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Environmental Impact Assessment Regulations and Strategic Environmental Assessment Requirements

Practices and Lessons Learned in East and Southeast Asia

April 2006

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Environmental and social development issues are integral part of the development challenge in the East Asia and Pacific (EAP) region. The recently completed Environment and Social Development Strategies for the World Bank in the region have provided the conceptual framework for setting priorities, strengthening the policy and institutional framework for sustainable development, and addressing key environmental and social development challenges through projects, programs, policy dialogue, and partnerships. The EASES Discussion Paper Series provides a forum for discussion on good practices and policy issues within the development community and with client countries.

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FOREWORD

Since the 1970s, East and Southeast Asia have experienced unprecedented levels of economic growth, exposing the region to a wide range of development opportunities and challenges. A range of policy reforms and development plans and programs are being undertaken to meet these challenges, especially in resource and environment-intensive sectors, but many countries lack capacity to assess the sustainability and implications of projects and strategies.

Mainstreaming environment into development starts at the project level and the region's environmental impact assessment (EIA) systems have been in place for some time. EIAs are intended to improve project design and implementation by identifying ways to prevent, mitigate and compensate adverse environmental impacts. The region has built up a good basis of knowledge and systems for EIA implementation and in many countries the political will to support this process is recognized.

Worldwide, there is growing recognition for the need to consider environmental implications of regional and sectoral development plans at the macro level. The objective of strategic environmental assessment (SEA) is to mainstream environmental and social considerations into programs, plans and policies, mitigate negative implications and maximize potential positive synergies.

This approach mainstreams environment and social issues into decision making at a strategic level. The development of SEA systems is still at an early stage in the region and there are fewer examples of truly effective countries. However, given the rate of development and the massive environmental implications of many planning decisions currently being taken, the need for effective macro-level assessment tools is great.

Through its analytical and technical assistance and lending programs the World Bank has been a strong partner for these countries, supporting environment and social objectives and sustainable development. At the project level the Bank has supported the use of EIA systems in the region since the mid-1980s, and is continually looking for opportunities to transfer international approaches, best practice, and technology as part of project design and implementation. Since the 1990s the Bank has also emphasized the need for mainstreaming environment issues into other sectors, which requires new approaches, and enhanced cross-sectoral coordination at the policy level. For example, the EAP Environment Strategy stresses the need for SEAs to be undertaken in areas where Bank projects and programs may have cumulative and sector wide environmental implications.

This report provides a baseline

description of the status and recent developments in EIA and SEA systems in East and Southeast Asia. Its purpose is to provide an up to date account of regulation and policies, and identify the strengths and weaknesses of the system in each country, with a view to promoting improved assessment practice in the future. Working with, and supporting, 'country systems' is now increasingly being recognized. This study makes an important contribution to understanding

the systems currently in place. The report also highlights the weaknesses of existing systems, such as enforcement, limited public participation, and the lack of co-ordination between government bodies at local and central levels.

Given the changes in the EIA regulations in the region, we hope this report can be regularly updated, and welcome your comments and inputs.

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ACRONYMS

ADB	Asia Development Bank	EMD	Decree of the Environment Minister
AMDAL	Environmental Impact Assessment System	EMDPs	Ethnic Minority Development Plans
BAPEDAL	Head of the Environmental Impact Management Agency	EMP	Environment Management Plan
BKPM	National Investment Coordinating Board	EPCA	Environmental Pollution Control Act
BMBEs	Barangay Micro Business Enterprises	EPD	Environmental Protection Department
CEA	Country Environmental Analysis	EPNRM	Law on Environmental Protection and Natural Resource Management
CDC	Council of Development of Cambodia	ERMG/AIT	Environment and Resources Management Group
CEA	Cumulative Environmental Assessment	ETAP	European Environmental Technologies Action Plan
CNC	Certificate of Non-Coverage	FAEP	Framework Act on Environmental Policy
CPC	Communist Party of China	GEF	Global Environmental Forum
DEIA	Detailed Environmental Impact Assessment	GEIA	General Environmental Impact Assessment
DENR	Department of Environment and Natural Resources	GoC	Government of Cambodia
DGPs	Development Guide Plans	GWD	Great Western Development
DoNREs	Provincial Departments of Natural Resources and Environment	HDB	Housing and Development Board
DPRA	Development project Responsible Agency	ICT	International Consultants and Technocrats Private Ltd.
EA	Environmental Agency	IEE	Initial Environmental Examination
EA	Environmental Assessment	IEMSD	Integrated Environmental Management for Sustainable Development
ECAs	Environmentally Critical Area	JICA	Japan International Cooperation Agency
ECC	Environmental Compliance Certificate	JTC	Jurong Town Corporation
ECPs	Environmentally Critical Project	LEP	Law on Environmental Protection
EIA	Environmental Impact Assessment	LGUs	Local Government Units
EIAO	Environmental Impact Assessment Ordinance	MEAP	Mongolian Environmental Assessment Program
EIARC	Environmental Impact Assessment Review Committee	MoE	Ministry of Environment
EIMA	Environmental Impact Assessment Agency	MIH	Ministry of Industry and Handicraft
EIS	Environmental Impact Statement	MOEWR	Ministry of Environment and Water Resource
EMB	Environmental Management Board	MONE	Ministry of Nature and Environment

MONRE	Ministry of Natural Resources and Environment	REDs	Regional Executive Directors
MOSTE	Minister of Science, Technology and Energy	RIET	Regional Institute of Environmental Technology
MSTE	Ministry of Science, Technology and Environment	RKL	Environmental Management Plan
MPC	Master Plan Committee	SAR	Specific Authority Region
MPI	Ministry of Planning and Investment	SCEC	State Committee for Environmental Control
MRC	Mekong River Commission	SDS	Sustainable Development System
NEA	National Environmental Agency	SEA	Strategic Environmental Assessment
NEB	National Environmental Board	SEPA	State Environmental Protection Administration
NEQA	National Environmental Quality Act	SIDA	Swedish International Development Agency
NT2	Nam Theun 2 Hydroelectric Project	SMR	Self-Monitoring Reports
OECC	Overseas Environmental Cooperation Center, Japan	SOP	Standard Operating Procedure
OEPP	Office of Environmental Planning and Policy	STEA	Science, Technology and Environmental Agency
ONEB	Office of National Environmental Board	ToR	Terms of Reference
ONREPP	Office of National Resource and Environmental Planning and Policy	UN	United Nations
PD	Presidential Decree	UNDP	United Nations Development Program
PDR	People's Democracy Republic	UNEP	United Nations Environmental Program
PERS	Prior Environmental Assessment Review System	URA	Urban Redevelopment Authority
PES	Preliminary Environmental Scan	VAST	Institute of Geography- Vietnamese Academy of Sciences and Technology
PPPs	Policy, Plan and Program	VEPA	Vietnamese Environmental Protection Agency
PWD	Public Works Department	VESDI	Vietnam Environmental and Sustainable Development Institute
RAPs	Resettlement Action Plans		

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EXECUTIVE SUMMARY

Since the 1970s, East and Southeast Asia have experienced unprecedented levels of economic growth, exposing it to a wide range of development opportunities and challenges. The environmental challenges include the toll on natural resources, and the degradation of environmental quality in many regions and cities that threaten people's health and the quality of life, reduce economic productivity, and compromise sustained economic growth and poverty reduction.

Singapore and Korea have joined Japan in becoming developed countries; China, Vietnam and Mongolia are in the transition from a command economy to a market-based economy. During the same time, Vietnam, Cambodia and the Lao PDR are rebuilding their economies. Remarkable transformations and notable policy reforms are being undertaken in resource and environment-intensive sectors such as water, energy, transport, urban planning, mining and trade in many countries in the region. It is important for these countries to have the capacity to assess sustainability and the implications of these policy changes on the environment. Adoption of tools to ensure sustainable development considerations in policy formulation is, therefore, important.

Mainstreaming environment and social issues into development project level starts with the Environmental Impact Assessments (EIA). This approach was established in the region and has been in use since the early 1980s. It has contributed to pollution prevention and control in numerous projects that have adverse impacts

on the environment. Nonetheless, there is still room for improvement in areas such as strengthening the legal systems, timing of the study, public participation and information disclosure. On the other hand, limited scope and function of the EIA system has resulted in difficulties in meeting new challenges, and there are many issues that can only be addressed at the policy and strategic level.

Worldwide, there is a growing recognition that, in addition to assessing and mitigating project-level environmental impacts, there is a need to consider the environmental and social implications of regional and sectoral development plans, and macroeconomic and sectoral policies. Strategic Environment Assessments (SEA) is an analytical and participatory approach for mainstreaming and upstreaming environmental and social issues into decision-making and implementation processes at the strategic level. SEA systems have been developed in North America and Europe for sustainable development since the 1970s but are typically less well established elsewhere. Given the rate of development and the massive environmental implications of many planning decisions that are currently being made in the region, the need for effective strategic assessment tools is great.

The World Bank is assisting client countries in East and Southeast Asia to introduce and develop SEA in the context of development policies; it also provides non-lending technical support and analytical services including policy assessment and reform etc. The Bank's

lending portfolio for environmental protection and natural resource management in the region from pollution management to biodiversity conservation stands at \$5.15 billion, with \$498 million of new lending in FY04. It accounts for around 21 percent of total regional portfolio. The World Bank also offers a wide range of analytical and advisory services including pilot SEA projects and training workshops and courses throughout the region. At the project level, the Bank has been supporting the enhanced use of EIA for development projects, and strengthening its institutional capacity since the 1980s, and is continuously looking for opportunities to transfer international experiences, best practices, and technology as part of project design and implementation. Furthermore, since the 1990s the Bank has emphasized the need for mainstreaming environment into sector reform and policy design. Indeed, the Bank's environment strategy for the East Asia and Pacific (EAP) region highlights the need for SEAs to be undertaken in areas where projects and programs may have cumulative and sector wide environmental and social implications.

This report has been prepared mainly through desk study reviews of the current state of Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) in East and Southeast Asia, and is intended as a baseline study from which further analytical and advisory work will follow. Countries covered by this review include Cambodia, China, Indonesia, Japan, Korea, Lao PDR, Mongolia, the Philippines, Singapore, Thailand and Vietnam (hereinafter collectively known as the Region). Although it is a part of China, the Hong Kong Specific Authority Region (SAR) is introduced separately due to the unique characteristics of its EIA and SEA systems.

Overall it was found that the region has a relatively well established EIA system, including the legal and administrative framework. The Environmental Assessment systems in Hong Kong SAR, China, and Vietnam are SEA-inclusive, while EIAs in the other countries are

project-based and do not include SEA features. Korea set up its prior Environmental Assessment Review system (PERS) which is a planning-based type SEA system. Japan has SEA practice at the local government level and is at a stage of considering SEA introduction at the central government level. Only in Hong Kong (SAR) is the EA system designed to include policy planning issues. The main problems for EAs across the region include weak enforcement and late implementation of assessments. The effectiveness of these assessments is also undermined by poor coordination between central and local level government bodies, low levels of public consultation and information disclosure, and under-funding. The study also highlights the need for a more detailed understanding of the policy formulation process in each country in order to identify entry points for improving the EA system. Political will to drive this process should be built up further with appropriate activities, such as studies and seminars. International assistance should be focused on those countries that are ready and able to establish EIA/SEA systems, but do not currently possess the human or financial resources to set up the systems independently.

This report has three objectives: (1) to review existing regulations, key components, and applications of EIA/SEA, (2) to assess SEA requirements including the mandates, applications, initiatives, and relevant existing conditions of SEA, and (3) to identify lessons learned and challenges in implementing EIA and SEA in the Region.

There are three chapters and a detailed annex with country level information. Chapter 1 gives an overall picture of the EIA/SEA systems and applications in the Region; Chapter 2 describes the lessons and areas for improvement; Chapter 3 is a summary of findings and recommendations. The annex introduces the EIA/SEA regulations and applications in each of the eleven countries and Hong Kong SAR.

CHAPTER 1

OVERVIEW OF EIA REGULATIONS AND SEA REQUIREMENTS IN THE REGION

EIA in the Region

Environmental Legislation: Countries in the region began to establish environmental legislation in the 1970s. See table 1 for a list of the early framework laws and regulations for environment conservation. Various regulations were issued in order to implement these laws and regulations, and Environmental Impact Assessment (EIA) was an important area for many regulations.

EIA in Individual Countries and the Region: EIA systems and laws were gradually implemented and promulgated across the region from the 1970s (Japan and the Philippines), the 1980s (Korea, Indonesia, China, and Hong Kong SAR), the 1990s (Thailand, Vietnam and Cambodia), and finally in 2000 (Lao PDR). Since their inception, most of the Region's EIA laws or regulations have been amended in order to expand their coverage, enhance administration and public participation, and improve enforcement. The main features of these systems, such as legislation, administration, coverage, analysis of alternatives, public consultation, disclosure and timing, are described in this chapter and summarized in Table 2.

Legislation Statues and Coverage: Since the 1970s the legal requirements for conducting EIAs have been incorporated into the laws and regulations in all countries in the region and Hong Kong SAR except for Singapore, whose

EIA is embodied in urban planning and pollution control legislation. The laws and regulations for EIA including those for implementing EIAs have been established accordingly. The EIA system in Hong Kong SAR, China and Vietnam cover plans in addition to projects. These EIAs are, therefore considered SEA-inclusive. However, EIA systems in the other countries only account for projects and, as the focus is not on plans, they are regarded as project-based assessments and are SEA-exclusive. Two exceptions are the EIA system in Indonesia and the Philippines, which cover environmental impacts of multiple projects in a given ecological or specific area. It should be noted that policies are outside of the scope of those EIA systems except Hong Kong SAR.

In all the EIA systems in the Region some threshold levels based on project scale, land size used and sectors, or a combination of these, are used as criteria for EIA specifications. The use of these criteria may help to maintain the focus on projects with potential significant impacts, and avoid swamping the system with too many projects, leading to a more efficient use of scarce resources. Different types of EIAs are requested according to the category of projects as stipulated in regulations. A full EIA is generally requested for projects with potential for significant adverse environmental impacts.

Table 1. Early laws and regulations on environment in the Region

Country	Law or Regulation	Year
Cambodia	Environmental Protection and Natural Resource Management Law	1996
China	Environmental Protection Law	1978
Hong Kong	Water Pollution Control Ordinance	1980
Indonesia	Environmental Management Act No. 4	1982
Japan	Cabinet Directive	1972
Korea	Environmental Preservation Act	1977
Lao PDR	Lao LDR Constitution	1991
Mongolia	Environmental Protection Law	1996
Philippines	Environmental Policy Presidential Decree No. 1151	1977
Singapore	Environmental (Public Health) Act	1969
Thailand	Enhancement and Conservation of the National Environmental Quality Act	1992
Vietnam	Environmental Protection Law	1994

Projects judged to have a lower potential for adverse environmental impacts, typically require an environmental certification or permission. For these projects the major objectives of EIA are pollution control and compliance of discharge standards. However, this categorization process carries the risk that it does not account for ‘small’ projects that have significant adverse impacts on the environment. In Japan, the EIA Law includes a provision that stipulates specific EIA requirements for small-scale projects with significant potential for negative environmental impacts. According to the regulations in the Region there is no differentiation in the legal requirements for EIA between domestic and foreign funded projects.

Administrative Framework: Across the region a range of bodies have been established to manage and implement EIA policy and regulations, typically this involves Ministries of Environment or government environment agencies assuming most of the responsibility. The sector ministries such as those for energy, transportation, communication, agriculture, are then responsible for the sector specific technical guidance. In most cases the Environment Ministry is required to coordinate with these sector ministries for the projects at the national level, while at the local level the branch offices

of the environment ministry works with the relevant departments under the authority of local governments. Certification and registration systems for EIA consultation are stipulated in most EIA regulations, except Thailand, Vietnam, Lao LPR and Cambodia.

Capacity Building: With the support of international organizations the capacity to implement EIAs has been growing in the Region. The EIA procedure typically includes the following features; preliminary investigation, formulation of terms of reference (ToR), scoping, baseline study, environmental impact evaluation, mitigation measures, assessment of alternatives, final reporting, decision-making, and project monitoring. Guidance materials for EIA practice is widely available, and in a number of countries (including Hong Kong SAR) government officers and professionals have received extensive training, though this capacity is not evenly distributed in the Region.

Analysis of Alternatives: The overall objective of EAs is to ensure that the project (policy, plan or program in the case of SEA) has minimum negative environmental impacts. Analysis of alternatives is mandatory in Lao PDR, Mongolia, the Philippines and Indonesia since it is stipulated in the respective EIA laws or

regulations of these countries, while it is requested in the guidance documents of Hong Kong SAR (EPD, 2004), Japan (EA, 1997), Korea (Song, 2004), and China (SEPA, 2003). However, except in Hong Kong SAR its implementation is still problematic, as discussed in Chapter 2.

Public Consultation: An essential step in identifying potential environmental impacts and designing effective mitigation measures is the public consultation process that is stipulated in all the EIA Laws and regulations in the Region. Many countries (and Hong Kong SAR) have adopted best practices and have public involvement at two stages in the EIA project cycle. The first involvement is shortly after screening and prior to ToR formulation, and the second is before the finalization of EIA reports. The laws and regulations of Japan, Hong Kong SAR, Korea, Indonesia and the Philippines, require stricter terms as discussed below. The EIA act of Korea stipulates that public hearings will be held when more than thirty local residents or a majority of a group of local residents less than thirty but more than five, request it. In Indonesia EIA regulation No.27/1999 stipulates that a public representative must have a seat in the EIA commission. However, in Cambodia, China and Thailand the process is less rigorous and EIA regulation is undermined with vague requirements such as "...public hearing and comments are encouraged ..." It should also be pointed out that these provisions apply for the projects needing a full EIA.

Information Disclosure: Effective public participation relies on the availability of appropriate information. In this respect Hong Kong SAR is the best example in the region. For example, the Environmental Impact Assessment Ordinance (EIAO) facilitates public access to information and is coordinated with public participation during screening and before approval. Project profiles and reports are made accessible to the general public. All legal documentation, guidance materials, and EIA reports are available on the website of Environmental Protection Department (EPD) of

Hong Kong SAR along with feedback facilities. The EIA system in Hong Kong SAR is therefore regarded as "the most transparent system" in the world (Dalal-Clayton *et al.*, 2004). The legal requirements for information disclosure in Japan, Korea, Indonesia, the Philippines and Lao PDR are similar to those of the World Bank, e.g. EA draft reports must be made available in a public place accessible to affected groups and local NGOs before submission (OP/BP4.01). However, general and vague statements are stipulated in the EIA regulations of China, Thailand, and Cambodia, and have led to many obstacles for public involvement.

Timing: The timing for clearance of EIA approvals outlined in the regulations varies from a minimum of 56 days (Mongolia) to as long as 210 days (Japan). Approval time is 180 days in Hong Kong SAR (EPD, 2004) and the Philippines (multiple projects). It is 150 days for Indonesia (Purnama, 2003), 100 days for Lao PDR, 75 days for Thailand (for private funded project but no provision on public funded project) (GEF, 1998), 2 months for China, Vietnam, Cambodia and Mongolia. The main factor affecting this period is the time specified for reception of public comments and information dissemination before EIA report submission. Japan's EIA requests 100 days for public hearings and information display, in Hong Kong SAR it is 58 days, in Korea it is 50 days (Song, 2004), and 30 days in Lao PDR. In contrast, no specific time is defined for these activities in the regulations of China, Vietnam, Thailand, Cambodia and Mongolia.

Environmental Management Plan (EMP) and Monitoring: EMP is stipulated in the EIA regulations in the region, but not monitoring. The latter has no clear requirements in the regulations of Cambodia, Mongolia, Thailand and Vietnam.

Table 2. Summaries of Criteria of the EIA Systems in the Region

Country	Law/ Regulation	Issued date	Oversight institution	Scope/ coverage	Alternatives study	Public participation	Information Disclosure	Clearance Timing	Certification of consultants	Follow-up monitoring
Cambodia	Sub-decree on EIA	1999	Ministry of Environment	Project	NA	General statement in the regulation	NA	60 days	NA	NA
China	EIA Law	2002	National Environ Prot. Admin. (NEPA)	Plan and project	Stipulated in technology/ guidance	General statement in the regulation	NA	60 days	In place	Required
Hong Kong SAR	EIA Ordinance	1998	Department of Environ Prot.	Policy, plan and project	Stipulated in guidance book	Strict and concrete requirements in the regulations	Stipulated in regulation and well implemented	180 days	In place	Required
Indonesia	EIA Regulation No.27/1999	1999	Environ Impact Management Agency (EIMA)	Project	Stipulated in regulation	Strict and concrete requirements in the regulations	Stipulated in regulation	150 days	In place	Required
Japan	EIA Law	1999	Ministry of Environment	Project	Stipulated in the technical guidance	Strict and concrete requirements in the regulations	Stipulated in regulation and well implemented	210 days	In place	Required
Korea	EIA Act	1997	Ministry of Environment	Project	Stipulated in regulation	Strict and concrete requirements in the regulations	Stipulated in regulation and well implemented	74 days	In place	Required
Lao PDR	EIA Decree No. 1770	2000	Science, Technology and Environ Agency (STEA)	Project	Stipulated in regulation	Strict and concrete requirements in the regulations	Stipulated in regulation	100 days	NA	Required
Mongolia	EIA Law	1998	Ministry of Environment	Project	Stipulated In regulation	Strict and concrete requirements in the regulations	Stipulated in regulation	56 days	In place	NA
Philippines	DAO 30/2003	2003	Dept Environ and Natural Resources	Project	Stipulated In regulation	Strict and concrete requirements in the regulations	Stipulated in regulation	90-190 days	In place	Required
Singapore	Ad hoc		Ministry of Environ and Water Resources	Project	NA	NA	NA	NA	In place	Required
Thailand	NEQA, B.E.	1992	Ministry of Natural Resources & Environ (MONRE).	Project	Stipulated in technical guidance	General statement	No provision in current regulation,	75 days (for private funded projects)	NA	NA
Vietnam	Decree 175/CP	1994	Ministry of Science, Technology & Environ	Plan and project	Stipulated in the regulation	General statement	No provision in current regulation	60 days	NA	NA

SEA in the Region

Definition of SEA: SEA is regarded as a *process* rather than a single activity or output (such as the production of a report). Stressing this continuity, SEA is defined as “a systematic process for evaluating the environmental consequences of a proposed policy, plan or program initiatives in order to ensure that they are fully included and appropriately addressed at the earliest appropriate stage of decision making on par with economic and social considerations” (Sadler and Verheem, 1996). Also SEA is defined as an analytical and participatory approach for mainstreaming and upstreaming environmental and social considerations in policies, plans and programs to influencing decision-making and implementation processes at the strategic level.

