological tourism-- key development points of tourist spots outside Siem Reap

In this scenario, ecological tourism is advocated as the sole core of all key tourist spots in selected areas outside Siem Reap. The areas outside Siem Reap have been seen as fully developed areas for cultural and historical preservation. The tourism development in the northeast and the south’s coastal areas has focused on strictly controlled low-density facilities that aim ecological tourism as the market target. It is forecast that this proposal will maintain an annual growth rate of around 5%, which is almost the same as the international level but far lower than the current 20%.



**Scenario 2: Balance between ecological tourism and guided development**

The second scenario provides a balanced development mode. The key lies in developing ecological tourism in high-priority/ high-potential naturally attractive areas, and guiding other areas to develop. The development of major tourist spots will take ecological tourism as the basis, and follows the principle of ecological tourism that features low density, high-quality and being compatible with environment. Assume the growth rate is 20%; by 2015, the government’s growth target for tourism is 20%-30% every year. This target seems achievable considering it is the same as the growth rate for the five years proceeding 2006.

**Scenario 3: Focus on Siem Reap/ external development status-quo**

In this scenario, the key lies in building Siem Reap into an international tourist destination, and letting other areas develop on their own according to the investment returns of their private sectors with minimized interference. If there is no specific guideline, the development would become a loosely implemented plan, and will follow themes and styles of private investors. The growth rate for this kind of tourism is assumed to be 30%. Given the current global tourism annual growth being 4-5%, the growth rate of Asian-pacific region being 8%, the expected goal of 30% is pretty high to achieve.

**3.3.2 Impacts assessment for the 3 scenarios**

Economically, the second scenario seems more attractive, but problems like outward leakage of economic benefits and shortage of skilled labor need to be quickly solved. Environmental issues like waste management and impacts to high-utilization areas need more attention.

**Table 3-1 Comparative analysis of indicators in three scenarios**

	Scenario 1	Scenario 2	Scenario 3
<b>Annual growth rate</b>	5%	20%	30%
<b>Environmental sustainability</b>	High	Moderate	Low
<b>Economic sustainability</b>	Low	High	High-to-Low
<b>Strength of the scenario</b>	The impacts are limited thanks to the low growth rate. Attention will be focused on key tourist spots of ecological tourism, maintaining steady growth and allowing adjustment. Commercial opportunities may be available in some place. Ecological tourism is established as key ecological niche of core tourist spots.	Taking core ecological tourist spots as the focus to develop ecological tourism; provide guidance to develop supporting tourist spots and infrastructures. Tourism is an important driver of economic growth.	High growth rate, create jobs and investment opportunities. Tourism is the main driver of economic growth.
<b>Defects of the proposal</b>	Many places are still underdeveloped as a result of sole focus on core tourist spots. Tourism is not the main factor for economic growth.	Rely on importing expertise and labors; economic loopholes	Over-development of rooms and potential oversupply. It may finally cause losses as a result of being less attractive.
<b>Major environmental issue</b>	Disposal of urban wastes. Wastes disposal of core tourist spots.	Growth of Wastes in tourist spots and urban areas	Have great influence on tourist spots; waste management; development losses in forest and coastal areas; Cause pressure on urban environment due to over-development
<b>Other factors</b>	External influence on core tourist sports like dolphins and forest resources	External influence on the outside areas of core tourist sports, may influence the feasibility of the tourist spots.	The influence of land utilization and development on core tourist spots.
<b>Suggestions</b>	Focus on urban and field waste management strategies. Help local communities nearing core tourist spots develop ecological tourism	Develop a series of setup, letting visitors help reduce loads. Support improvement and integration of waste management service	Improve waste management and urban planning; enhance management capacity of tourist spots.

## Chapter 4 SEA Development, Existing Problems in the Lancang-Mekong Basin and Corresponding Suggestions

### 4.1 DEA development trend in Lancang-Mekong Basin

#### 4.1.1 Quality and Effectiveness of SEA will get improved

As SEA has been widely implemented in Lancang-Mekong Basin, the quality and effects of SEA are attracting increasing attentions among administrators and implementer of countries in the region. The quality and effects of SEA can be improved with the following three methods.

(1) Enhance institutional requirements (including methods and guidelines) to ensure the effectiveness and lasting effects of SEA; measures can be taken to strengthen SEA's main steps and factors, especially quality of reports, monitoring, comments, tracing of public opinions, so as to improve the quality of SEA.

(2) Use systematic structures and standards to appraisal practice, cases and experience, so as to acquire a report on the effects of SEA, which focuses not only on individual policy or plan or proposal from the micro perspective, but also on the macro implementation of SEA system, highlighting the effects of SEA in decision-making processes.

(3) Summarize more complete methods and standards from more practical case, so as to make SEA more widely applied.

#### 4.1.2 SEA tends to become more sustainable

From the concept itself, it can be learned that SEA is a comprehensive and sustainable-oriented method, which is even more obvious in view of its social, health and economic impacts. When the social impact assessment, the health impact assessment and the long-established economic impact assessment are combined, SEA is more of a sustainable assessment method.

At present, it is still hard to promote sustainable assessment in Lancang-Mekong Basin, because decision-makers lack the capacity of analyzing and integrating the environmental, social and economic information in the decision-making and planning process; at the same time, the SEA system in these countries are still incomplete. Therefore, the future development of SEA in the region, especially the improvement of institutional systems and capacity levels, will become truly critical.

#### 4.1.3 SEA tends to become more comprehensive

Currently, SEA practices in the Lancang-Mekong Basin are most implemented with assistance from multilateral and bilateral aid agencies and international organizations. Compared with the sustainable and comprehensive assessment on environmental, social and economic impacts, these assessments are more of independent or separated procedures.