Differences between EIA and SEA: Environmental Impact Assessment (EIA) was developed in the 1970s as a tool to assess and reduce adverse impacts on the environment caused by projects. EIA is therefore referred to as project based and is geared towards ‘pollution control or prevention.’ Substantial experiences with EIA and its applications have been accumulated, including procedure, methodology and guidelines. The development of SEA systems is, to a large extent, based on existing EIA systems. However, there are significant differences between SEA and EIA, for example, SEAs focus on Policies, Plans and Programs (PPPs) while EIA centers on projects. SEA is geared towards upstream issues and is aimed at sustainability and cumulative and indirectly induced environmental effects.

The main differences between SEA and EIA can be summarized as follows (Partidario, 2003): SEA addresses policies, plans, and programs, while EIA is project specific. SEA focuses on decision-making processes rather than the final assessment report of these processes. The scope of SEA is wider and more sustainability-oriented; therefore its time scale tends to be longer. SEA requires mostly qualitative information and only necessary quantitative data, while EIA is generally based on the latter.

There are also differences between EIA and SEA in procedures and methods (Fischer, 2004; Hanrahan, 2004; Partidario, 2004). Although SEA includes a wide range of continuum approaches, there are two main types of SEA. On the one hand, the *impact-centered* SEA focus mainly on impact assessment and its goal is predicting environmental impacts to establish prevention, mitigation and control measures to protect the environment. On the other hand, SEA can be a tool to assess the institutional and governance conditions needed to effectively deal with environmental and social effects of policies, plans or programs, when these effects cannot be predicted due to uncertainty on the concrete and complex processes that these interventions may have downstream. This is an *institutions-centered* SEA which focuses on country environmental management systems of broad development processes.

In light of the Region’s continuous economic growth, EIAs have been used to examine a broader range of environmental, social, economic and cultural issues, and is reportedly becoming a more participatory process. Recognizing the need for broader assessment tools, several countries in the Region have been introducing SEA or revising the previous EIA and SEA systems in place.

SEA Activities: Of the eleven countries and Hong Kong SAR in the Region, Hong Kong SAR, China, Vietnam, Korea, and Japan are at the most advanced stage of applying or introducing SEA. Hong Kong SAR was the first to develop a legal mandate for some types of SEA, governed by a directive for policies and strategies in which detailed guidelines have been developed and applied. It is mandatory that a strategic environmental assessment must be attached for approval when a policy or plan document is submitted to the Legislative Council for funding approval and to the Executive Council for the policy approval. Since the 1990s, Hong Kong SAR has successfully applied SEA in many programs such as ‘The Second Railway Development Study, 2000’ (Box 1); ‘Extension of Existing Landfills and Identification’; ‘Territorial

Development Strategy'; and 'Strategy Study on Sustainable Development for the 21st Century' (EPD, Hong Kong). China's new EIA Law, effective since 2003, clearly stipulates mandatory EIA for various plans and programs of national, cross boundary, and sectoral development. SEA has been implemented in several regional development plans. However, development policies are not included in the current EIA regulations, and there is a lack of capacity, especially in policy-based SEA procedure, methods, and guidelines. Assessment in Vietnam is at a similar stage, it covers planning and programming, and SEA has been applied to assess the impact of economic and social development in several areas. However, policy is not covered. In Korea, the system, which was developed in the 1990s, includes a 'Prior Environmental Review System' (PERS), which extends the scope of assessments to include plans and makes it an SEA-type system. Taking a further step toward SEA, Korea amended the current PERS in 2004, expanding the coverage, stipulating early implementation and enhancing public participation and disclosure (Song, 2004; Dalal-Clayton et al., 2004; and Song, 2005). In Japan, the Ministry of Environment (MoE) organized several workshops in the 1990s aimed at the introduction of international SEA and practices, and some local cities have applied SEA under their jurisdictions mainly on the regional and land use planning (Harashina, 2005).

Other countries in the Region also show strong interests in SEA. In the Philippines, studies on the SEA framework were undertaken in the 1990s, and several pilot-scale SEA projects were carried out (Briffett, *et al.*, 2003). The current EIA regulation (DAO 30/2003), issued in 2003, states that "the EMB shall study the potential application of EIA to policy based undertakings as a further step towards integrating and streamlining the EIS system." In Indonesia, the Ministry of Environment published a short guide on SEA in reference to assessment of policies, plans and programs. The recent tsunami has led to the initiation of a government-led SEA process. Lessons learned

from this process will be important to help define future directions for SEA in Indonesia. Other countries such as Cambodia, the Lao PDR, Thailand, and Vietnam are learning SEA from various development programs (outlined in the following section), for which the SEA study for the hydropower sector in Lao (associated with the country's Nam Theun 2 Hydroelectric project) is a good example (Box 2). Table 3 is based on the components and areas of activity reflecting the status of SEA development and implementation in a country (Briffett et al., 2003), and gives an overview of the potential for SEA in the Region.

Roles of International Cooperation:

International Cooperation plays an important catalytic role in introducing and enhancing capacity for EIA and SEA systems. Multi-lateral and bi-lateral cooperation programs fund a large number of projects, many of which are required to have EIA/SEA or integrated environmental management. Typical examples include World Bank (WB) urban environment projects in Beijing (World Bank, 2000), Shanghai (World Bank, 1994; The World Bank, 2003) and Tianjing (World Bank, 2003), China, Ulaanbaatar Sanitation in Mongolia (ITC et al., 2003), Nam Theun 2 Hydroelectric project in Lao PDR (NORPLAN, 2004; NORPLAN, 2004), etc. Application of SEA and EIA in the Mekong River Development Plan, supported by ADB (ADB, 2001), World Bank (AITCV and ERMG/AIT, 2002), introduced SEA concepts to Vietnam, Cambodia, Lao PDR, and Thailand.

Policy formulation on SEA/EIA is another area. During 2004 and 2005 the World Bank, in collaboration with China State Environmental Assessment Administration (SEPA) and the International Association of Impact Assessment (IAIA) developed a SEA distance learning course and organized a series of training courses and workshops on SEA in China (World Bank, 2005). In Indonesia, the Bank has provided support to the Ministry of Environment on enhancing public involvement in EIA, resulting in the publication of a guidebook in 2002 (World Bank, 2002). The Bank is currently providing

further support in relation to ongoing reforms of Indonesia's EIA laws, including the potential for introducing alternative policy instruments such as SEA and Rapid Environmental Assessment. In Vietnam, the World Bank helped to formulate environmental guidelines including EIA in transportation, agriculture, and rural development (World Bank and Ministry of Planning and Investment, 2004; Ministry of Planning and Investment and World Bank, 2004). In the Philippines, the Bank is working together with the Department of Environmental and Natural Resources (DENR) on monitoring and evaluating the EIA system (World Bank and DENR, 2005; Nicolas et al., 2005). International cooperation will continue to be needed in order to develop appropriate models and references for developing SEA/EIA capacity in the Region.

In summary, the EIA legislative systems, administrative framework, procedures, guidelines, evaluation and documentation are being developed in the Region. An appropriate infrastructure for EIA implementation has been established as well. According to the overall quality of the implementation, EIA/SEA application in the Region can be divided into three tiers:

- i. Hong Kong SAR, Japan and Korea are at the first tier with a well established legislative system and successful application record. Hong Kong SAR established both EIA/SEA, and its SEA is policy inclusive; Korea's PERS is a plan-based SEA type system. In Japan, some local governments have undertaken SEA while the central government is in process of introducing SEA at the national level.
- ii. China, the Philippines, Indonesia and Thailand are the second tier which established the EIA systems and have applied them with many years of experience. Of the four countries China's EIA is plan-inclusive, and plan-based SEA has been implemented.
- iii. Vietnam, Mongolia, Lao PDR and Cambodia are the third tier which start EIA at a later stage and are catching up with the others in the Region. Of the four countries Vietnam's EIA is plan inclusive although with limited implementation.

Box 1: Hong Kong Second Railway Development Strategy 2000

Type of Strategic Environmental Assessment (SEA): SEA of potential railway transportation strategies in Hong Kong SAR.

Nature and Scope of the Proposal: Develop a territory-wide railway development strategy to meet the short to long term transport need of Hong Kong.

Basis of SEA Requirement: As part of the study to develop railway development strategy, there is a requirement to provide information on environmental implications in the submissions to the highest decision making body, the Executive Council, in Hong Kong. Downstream EIA for individual projects arising from the strategy are also required.

Alternatives or Options Evaluation: Environmental effects of providing rail instead of roads were compared strategically. Environmental opportunities and constraints was identified into the corridors formulation and development process. More than 60 potential links and alternatives have been identified for evaluation. Significant environmental sensitive areas were avoided.

Key Outcomes or Influences:

1. Fully consider the hidden environmental benefits and costs between rail and road to support "Priority to Railway"
2. Increase rail share in the public transport system from 31 percent in 2000 to 43 percent by 2016, or in terms of the distance traveled by passengers from 34 percent to almost 60 percent. This amounts to a reduction of air pollutants by about 600 tons of NO_x and RSP per year and about 160,000 tons of CO₂ per year.
3. Eliminate environmentally unacceptable alternatives.

Latest Status and Potential Way Forward: In May 2000, the Transport Bureau announced the "Railway Development Strategy 2000". The recommended railway projects amount to about HK\$80 to HK\$100 billion.

Project level EIAs would be conducted on the railway projects to determine the details and ensure environmental acceptability at the project level.

Source: <http://www.epd.gov.hk/epd/eindex.html>.

Box 2: Lao PDR hydropower strategic impact assessments – A case study

Lao PDR's National Growth and Poverty Eradication Strategy identified the hydropower sector as one of the potential drivers of its growth. The assessment of Laos's hydropower development, one of a few such cases, analyzes the possible effects of the country's power development strategy comprehensively and provides useful information for those who conduct similar studies in this field (World Bank, 2004). Reviewing the SEA, this note summarizes the national development strategy in Laos PDR, describes the methodology of the SEA (i.e., process and methods), and discusses its performance.

Laos's hydropower development strategy

To satisfy the country's need for electricity and gain revenues from electricity export, the Lao government formulated a plan to develop hydroelectric power. The government devised the development plan of the hydropower sector, which includes dozens of projects. Seven studies, including the Generation Expansion Plan 2005-2020 (Electricite du Lao) and the Power System Development Plan (Meritec & Lahmeyer) have been implemented since the late 1990s to prioritize these proposed projects.

Methodology of the SEA on Lao hydropower development

The SEA addresses the issues as the following:

- **Baseline conditions of environment and society**
Baseline data were collected in terms of ecosystem, biodiversity, village people, and ethnic minorities. Based on these data, the conditions of three river basins—where the majority of the planned hydropower projects are located were analyzed thoroughly.
- **Hydropower development strategy and alternatives**
The details of the Lao hydropower development strategy and its alternatives were studied. 22 projects, which are most likely to be implemented in the next 20 years, were identified. Alternative energy sources and plans were scrutinized.
- **Environmental and social impacts of the strategy**
The possible impacts of the strategy were forecasted. With 11 kinds of such impacts identified, each environmental or social issue has been examined by the project.
- **Legal and institutional framework and its capacity for safeguard activities**
The institutional framework with respect to environmental safeguard in hydropower development has been studied. The responsibilities and capacities of the two primary government organizations (the Social and the Environmental Management Division, the Department of Electricity, the Ministry of Industry and Handicraft (MIH); and the Department of Environment, Science Technology and Environment Agency (STEA)) have been assessed.

Recommendations

Concrete actions are recommended in the following areas: i) mitigation and compensation for negative impacts, ii) introduction of Integrated Water Resource Management to coordinate upstream and downstream for a more effective and less conflicting use of water, iii) improve development planning in the hydropower sector, for example introducing least cost development planning and competitive bidding, and iv) strengthening the capacity of MIH and STEA.

Sources: The World Bank (2004). Lao PDR Hydropower: Strategic Impact Assessment. Washington, DC., and the note of Isao Endo (2005).

Table 3. Summary of SEA Indicators in the Region

No	Country/Region	Indicator					Remarks
		Political will	Legal mandate	Institutions/ Administration	SEA procedure/ Guideline/Methodology	Public involvement	SEA application
1	Cambodia	x	x	x	x	NA	The EIA is project-based.
2	China	✓	✓	✓	✓	–	EIA is project and plan-inclusive. Trial version guideline is available with some applications.
3	Hong Kong SAR	✓	✓	✓	✓	✓	SEA covers planning and policy with excellent implementation record.
4	Indonesia	✓	x	x	x	NA	The current EIA is project-based. Introductory booklet on SEA was published.
5	Japan	✓	–	–	–	–	The current EIA is project-based, but MoE is active in introducing national wide SEA. Some local governments are carrying out SEA within their jurisdictions.
6	Korea	✓	✓	✓	✓	–	The current PERS is a planning-based SEA type system.
7	Lao PDR	x	x	x	x	NA	The EIA is project-based.
8	Mongolia	✓	x	x	x	NA	The EIA is project-based. Few pilot SEA program.
9	Philippines	✓	x	x	–	NA	The EIA is project-based. SEA procedure was proposed, and there are few SEA initiatives. Government is preparing to introduce SEA.
10	Singapore	–	x	–	x	NA	No specific regulation on EIA. EA is done through pollution control and land planning.
11	Thailand	✓	x	x	–	NA	The EIA is project-based. Interim guideline on SEA is available.
12	Vietnam	✓	✓	–	x	–	The EIA is project and plan-inclusive, but the application is limited.

✓ : Positive, x : Negative, – : Neutral.

The criteria adopted in identifying the grading of the listed components are selected based on the degree and influence that these indicators/criteria may have to describe the statutes of the relevant component (Briffett et al., 2003). The government's introduction and application of SEA is used as evidence to confirm political will. The legislation(s) on EIA/SEA is the most appropriate indicator of a legal mandate. Establishment of a Ministry of Environment and Planning or other authorities including staffing to be responsible for EIA and SEA is used for the administrative framework. Existence and the quality of the official document to guide the SEA implementation are used to describe the statutes of SEA procedure, guideline, and methodology. The ability of the workforce to design, control, and monitor EIA/SEA activities is used to define technical capacity. The number of EIA/SEA projects and quality of the report are adopted for grading of experiences in SEA implementation. Finally, public involvement is evaluated by both regulations and practical implementation.

CHAPTER 2

LESSONS, AREAS FOR IMPROVEMENT AND ENGAGING CHALLENGES

The current EIA legislative systems in the Region are more or less at an international level, and the infrastructure for implementation is in place in general (Briffett et al, 2003). However, compared to advanced countries there are still many areas to improve, especially for the weaker countries (the second and third tiers) (Tan, 2000; Tan, 2003; Obbard, et al., 2002; Dang, 2003; Song, 2004; Stæradahl et al., 2005). This chapter describes the lessons, areas for improvement and the challenges faced.

Lessons

Late Implementation: This is a common problem in the Region. Often the EIA starts when the decision on the project including design, site and construction preparation has already been made. The EIA/SEA is intended to provide a “red stamp” only. In many cases the environmental offices in charge of the EIAs are under the authority responsible for the projects. It is hardly possible for them to make a truly professional or independent evaluation. Furthermore, EIA/SEA is often regarded as a ‘burden’ for foreign investment. Short-term economic benefits override environmental considerations and become a main cause of *weak enforcement* even though the legal statues of EIAs have been widely established in the Region. The recent “EIA Storms” in China appropriately illustrates this problem (Box 2.1). Thirty projects, mainly in the power sector and involving investment of US \$ 1.3 billions in

total, have been suspended by the State Environmental Protection Administration (SEPA) because they have been implemented without application or approval of EIAs. For many EIA regulations the penalty is too low to prevent violations.

Lack of Coordination among Governmental Agencies: This is happening at both central and local levels. The authority of the Environmental Ministry in formulation and implementation of EIA regulations is ignored during the processes of evaluation and approval of EIA reports, especially when the projects are under the authority of the sector ministries. Effective coordination can become quite complicated for cross-agency projects.

Poor Public Consultation and Information Disclosure: This is a typically weak area in the implementation of EIA and SEA in the region. Historical top-down administrative traditions in many countries may be one of the main causes. Other constraints include the lack of effective information channels to the public, and the time requirement for individuals to assess the information, understand the process and express their opinions, though these principles are stipulated in the regulations. There are no actions or decisions to take in response to the public complaint when such issues are raised.

Limited Resources: This issue is particularly

acute in the poor areas of the poorer countries. Lack of funding to collect base line information, purchase equipment and chemicals for sample analysis and conduct follow up activities and monitoring affects assessment and evaluation of EIAs. In Indonesia and the Philippines the studies and division of ecological areas in the

national scale, which are the precondition for regional EIA, is far behind the schedule because of lack of resources. Lack of qualified staff in governmental agencies is another problem. All these largely deteriorate the quality of EIA implementation.

Box 3: “EIA Storms” in China

Suspend Illegal Construction of 30 Projects

SEPA's Instruction. On January 18, 2005, China's State Environmental Protection Administration (SEPA) announced the suspension of illegal construction of thirty projects. These projects have violated the China EIA law as they have been undertaken without submission and approval of the required EIA reports.

Of the thirty projects, twenty are thermal power stations, four are hydraulic power stations and the rest are in other areas. In total the project investments amounted to RMB 1,190 million (equivalent to about USD 1.3 billion). Electricity is in short supply in China today, and some of the power-plant constructions are at a critical stage. In addition, most of these projects are “government-owned.” SEPA's announcement sparked a period of hot debate throughout Chinese society that was termed “EIA Storms.”

One week after notification of thirty frozen illegal construction projects by SEPA, twenty-two energy-related projects were halted. However, eight continue in construction including three hydraulic power stations, which are under the authority of the Three Georges Co. (ministry ranking.)

Notification of SEPA and NDRC. On February 22, 2005, SEPA and the National Development and Reform Commission (NDRC) jointly issued the Notification of Environmental Protection for Hydraulic Power Stations. It stipulates that, i) watershed plans based EIA must be undertaken prior to formulation of plans for hydraulic power station construction, and ii) EIAs for logging, land cleaning, and preparation must be undertaken prior to initiation of activities on site, though main body construction is allowed if the EIA report is approved. On the same day as SEPA's announcement, three Georges Co. halted construction of the three stations waiting for approval of the Environmental Assessment reports.

SEPA's action was politically supported by the top officials in the government. Prime Minister Wen Jiabao has praised SEPA's announcement and stressed the importance of sustainable and scientific development. The various newspapers showed support to SEPA. Fifty-six NGOs expressed their support to strengthen law enforcement on environment.

SEPA is taking the following actions to enhance law enforcement. Re-assessment of the qualification and performance of the EIA companies is ongoing. As a result, 68 licensed EA institutes/companies failed to pass the examinations of SEPA. Among them, 4 were downgraded and 8 deprived of their licenses for EIA consultation. Others were either temporarily suspended for improvement or criticized publicly. Further clarification on the responsibilities of administrations at different levels in implementing EIA is in process. SEPA also decided that reform on EIA and supervision on environmental protection will be strengthened in 2005.

Sources: <http://www.sepa.gov.cn>.

Areas of Improvement

Strengthen the Legislative Systems: For Japan and Korea it may be appropriate to consider stipulating Policy into their EIA/SEA systems. The PERS in Korea and EIA in Thailand should be expanded to cover both public and private funded projects. For China and Vietnam, the current efforts should be focused on improvement of the quality of planning - based SEA, and at the same time to prepare for the policy-based SEA. The EIA categories based on production capacity, land area used and sectors etc. should also be examined. The authority of central oversight EIA/SEA institutions should be strengthened legally, and the responsibilities of sector ministries should be more clearly defined. More effective economic instruments including penalty should be adopted to ensure enforcement and implementation of EIA and SEA.

Move EA Process to an Earlier Stage: The general objective of the EIS is to provide appropriate information for project appraisal. It is, therefore, clear that an essential precondition for successful implementation of EIA and SEA is that the EIS report must be completed prior to project appraisal. In many of these countries, late implementation in many of these countries compromises the effectiveness of EIAs in the decision making process. Concrete requirements and a timeframe in the project cycle should be stipulated in EIA/SEA laws and regulations, and it should be part of the EIA report and criteria of approval of EIA/SEA.

Make Alternatives Functional: Analysis of alternatives have been stipulated in almost all EIA laws, regulations or technical guidance. However, this requirement is rarely implemented. In many cases, the search for alternatives takes place only when the environmental authorities reject the proposed course of action, which is uncommon. Instead of the defensive approach of reducing the adverse impacts from a given design, a more proactive side of EA is required when project design can be improved through consideration

of alternatives. This issue is related to the problem of early implementation (mentioned above) and should be requested in the EIA legislative system, and as one of the criteria for approval of EIA and SEA.

Enforce Public Participation and Information Disclosure: Laws and regulations with unclear requirements for public participation and information disclosure require amendment. The process of public consultation should be done at least twice and disclosure of the EIA report should be made before submission', which could be adopted into the regulations as an essential part in the EIA/SEA report. For their new regulations amended with enhanced provisions on public involvement and information disclosure as was done in Indonesia and the Philippines, the key task is to develop simple and direct procedures to ensure implementation effectiveness.