As SEA develops in the region, there will be a growing consensus that these individual activities should be more consciously integrated before any individual activity is taken, so as to form more well-considered decisions. That means SEA will become more comprehensive.



## 4.2 Existing problems

At present, the development of SEA in the Lancang-Mekong Basin is still at an exploratory stage, with various aspects like policies and practice still being rather immature. Problems of different respects are standing in the way to make SEA universally applied throughout the region.

### 4.2.1 Common problems regarding international SEA

1. Limited range of application. Although the idea of SEA has underwent 50 years of evolution, from exploration, conception to initiation, the SEA systems of most international organizations and countries are still stagnated at the plan and planning stage, as manifested in the case of Eu's SEA directive and China's EIA Law. What's more, U.S. Environmental Act even stresses that only those proposal and other major federal activities that have major impacts to human environment are subject to EIA.

2. Vague procedures. No country has clearly defined specific procedures for implementing SEA in its laws, what they have are monotonous, vague contents that are far from comprehensive and concrete; in addition, the EIA systems of some countries and organizations are rigid and inflexible.

3. SEA technical methods need improvement. As of now, the SEA technical methods on the planning level have been developing fast, while progress in policies are stagnated, making the SEA pretty weak in practice on the policy level. Besides, defects exist in terms of selecting alternative proposals, judging criteria of EIA's importance, forecast methods and handling of uncertainties.

### 4.2.2 Outstanding issues concerning SEA in Lancang-Mekong Basin

Compared with developed regions like Europe and America, countries in the Lancang-Mekong Basin are relatively late in adopting SEA, lagging behind in terms of legal systems, technical theories, methods and practice.

1. Poor legal systems. At present, the laws, rules and regulations on environmental protection in the region that support the implementation of SEA are obviously backward and slow in progress, leading to the shortage of legal basis in practice.

2. Lack of systematic theories and technical methods. Internationally, basic researches on SEA theory is rare; countries in the Lancang-Mekong Basin are lack of strength, experience and conditions, making SEA theories and methods fall short of practical demands and leading to SEA poorly implemented in many areas.

3. Insufficient consultation and public participation. Due to the lack of practice on SEA in the region, incomplete mechanism of consultation and public participation, uncertainties surge in terms of participation. In addition, the difference in public environmental awareness, education background and value orientations also make public participation less efficient.

4. Highlighted imbalance. Due to the differences in development status, political and historical background among the countries in the region, the developments of SEA systems in the region are largely unbalanced at various degrees. Some countries are extremely lack of practice; some others have already conducted SEAs in certain fields but still extremely inexperienced in some other fields. That makes it hard for the SEA to unleash its potential in comprehensive decision-making for many countries in the region.

5. Lack of capacity building. Given the already backward developments of SEA systems in many countries in the region, technical and management forces are far from well-established. For now, these countries still rely heavily on supports from international organizations for capacity building, which are not systematic and comprehensive and are conducted largely to serve a certain environmental program that is under progress, making it hard to establish a capacity system that SEA needs.

### 4.3 Suggestions and prospects

#### (1) Establish legal framework systems on SEA for the Lancang-Mekong Basin

Currently, countries in the region are conducting researches on SEA-related legal systems with supports from bilateral and multilateral aid organizations and international organizations. With their SEA capacities and competitiveness improving, and more SEA practice and experience studied, the demands for a legal system is increasingly urgent. However, the lack of legal systems for standardization will make it extraordinarily hard for SEA to be widely applied and implemented from various aspects (like PPP).

#### (2) Further the studies on improvement and standardization of theoretical systems

Based on existing methods like environmental impact investigation, identification, forecast and assessment, with the help of advanced technologies and theories of relevant disciplines, countries in the region have been developing and improving the methods of identifying, forecasting and assessing SEIs according to their actual conditions, features and investigation methods, focusing on researches on long-term effect environmental impacts and coordinated environmental impacts.

#### (3) Continue to advance practical application and case demonstration

As researches on SEA theories and methods continue to deepen and improve in the region, based on studies and summary of existing SEA practice, efforts can be made to further promote SEA into wider application and trial demonstration. In addition, inter-departmental or international cooperation, and experience-sharing can be adopted to try to practice SEA in different aspects like PPP.

#### (4) Enhance personnel training, and improve public participation and awareness

Multiple methods, such as engaging in implementing practical cases, conducting experience-sharing between departments and nations, providing training to decision-making, regulatory and implementation staffs, can be adopted to enhance training and improve the team's overall SEA capacities and competitiveness. During that process, publicity should also be enhanced to raise public awareness of SEA, letting them gradually form the sense of voluntary participation, so as to contribute to SEA as a central role in social, economic and environmental development.

#### (5) Enhance regional international cooperation and exchange

Currently, countries in the region have made many exploration and trials about theoretical researches, case studies and capacity building on SEA-related laws, systems, working mechanisms and technical methods, accumulating extensive experience and recognizing their own defects and incompetency. By enhancing cooperation, conducting exchanges and mutual learning, they can jointly work out a legal framework and technical methods that are suitable for each country in the region; at the same time, SEA can be applied in basin policies, planning and plans through cross-border cooperation, so as to amass deeper and wider SEA practice.







## Contact Us

Lancang-Mekong Environmental Cooperation Center  
China-ASEAN Environmental Cooperation Center  
Foreign Environmental Cooperation Center  
5 houyingfang Hutong, Xicheng District,  
Beijing PR China 100035  
Tel: +86-010-82268221  
Email: li.xia@fecomee.org.cn  
Web: <http://www.mepfecoo.org.cn>



About LMEC: Lancang-Mekong Environmental Cooperation(LMEC), established in 2017 in Beijing, China, aims to boost the capacity of environmental governance of each country and achieve regional sustainable development through the promotion of environmental cooperation among the Lancang-Mekong Countries.