Enhance Implementing Capacity: An adequate budget provided by the government should be allocated to allow effective EIA and SEA implementation. Qualified staff is another condition for effective impact assessment. For poorer countries international funding can be used in purchasing of materials, which is necessary to undertake impact assessment. Training the "trainers" approach should be adopted for capacity building. Cost-effective, quick and direct methods should be developed and introduced. Development of sector specific guidance is still a task in many countries.

Challenges for international organizations

Sharp Gap to Fill: There is a sharp gap between the existing EIA/SEA legal systems on the paper in the Region and the poor level of implementation on the ground in many countries. To tackle this challenge, several interventions are proposed;

- *Upstream Environmental Assessment into Policy and Strategic Level.* Profound changes in many countries at the policy and planning level make sound environmental assessment a real need. Such need provides

large enough room for international organizations in contributing to introduce best practices and improve EIA/SEA implementation. Mainstreaming and integrating environmental and social considerations into policy and strategic level will be essential in order to ensure that the new policies are formulated based sustainable development principle. Modification of the current EIA systems make them more effective and efficient in decision making process is definitely meaningful. Two further interrelated issues that are required to ensure effective EIA/SEA implementation on the ground are the need to raise public awareness and create mechanisms for the public to have an effective voice.

- *Tailored to the Local Situation.* The development of EIA and SEA systems has been quite different across countries, as their different history, culture and economic climate has lead to differences in the decision making process and priority-setting on the governmental agenda. Hence, adapting to the local situation can make international assistance more effective. Hong Kong SAR and Japan are in the advanced stage in EIA (and SEA) while in other parts of the region economic development is an overwhelming priority and the environment is not a high priority on the agenda. Further studies on the policy formulation process and institutional structure in each country are required in order to establish the appropriate conditions for establishment of full EIA/SEA systems. Learning on the successful experiences and lessons from elsewhere in the World through seminars, workshops and conferences can be helpful in policy and institutional reform.
- For China, Vietnam and the Philippines, which have shown strong political will of SEA, this international support should be

focused on the introduction of professional expertise and hands-on knowledge from advanced countries. In the poorest countries environmental assessment should be conducted and integrated with poverty reduction programs in order to introduce and apply EIAs. Direct and simple assessment methods should be used in training.

- *Build Local Capacity through Wider Knowledge Dissemination.* The development of local capacity includes the introduction of new knowledge on policy and planning SEA or EIA and training of professionals across the region. This is a difficult task for countries to achieve by themselves, but international organizations have accumulated much experience and material to facilitate this knowledge transfer. Dissemination is constrained due to distance, language and communication barriers, but internet facilities are cutting through many of these problems. Publishing documents in the local languages may contribute to capacity building as it makes information available to many parts of society. Exploration of other channels should be undertaken, especially in areas with low internet connectivity. The SEA training organized by the World Bank in Beijing 2005 (The World Bank, 2005), which drew speakers and audiences from universities aiming at introducing international experiences into the Chinese university education, is a good example.

CHAPTER 3

SUMMARY OF FINDINGS AND RECOMMENDATIONS

EIA/SEA in the region

- The EIA system including legislation, administrative framework, and technical capacity has been established and widely applied in the Region. Singapore is an exception where EIA is ad hoc in urban planning and pollution control.
- The EIAs in the Hong Kong SAR, China, and Vietnam cover planning in addition to projects, they are therefore considered SEA-inclusive. EIAs in other countries are project-based and are considered SEA-exclusive. Korea's PERS is a planning-based type SEA system. Japan is in an advanced stage in the introduction of national wide SEA, and some local governments have applied SEA within their jurisdictions. With the notable exception of Hong Kong SAR, policy is not included in the regions' EIA systems
- International organizations have played a catalytic role in the introduction and application of the EIA/SEA systems in the Region.
- In order to make the systems more effective many of the regulations need further strengthening. As discussed above, the requirements of early implementation, analysis of alternatives, public consultation and information disclosure should be stipulated as essential for EIA reports and for approval of EIA reports. International experiences can be used as benchmark for improvement.
- Coordination between government bodies at central and local levels, and across sectors, should be improved. Authorities for national environmental administration and EIA implementation and approval generally require further strengthening and clarification of their legal mandate. Finally, the responsibilities of sector ministries on environmental issues should be clarified.
- Governments should allocate separate budget for implementation of ES.

Lessons for improvement

- Weak enforcement is a major problem in many developing countries in the Region, reflected by late implementation, insufficient consideration of alternatives, weak public consultation and lack of information disclosure.

Recommendations

- Incorporating SEA in the policy and planning toolkit is a critical step in order to find and address the inadequacies of the existing regulation system and to make implementation more effective. There is also a need for a more detailed understanding of the policy formulation process in each country in order to identify appropriate entry

points for improving the EA system. Political will to drive this process should be built up with appropriate activities, such as studies and seminars.

- To make international assistance more effective, support should be tailored to local needs and conditions. China, Vietnam, and the Philippines may be appropriate countries to introduce advanced methods and experiences of SEA, while in the regions' poorer countries more easy but reliable methods for environmental assessment should be the priority.
- Enhancement of public awareness and local capacity to participate in environmental

assessment processes will enhance effectiveness. This requires widespread dissemination of information through various channels and in local languages.

- Training and capacity building is still an important task in the Region. Enough qualified professionals in EIA and SEA are essential to implement environmental assessment in each country, and there is a lack of such capacity in many of the countries in the Region. "On job" training in various real projects and pilot programs should be encouraged as it is direct, cost-effective compared with other methods.

ANNEX: PROFILES OF COUNTRIES AND HONG KONG SAR

The description of each country and Hong Kong SAR starts with a brief review on the development of environmental legislation including EIA. Then the mandate, main component and related regulations of EIA, and the relevance to SEA, are highlighted.

Lessons and weaknesses for improvement of implementation of EIA/SEA are pointed and, following the summary, a table presents the potential of SEA in each country.

ANNEX 1: CAMBODIA

Environmental and EIA Legislation

In Cambodia the Law on Environmental Protection and Natural Resource Management (EPNRM) is a framework law governing environmental protection and natural-resources management enacted by the National Assembly in 1996. It requires the Royal Government to prepare the national and the regional environmental plans and sub-decrees concerning a wide range of environmental issues, including environmental impact assessments, pollution prevention and control, public participation, and access to information (SIDA).

The first draft of the Sub-Decree on Environmental Impact Assessment was prepared with technical support from UNEP in 1995. This draft was reviewed and revised in July 1997 by ETAP (European Environmental Technologies Action Plan)/UNDP in close collaboration with the Ministry of Environment (MoE). The second draft of the Sub-Decree on EIA was comprised of two important parts: the first part gave a summary of basic theories on EIA and EIA procedures in general; and the second part described specific procedures for EIA in Cambodia. Since 1997, the draft sub-decree has been redrafted by the ADB EIA project (ETAP, 2001).

Sub-Decree on Environmental Impact Assessment

The EIA Sub-Decree on Environmental Impact Assessment issued in 1999 mandates general requirements, procedures and responsibilities.

The sub-decree states that “EIAs are required on various kinds and scales of projects.” EIA became a requirement for projects and investments that are submitted to the Council of Development of Cambodia (CDC) for approval. Its implementation is overseen by the Department of EIA Review within the Ministry of Environment. The sub-decree instructed the Ministry of Environment to formulate implementing rules and guidelines (GoC, 2002). The Declaration No. 49: Guideline for EIA Reports was issued in June, 2000, and the Declaration No. 745: Determination of Service Charge for Environmental Impact Assessment Report Review and Follow-up and Monitoring of Project Implementation was issued in October, 2000 (AITCV and ERMG, 2004).

Institution and Administration

The Environmental Assessment Branch within the Ministry of Environment (MoE) has the responsibility to (GoC, 1999):

- Scrutinize and review the report of the Environmental Impact Assessment in collaboration with other concerned ministries;
- Follow up, monitor, and take appropriate measures to ensure a project owner will follow the Environmental Management Plan (EMP) while project construction takes place and accedes to their EIA report's approval (GoC, 1999).

The institutions and Ministries that are responsible for proposed projects have the right

to examine and approve any project that is stated in the sub-decree, but only after MoE has reviewed and commented on the EIA report.

Provincial/urban authorities that are responsible for proposed projects have the following duties (GoC, 1999):

- Acquire an EIA report from project owner either private, joint-venture or public sector to be submitted to the Provincial Environmental Office.
- Review and approve the proposed project, after discussing and commenting among provincial/urban authority concerned in accordance with the “Declaration” of the MoE.

EIA is inherently a multi-disciplinary and multi-sectoral process whose effectiveness requires coordination among the government bureaucracies. Recognizing this, the government has formalized the cross-ministerial coordination involved in the EIA process with, i) management level representation of various ministries in the Environment Steering Committee, which also includes NGOs and the Chamber of Commerce, and ii) formation of environmental units within other ministries having resource-management functions, to coordinate with the Ministry of Environment, including the Ministry of Industry, Mine and Energy.

A number of agencies (such as the Ministry of Public Works and Transport, Ministry of Agriculture Forests and Fisheries, Ministry of Rural Development, Ministry of Tourism, and the Ministry of Health), participate in many phases of the EIA process. The EIA process includes monitoring and surveillance, enforcement, and processing of various government permits and licenses that require adhering to the environmental criteria (GoC, 2002).

Coverage

The Law on Environmental Protection and Natural Resource Management (EPNRM)

stipulates that an EIA shall be done on every project and activity, private or public, and shall be reviewed and evaluated by the Ministry of Environment before being submitted to the Royal Government for decision (Article 6).

Sub-decree No.72, ANRK, 1999 identifies the projects covered by EIA. In total these cover four areas, industry, agriculture, tourism, and infrastructure. Under each area there are a number of specific projects listed. This sub-decree had been attached as annex with the EIA decree. According to the list, the current EIA in Cambodia is project-based and SEA-exclusive.

Procedure

All investment-project applications and all projects proposed by the state shall have an Initial Environmental Impact Assessment (IEIA), report of pre-feasibility study or an Environmental Impact Assessment as specified in Article 6 of EPNRM Law (Article 7). A copy must be submitted to the Project Approval Ministry/Institution. The Ministry of Environment should review and provide recommendations on the IEIA or the EIA to the competent organization within the period determined in the Law on Investment of the Kingdom of Cambodia.

If the MoE does not respond to the findings and recommendations (as described in Article 15 and 17), the Project Approval Ministry/Institution will assume that the revised IEIA or EIA report has complied with the criteria of this sub-decree. The regulation stipulated 60 days as the timing of processing EIA

The project owner must acknowledge the findings and recommendations of their IEIA / EIA report(s) that have been approved by the MoE, before they can proceed with project implementation. The procedures for the existing project are different from the above.

Public involvement is “encouraged” in the EIA decree (Article 1) but no concrete requirements are stipulated. No regulatory requirements for alternatives and disclosure.

Summary

Cambodia has established an EIA system recently. This system covers projects only, so is

SEA-exclusive. Table A1 summarizes the potential for SEA in Cambodia.

Table A1. Potential for SEA in Cambodia

Dimensions/topics	Current status	Remarks
Political will	x	No evidences shown on the interest/willingness for SEA.
Legal mandate	x	Only for project-based EIA.
Administrative framework	x	MOE responsible for overall coordination nationwide, lack of staff on SEA.
SEA procedure/ Guideline/ methodology	×	Not existing, only established for project-based EIA.
Technical know-how	×	Not available.
Experience in SEA implementation	×	Not available
Public involvement	NA	Mentioned in EIA legal documentation, but with less concrete requirements.

√ : Positive, × : Negative, – : Neutral

The indicators/criteria adopted in identifying the grading of the listed components are selected based on the degree and influence that these indicators/criteria may have to describe the statutes of the relevant component (Briffett et al., 2003). The government's introduction and application of SEA is used as evidence to confirm political will. The legislation(s) on EIA/SEA is the most appropriate indicator of a legal mandate. Establishment of a Ministry of Environment and Planning or other authorities including staffing to be responsible for EIA and SEA is used for the administrative framework. Existence and the quality of the official document to guide the SEA implementation are used to describe the statutes of SEA procedure, guideline, and methodology. The ability of the workforce to design, control, and monitor EIA/SEA activities is used to define technical capacity. The number of EIA/SEA projects and quality of the report are adopted for grading of experiences in SEA implementation. Finally, public involvement is evaluated by both regulations and practical implementation.

ANNEX 2: CHINA

EIA Development

The China Environmental Protection Law (1979) contained broad elements requiring the EIA, particularly for the construction projects. *The Ordinance of Environmental Protection of Construction Projection* (1986), which was jointly promulgated by the Environmental Committee of State Council, the State Planning Committee and the State Economic Committee, is the first legal document on EIA in China. Its coverage includes projects in industry, transportation, hydraulics, agriculture, forestation, commercial, education, tourist, civil works and regional development that have adverse environmental impacts. The projects are divided into two categories depending on the extent of impact. Projects in the first category must submit an EIA report while those in the second category are requested to complete an EIA form. The regulation also defines the rules for organizations conducting EIAs, with respect to format and content of the EIA form and report. The Environmental Protection Agencies at the national and local levels are responsible for the evaluation of EIA reports. Since then quite a number of EIA have been conducted, and it was reported that the implementation ratio reached 90 percent in 2000 (Endo, 2004).

Since the 1980s, China has been experiencing a lasting economic boom, but at the same time, its environment has been deteriorating and threatening public health. Many large programs are being undertaken at regional and even cross-regional scale, which have long-term impacts on the country's resources, environment, and society. The central government realizes the seriousness of the situation and has been

tightening environmental protection through legislation, institutions, and investment (The World Bank, 1997; Cao et al., 2001). A series of regulations on construction projects were issued. Typical documents include Environmental Protection Procedures for Construction Project (SEPA, 1990), Regulation of Environmental Protection of Construction Projects (State Council No. 253, 1998), and Environmental Management Catalogue for Construction Projects (SEPA, 1999). A new Law on Environmental Impact Assessment was approved by the National People's Congress in 2002 and has been effective since September 1, 2003.

EIA Law, 2002

The new EIA law incorporates the concept of SEA for development plans and programs and is much more focused than its predecessor. Its major components are highlighted in the following sections.

Coverage Expansion

The EIA law covers two large areas: plan and construction project. The plan is further divided into two categories, i) plans for land use, regional, watershed and offshore development, and ii) "Specific Plans" which include for agriculture, industry, livestock breeding, forestry, natural resources, cities, energy, transportation, tourism, etc. The construction-project section includes various concrete projects. The EIA law stipulates that the EIA for plan must be conducted in parallel with the process of plan formulation and that the plan will not be evaluated without submission of the EIA report (Article 8). Therefore, the new EIA law covers

plan in addition to the project, and is SEA-inclusive. But policy is not covered although it was mentioned that in the early stages of its development, the aim was to cover policy, plan and project. The policy was subsequently dropped (Dalal Clayton, et al., 2004).

Screening of Construction Projects

Three different EIA reports have to be prepared depending on the size of impact: (1) a full EIA report for projects that may have a major impact on the environment; (2) a table for reporting environmental impact for projects that may have a minor impact on the environment; and (3) a table for registering environmental impact for projects that may have an insignificant impact on the environment (Article 10).

Institution and Administration

The State Environmental Protection Administration (SEPA) is responsible for matters such as the qualifications and certification of those institutes and individuals who conduct EIA, the classification of construction projects, and the examination and approval of certain major construction projects (Articles 19 and 20). SEPA has authorities to examine and approve the EIAs of special plans. The law makes no substantial change in the designation of government ministries and departments to handle examination and approval of EIA documents that are under their responsibilities. The ministries and agencies of the State Council or provincial governments are in charge of the SEPA's participation in the EIAs of plans and projects under their authorities. SEPA is authorized to handle the review and approval of EIA documents for the construction projects that: (1) are of a special nature, such as nuclear facilities or top-secret projects; (2) straddle a border between provincial-level regions; or (3) entail examination and approval (of the project) at the national level. For EIA documents of other construction projects, provincial-level governments are authorized to set examination and approval authority limits. In the event of conflicting decisions by authorities in two or more affected regions, including sub-regions within provincial-level

regions, the authority at the next higher level is authorized to handle review and approval.

The EIA law stipulates that for plan, the EIA reports must be submitted to the authority involved together with application of the plan for approval. In case EIA is not accepted the explanation must be included on the approval document. For construction project, the application will not be approved and the site construction will not be allowed to start if the EIA report is not approved. Alternative studies were required by the technical guidelines (HJ/T 2.1-93, SEPA, 2003).

Public Participation

The law stipulates that all EIAs are subject to comments by experts, "concerned units" and the public (Article 4). Project proponents must consult with the 'interested' public through expert meetings, public hearings or other means to solicit comments and suggestions on the draft. The EIA must provide an account of the participation process and indicate what comments/suggestions have been adopted (Articles 11 and 21). However, this part is less compulsory in terms of the time and method of disclosure, compared to those of the EIAs of Japan and Korea.

Reporting

The Law stipulates that the EIA report for plan should include analysis of environmental impact of the plan, prevention and migration of the impact, and conclusions (Article 10). The EIA report for construction projects should include, i) project introduction, ii) environmental situation, iii) impact analysis, iv) prediction and assessment on environment due to project, v) interventions to migrate environmental impact, vi) technology and economic feasibility, vii) economic analysis of environmental impact, and viii) recommendation and conclusions (Article 17). The EIA report must state how monitoring will be implemented, mitigation measures to be established, and how they will be applied. The EIA study must be rigorous and undertaken in a realistic and scientific manner.

The EIA report must be prepared by qualified professionals, who must sign it and take legal responsibility for its accuracy. Submitted EIAs will be examined by a review panel selected randomly from an expert database. The EIA Law stipulated 60 days as the timing of processing EIA.

Post Assessment

Monitoring and assessment must be conducted after completion of the plans and project, plans, and actions must be made and taken if any adverse impact was found (Article 27).

Liability for Non-Compliance

The law increases the fines on non-complying companies and personnel and extends penalties to personnel of more government departments for additional types of misconduct.

The fine for non-compliance by construction units and “the person in charge who is directly responsible, and other directly responsible persons” has been increased from a maximum of RMB 100,000 under the 1998 regulation to RMB 200,000 under the new law. The law does not address the liability of construction units to provide compensation to persons damaged by non-compliant environmental impact. Apparently the increase of fine is too small to punish violations.

Implementing Regulations

To implement the EIA Law, SEPA issued several ordinances. The Technology Guideline of EIA for the Construction Projects (HJ/T 2.1-93) ((SEPA, 2003) stipulates the principles, methods and approaches to implement EIA for construction projects. SEPA administration Order No.16 on Qualification of EIA Experts (2003) stipulates the principles and approaches of qualifications, selection, application and management of the experts in conducting EIA. The Technology Guidelines of EIA for Planning (draft version) (HT/130-2003) stipulates the principles, methods and approaches to

implement planning the EIA for Plan¹. SEPA Administrative Order No. 3 on Evaluation of Specific Plan-based EIA Reports (2003) stipulates SEPA’s responsibilities in evaluating the Cross-boundary Specific Plan EIA Report and so forth. SEPA Notice No. 164 (2004) stipulates the responsibilities of the EPBs at national and local levels for evaluation of EIA reports of different catalogues. Generally speaking the technical capacity for plan-based EIA is at early phase of development.

SEA Practices

Since 1995, SEA-type assessments have been adopted in China in some plans and projects. This is partially because of the inherent limitations of conventional EIA, e.g., failure to suggest alternative projects and sites, and partly because the government has recognized the significance of SEA as a tool for sustainable development. International cooperation has also played an essential role in introducing SEA to China. Typical examples include the Shanghai, Beijing, and Tianjin environmental programs where integrated environmental assessment was a core element (The World Bank, 2000; ¹The World Bank, 2003; ²The World Bank, 2003).

Other SEA studies with the participation of Chinese institutions include: the Great Western Region Development Plan; Electricity Strategy in Shanxi Province; China’s Automobile Industry Development Policy; the East Coast Zone Development Plan for Xiamen; the Air Pollution Prevention and Control Act (for the revision process) (Dalal-Clayton, et al., 2004); and wastewater reuse and transportation in Tianjin (Xu, et al., 2004); etc. But the current SEA in China needs to be improved, especially in the following areas: legal mandate of policy-based SEA, weak integrating SEA into policy, planning formulation and decision-making process and limited technical capacities for implementation (Bao, 2004).

¹ In the guideline, the procedure used in the project-based EIA is suggested for the planning SEA.

Lessons for Improvement

To set up an effective SEA in China, enforcement is a key factor. It should be done through legal measures, public participation, financial measures, and with capacity building. China is used to a top-down administrative approach, and the legal concept is still new. Furthermore economic growth is still a higher priority than the environment, especially in less developed areas. Compared to Hong Kong SAR, Japan, and Korea, parts of EIA law are 'too loose,' especially in terms of public participation, information disclosure and penalties.

Public participation is an effective tool and mechanism to apply SEA and EIA. The EIA law encourages public participation, but this is not sufficiently strong. In a recent case of SEPA announced the suspension of 30 projects that

have no approval of EIA (Section 4.4), demonstrates the need for enforcement. Technical capacity is another issue to consider, as experience and knowledge for EIA has been built up, but this is not the case for policy- and plan-based SEA.

Summary

The EIA system has been in place for about twenty years in China. The current EIA law has been further modified and extended to the area of plan, and has become SEA-inclusive.

Enforcement in legislation, public participation and capacity building should be undertaken for applications of policy- and plan-based SEA. Table A2 summarizes the potential of SEA in China.

Table A2 Potential for SEA in China

Dimensions/topics	Current status	Remarks
Political will	√	Strong interest/willingness of the government for SEA application.
Legal mandate	√	The current EIA law is SEA-inclusive but does not cover policy.
Administrative framework	√	SEPA is responsible for overall coordination nationwide while sector ministries involved in sectoral guideline.
SEA procedure/ Guideline/ methodology	√	SEA procedure is prepared for trial use by SEPA.
Technical know-how	√	Quite some expertise existing.
Experience in SEA implementation	√	Quite some applications available.
Public involvement	–	Legally mandated in the EIA law but with fewer concrete requirements.

√ : Positive, × : Negative, – : Neutral

The indicators/criteria adopted in identifying the grading of the listed components are selected based on the degree and influence that these indicators/criteria may have to describe the statutes of the relevant component (Briffett et al., 2003). The government's introduction and application of SEA is used as evidence to confirm political will. The legislation(s) on EIA/SEA is the most appropriate indicator of a legal mandate. Establishment of a Ministry of Environment and Planning or other authorities including staffing to be responsible for EIA and SEA is used for the administrative framework. Existence and the quality of the official document to guide the SEA implementation are used to describe the statutes of SEA procedure, guideline, and methodology. The ability of the workforce in designing, controlling, and monitoring EIA/SEA activities is used to define technical capacity. The number of EIA/SEA projects and quality of the report are adopted for grading of experiences in SEA implementation. Finally, public involvement is evaluated by both regulations and practical implementation.

ANNEX 3: HONG KONG SAR²

EIA and SEA Development

Hong Kong SAR faces environmental challenges similar to many areas in the industrialized world. Air pollution, sewage, noise, waste, and growing population all become pressure on the environment. The government has taken measures to control pollution, make improvements, and has taken significant steps to prevent future problems. Environmental assessment is applied not only to individual projects, but also to strategic policies and proposals, making it a valuable tool to help Hong Kong SAR move towards a more sustainable development path. Looking back, the EIA process has been applied to projects since 1986 in Hong Kong, to plans since 1988, and to strategies and policies since 1992. The main milestones are as follows:

- 1988 - The government issued a revised circular (major development will be subject to an EIA) on the “Environmental review of major development projects” covering new town development as well as major projects.
- 1990 - The Environmental Planning Standards and Guidelines (overall planning standards and guidelines) were comprehensively revised to provide guidance for planners, architects and engineers in planning and designing major development in Hong Kong.
- 1992 - The Hong Kong governor announced a policy initiative (Technical Circular No. 13/2003) to apply the EIA process to policy, strategies and plans. Under the initiative, papers on major policies to be submitted to the Executive Council (the highest decision-making body in Hong Kong) must contain an environmental-implication section setting out the likely environmental implications, environmental costs and environmental benefits. Through this directive, major policies and strategies have been subject to an appropriate EIA process.
- 1996 - SEA was conducted as part of the Territorial Development Strategy Review on land use that has been planned or completed by the government (public consultation in 1993 and 1996) to be in line with land-use planning in other places.
- 1997 - the Hong Kong’s EIA ordinance (EIAO) was enacted in order to formalize 15 years of experience with EIA, environmental monitoring and auditing processes. The EIAO became operational on April 1, 1998.
- September 1997 - a study on Sustainable Development for the 21st century (SUSDEV21) began in order to create a sustainable development system (SDS).

² This part is heavily drawn from the website of EPD, HKSAR (<http://www.epd.gov.hk/epd/eindex.html>).

- 1999 - A new category of designated projects for major theme parks was added to the list of projects controlled under the EIA Ordinance.

EIA Ordinance 1997

The EIA system was initially established on an administrative order pursuant to a policy address by the then-governor in 1992. The system was expanded through the 1990s, resulting in the *EIA Ordinance (Cap.499)* which makes EIA statutory for designated projects in both the private and public sectors.

The ordinance applies to “designated projects,” which are contained in Schedule 2 and Schedule 3. The designated projects in both schedules must go through the statutory EIA process, but only those listed in Schedule 2 require environmental permits. Those under Schedule 3 are usually a plan- or policy-related, and the EIA reports for such development plans are what other developed countries regard as SEA. Therefore, the EIA in the Hong Kong SAR is SEA-inclusive.

Implementing Regulations

Several regulations and technology documents were issued to implement EIAO. These include, i) an Environmental Impact Assessment (Appeal Board), which sets up an appeal mechanism, and its procedures, ii) Environmental Impact Assessment (Fees), which prescribes the application fees that are payable for applications made under the EIAO, iii) the Environmental Impact Assessment Ordinance (Amendment of Schedule 2) Order 1999, which amends Part I of Schedule 2 to the EIAO by adding theme parks and amusement parks with a site area of more than 20 ha in size as designated projects; and iv) a Technical Memorandum, which specifies the EIA process and its technical requirements. The booklet “A Guide to the Environmental Impact Assessment Ordinance” explains the EIAO, which is published by the Environmental Protection Department (EPD). All these documents are assembled on the EPD Hong Kong website.

Procedure

Figure A3.1 shows the EIA procedure (the section numbers refer to the section numbers in the ordinance). The procedure starts from screening. Designated projects are those (projects or proposals) that may have an adverse environmental impact. They are projects defined by the ordinance listed under the Schedules 2 and 3. Schedule 2 consists of two parts: Part I for projects that require environmental permits to construct and operate, and Part II for projects that require environmental permits to decommission. Before a Schedule 2-designated project can obtain an environmental permit, a person planning the designated project is required under sections 5 to 9 of the ordinance to i) apply for an EIA study brief, proceed with the EIA study, and then seek approval of the EIA report under the ordinance; or ii) seek permission to apply directly for an environmental permit.

Figure A3.1. EIA Procedure in Hong Kong

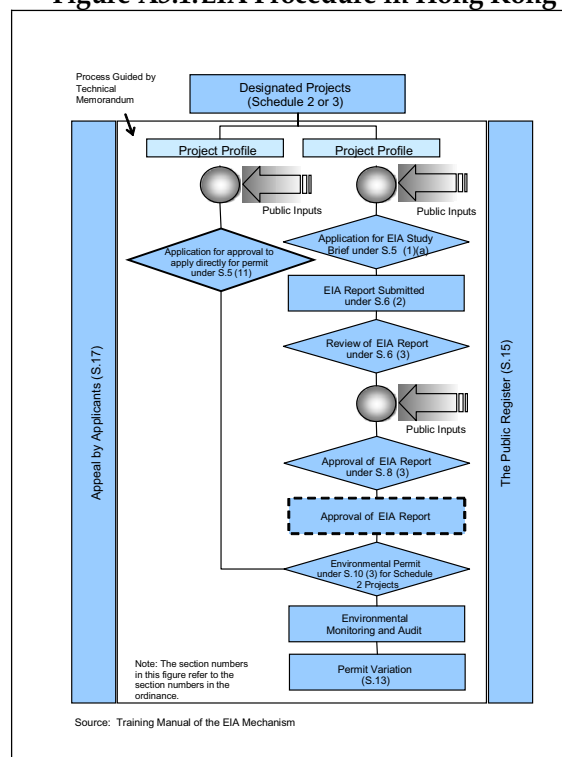
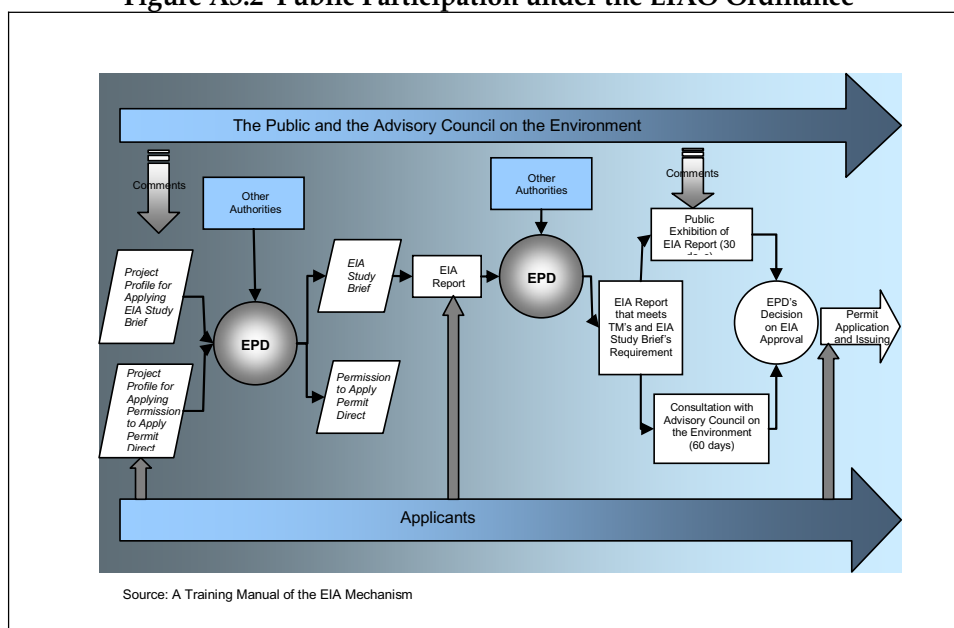


Figure A3.2 Public Participation under the EIAO Ordinance

A Schedule 3-designated project requires an EIA report to be approved under sections 6 to 9 of the ordinance. Once approved, the EIA report will be placed on the register established under the ordinance, so it can be referred to in subsequent applications. Alternatives were required in the Technical guidance book (EPD, 2004). The EIAO stipulated 160 days as the timing of processing EIA.

Public Consultation

Public participation in EIA in Hong Kong is an important element. The public, representatives from these industries, academics, and green groups are consulted (Advisory Council on the Environment). The EIAO facilitates public assessment of the information in the process by stipulating that the public participation must be undertaken during screening and before the approval of EIA as shown in Figure A3.2. The project profiles and reports are made accessible to the public, and information is available on the Internet for feedback from the public.

Penalty

Under the EIAO there are several provisions for enforcement, including an HK \$5-million-plus

fine and up to two years' imprisonment for violations of the EIAO.

Performance Assessment

More than 500 EIAs have been completed since the late 1980s. A review of the operation of the ordinance was completed in August 1999, including five major forums and consultation with eighteen local district boards, and a stakeholder survey. Within the first eighteen months, seventy-six documents were made available for the public to comment on, thirty-four EIA study briefs were issued, fourteen EIA reports approved, forty-eight environmental permits granted, and eight applications either withdrawn or refused. Over 28,000 people visited the dedicated EIA Ordinance website (<http://www.info.gov.hk/epd/eia>). The review confirmed that the new system is far more transparent than the previous one due to increased public participation. Statutory time limits have shortened the length of the EIA process by about three to four months.

The review also showed that the EIA Ordinance has played an important role in bridging the gap between EIA and environmental sustainability.

There are requirements for off-site ecological compensation measures, consistent with the principle of “no net loss” included in the Technical Memorandum on the EIA Process. There are requirements for assessment of cumulative impacts. The ordinance has facilitated early attention to environmental issues, greater transparency, and more public involvement at an early stage. The review, however, pointed to the need for better communication and dialogue among the various stakeholders involved in the statutory process, more guidance notes to be issued to proponents and consultants, and more effort in reaching out to the local community.

Strategic Environmental Assessment (SEA)

Strategic planning is another area where environmental impacts are assessed. The EPD oversees Strategic Environmental Assessments (SEA) with the aim of promoting the full consideration and integration of environmental implications at the early planning stage of major strategic policies. This will help to avoid environmental problems and to identify environmentally friendly options, rather than mitigating environmental impacts at a later stage which are often not effective or cost-effective.

Administrative Requirements

A revised administrative circular on the Environmental Review of Major Development Project, issued by the Hong Kong government in 1988, requires new-town developments and major land use/development projects to conduct EIA. This represents the first application of SEA for spatial planning in Hong Kong.

A policy initiative promulgated in the Governor’s Policy Address ³ (1992) further

extended the application of SEA to cover policies and strategies. Under the initiative, papers on major policies to be submitted to the Executive Council (the highest decision-making body) must contain an environmental-implication section that clearly sets out the probable environmental costs and benefits arising from:

- proposals for new policies or strategies;
- amendments to existing ones;
- specific matters that involve environmental issues;
- proposals or projects for which suitable EIAs have already been carried out;
- Environmental strategies, policies and proposals.

With this provision, decision makers could take environmental factors, along with other issues, such as economic and financial implications, and consultation responses to assist decision and policy making into account. The 1999 Policy Address requires all policy bureaux carry out Sustainable Impact Assessment for major policy proposals. Since 2002, the “Sustainability Implication” section is also required to be included in the submissions to the Executive Council.

In order to provide environmental information appropriate for decision makers to make an informed decision, policy or plan, proponents would normally carry out SEA for Policy, Plan and Program (PPPs) that have potentially substantial environmental or sustainability implications. The key findings of the SEA reports would normally be summarized in the environmental-implications section of the relevant policy submissions for the Executive Council to make informed decisions on the policies, strategies, or plans.

³ Environment, Transport and Works Bureau Technical Circular No. 13/2003, Appendix A, HKSAR Government Requiring “Sustainability Assessment” and “Sustainability Implications” for major “....with immediate effect is for an environmental impact assessment to be included in papers submitted to the Executive Council. Currently this rule applies only to

major development projects. From now on, I want this practice to be extended to all policy proposals where there is likely to be a significant cost or benefit to the environment.”

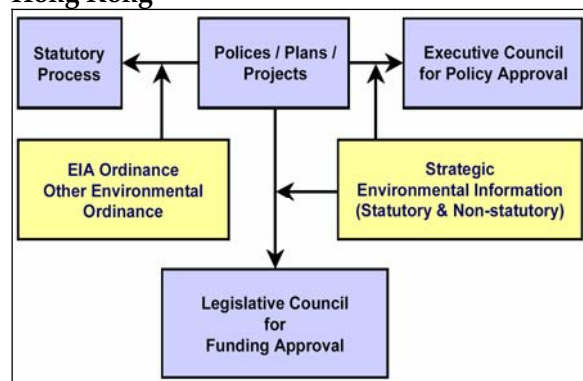
Statutory Requirements

The EIA Ordinance requires a list of designated projects, including major urban development and redevelopment projects, to conduct mandatory documentation and public consultation. These major development and redevelopment projects are listed under Schedule 3 of the EIA Ordinance as follows:

- Engineering-feasibility study of urban development projects with a study area covering more than 20 ha or involving a total population of more than 100,000.
- Engineering-feasibility study of redevelopment projects with a study area covering more than 100,000 existing or new population.

For Schedule 3 of the EIA Ordinance Major Designated Projects, Environmental Impact Assessment reports are required. These are covered by SEA in many developed countries as well as in Hong Kong. The gist of the key findings of the SEA reports is presented in the environmental-impacts section of the policy submission to the Executive Council for informed decision-making as shown in Figure A3.3.

Figure A3.3. Key decision-making system in Hong Kong

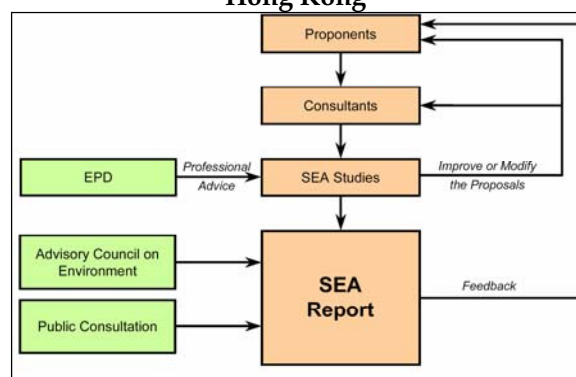


Source: SEA Manual

SEA Process

In the course of the SEA as shown in Figure A3.4 certain steps may have to be proceeded iteratively. When evaluating various alternatives, considerations or factors, project proponents or decision makers have opportunities to shift their mindsets and in turn change the objectives of the PPPs to enhance environmental performance. Both SEA processes and results are vital in achieving environmental-sustainability outcomes.

Figure A3.4. Generic process of the SEA in Hong Kong



Source: Sea Manual.

Basically, SEA is conducted in three phases with different tasks conducted by relevant parties—project proponents, decision makers or environmental authorities, and other stakeholders as shown in Table A3.1.

Several documents have been issued to implement SEA, including the Hong Kong SEA Manual. As shown in the Hong Kong SEA Manual, different procedures and methods have been applied in SEA in the Honk Kong SAR depending on the nature of the topics. Until recently, the most comprehensive application of strategic environmental assessment (SEA) was the Territorial Development Strategy Review completed in 1996 to cater to an increase in population from 6.4 to 8.1 million in 2011, resulting in commitments to action on sustainability issues (Section 4.1). Following this successful application of SEA is the application of SEA to transportation policies.

Table A3.1. Tasks of different parties in the SEA process (adopted from: SEA Manual)

SEA Phase	Proponent	Decision Maker / Environmental Authority	Other Stakeholders (if applicable)
Alternative, Screening, Scoping	<ul style="list-style-type: none"> - Needs of policies/plans - Alternatives - Initial budget / program - Baseline study 	<ul style="list-style-type: none"> - Design SEA process - Initial screening and scoping 	<ul style="list-style-type: none"> - Alternative ideas - Possible key issues
Initial Assessment	<ul style="list-style-type: none"> - Baseline study (continue) - Framing options - Identify key issues 	<ul style="list-style-type: none"> - Formulate yardsticks - Initiate a review process 	<ul style="list-style-type: none"> - Early feedback on options and key issues - Start dialogues
Final Assessment	<ul style="list-style-type: none"> - Detailed assessment & interactions - Selection of preferred PPP 	<ul style="list-style-type: none"> - Conduct detailed reviews - Decision-making 	<ul style="list-style-type: none"> - Detailed feedback - Follow-up

A third comprehensive-transport study was conducted to identify and recommend the transportation policies and major developments required to meet the growing internal and Hong Kong-Mainland transportation demand through the year 2016. A SEA was completed in mid-1999 as part of this study. This evaluated the potential cumulative environmental implications of various strategic options for the future environmental quality in Hong Kong. Another SEA was conducted as part of the Second Railway Development Study to evaluate the potential cumulative environmental implications of various railway-network options and individual links, including strategic environmental issues such as the potential environmental advantages of the modal shift from road to rail.

The government completed a study on sustainable development for the 21st century in 2001, in order to define sustainable development in the context of Hong Kong context and identify relevant sustainability issues, values and indicators. A sustainable-development system was developed for government decision-making processes in formulating and implementing policies, plans, programs, and resource allocation to help achieving a sustainable development. A key part of the study was to establish the environmental baseline and to develop a set of environmental-sustainability principles and criteria. Three

major public consultations were completed as part of the study. Another round of consultation will start soon.

Mainland Partnership

The pollutants from Hong Kong and Guangdong often mix - Hong Kong and Guangdong officials have been working together to tackle cross-boundary environmental issues since 1990. These have resulted in the first joint trans-boundary EIA, which concerned the Shenzhen River regulation project and was completed in 1995. Regular semi-annual audits on the implementation of action plans for the protection of Mirs Bay and Deep Bay areas and a joint study on the air quality in the Pearl River Delta Region have been carried out.

Hong Kong SAR is not a developing region but the extent of SEA practice and experience is of particular interest in light of its status in China, and the emerging number of trans-boundary environmental issues with its neighboring province of Guangdong, especially in the Pearl River delta. The Hong Kong Environment Protection Department has been active in documenting the lessons and experience gained in the past ten years. An interim SEA manual (EPD, 2004) summarizes practice as applied to plans, strategies and certain policy proposals, which can be a valuable tool in SEA-capacity building in China and in the Region.

Summary

Hong Kong has set up an institutional framework for both EIA and SEA since the 1980s. More importantly, these tools have been applied successfully in Hong Kong with proven records in legal provision, technical capacity, training and implementation. This makes Hong Kong EIA one of the most transparent environmental-impact assessment (EIA) systems in the world.

Experiences in SEA application in policy and plan in Hong Kong suggest that SEA is a useful tool to allow for more informed decision-making with better knowledge of the full

environmental implications of policies or strategies. Consideration is given to regional issues, global concerns, cumulative effects, the use of economic instruments, and strategic choice of technologies. The SEA has successfully brought the urgent need for actions to deal with environmental threats to the attention of the general public and decision makers. Hong Kong's experiences in SEA application and capacity building provide a unique position for China and the Region to learn from and share. Table A3.2 summarizes the features of the SEA in the Hong Kong SAR.

Table A3.2 SEAS in Hong Kong SAR

Dimensions/topics	Current status	Remarks
Political will	√	Strong interest/willingness of the government for SEA application.
Legal mandate	√	EIA ordinance/governmental circular for SEA.
Administrative framework	√	EPD responsible for EIA/SEA administration and implementation.
SEA procedure/ SEA guideline/ SEA methodology	√	Established for both EIA/SEA.
Technical know-how	√	Available.
Experience in SEA implementation	√	Quite a number of applications available.
Public involvement	√	Legally mandated in the EIA law with concrete requirements.

√ : Positive, × : Negative, – : Neutral

The indicators/criteria adopted in identifying the grading of the listed components are selected based on the degree and influence that these indicators/criteria may have to describe the statutes of the relevant component (Briffett et al., 2003). The government's introduction and application of SEA is used as evidence to confirm political will. The legislation(s) on EIA/SEA is the most appropriate indicator of a legal mandate. Establishment of a Ministry of Environment and Planning or other authorities including staffing to be responsible for EIA and SEA is used for the administrative framework. Existence and the quality of the official document to guide the SEA implementation are used to describe the statutes of SEA procedure, guideline, and methodology. The ability of the workforce in designing, controlling, and monitoring EIA/SEA activities is used to define technical capacity. The number of EIA/SEA projects and quality of the report are adopted for grading of experiences in SEA implementation. Finally, public involvement is evaluated by both regulations and practical implementation.

ANNEX 4: INDONESIA

EIA Development

Indonesia's EIA system was first established by the Government Regulation No. 29 (1986) in accordance with the provisions of Article 15 of the former Environmental Management Act No. 4/1982. The article stipulated that business operations that have a possibility of generating a serious impact on the environment must implement an EIA. Later, Government Regulation No. 51 (1993) Concerning Environmental Impact Assessment imposed significant revisions to the assessment system. The revision simplified the initial screening process was simplified, the authority of the Environmental Impact Management Agency (EIMA) [BAPEDAL: Badan Pengendalian Dampak Lingkungan] was strengthened to facilitate examination of business operations that involve multiple ministries and agencies (Tan, 2000). Regulation No. 27/1999, current, is a revision of EIA regulations No. 51/1993 and was signed by President Habibie in his relatively short administration. The new regulation is expected to be improved and provide a more democratic basis. For example, enhancement of public participation was one of the main objectives for this revision (Tan, 2003). Additionally, several guidelines established by the State Minister for the Environment and the Head of the Environmental Impact Management Agency (EIMA) were decreed. Some of them are listed here (Purnama, 2003):

- Decree of Environmental Minister No. 2/2000 on guideline for the EIA document.

- Decree of Head of Environmental Impact Management Agency No. 08/2000: Guideline in community involvement and information openness in the process of EIA.
- Decree of Environmental Minister No. 9/2000: guideline for preparation of EIA study.
- Decree of Environmental Minister No. 17/2001: types of business and/or activities required to be completed with the EIA.

EIA Regulation No. 27/1999

Government Regulation No. 27/1999, which provided the basic rules for environmental-impact assessment, includes six criteria to judge whether a certain business and/or activity has a possibility of having a serious impact on the environment (Article 5). These criteria involve the affected factors which are: (1) The number of human beings; (2) The size of the area; (3) Intensity and time length of impacts; (4) The environmental components hit by the impact; (5) The cumulative nature of impacts; and (5) Reversibility.

Coverage

Regulation No. 27/1999 covers nine types of business and/or activities subject to EIA if their environmental impact is significant (Article 3). These nine types of business / activities can be divided into two large categories, i) various projects, ii) development-plan-related projects (including projects with multiple components

and or phases in a sensitive ecosystem or economic development area). The terms of 'integrated EIA (Regional EIA in regulation 51/1993)' was used for the second category coverage. At one stage, this type of EIA was expected to accommodate a broader scope and long-term accumulative effect toward strategic environmental assessment (Purnama, 2003). However, the focused point of such EIAs is the effects of these activities rather than assessment of the overall plan itself. Therefore, the current EIA in Indonesia is still project-based and SEA-exclusive.

Administration

The EIA administration experienced changes in Indonesia. Prior to 2000, the authority to implement EIA was assigned to ministries or other national government organizations, provinces and special administrative districts throughout the country (with jurisdiction over the concerned business operations). Each of these organizations has its own EIA Committee to carry out preliminary screening and to review environmental-impact assessment reports.

Regulation 27/1999 changed this structure by canceling EIA committees in sectoral departments at the central government level while all tasks for national EIA review were put on a central EIA committee at the Environmental Impact Management Agency (EIMA or BAPEDAL), which was established in 1990. The EIMA has the responsibility to develop guidelines for implementing environmental-impact assessments and to monitor the progress of an environmental-impact assessment. It plays the role of overall coordinator for environmental-impact assessment and has the authority to supervise the reviewing process of environmental-impact assessment which extends across multiple ministries (Tan, 2000; Purnama, 2003).

According to Regulation 27/1999, EIA administrations were also established in the provincial and district government. Responsibility to implement and supervise EIA is distributed to all provinces and districts and is

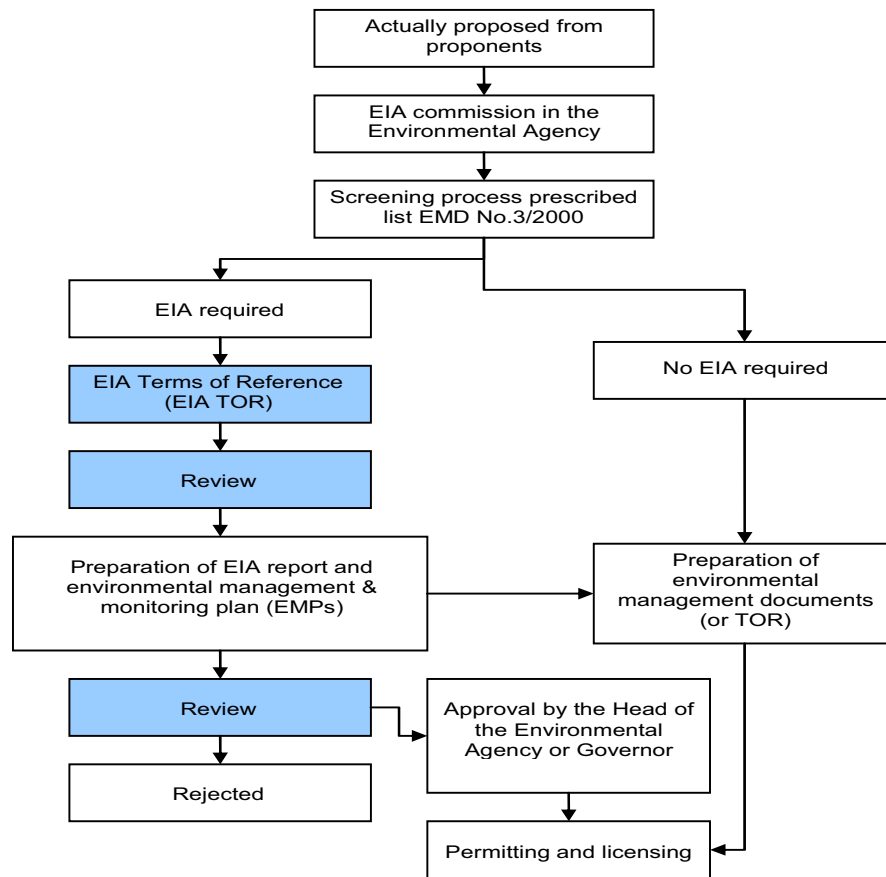
performed by the governmental agencies responsible for environmental impact at national, provincial or district levels (Purnama, 2003). This decentralized arrangement, is expected to promote a clearer and more integrated coordination under one competent leading agency. However, Indonesia has become used to a top-down administration over a long period of time, and the new concept of decentralization may cause loose control of quality and standards of EIA implementation. The World Bank is currently working with the Ministry of Environment in two provinces to pilot mechanisms for a more effective implementation of EIA at the sub-national level (World Bank, 2005).

Procedure

The EIA process stipulated by Regulation 27/1999 is relatively simple in comparison to its predecessor EIA regulation 51/1993 (Purnama, 2003). The EIA process is carried out according to the scheme shown in Fig. A4. A distinction can be seen from the beginning of the EIA process where a proponent (whether government or private sector) must contact the EIA committee in the governmental agency responsible for environmental impact. Screening is performed through a prescribed list, which is set by the Decree of the Environment Minister (EMD) No. 3 of 2000 (further revised by EMD No. 17 of 2001). Following screening, a proponent is directed to prepare a ToR for the EIA study (scoping process). Upon approval of the ToR, EIS and EMPs are prepared and reviewed at the same time. Both review processes are conducted within a maximum of 75 days. The regulation only specifies a rejection procedure without the proponent's right of appeal, and the approval of EIA documents is made at the national level by the governmental agency responsible for environmental impact, and at the provincial level, by the governor.

The projects that are not required to conduct the EIA study are obliged to implement a project that minimizes negative environmental impact. They must fulfill a specific Standard Operating Procedure (SOP) set by the Ministry of

Figure A4 The EIA process in Indonesia under government regulation 27/1999.



Note: Shaded boxes show opportunities for public involvement in the EIA process
 Source: Purnama, 2003.

Environment (Decree of the Minister for Environment No 86/2002). The Regulation stipulated alternative studies and 150 days as the timing of processing EIA.

Public Participation

This EIA regulation (27/1999) enhances the transparency of the EIA process through EIA publications and the provision of direct public involvement in the process (Purnama, 2003). As a new approach, this is initiated by the implementation of public-involvement guidelines stipulated in Decree No. 08/2000.

The Decree No. 08/2000 is a guideline specifically for public involvement in the EIA

process, in the previous EIA decree (51/1993) public participation in EIA procedure was undertaken through NGOs only, and there was no permanent seat representing the public in the EIA committee. The guidelines allow governors to be flexible in arranging further implementations at the provincial level since each province has different community characteristics. This applies, for example, in determining the community representative on the EIA commission.

Decree No. 08/2000 clearly stipulates the concrete stages and requirements of public involvement in the EIA procedure. During the planning stage, the proponent is required to

notify its proposal to the EIMA, then to announce the proposed activity along with the agency. Minimum requirements for the announcement are defined by the guidelines including the specifications of mass media and announcement techniques. The public has the right to voice its opinion or response within 30 days of the announcement date and submit them to the agency with a copy to the proponent.

After obtaining responses from the public, the proponent is required to prepare a Terms of Reference (TOR). During the TOR preparation, the proponent is also required to conduct public consultation and to document all issues resulting from the consultation and then attach them to the ToR document. The TOR is presented to the EIA committee for review. The public gain another opportunity to provide input through its public representative who sits on the EIA committee or makes written submissions to the committee. The submission for the ToR has to be made three days, at the latest, before the committee proceeds to review the document.

Based on the recommendations resulting from the ToR review and input from the public, the proponent then prepares the EIS and EMPs. After all EIA documents have been prepared the proponent presents those documents to the EIA committee for further review. Prior to the

review process, members of the public have one more opportunity to express their responses and suggestions.

SEA Initiatives

Realizing many environmental issues can be solved only by adopting a holistic approach and SEA is useful in the decision-making process. The Ministry of Environment published in 2004 a book on Strategic Environmental Assessment (Reference to Policy, Plan and Program). It introduces the fundamentals, procedure and benefits to apply SEA in the PPP process although the application is not compulsory. The recent tsunami has led to the initiation of a government-led SEA process. Lessons learned from this process will be important in helping to define future directions for SEA in Indonesia (Mackay, 2005).

Summary

The EIA system has been in place for twenty years in Indonesia including a legal mandate, procedure, technologies, guidelines, and applications. The EIA regulations have been amended to enhance coordination among the governmental administration and the public participation. According to the scope, the current EIA in Indonesia is still project-based and SEA-exclusive. The government recognizes the importance of SEA. Table A4 summarizes the potential of SEA in Indonesia.

Table A4 Potential for SEA in Indonesia

Dimensions/topics	Current status	Remarks
Political will	√	MoE published the book to introduce SEA.
Legal mandate	x	Law is available for EIA, but not for SEA although planned revision to the Environmental Management Act 23/1997 may include strengthened references to SEA.
Administrative framework	x	Ministry of Environment responsible for national level EIAs. Provincial and district-level government responsible for local-level EIAs.
SEA procedure/ Guideline/ methodology	×	Not available although some introductory booklet on SEA published.
Technical know-how	×	Not available.
Experience in SEA implementation	×	Not available
Public involvement	NA	Clearly stipulated for project-based EIA with concrete requirements in the legal document

√ : Positive, × : Negative, – : Neutral

The indicators/criteria adopted in identifying the grading of the listed components are selected based on the degree and influence that these indicators/criteria may have to describe the statutes of the relevant component (Briffett et al., 2003). The government's introduction and application of SEA is used as evidence to confirm political will. The legislation(s) on EIA/SEA is the most appropriate indicator of a legal mandate. Establishment of a Ministry of Environment and Planning or other authorities including staffing to be responsible for EIA and SEA is used for the administrative framework. Existence and the quality of the official document to guide the SEA implementation are used to describe the statutes of SEA procedure, guideline, and methodology. The ability of the workforce in designing, controlling, and monitoring EIA/SEA activities is used to define technical capacity. The number of EIA/SEA projects and quality of the report are adopted for grading of experiences in SEA implementation. Finally, public involvement is evaluated by both regulations and practical implementation.

ANNEX 5: JAPAN

EIA Development

Since the 1960s Japan has elevated considerable resources to environmental protection through legislation, institutions and investment. The EIA concept was introduced by the Cabinet in 1972 under the title of “On the Environmental Conservation Measures Relating to Public Works.” The Environment Agency (established in 1971) has been preparing to regulate a uniform EIA procedure since 1975.

The Cabinet approved “On the Implementation of Environmental Impact Assessment” in August 1984, but it was an administrative guidance rather than a mandatory law. The document set a standardized rule or conducting EIA in large-scale development projects that have adverse environmental impacts.

The Basic Environment Law issued in 1993 motivated improvements to the existing EIA systems on a national scale. The law has an article on EIA, obligating the national government to take necessary measures to ensure that planning developing projects with potentially have severe adverse effects on the environment, conduct sophisticated surveys and evaluations of environmental impacts and give proper consideration to environmental conservation. The Environment Agency established an ad-hoc research body, the Environmental Impact Assessment Systems Study Commission, in July 1995 (Kurasaka, 2003).

Environmental Impact Assessment Law, 1997

A new Environmental Impact Assessment Law was approved by the National Diet on 28 March 1997 and took effect in August 1999. The new EIA law stipulated several key components as follows (OECC, 2000).

Coverage

The law stipulates that EIA must be conducted *prior to* implementing the project and adopts a listing method by scale to identify projects for which environmental impact statement (EIS) are required. Eleven types of projects are obligated to conduct EIA, e.g. transportation, land development, power stations and waste disposal. The projects are divided into two categories by scale. Proponents of projects exceeding a certain scale (designated by an ordinance under the law - Category 1 projects) shall be required to prepare an EIS without any screening process. A project with a scale smaller than the threshold but larger than a certain scale (designated by the ordinance - Category 2 projects) will be presented to a screening process where the responsible authorities determine the necessity of EIS. Table A5.1 shows types of projects obligated to EIA (OECC, 2000; Hatakeyama, 2002). According to the coverage it concludes the current EIA in Japan is project-based and SEA-exclusive.

Table A5.1 Project Subject to the Environmental Impact Law in Japan

	Type of Project	Scale of Category 1 Project	Scale of Category 2 Project
	Roads (new addition of large-scale forest road)		
	National vehicle expressways	All	
	Metropolitan expressways etc.	All roads of 4 lines or more	
	General national roads	4 lanes, 10 km or more	7.5 km to less 10 km
	Large-scale forest roads	2 lanes, 20 km or more	15 km less than 20 km
2	River work (addition of dams of small-scale river, industrial water weirs, irrigation weirs and water-supply weirs relating to secondary waterways and reduction of scale)		
	Dams	Area under water – 100 ha or more	75 ha to less than 100 ha
	Weirs		
	Lake and swamp water-level adjusting facilities	Affected area-100 ha or more	75 ha to less than 100 ha
	Discharge channels		
3	Railways (addition of general railways and tracks (equivalent to general railways))		
	Bullet Train railways (including standard new lines)	All	
	General railways (including subways and elevation of tracks)	10 km or more	7.5 km to less than 10 km
	Tracks (equivalent to general railways)		
4	Airport	Runway of 2,500 m in length or more	1,875 to less than 2,500 m
5	Power Stations (includes new addition, in-house power generation and wholesale supply)		
	Hydroelectric power station	Output of 30,000 kw or more	22,500 Kw to less than 30,000 Kw
	Thermal power station (other than geothermal)	Output of 150,000 kw or more	112,500 Kw or less than 300,000 Kw
	Thermal power stations (geothermal)	Output of 10,000 kw or more	7,500 kw to less than 10,000 kw
	Nuclear power stations	All	
6	Final waste disposal sites	30 ha or more	25 ha or less than 30 ha
7	Landfill and drainage of public waterways	Over 50 ha	40 ha to less than 50 ha
8	Land reallocation project	100 ha	75 ha to less than 100 ha
9	Development of new residential area		
10	Industrial-estate land preparation		
11	Foundation preparation for new cities		
12	Land preparation for distribution business hub		
13	Land preparation for residential areas		
	Port planning		

Source: OECC (2000) EIA for International Cooperation

Public Participation

Public participation was enhanced in the 1997 law. Public opinion can be expressed twice in the EIA procedure, initially at the scoping stages, and also at the EIA-conduction stage.

Functions of Environmental Agency and Local Government

A final EIS shall be transmitted to the authorized authorities for consideration for a licensing process. The Environment Agency can express its opinions on the final EIS to the competent authorities. The authorized authorities can require the proponent to revise the final EIS, if necessary. The Environment Agency can express opinions on all projects. The local government can submit opinions at each stage of the procedure.

In Japan the EIAs have been carried out, in addition to the national EIA Law, under specific laws such as the Public Water Area Reclamation Law, or under administrative guidelines such as the Ministry of International Trade and Industry's guidelines on EIA in regard to power plant construction. Furthermore, of 59 main local governments, 51 maintain their own EIA ordinances or guidelines (Dalal-Clayton, et al., 2004).

SEA Initiatives

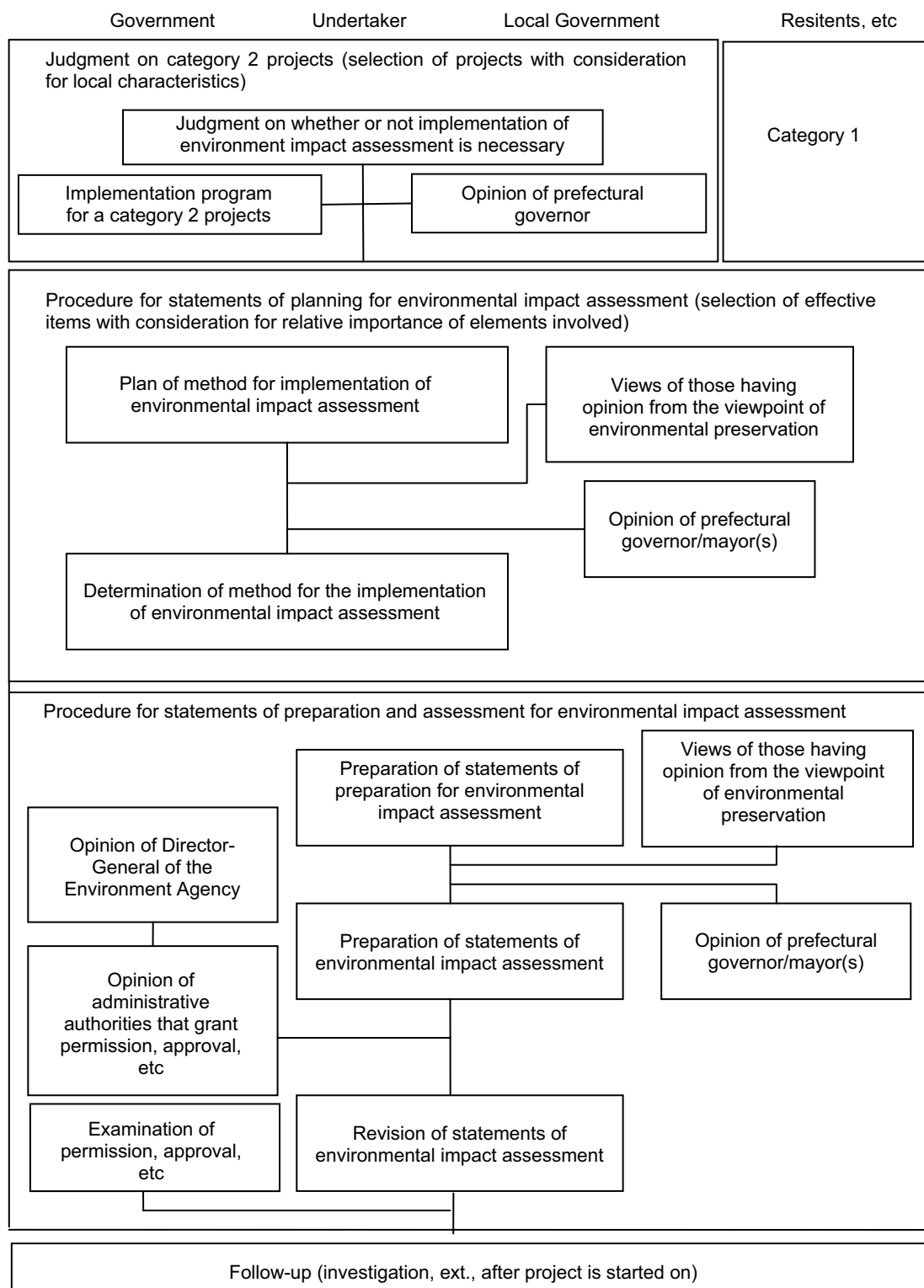
In early 1997, when the Environmental Law was promulgated, it was recognized that the EIA system was limited to project-based coverage and "reaction process." Recommendations were therefore made to study the NEPA Task Force points, which are conceptually SEA. This work began with examining legal and institutional arrangements for SEA established in OECD countries. The Ministry of Environment published several reports on international experience with SEA and its possible application in Japan at national and local government levels (MoE and Mitsubishi Research Institute, 2003). In 2000, the Cabinet approved the Basic Environment Plan (2000) which, inter alia, provided mandates to:

- Carry out a review of the content and methods for including environmental considerations in decision-making on policies, plans, and programs.
- Evaluate the effectiveness and practicability of such measures by reviewing cases and formulating guidelines based on the review.
- Consider the framework for including environmental consideration in decision-making on policies, plans and programs, if necessary (Dalal-Clayton, et al., 2004).

In 2003, the Ministry of Environment issued preliminary guideline on SEA in the formulation of municipal waste-management plans. The Ministry of Land, Infrastructure and Transport introduced guidelines for promoting public involvement in road, airport, and harbor planning and for taking into consideration alternatives in an early stage of the planning process. In addition local governments are taking leading role in SEA applications in Japan. Nowadays, 47 prefectures and 12 big cities have applied SEA under their jurisdictions mainly in the areas of regional, land use and development planning etc. However, some common problems are summarized as (1) poor alternative studies in both conduction and adoption of the recommendations, and social and economy comparison; and (2) weak public participation and later disclosure ((Dalal-Clayton, et al., 2004; Harashina, 2005).

Summary

EIA is well established in Japan and there is a wealth of experience, but the current system is project-based and SEA exclusive. A significant amount of work has been undertaken in studying and introducing international SEA experiences. Quite some municipalities have undertaken SEA applications. Japan is at an advanced stage in establishing an SEA system. Table A5.2 summarizes the potential of SEA in Japan.

Figure A5 EIA procedure in Japan

Source: OECC (2000), EIA for International Cooperation

Table A5.2 Potential for SEA in Japan

Dimensions/topics	Current status	Remarks
Political will	√	Strong interest/willingness of the government for SEA application.
Legal mandate	–	MoE is actively considering establishing SEA. Some local governments enacted SEA legislations.
Administrative framework	–	Some local governments have carried out SEA within their jurisdictions. MoE is responsible for nationwide EIA/SEA.
SEA procedure/ Guideline/ methodology	–	Available at some municipalities. Many studies were conducted on the international experiences of SEA with some pilot applications although not available countrywide.
Technical know-how	–	Expertise on SEA available at municipality level.
Experience in SEA implementation	–	Some applications undertaken by municipalities under their jurisdictions.
Public involvement	–	Well stipulated in EIA/SEA laws and implemented in SEA in some municipalities.

√ : Positive, × : Negative, – : Neutral

The indicators/criteria adopted in identifying the grading of the listed components are selected based on the degree and influence that these indicators/criteria may have to describe the statutes of the relevant component (Briffett et al., 2003). The government's introduction and application of SEA is used as evidence to confirm political will. The legislation(s) on EIA/SEA is the most appropriate indicator of a legal mandate. Establishment of a Ministry of Environment and Planning or other authorities including staffing to be responsible for EIA and SEA is used for the administrative framework. Existence and the quality of the official document to guide the SEA implementation are used to describe the statutes of SEA procedure, guideline, and methodology. The ability of the workforce to designing, controlling, and monitoring EIA/SEA activities is used to define technical capacity. The number of EIA/SEA projects and quality of the report are adopted for grading of experiences in SEA implementation. Finally, public involvement is evaluated by both regulations and practical implementation.

ANNEX 6: KOREA⁴

Development of EIA

The EIA system was first mentioned in Korea in December 1977 in the Environmental Preservation Act. The system was put into effect when the legislation of “Regulations on the Preparation of EIA” was enacted in February 1981. The Environmental Administration was upgraded to the ministerial level in 1990, and the previous Environmental Preservation Act was divided into a number of separate laws. Matters concerning EIA were incorporated in the Basic Environmental Policy Act, which was enacted in August 1990.

The Environmental Impact Assessment Act was enacted as a separate law on June 11, 1993 and was put into effect on December 12, 1993. To increase efficiency of the system, the EIA Act was revised further in 1997. The new the Act on Assessment of Impacts of Works on Environment, Traffic and Disasters has been effective since 1999.

EIA Act, 1997

The major components of the EIA Act 1997, including subsequent amendments, are described as follows.

Expansion of the Coverage

The Environmental Preservation Act enacted in 1977 limited the scope of businesses subject to EIA, to urban development, industrial sites, and energy-resource development conducted by

government administrative agencies. In the Basic Environmental Policy Act issued in August 1990, development of river use, forest, and others were added to the list subject to EIA. In the Environmental Impact Assessment Act issued in June 1993, the construction and installation of military facilities were made subject to EIA, (thus expanding the number to 16). The Enforcement Decree of the Act was revised in April 1995; this increased the number of EIA business areas to 17 (covering 62 unit projects) with the addition of sand, mud, and mineral collection.

Enhancing Public Participation and Awareness

The Basic Environmental Policy Act enacted in August 1990 included provisions on the release of EIA documents to the public and presentations and public hearings on the EIA. However, as EIA presentations or public hearings were held only when the mayor, county chief or head of the district office deemed necessary, the EIA system was criticized for being simply a formal process and ineffective in collecting opinions of local residents. To address this problem, the Environmental Impact Assessment Act required the release of EIA documents for reference to the general public in addition to presentations and public hearings. The latter are required when more than thirty local residents demand a public hearing, or when a majority of a group of local residents fewer than thirty but more than five

⁴ Heavily drawn from the website of MoE, Korea: (<http://eng.me.go.kr/user/#>).

submits a document demanding a public hearing. Public hearings are used to collect and reflect opinions of local residents in the EIA.

Procedures for collecting local residents' opinions allow conflicting interests over environmental problems to be settled well in advance. As the project proceeds with the agreement, local residents concurred, public awareness on environmental preservation is heightened and implementation of what has been agreed to at the EIA consultation is made binding, not by law but by the local community.

Procedure

Before the EIA Act was enacted, the applicant of a project was required to prepare EIA documents and to consult with the Minister of Environment directly. Sometimes, this would lead to the consultations being not fully reflected at the time of project approval. To address this problem, the current EIA Act stipulates that the same person should be in charge of applying for consultation and as the head of the government agency that approves the project, so that consultations are fully reflected at the time of project approval.

The current Environmental Impact Assessment Act required alternative studies and 74 days as the timing of processing EIA. EIA documents should be drawn up and agreed upon before basic decisions are made on the approval of construction of a project in question.

According to the EIA Act 1997, a *Post-EIA* will be conducted for the second time to devise measures to reduce the environmental impacts of accidents which were not predicted at the time of the initial EIA and prior consultation.

Enhancing Institutional Capacity and Involvement

The Korea Environmental Technology Research Institute was expanded and reorganized as the Korea Environment Institute, which specializes in reviewing EIA documents and EIA development and distribution of assessment techniques.

Local governments are encouraged to take aggressive actions in protecting the environment. Under the current EIA Act, the municipal or provincial government can request an EIA for those development projects, which are not included in the scope of businesses subject to EIA, according to local EIA regulations to minimize destruction of the environment.

Responsibilities and Penalties

To improve the quality of EIA implementation, the EIA Act stipulates the contents of consultation, obligation for implementation borne by a project applicant, and control and supervision by the head of an approval authority. The project applicant is required to maintain consultation records, designate a person in charge of the record, and notify the results of environmental impact after project completion to ensure that consultations were faithfully implemented. The project-approval authority, on the other hand, is responsible for checking whether or not prior consultations were reflected and to supervise the applicant so that consultations are faithfully implemented. The approval authority is empowered to take necessary steps for implementation, and can suspend projects judged to have brought serious damage to the environment.

The EIA Act, 1997 further tightened regulations on those in violation of the Act. Those who fail to notify the results of EIA after the completion of construction, fail to keep a record of prior consultation, or fail to designate a person in charge of records, are subject to penalties of up to one million Won. The operators of wastewater who violate the discharging standards are subject to additional charges for the violation. While, those who prepare false EIA reports will be subject to criminal punishment.

In practices the EIA system deals mostly with projects during the execution stage, after plans have been approved and confirmed, and in any case mainly reviews pollution-reduction measures. To improve such issues, the Prior Environmental Review (PER), one of Korea's

most important preventive policies, was developed and implemented in Korea.

Prior Environmental Review System (PERS)

The Prior Environmental Review System (PERS) or Preliminary Environmental Scan (PES), and SEA-type system is legislated under the Framework Act of Environmental Policy (FAEP) (Articles 25, 26, 27 and 28). The system is used to predict and minimize environmental impacts at an early stage for certain plans and projects.

Development of the PERS

Prior to PERS, development plans with potential environmental impacts were discussed at the ministerial level according to a provision that required prior consultation with the Minister of Environment. Examples of such development plans include new land-use plans introduced under the National Territory Usage Management Act, rural development plans introduced under the Special Act on Rural Development, and plans affecting the use of sea resources introduced under the Act on Prevention of Ocean Pollution. In addition, the greater local autonomy resulted in the emergence of more aggressive regional development plans. Thus more proactive and systematic environmental previews on development plans and projects were being called.

With such background the Provision on the Environmental Validity Review of Administrative Plans and Projects (based on Article 11 of the Basic Environmental Policy Act) was promulgated in 1993 and was revised to streamline consultation procedures in 1994. Since then, environmental previews have been carried out without the previously required legal consultation clause.

Previews also began to address medium- and large-scale public development projects in environmentally sensitive areas.

Meanwhile, the PERS had a few remaining problems. Significantly, the system was confined to public projects; while private development

projects were immune from any censure even if the projects were known to be inappropriate. The system was also somewhat limited as a preventive measure since the projects targeted for the Environmental Impact Assessment System were excluded from the PERS. Additionally, as mandated by provisions in other Acts; the system excluded administrative plans and development projects that were already under MoE review. But in fact there were no detailed provisions for the plans to undergo the PERS. Moreover, a number of administrative plans did not even have basic provisions in place for planning-stage discussions or review, ultimately inhibiting any type of thorough environmental review.

To resolve the limitations, the Framework Act of Environmental Policy legislated (1999) made the Preliminary Environment Review System (PERS) compulsory. The validity of a site and its harmony with the surrounding environment were reviewed in the cases of high-level master plans that were de facto excluded from or neglected by EIA.

The current PERS serves as a mechanism for efficiently supplementing the EIA at the planning stage for various development plans or programs that require decision-making. Conceptually, PERS is similar to Strategic Environmental Assessment (SEA); it is regarded as a SEA-type system (Dalal-Clayton, et al, 2004).

Key Components of the PERS

The key components of the PERS, 2000, revised based on Article 11 of the Basic Act on Environmental Policy are highlighted as follows.

Coverage of Plan

The targeted plans and projects are now classified into two categories. The first falls under the Basic Act on Environmental Policy, and the second is those under other related laws. The Basic Act of Environmental Policy Act Enforcement Decree added the following to the list of projects subject to PERS: designation of an agro-industrial complex, which didn't have a legal basis for prior consultation in relevant laws;

ten administration plans including development plans for hot springs; and development projects led by the private sector in preservation zones, which was excluded from the Prime Minister decree (Song, 2004).

Procedure

The heads of administrative agencies that establish, permit, or approve administrative plans or development projects are to consult with the Minister of Environment or the head of the local environmental agency on the matter of environmental validity review.

Two types of forms are required: basic and individual. Basic forms must be submitted for all administrative plans and development projects due for environmental validity previews and must include items such as project purpose, current land usage, and present distribution of preservation areas. Individual forms cover specific ecological characteristics, the current level and types of pollutants, and environmental impact projection and reduction plans.

The forms required for the preview are specified and the submission of documents is now mandatory. The heads of governmental bodies that establishes or approves administrative plans, or that permit, approve, and authorize development projects must either fill out the forms themselves or receive them from project operators, and then submit the forms to the Minister of Environment or the head of the regional environmental office.

The deliberating organization, specific deliberation period, and post-management system are now in place. If the environmental preview applicant (the planner and decision-maker) or the party that permits, approves, or authorizes a project is the head of a central administrative body, the applicant should meet with the Minister of Environment or the head of the regional environmental office. The minister or regional head receiving the request for the preview must notify the applicant of the outcome of the conference within 30 days, with

a single possible extension of 10 days. When the conference outcome is not released within the deliberation period, the meeting is assumed to have taken place, so as to prevent project implementation delays.

Technology Guidelines and Evaluation Committee

To prevent the PERS from being executed inconsistently due to the subjectivity of those in charge, the Manual for Environmental Preview provides a systematic and detailed list of key review items, review criteria, and methods.

To enhance the objectivity, fairness, and professionalism of the preview, a Special Committee on Environmental Preview and Environmental Impact Assessment was set up at the Ministry of Environment headquarters and regional environmental offices. The committee consists of 30 members, and has been in operation since September 2000.

The PERS system can cancel or downsize plans when the environmental impact is deemed serious in terms of quality and quantity. It can also force the project operator to present countermeasures to minimize environmental impacts.

Relationship with EIA

When the PERS is correctly implemented and the project plans are approved, the procedure or components of environmental impact assessment could be streamlined or even omitted in some cases, cutting down on time and cost. Moreover, opinions and conditions presented during the environmental preview will be reflected on the environmental impact assessment and their implementation checked, so that the two systems can operate and develop in complement.

Towards SEA

The current PERS is conducted for administrative plans and development plans. Usually, however, the plans are established on the basis of economic and social interests, and PERS is conducted at the stage when the plan is

being finalized. Therefore, various alternative options in environmental aspects are not being fully examined.

Given the limitations of the current PERS and the benefits of SEA, the Framework Act on Environmental Policy (FAEP) (Article 25 and 26, etc.) was amended in 2004 and approved in 2005 mainly on (1) extending the list of plans and programs subject to PERS, (2) stipulation of implementation of PERS at an early stage to enhance its effects in decision making, and (3) enhancement of public participation and disclosure (Song, 2005).

EIA in Korea is expected to be divided into the PERS, conducted at a planning stage, and EIA, carried out at the project-development stage. In this case, a decision on whether to execute a

development project will be made at the planning stage, taking into account environmental concerns. This will likely result in conflicts at the EIA stage to be diminished significantly (Song, 2004).

Summary

Korea has established and applied EIA for over twenty years for various projects. Given its coverage, the current EIA system is SEA-exclusive. The Prior Environmental Review System (PERS), which is a SEA-type of system, was applied in the late 1990s, mainly for various developing planning programs.

The current PERS has been modified as a SEA-type system, but in general, policy is not going to be covered. Table A6 summarizes the potential of SEA application in Korea.

Table A6 Potential for SEA in Korea

Dimensions/topics	Current status	Remarks
Political will	√	Strong interests/willingness of the government for SEA application.
Legal mandate	√	SEA-type PERS ACT is enacted.
Administrative framework	√	MoE and its regional offices responsible for overall EIA/SEA and coordination nationwide.
SEA procedure/ Methodology/ guideline	√	Established for SEA-type PERS.
Technical know-how	√	Based only on PERS experiences.
Experience in SEA implementation	√	Many SEA-type PERS applications.
Public involvement	–	Legally mandated with concrete requirements in the new PERS Act.

√ : Positive, × : Negative, – : Neutral

The indicators/criteria adopted in identifying the grading of the listed components are selected based on the degree and influence that these indicators/criteria may have to describe the statutes of the relevant component (Briffett et al., 2003). The government's introduction and application of SEA is used as evidence to confirm political will. The legislation(s) on EIA/SEA is the most appropriate indicator of a legal mandate. Establishment of a Ministry of Environment and Planning or other authorities including staffing to be responsible for EIA and SEA is used for the administrative framework. Existence and the quality of the official document to guide the SEA implementation are used to describe the statutes of SEA procedure, guideline, and methodology. The ability of the workforce in designing, controlling, and monitoring EIA/SEA activities is used to define technical capacity. The number of EIA/SEA projects and quality of the report are adopted for grading of experiences in SEA implementation. Finally, public involvement is evaluated by both regulations and practical implementation.

ANNEX 7: LAO PDR

Environmental and EIA Legislation

Lao PDR is a country which is rich in natural resources. With ongoing re-building and infrastructure development, environmental protection and prevention of unsustainable use of natural resources is essential. Environmental legislation, regulations, decrees, standards and guidelines concerning environment management have recently developed in Lao PDR. The core Laws are (SIDA):

- The Lao Constitution (1991) acknowledges the need for environmental protection in Lao PDR and requires that Environmental Assessment give particular attention to the assessment of potential positive and negative socio-economic impacts of project development, and to prevent / or mitigate harmful impacts.
- The Law on Environmental Protection had been passed by the National Assembly in 1999, and further elaborated by an implementation decree in 2002. It requires that all projects and activities that have an impact on the environment (including social impacts), go through an assessment process prior to the approval and implementation. Article 8 deals with EIA procedures and requires that the relevant ministries develop their own EIA guidelines and standards.

In late 1999, the Science and Technology Environment Agency (STEA), which was established directly under the Prime Minister's Office after the Earth Summit in 1992 (AITCV

and ERMG/AIT, 2002) advised the Ministry of Industry and Handicraft (MIH) that it should develop and implement EIA regulations for hydropower projects. The MIH issued a Regulation on Implementing Environmental Assessments for Electricity Projects in Lao PDR in November, 2001, and the Environmental Management Standard on EIA for Electricity Project in Lao PDR and Draft Social Impact Assessment for Electricity Project in Lao PDR (AITCV and ERMG/AIT, 2002). Environmental impact assessment has become the centerpiece of environmental management.

EIA Decree No. 1770 (2000)

In 1999, STEA started to develop an EIA Decree. *The EIA Decree No: 1770/STEA* was issued on 3rd October 2000, followed by Implementation Decree in 2002. The decree provides guidelines and standards for environmental assessments and provides a framework within which other ministries can develop their own set of standards and guidelines for EIA procedures. This is done they can develop their own EIA guidelines, covering projects and activities under their own jurisdiction.

Coverage

The EIA Decree stipulates that “No construction or other physical activities shall be undertaken at a project site until STEA issues an environmental compliance certificate for the project.” According to this the current EIA is project-based and SEA- exclusive.

Procedure

Screening: The proponent should submit a Project Description in the form of a project proposal document to the Development project Responsible Agency (DPRA)⁵ for environmental screening. Based on the information in the project proposal document, the DPRA should assemble an ad hoc Project Review Team to complete an environmental screening of the proposed project. The purpose of the screening is to separate those projects that require no further EA (exempt projects) from those projects that require further EA (non-exempt projects). For the latter STEA should issue an environmental compliance certificate (STEA, 2000). In practice, there are very few projects that are put into the category called exempt projects. Almost all projects that go through the screening process are non-exempt projects (STEA, 2004) and for them the EA must thereafter include an Initial Environment Examination (IEE).

Preparation of IEE: The IEE should include, i) an Environmental Management Plan (EMP), and ii) the Terms of Reference (ToR) for conducting EIA (if required). The IEE is undertaken by the Project Owner and the IEE report concludes if there is need for an EIA. If there is no need for an EIA, an EMP must be developed within the IEE report. If an EIA is needed a ToR should be included in the IEE report and the scope of the ToR should be broad enough to assess all significant harmful environmental impacts that the project is likely to cause, both within and outside the project site.

Review and Approval of the IEE: The DPRA, together with other involved agencies and local

⁵ Any central or local government agency responsible to different development projects of the government itself; Office for domestic investment management, responsible for development projects proposed by persons, entities or private organizations from within the country; Office for foreign investment management, responsible for development projects proposed by foreign persons, entities or organizations; Other agencies, with a governmental mandate to be responsible for development projects (SIDA).

government authorities, makes a written record to STEA of its decision concerning DPRA's review of the IEE report. For example, if the IEE is incomplete, and fails to identify potential environmental impacts or if the Environmental Management Plan (EMP) is inadequate, DPRA can decide whether an EIA is required for the project. When STEA has received the record of decision of DPRA STEA should: "Issue an environmental compliance certificate for the project with or without conditions for EMP measures and implementation, or reject the IEE or advise the project owner to conduct an EIA."

Preparation of EIA Report: The general requirement for the EIA report is it must describe the existing socioeconomic and natural environment in the area(s) that might be affected by the project. It should specially address:

The report must identify and describe the environmental, social and economic impact of the project, and compare them to the impacts of one or more feasible alternative scenarios. "Impact concerning culture, landscape, gender and climate are not explicitly included in what needs to be identified and described in the EIA".

- The report must identify, evaluate, and compare appropriate mitigation measures for preventing or reducing the impacts of the project and of all alternatives. In cases where impacts cannot be prevented and reduced, the report must propose ways to compensate for them.
- The report must clearly identify all Lao PDR laws, regulations, and international treaty obligations, natural resource usage plans on land, forest etc. that are relevant to the proposed project activities.

The regulation stipulated alternative studies and 100 days as the timing of processing EIA. An EMP should be included with all EIAs. The Project Owner must, during the detailed design phase, prepare the detailed EMP based on the general EMP of the IEE already approved by

STEa. Before starting a project logging, land clearing, constructing, or any other physical activities at the project site, the project owner must obtain an environmental compliance certificate for IEE/EIA including the EMP from STEa. STEa is responsible for reviewing and approving EIA reports.

Implementation of the EMP: In order to ensure the effective implementation of the EMP the project must establish an environmental unit.

Project Monitoring and Evaluation: The Project Owner, or environmental unit, must establish monthly reports on project environment monitoring to be sent to the concerned agencies, which are STEa/ Provincial, Municipal or Special Zone Science Technology and Environment Office, and the Environment Management and Monitoring Units of the concerned ministries for information and supervision.

The project owner is responsible for all costs of implementing the project's EA, including the EMP and the actual costs of the government agencies in the EA process.

Public Involvement

The Decree stipulates that DPRA and the Project Owner are responsible for the undertaking of public involvement activities in a consistent manner as suitable to the EA process (Article 6). STEa, the DPRA and the Project Owner are jointly responsible for conducting public involvement activities during all EIA steps. Public involvement should include at least the following activities:

- Notification of stakeholders
- Dissemination of information about the project and its impacts
- Consultation with the affected parties and parties interested in the project regarding their opinions
- Invitation to affected parties and parties interested in the project to attend hearings or other meetings when, i) DPRA reviews an IEE report, ii) STEa reviews and approves an EIA report, or iii) responding to the affected and interested parties' concerned during project planning and implementing.

SEA Study for Nam Theun 2 Hydro-Power Project

Nam Theun 2 is a hydropower development project, will produce 1,069 MW of energy. It will have a major environmental impact, and the Lao government, together with the World Bank, is paying great attention to environmental protection and mitigation in connection to this project. A substantial SEA study including cumulative impact analysis has been undertaken (Case study 4.2) (¹NORPlan, 2004; ²NORPLAN, 2004). Public participation is an important factor in carrying out the impact assessment of this project,

Summary

EIA system has been established and applied recently in Lao PDR. It is project-based and SEA-exclusive. Table A7 summarizes potential of SEA in Lao PDR.

Table A7 Potential for SEA in Lao PDR

Dimensions/topics	Current status	Remarks
Political will	×	Interest/willingness of the government is available in EIA but not clear indicator in SEA.
Legal mandate	×	Only for EIA not for SEA.
Administrative framework	×	STEA is responsible for EIA only.
SEA procedure/ Guideline/ methodology	×	Not existing, only established for EIA.
Technical know-how	×	Not available.
Experience in SEA implementation	×	Not available
Public involvement	NA	Only stipulated in the EIA Legal document

√ : Positive, × : Negative, – : Neutral

The indicators/criteria adopted in identifying the grading of the listed components are selected based on the degree and influence that these indicators/criteria may have to describe the statutes of the relevant component (Briffett et al., 2003). The government's introduction and application of SEA is used as evidence to confirm political will. The legislation(s) on EIA/SEA is the most appropriate indicator of a legal mandate. Establishment of a Ministry of Environment and Planning or other authorities including staffing to be responsible for EIA and SEA is used for the administrative framework. Existence and the quality of the official document to guide the SEA implementation are used to describe the statutes of SEA procedure, guideline, and methodology. The ability of the workforce in designing, controlling, and monitoring EIA/SEA activities is used to define technical capacity. The number of EIA/SEA projects and quality of the report are adopted for grading of experiences in SEA implementation. Finally, public involvement is evaluated by both regulations and practical implementation.

ANNEX 8: MONGOLIA

Environmental Legislation

The Ministry of Nature and Environment (MONE) was formed in 1992 replacing the previous State Committee for Environmental Control (SCEC). The ministry is responsible for the development of environmental policy/legislation at the central level in Mongolia. Under MONE, several new organizations were established in 1996, including Environmental Protection Agency, Land Agency and Hydro Meteorological Agency (JICA, 2002).

A set of laws and regulations covering a broad range of areas have been promulgated and implemented in Mongolia as follows:

- Law on Environmental Protection, 1995
- Law on Air, 1995
- Law on Protection from Toxic Chemicals, 1995
- Law on Water, 1995
- Law on Land, 1994
- Law on Forest, 1995
- Law on Hunting, 1995
- Law on Natural Plants, 1995
- Law on Environmental Impact Assessment, 1998
- The Law of Mongolia on Environmental Impact Assessment (revised), November 22, 2001
- Law on Water and Mineral Water Use Fees, 1995
- Law on Special Protected Areas, 1995
- Government Regulation No.121 on the Environmental Impact Procedure, 1994
- Law on Forest Fire Protection, 1996
- Law on Weather and Environmental Monitoring, 1997
- Law on Fees for Harvest of Forest Timber and Fire Wood, 1995

EIA Law

Early in 1994 MONE began to conduct screening-impact assessments. The law on EIA was established in 1998 and revised in 2001. It legally mandates EIA in Mongolia (Ulaanbaatar City Government, 2004).

The law on EIA requires environmental-impact surveys and assessments to be carried out *prior to* the implementation of any project that has the potential to endanger or seriously affect the environment. It includes new projects, as well as restoration and expansion of existing production or services, construction activities and use of natural resources. The legislation has provisions for evaluating the acceptability of the project as well as measures to be taken in order to protect the environmental quality. According to the coverage, the current EIA in Mongolia is project-based and SEA-exclusive.

The screening and General Environmental Impact Assessment (GEIA) should be completed before the implementation of the project with the objective of estimating the impact of the project in advance. The project proponent is required to submit summary and technical documentation to MONE or to the local authority in line with the screening criteria as prescribed. Based on conclusions of environmental screening and GEIA, one of the following decisions should be taken:

- To implement the project without a Detailed Environmental Impact Assessment (DEIA);
- To provide approval for implementation without further assessment, if the project impacts and consequences meet the requirements of the existing environmental standards and the requirements or are subject to specific conditions regarding management and organizational measures to be taken; and
- In cases in which negative impacts are regarded as likely and/or significant, the project may be required to undergo more detailed assessment or Detailed Environmental Impact Assessment (DEIA).

If a DIEA is required, the project proponent is responsible for contracting one of Mongolia's licensed environmental-consultancy company (of which there are currently twenty-one) to conduct the DEIA in accordance with the requirements set out in the DEIA. The regulation stipulated alternative studies and 100 days as the timing of processing EIA. Enforcement and monitoring of the implementation of Environmental Management Plans set out in DEIAs are the responsibility of the local government agencies. Suggested mitigation measures adopted during the civil works in accordance with the environmental legislation would be enforced along with the supervision consultants.

Table A8.1 Projects with DEIA from 1995 to 1999

Project Type	1995	1996	1997	1998	1999
Gold Mining	39	31	34	40	19
Coal Mining	4	8	4	7	5
Other Mineral Extraction	6	20	13	12	10
Tourism development	4	8	72	35	20
Industry	17	22	46	29	22
Total	78	98	186	139	94

Source: JICA, 2002.

Table A8.1 shows the number of the EIA projects conducted from 1995 to 1999 (Jica, 2002). The project with EIA increased exponentially in recent years. In 2002, approximately 1,000 entities conducted detailed environmental impact assessments.

Amendments Made to the Law on EIA

Some amendments made to the Law on Environmental Impact Assessment were ratified by the Parliament of Mongolia at the session of the Parliament on November 30, 2001. The amendments comprise several important provisions determining in detail the duties, rights and responsibilities of the State Central Organization in charge of Environmental issues, project clients and a project expert or competent authority for conducting detailed environmental-impact assessments. For instance, the law stipulates that, "a general environmental statement shall be made before obtaining a license on mineral resource utilization, land exploitation and ownership as well as before starting implementation of any project." It also states that in order to guarantee that environmental-protection duties are fulfilled; the organization executing the project shall deposit a sum of money a special account of the relevant national administrative unit or the district. This sum of money shall be equal to at least 50 percent of the expenses required for environmental protection and restoration measures in the relevant years. A report on the execution of the plans should also be made. The new law containing the additional amendments described above will be of great importance for both the protection and the restoration of the nature and environment of Mongolia (Namkhair and Enkhbayar, 2002).

Implementing Regulations

Several regulations have been promulgated to implement the EIA Law. The important ones include Screening of the Environmental Impact Assessment Guideline (Attachment of the Minister Nature and Environment Degree 66, 1998), Detailed Environmental Impact Assessment Procedure (Attachment of the Minister Nature and Environment Degree 58, 29

of April 1999), Environmental Protection Plan, Environmental Monitoring Program Guideline (Attachment 1 of the Minister Nature and Environment Degree 87, 2000) and Guideline for the Administration of Detailed Environmental Impact Assessment Report (Attachment 2 of the Minister Nature and Environment Degree 87, 2000) (Ulaanbaatar City Government, 2004).

SEA Initiatives

A number of projects, in which environment issues are among the key concerns, have been initiated by international organizations in Mongolia. Typical examples include the Second Ulaanbaatar Service Project with the participation of the World Bank (ICT et al., 2003) and Tumem Programme with the participation of GEF and UNEP (TumenNet, 2001). The SEA applications have been brought and applied in these programs.

A Mongolian Environmental Assessment Program (MEAP) has been developed recently. This MEAP is considered to be a comprehensive

environmental and natural-resource review process, which proposes reviews at every stage of policy, program, plan, and project development. It is a SEA-type program. Currently, the Policy Coordination Department is in charge of reviewing the Detailed Project Description of all proposed investment projects and establishing environmental categorical designations according to the law on EIA (UNEP, 2003)

Summary

An EIA system has been established in recent years in Mongolia including legal mandate, procedure, technology, and guidelines. According to its characteristics, it is project-based and SEA-exclusive.

There are several initiatives in adopting SEA, which indicate the political will and interests in SEA in the government. Table A8.2 summarizes the potential for the adoption of SEA in Mongolia.

Table A8.2 Potential for SEA in Mongolia

Dimensions/topics	Current status	Remarks
Political will	√	Pilot scale SEA program was initiated by the MONE.
Legal mandate	x	Only for project-based EIA Law, not for SEA.
Administrative framework	x	MONE is responsible for overall EIA coordination only nationwide.
SEA procedure/ Methodology/ guideline	x	Not available.
Technical know-how	-	Not available.
Experience in SEA implementation	-	Limited to a number of pilot-scale applications.
Public involvement	NA	Legally mandatory according to the EIA Law but with less concrete requirements.

√ : Positive, x : Negative, – : Neutral

The indicators/criteria adopted in identifying the grading of the listed components are selected based on the degree and influence that these indicators/criteria may have to describe the statutes of the relevant component (Briffett et al., 2003). The government's introduction and application of SEA is used as evidence to confirm political will. The legislation(s) on EIA/SEA is the most appropriate indicator of a legal mandate. Establishment of a Ministry of Environment and Planning or other authorities including staffing to be responsible for EIA and SEA is used for the administrative framework. Existence and the quality of the official document to guide the SEA implementation are used to describe the statutes of SEA procedure, guideline, and methodology. The ability of the workforce in designing, controlling, and monitoring EIA/SEA activities is used to define technical capacity. The number of EIA/SEA projects and quality of the report are adopted for grading of experiences in SEA implementation. Finally, public involvement is evaluated by both regulations and practical implementation.

ANNEX 9: PHILIPPINES

EIA Development

The EIA system was originally conceived in the Philippine Environmental Policy (P.D. No.1151). The actual establishment of the EIA System began with Presidential Decree (P.D.) No. 1586 in 1978. This decree empowered the President to declare certain projects, undertakings or areas in the country as environmentally critical, and to prohibit the undertaking or operating of such environmentally critical projects without first securing an Environmental Compliance Certificate (ECC) issued by the president or his duly-authorized representative. In 1996, the president issued the Decree of Administrative Order No. 300 (DAO 300/1996) which delegated the secretary of the Department of Environment and Natural Resources (DENR) and the Regional Executive Directors (REDs) of the regional DENR offices the power to issue ECCs. The Department of Environment and Natural Resources (DENR) was given the task of administering the EIS⁶ (Environmental Impact Statement) system through the Environmental Management Bureau and its regional offices (Tan, 2000). DAO 300/1996 had since been revised and replaced by DAO 5/2000. On November 2 2002, the Office of the President issued Administrative Order No. 42 (A.O. 42), which was intended to rationalize the

implementation of the Philippine EIS system to become a more effective planning tool for sustainable development. For that purpose DENR was granted new powers, but with different tasks to the director and regional director of the Environmental Management Bureau (EMB). *DAO No. 30 of 2003 Implementing Rules and Regulations (IRR) for the Philippine Environmental Impact Statement (EIS) System* was issued in 2003 to further streamline the EIS system to simplify and strengthen the process for its implementation. A *Procedural Manual for DAO 30/2003* was promulgated together with DAO 30/2003. This manual introduced the procedure and methods for the EIA in the Philippines. Since then several implementing regulations have been issued although part of old regulations are still in use, some of the new regulations are listed as follows.

- MC 2003-21 Guidelines on the Availment of the Reduction of Penalties for Projects Found Operating without Environmental Compliance Certificate in Violation of the Philippine EIS System (P.D. 1586).
- DAO 2003-27 Amending DAO 26, DAO 29 and DAO 2001-81 among others on the Preparation and Submission of Self-Monitoring Reports (SMR).

⁶ In Philippines the EIS (Environmental Impact Statement) is adopted in documentation. Conceptually, it is equivalent to EIA.

- MC 2004-002 Certificate of Non-Coverage (CNC) for Barangay Micro Business Enterprises (BMBEs).
- MC 2004-04 IEE Checklist for Economic Zone Enterprise

EIS Regulation DAO 30/2003

DAO 03/2003 classifies projects or undertakings into the following categories (Article 2):

- Category A.Environmentally Critical Projects (ECPs) with significant potential cause negative environmental impacts.
- Category B.Projects that are not environmentally critical in nature, and may cause negative environmental impacts because they are located in environmentally critical areas (ECAs).
- Category C.Projects intended to directly enhance environmental quality or address existing environmental problems.
- Category D.Projects not falling under other categories OR are unlikely to cause adverse environmental impacts.

Proponents that fall under Category A and B are required to secure an Environmental Compliance Certificate (ECC). For eco-zones, ECC application may be based on submission of a programmatic EIS, or be location-specific based on submission of a project EIS for each location. Projects under Category C are required to submit a project description. Projects classified under Category D may secure a Certificate of Non-Coverage. The EMB-DENR, however, may require projects or undertakings to provide additional environmental safeguards as necessary.

Procedural Manual DAO 30/2003 listed the enumeration of “environmentally critical projects” and “environmentally critical areas.” Furthermore the incorporation of “social acceptability” was regarded as a prerequisite for the issuance of an ECC, and ‘cumulative’ effects of the project or cluster of projects in sensitive area(s) is mentioned. However, the focus of the EIS is still project-oriented rather than an assessment of the whole plan, and it is “reactive” rather than pro-active in prior assessment of alternatives of the overall planning (similar to the EIA situation in Indonesia). Therefore, it is concluded that the current EIA in the Philippines is still project-based and SEA-exclusive.

DAO 30/2003 stipulates the key components of the EIS system as following (Article II):

- a. EIS Executive Summary;
- b. Project Description;
- c. Matrix of the scoping agreement identifying critical issues and concerns, as validated by EMB;
- d. Baseline environmental conditions focusing on sectors (and resources) most significantly affected by the proposed action;
- e. Impact assessment focused on significant environmental impacts (in relation to project construction/commissioning, operation and decommissioning), taking into account cumulative impacts;
- f. Environmental Risk Assessment if determined by EMB as necessary during scoping;
- g. Environmental Management Program / Plan;
- h. Supporting documents; e.g. technical / socio-economic data used/generated; certificate of zoning viability and

- municipal land-use plan; and proof of consultation with stakeholders;
- i. Proposals for Environmental Monitoring and Guarantee Funds including justification of amount, when required;
- j. Accountability statement of EIA consultants and the project proponent; and
- k. Other clearances and documents that may be determined and agreed upon during scoping.

DAO 37/1996 also institutionalizes the administrative procedure of Environmental Impact statement system, responsibilities of DENP and EMB, procedure of the EIS system and documentation requirements. The regulation stipulated alternative studies and 90 to 190 days as timing of processing EIA depending on the nature of projects.

Weaknesses

To implement EIA effectively, several weak areas should be improved (Tan, 2000; Villaluz, 2003).

Raise Awareness. The EIS system is viewed by many to be too stringent, and obstructive to investment. There is a reluctance to apply ECCs to investment projects indicating that the importance of environment is often overlooked.

Enhance Technical Capacity. There is a lack of capacity to implement EIS system by qualified staff at the central, local, and (especially) the remote provincial government. The monitoring capability of government needs a lot of strengthening. In many cases there are no monitoring programs in place, a lack of equipment, and a shortage of trained staff or accredited laboratories to analyze the samples.

The absence of baseline environmental data is a

typical issue. Consultants generally have to, under such constraints, collect secondary data generated by similar studies, which in many cases are scanty and unreliable. The problem is exacerbated by the high costs involved in commissioning EIAs, particularly for large infrastructural projects.

The transparency in the conduct of the study should be observed in order to maintain the impartiality of the entire process. The accreditation of the consultants and the reviewers should be strictly enforced in order to maintain the integrity and the professionalism of the process.

Effective Public Participation. In many cases, public hearings and public consultations are haphazardly conducted and poorly presented due to time constraints and lack of skills within government to handle social issues. Documents are not freely accessible to the public, and there is a lack of experience in handling seemingly contentious matters. DAO 30/2003 stipulates enhancement of public involvement and information disclosure. Exploration of easy and direct ways to implement these requirements is an essential task.

Effective Monitoring and Evaluation (M&E) System of EIS. Relating to the current EIS in the Philippines, the monitoring and evaluation system of EIS implementation including treatment of public complaints are poor. This should be enforced through new mechanisms (The World Bank and DENR, 2005).

SEA Initiatives

The need for SEA was recognized since 1996 when a conceptual framework plan for the adoption of an SEA system in the Philippines was proposed (IEMSD, 1996). The proposed generic procedures for SEA comprise several

steps, with public participation involvement throughout. In this research, evidence of SEA in practice was collected, e.g. the Bohol Environment Code of 1998. This formulated the vision, mission, goals, and strategies for the future development of an island close to Cebu for meeting the future needs of ecotourism and industrial development (Briffett et al. 2003).

Other SEA initiatives include programmatic EIAs that are being prepared for various wetland deltas in the Philippines and master planning for Cebu and Metro Manila. Most of these are still in the early stages of preparation (Briffett et al. 2003). In the DAO 30/2003 it was stated that “The EMB shall study the potential application of EIA to policy-based undertakings as a further step toward integrating and

streamlining the EIS system” (Article II, Section 7). The SEA covering policy and plan is being considered to be contained in a new Environmental Impact Assessment Act, which is in the drafting process (Villaluz, 2005).

Summary

The EIA System is well established in the Philippines including a legal mandate, administration, procedure and guidelines. It is regarded as extremely comprehensive and perhaps entails the most stringent requirements in the whole Southeast-Asia region (Alan Tan, 2000). The current EIA in the Philippines is still project-based and SEA-exclusive. Some SEA initiatives have been undertaken. Table A9 summarizes the SEA potential in the Philippines.

Table A9 Potential for SEA in Philippines

Dimensions/topics	Current status	Remarks
Political will	√	There is some pilot program and the government is considering stipulating SEA in the new EIA Act.
Legal mandate	×	Not available for SEA, only for EIA.
Administrative framework	×	DENR and EMB are responsible for overall coordination of EIA nationwide, lack of qualified staff.
SEA procedure/Methodology/guideline	–	Proposed by academics, not established legally.
Technical know-how	–	Expertise existing in administration and in academia.
Experience in SEA implementation	–	Limited to several initiatives for SEA.
Public involvement	NA	Stipulated in legal documentation of EIA but weak in implementation.

√: Positive, ×: Negative, –: Neutral

The indicators/criteria adopted in identifying the grading of the listed components are selected based on the degree and influence that these indicators/criteria may have to describe the statutes of the relevant component (Briffett et al., 2003). The government's introduction and application of SEA is used as evidence to confirm political will. The legislation(s) on EIA/SEA is the most appropriate indicator of a legal mandate. Establishment of a Ministry of Environment and Planning or other authorities including staffing to be responsible for EIA and SEA is used for the administrative framework. Existence and the quality of the official document to guide the SEA implementation are used to describe the statutes of SEA procedure, guideline, and methodology. The ability of the workforce in designing, controlling, and monitoring EIA/SEA activities is used to define technical capacity. The number of EIA/SEA projects and quality of the report are adopted for grading of experiences in SEA implementation. Finally, public involvement is evaluated by both regulations and practical implementation.

ANNEX 10: SINGAPORE ⁷

Urbanized Environment

The Republic of Singapore is a small island state lying at the tip of the Malaysian Peninsula at the crossroads of Southeast Asia. The main island of Singapore is flanked by some 60 islets; Singapore has a land area of 637 square kilometers and a coastline of 193 kilometers. Singapore is the smallest country in Southeast Asia. The city-state is densely populated. Building upon its strategic location, deep-water harbor and excellent infrastructure, Singapore has become a leading commercial and financial center. The economy is dominated by the manufacturing and service industries, with the main income earners being computer equipment, petroleum products, processed agricultural products and tourism. Singapore is a major entry-port center, serving the needs of the Southeast Asian hinterland.

Singapore has virtually no natural resources, and the environmental issues it faces are typical of a highly-urbanized city. There are no problems associated with mining, forestry, large-scale agriculture or indigenous cultures. The existing issues pertain to pollution from industrialization and urbanization and the protection of nature areas. Pollution has been recognized as a problem since the 1960s, and significant steps have been taken since to alleviate industrial and urban pollution. Today

Singapore is a clean, ordered and well-planned country, with extremely stringent regulations for industrial-pollution control. The country's acute land scarcity and high population density mean that very few undisturbed natural areas remain. Water is in short supply. Singapore's environmental challenges include maintaining a pollution-free urban center, preventing encroachment of the few nature areas that remain, and the prevention of marine pollution in its heavily-traversed waters.

Environmental Institutions

Before 2002, the overall management of the environment was delegated to the Ministry of Environment (ENV). The ENV eventually became a full-fledged ministry. It was first established in the 1970s as a department within the Prime Minister's Office, it is responsible for providing the infrastructure for waste management, as well as enforcing and administering legislation relating to pollution control and public health. ENV was restructured and called the Ministry of Environment and Water Resource (MOEWR) in 2002 (Tan, 2003). Nowadays MOEWR is responsible for many aspects of environmental management in Singapore. The National Environmental Agency (NEA) within the MOEWR is in charge of environmental planning, air and water pollution control and the regulation of hazardous

⁷ This part is heavily drawn from Tan Alan K. J. 2000 (<http://sunsite.nus.edu.sg/>).

substances and wastes. Due to the government's strong commitment to pollution control, the MOEWR has been immensely successful in implementing its pollution control programs throughout Singapore.

Environmental Impact Assessment

The EIA is implemented through the requirements stipulated in the *Environmental Pollution Control Act (EPCA)* [Revised Edition 2000 (30th December 2000)] and Land Planning process. For the EPCA, those items related to hazardous waste (Part VII Hazardous Substances Control) and establishing of industrial plants (Part IX Licenses and Industrial Plant Works) provide legal requirements for EIA. However, at present there is no specific legislation in Singapore making EIAs compulsory for major developmental projects.

EIA through Pollution Control. An EIA may be required when the MOEWR deems a particular project to have sufficient potential for pollution that may affect public health. To date EIAs have to date been required for petrochemical works, gasworks, and refuse-incineration plants, and detailed studies are made as to the feasibility of locating an industry in a particular site. Foreign investment projects using or storing large quantities of hazardous substances are required to engage third-party consultants to conduct EIAs to support the establishment of a plant in Singapore. To this end, the MOEWR has recommended a general format for EIA reports.

EIA through Land Planning. A document called the Concept Plan broadly outlines land-use policies in Singapore. These policies are then translated into detailed proposals for local areas called "Development Guide Plans" (DGPs). There are over fifty DGPs to cover the whole area of Singapore. The basic environmental concerns that were considered in the Development Guide Plans (DGPs) are:

- Identification of development constraints and major land uses that affect the environment, e.g., airports, live-firing areas for military training, areas for

- pollutive and hazardous industries;
- Projection of land needs for environmental infrastructure such as refuse facilities (incinerators and dumping grounds), sewage treatment plans, etc.;
- Identification of possible areas for major utility installations and infrastructural needs that may be pollutive, e.g., gasworks, explosive storage, other hazardous-goods storage;
- Identification of possible areas for nature conservation; and
- Continued protection of water-catchment areas.

The Master Plan Committee in practice has required EIAs of developmental projects which have pollution potential. The planning process under the Concept Plan and the DGPs insure that polluting industries are sited far away from residential and recreational facilities.

The implementation of the DGPs is coordinated by the Master Plan Committee (MPC), which is a collaborative effort by all the public authorities in Singapore. The MPC consists of representatives from the following agencies:

- The Urban Redevelopment Authority (URA), which is the national planning authority overseeing land use planning in Singapore,
- The Housing and Development Board (HDB), which is in charge of building public apartments/flats (these house 80 percent of Singapore's population),
- The Public Works Department (PWD), which is in charge of building infrastructure such as roads,
- The Jurong Town Corporation (JTC), which is in charge of building industrial areas,
- The National Parks Board, which takes charge of the two national parks and two nature reserves in the country,

- The Parks and Recreation Department, which is in charge of green areas, parks and landscaping,
- The Ministry of Environment (the Pollution Control Department and the Environmental Health Division), which takes care of pollution control and cleanliness in the city,
- The Ministry of Defense,
- The Ministry of Trade and Industry, and
- The Economic Development Board.

Summary

The Environmental Pollution Control Act (EPCA) and Land Planning process are two instruments of policy to implement EIA in Singapore. Given the relatively effective and efficient centralized planning mechanism, the lack of an EIA law does not appear to have severely hampered environmental-management efforts. This experience of Singapore is largely unique, due to the country's small size, lack of natural resources, high population density and comprehensive planning process, but more importantly, a stringent enforcement system. Table A10 summarizes the potential of SEA in Singapore.

Table A10 Potential of SEA in Singapore

Dimensions/topics	Current status	Remarks
Political will	–	Strong interest and willingness of the government is available for environmental protection, but EA is undertaken through careful land planning and pollution control.
Legal mandate	×	Not available.
Administrative framework	–	MOEWR is responsible for overall coordination of environmental protection, nationwide. The URA is in charge of land planning.
SEA procedure/ Methodology/ guideline	×	Not available.
Technical know-how	×	Not available.
Experience in SEA implementation	×	Not available.
Public involvement	NA	Encouraged in the law.

√ : Positive, × : Negative, – : Neutral

The indicators/criteria adopted in identifying the grading of the listed components are selected based on the degree and influence that these indicators/criteria may have to describe the statutes of the relevant component (Briffett et al., 2003). The government's introduction and application of SEA is used as evidence to confirm political will. The legislation(s) on EIA/SEA is the most appropriate indicator of a legal mandate. Establishment of a Ministry of Environment and Planning or other authorities including staffing to be responsible for EIA and SEA is used for the administrative framework. Existence and the quality of the official document to guide the SEA implementation are used to describe the statutes of SEA procedure, guideline, and methodology. The ability of the workforce in designing, controlling, and monitoring EIA/SEA activities is used to define technical capacity. The number of EIA/SEA projects and quality of the report are adopted for grading of experiences in SEA implementation. Finally, public involvement is evaluated by both regulations and practical implementation.

ANNEX 11: THAILAND

EIA Development

EIA is required in Thailand for a wide range of project categories under the Improvement and Conservation of the National Environmental Quality Act (NEQA) (1975). The Minister prescribes the categories of projects that required an Environmental Impact Statement (EIS) – a list was issued in 1981. The Office of National Environmental Board (ONEB), which was first under the Office of the Prime Minister and later under the Minister of Science, Technology and Energy (MOSTE) discussed with project proponents, including government agencies responsible for the activities, projects with adverse environmental impact (JICA, 2002; Stærdahl et al., 2005).

In 2002 the office of Natural Resource and Environmental Planning and Policy (ONREPP) became the agency in charge of EIA. The ONREPP is within the newly created Ministry of Natural Resources and Environment (MONRE). MONRE replaced the Ministry of Science, Technology and Environment (MSTE) and took the responsibilities previously exercised by MSTE (Tan, 2003; Pantumsinchai, et al., 2004).

EIA System

*The Enhancement and Conservation of the National Environmental Quality Act (NEQA, B.E. 2535)*⁸

⁸ In 1996 the Cabinet approved the National Policy and Prospective Plan for the Enhancement and Conservation of National Environmental Quality, 1997-2016. This 20-year plan was mandated in NEQA/92. The Plan sets out general vision-specific goals and includes strategies to accelerate the rehabilitation of renewable resources as well as

was issued in 1992, and Part 4 of Chapter III relates Environmental Impact Assessment. Several notifications have been promulgated to implement the Act since then. Two are listed here (RIET, 2005):

- Notification 2535 of MOSTE issued under the Enhancement and Conservation of National Environmental Quality Act B.E. 2535. This refers to Types and Sizes of Projects or Activities of Government Agencies, State Enterprises or Private Persons Required to Prepare an Environmental Impact Assessment Report 1992 (24 August 1992).
- Notification 2536 of MOSTE issued under the Enhancement and Conservation of National Environmental Quality Act B.E. 2535 is for Prescription of Standard, Procedures, and Rules & Regulations & Guidelines for Creation of Reports on Environmental Impacts.

Coverage

As laid down in the MOSTE notification, EIA reports are currently required for 29 different types and sizes of projects or activities, ranging from public works such as dam or reservoir construction to private-sector projects such as petrochemical plant construction. EIA requirements for private enterprises extend to eleven types of plant-construction projects in industries such as petrochemical, oil refining,

environmental-management measures to address air and water pollution and solid and hazardous wastes.

iron and steel, and sugar. Construction of an industrial estate also requires an EIA (GEF, 1999). According to the coverage the current EIA in Thailand is project-based and SEA exclusive.

Procedure

The technical guidelines (GEF, 1999) required alternative studies, but no requirements for disclosure. The EIA procedure of private and government projects is not the same in Thailand (GEF, 1999). For private-sector development projects subject to EIA requirements, 75 days was required as the timing of processing EIA. The proponent of the project must prepare two copies of an EIA report—one copy for the OEPP, and the other for the government agency that has jurisdiction over the project.

On receiving an EIA report, the OEPP must examine the documents within fifteen days, and then, within the next fifteen days, refer the report together with comments based on a preliminary review to an expert review committee. This committee has forty-five days to review the referred report and to decide whether to give approval. However, if the report is deemed incomplete, the expert review committee will request the project applicant to submit a revised report. The committee then has thirty days to consider the revised EIA.

The government agency with jurisdiction over the project considers whether to grant a license after the EIA is approved by the expert review committee. An expert review committee is made up of a wide range of experts and authorized to approve or reject reports, and to direct an applicant to revise the report and/or submit additional information. There are five such committees covering five fields: industry, water resources, mining, public works, and housing development.

For government projects that require Cabinet approval, the procedure is slightly different from private-sector projects. In this case, the proponent of the project must submit an EIA report to the National Environment Board (NEB), which then reviews the report and hears the

opinions of the OEPP and expert review committee. The NEB reports its conclusions to the Cabinet. The Cabinet then considers whether to grant approval, having reviewed the project on the basis of the NEB recommendations and experts' opinions.

Improvement of the EIA

In 2003 the Minister of Natural Resources and Environment appointed a special committee to review the entire EIA process. The mission is to present the government with a new and improved EIA process to end, hopefully, all controversy. The committee identified and proposed solutions to eight major issues listed below (Pantumsinchai et al., 2004).

Types and sizes of EIA projects. To avoid some projects being left out of EIA, it is proposed that there be two levels of EIA—the initial environmental examination (IEE) and the full EIA. Projects with less environmental impact will be required to do only IEE, while projects with more impact will be required to do the full EIA. IEE can be done in less time, since it will use only expert judgment based on rapid assessment of (generally) secondary data. On the other hand, full EIA will require field data and involves careful analysis of major and minor impacts, as well as probability forecasts using mathematical models. The types and sizes of projects requiring only IEE or full EIA are specified.

Procedure of EIA. Five steps, and corresponding tasks, are proposed in the EIA Procedure: (1) Screening - site evaluation, local authorities' involvement; (2) Scoping - site selection, scope of EIA, public and stakeholders' involvement; (3) Report preparation - consultant selection, draft report preparation, data acquisition/public input/opinion; (4) EIA review - final-report preparation, EIA Expert Panel Review for private project submit to permitting authority, for government project submit to National Environmental Board and to the Cabinet; and (5) Monitoring - follow-up by authority, including monitoring by third-party.

Public Participation. All stakeholders must have a chance to participate in the EIA process. Twenty groups of stakeholders are identified, and the level of participation is divided into four levels as listed: (1) Informed/public disclosure; (2) Consulted/public hearing; (3) Involved in decision making/public committee; and (4) Voted/public consensus. The level of participation for each type of stakeholders varies depending on the step in the EIA process, the nature of the project, and their needs.

EIA Expert Panels. A roster of EIA experts is maintained with experts in all related areas. Expert panels can be specified for each project to include the necessary expert areas. Local expert panels will also be formed to review EIA for community-service projects, such as housing developments, condominiums, hospitals, hotels, and resorts.

EIA Fund. A separate EIA fund should be established with contributions from project owners. These funds would be used to support EIA review costs, expert panel fees, and monitoring costs. The manner of the EIA-fund management can be further debated.

Special EIA Organization. A special EIA organization is proposed as a government-supported organization independent from the office of Natural Resources and Environmental Planning and Policy (ONREPP). Its duty is to support and act as the secretary to the expert panels, perform EIA monitoring, manage the EIA Fund, conduct public-participation activities, and promote EIA knowledge.

EIA Consultant Registration. To promote the EIA consultant profession, five categories of EIA consultants should be registered with ONREPP, namely (1) Consulting firms; (2) EIA experts; (3) specialists in a particular fields; (4) EIA assistants and (5) Groups of persons. Consulting firms and groups of persons must have at least one fulltime EIA expert, two EIA specialists in different fields, and four EIA assistants.

Improvements to the old EIA process, proposed above, are expected to be implemented in 2006. The EIA process with public participation may take longer, but it should result in more acceptable solutions to the impacted public and save more time in the long run. The government should also make basic environmental data available for use in preparing EIA reports. Failure to consider an area's natural resources and its capacity to support a given project often results in controversy.

SEA

There is, to date, no mandatory SEA in Thailand. It is recognized that SEA is a tool to indicate the strengths and the weaknesses of an area or region in terms of its natural resources and environment. An analysis of this kind should be made available before a policy calls for the development of an area or region (Pantumsinchai et al., 2004). In June 2005 the ONEP published Interim Guidance Notes on piloting for the country EA system. The guidance covers CEA, SEA, etc. (Unkulvasapaul, 2005).

Lessons and Weaknesses

Several typical weak areas need to be improved for effective implementation of EIA in Thailand. Currently, some of the administrations in charge of EIA view the process as a heavy burden. The political will should be further strengthened through policy instruments, general awareness and education. The coverage of EIA may need to be expanded, since only twenty-two types of projects are required to submit EIA reports prior to project approval. Some types of projects are not required for EIA, even when they have significant environmental impacts, such as a central wastewater-treatment plant or nuclear-power-generating system (Tan, 2000; GEF, 1999). More detailed regulations are required in order to handle specific environmental issues—for instance, adequate emphasis on social-impact assessment in the EIA procedure. There is a lack of overseer agency and strategy for post-EIA monitoring (AITCV and ERMG/AIT, 2002). The technology capacity available on EIA implementation can not cope with the needs in

terms of both professional personnel and financial input. Public participation should be made compulsory, and the requirements must be concrete (Tan, 2000; GEF, 1999; AITCV and ERMD/AIT, 2002).

Summary

The EIA in Thailand has been in place for about twenty years. The current EIA is project-based and SEA-exclusive. To improve the current system and its implementation several areas have been identified. There is no SEA in Thailand so far. Table A11 summarizes the potential for SEA in Thailand.

Table A11 Potential for SEA in Thailand

Dimensions/topics	Current status	Remarks
Political will	√	Interim guideline on SEA was published by MONRE.
Legal mandate	×	Only for EIA, not for SEA.
Administrative framework	×	MONRE is responsible for overall coordination of EIA only, but lack of qualified staff is a problem.
SEA procedure/ Methodology/ guideline	-	Interim guideline is available for introductory purpose.
Technical know-how	×	Not available.
Experience in SEA implementation	×	No available
Public involvement	NA	Stipulated in EIA legal documentation but needs to be enforced.

√ : Positive, × : Negative, – : Neutral

The indicators/criteria adopted in identifying the grading of the listed components are selected based on the degree and influence that these indicators/criteria may have to describe the statutes of the relevant component (Briffett et al., 2003). The government's introduction and application of SEA is used as evidence to confirm political will. The legislation(s) on EIA/SEA is the most appropriate indicator of a legal mandate. Establishment of a Ministry of Environment and Planning or other authorities including staffing to be responsible for EIA and SEA is used for the administrative framework. Existence and the quality of the official document to guide the SEA implementation are used to describe the statutes of SEA procedure, guideline, and methodology. The ability of the workforce in designing, controlling, and monitoring EIA/SEA activities is used to define technical capacity. The number of EIA/SEA projects and quality of the report are adopted for grading of experiences in SEA implementation. Finally, public involvement is evaluated by both regulations and practical implementation.

ANNEX 12: VIETNAM

EIA Development

In Vietnam the Law on Environmental Protection (LEP) went into effect on January 10, 1994. It aims to preserve a healthy, clean, and beautiful environment, achieve environmental improvements, ensure ecological balance, prevent and overcome adverse impacts on people, nature, on environment, on the rational and economical exploitation, and utilization of natural resources.

EIA was first mentioned in the LEP. Article 18 stipulates that organizations and individuals must submit EIA reports to be appraised by the state management agency for environmental protection. The result of the appraisal should constitute of one of the bases for the competent authorities to approve the projects or authorize their implementation (SIDA, 2004).

The Ministry of Natural Resources and Environment (MoNRE) was created and replaced the ministry of Science, Technology and Environment (MoSTE) at the end of 2002. Today, MoNRE performs the functions of state management over land, water, and mineral resources, environment, hydro-meteorology, survey, and mapping for the whole country. It works on various tasks, including EIA with ministerial and provincial agencies, as well as with the National Assembly offices, and finally with the prime minister.

The creation of provincial Departments of Natural Resources and Environment (DoNREs) combined with environmental and land planning. The provincial authorities are

delegated to make decisions on numerous issues related to the use and management of local natural resources and environment. The Vietnamese Environmental Protection Agency (VEPA) is included in the state management; its main task is to monitor environmental measures. VEPA primarily monitors the actions project owners' mitigation actions and so forth constituted in the EIA report. Much of this responsibility, however, is decentralized to the DoNRE (Severinsson, 2004).

EIA Decree 175/CP, 1994

Government Decree on Providing Guidance for the Implementation of the Law on Environmental Protection (Government Decree No.175/CP), 1994 is an important legal document on EIA in Vietnam. A series of implementing regulations have been passed to date, some of which are listed below (Tan, 2000):

- Regulation No. 1807/QD-MTg on Regulations and Organization of the Appraisal Council on Environmental Impact Assessment Reports and Issuing of Environmental Licenses, (December 31, 1994). This Regulation was issued MOSTE to provide for the establishment of EIA Review/Appraisal councils. The regulation also prescribes the composition of the council and the terms of reference for its deliberations.
- Instruction No. 1420/QD-MTg for Guiding Environmental Impact Assessment to the Operating Units (December 26, 1994). This instruction

contains guidelines for the existing industries and enterprises (referred to as “operating units”) to submit EIA reports to the provincial and the local authorities.

- Instruction No. 490/1998/TT-BKHCMNT, (April 29, 1998). This contains the latest requirements for the format and content of EIAs as well as the specific procedures for submitting and appraising EIAs.

Decree 175/CP provides broad guidelines for (1) division of responsibilities in environmental protection among the ministries, provinces, and people organizations; (2) environmental-impact assessment; (3) environmental-pollution prevention and disaster control; (4) financial sources; and (5) environmental inspections and standards. Circular 490 (1998) provides new guidelines on setting up and appraising EIA reports. A new circular is about to come into effect (Obbard et al., 2004).

Coverage

Decree 175/CP stipulates the coverage of the EIA as (Article 9): the investors, project managers, or directors of the offices and enterprises belonging to the following areas must conduct assessment of environmental impact:

- Master plans for regional development, the zoning and plans for development of branches, provinces and cities directly under the central government, the planning of urban centers and residential quarters;
- The economical, scientific, healthcare, cultural, social, security, and defense projects;
- Projects being carried out on the territory of Vietnam with funds invested, assisted, granted or contributed by foreign organizations, individuals, or international organizations;
- Projects mentioned in items 1, 2, and 3 of this article being approved before January 10, 1994 but not yet implemented; and

- The economic, scientific, healthcare, cultural, security and defense units that have been operating before January 10, 1994.

The first category is plan-based or policy-related. So, the EIA is conceptually SEA-inclusive although no details of the procedure, methods and guidelines for plan- and policy-based on SEA have been provided. Limited practices on its application have been done (Dang, 2004).

Procedure

The regulation stipulated alternative studies and 60 days as the timing of processing EIA, but no requirements on disclosure. The EIA procedure in Vietnam can be categorized into four main steps as follows (Obbard et al., 2004):

- Screening to determine if the proposed project is to be subjected to the EIA procedure and classed as Category 1 or 2. Category 1 projects are those that have apparent potential to induce adverse environmental impacts, for instance, projects in or adjacent to environmentally sensitive areas or major industrial projects. Otherwise, projects are classified in Category 2, where EIA implementation is not mandatory.
- Preparation and submission of a form document, notably “Registration for Securing Environmental Standards,” for projects classified as Category 2. This document is submitted to the appropriate environment-management agency for appraisal.
- Preparation of a preliminary EIA report for projects classified as Category 1. A detailed EIA report is required after the authorization body approves the preliminary EIA report.
- Appraisal of the detailed EIA report conducted at different levels of authority, i.e., local, central, or national assembly, depending on the scale and nature of the project.

Report and Appraisal

The contents of the EIA report must include assessment of the current situation of the environment in the operating area of the project; assessment of the impact on the environment as a result of the activities of the project; and presentation of measures for environmental resolution.

At the central level, MoNRE appraises the report, at the local level provincial MoNREs appraise the reports if the project is not empowered to a specific area. At the central level in case of necessity, an appraising council shall be set up according to the decision of MoNRE. At the provincial level, the chairmen of the People's Committees of the provinces and cities under the central government will decide the establishment of appraising councils. The time for appraising an EIA report cannot be longer than two months from the date all related documents are received.

According to Article 17 of Decree 175, offices assigned to state management of environmental protection are responsible for the supervision of design and conducting environmental protection measures according to the suggestions of the appraising council. If project owners do not agree with the conclusion of the appraisal council, they have (according to Article 18) the right to complain to the office that decided the establishment of the appraisal council and to the upper-level office responsible for state management of environmental protection. The complaints must be considered and resolved in a maximum of three months from the date of their receipt.

The results of the appraisals over EIA reports are (according to Decree 175) classified into four categories for settlement (Article 20):

1. Permission to continue operations without environmental penalty.
2. Having to invest in building facilities to deal with waste materials.
3. Having to change the technology, to move to another place.

4. Having to suspend operations.

SEA Practices

SEA has already been contained conceptually in the Vietnamese legislative framework, for example the LEP, GD 175/CP and Circular No. 490/TT-BKHCMNT where "EIA not only must be carried out at project level, but also for master plans for development of regions, sectors, provinces, cities and industrial zones." There are several instances of applying SEA in Vietnam in recent years. The government is considering accommodating SEA in the new environmental legislation.

The Vietnam Capacity-21 project is organized by the Ministry of Planning and Investment (MPI) and Ministry of Science, Technology & Environment (MOSTE), and is aimed at building capacity of integrating environmental concerns into economic policy planning. This has been achieved by implementing the specifications of the United Nation's agenda, particularly by strengthening national and provincial investment-planning agencies, investment processes, and related environmental-management procedures. This project was completed in April 1997. As a result, several SEA studies have been undertaken including studies of the impact of policy reform of four sectors (Obbard et al., 2004).

Mekong Delta Master Plan was formulated to comply with the objectives specified in the Vietnam Capacity 21 Project (MPI-UNDP 1997) and was funded by the UNDP and executed by the World Bank and Mekong Secretariat from 1990 to 1994. The Mekong Delta area is a major challenge to the socioeconomic development of the country as many buildings are constructed in the flood plain, and a suitable drainage infrastructure is not present due to funding constraints. Issues of sustainable development and environmental protection have been examined and addressed in the socioeconomic master plan in light of the vulnerability of the ecosystem in this region. The Mekong Delta Master Plan concluded that existing development of land for agri- and aquaculture

has caused adverse impacts on soil and water quality, which has resulted in reduced agricultural yields. As a result of the study, forest clearance is now under control, and the application of highly toxic and long-lasting pesticides has been reduced. Crop diversification has been adopted and recommended as an important measure to avoid soil degradation (Obbard et al., 2004).

In recent years, there have been several SEAs undertaken. Typical examples are (Dang et al., 2005): SEA of Halong Bay – Quang Ninh Province conducted by the Institute of Geography-Vietnamese Academy of Sciences and Technology (VAST) and the Vietnam Environmental and Sustainable Development Institute (VESDI) (Tran et al., 2004); Strategic Environmental Assessment (SEA) and Social and Economic Development Plan of the Thai Nhuyen province and Strategic Environmental Assessment (SEA), Social and Economic Development Plan of Quans Nixh province, both conducted by the Civil Engineering Department of Hanoi University. It is expected that the legal mandate of SEA will be introduced in the new Law on Environment Protection (Dong, 2005).

Lessons and Weaknesses

Drawn from the literature the lessons and weaknesses in implementing EIA and SEA in Vietnam are summarized as follows:

Weak Public Participation. Public participation is mentioned in the guidelines but without compulsory requirements. Furthermore, the current EIA system lacks procedures and

requirements for information disclosure and distribution. It is still a new issue in Vietnam (Obbard et al., 2004; Severinsson, 2004; & ³SIDA, 2004).

Lack of Technology Capacity. So far the EA guidelines are available only in regard to limited sectors such as tourism, hydropower, and mining. Formulation of the guidelines of other sectors might be helpful (Obbard et al., 2004). Technological capacity on policy- and plan-based EIA is almost not available it needs to be introduced and developed. Resources should be increased in staff training, equipment purchasing, etc (AITCV and ERMG/AIT, 2002).

Weak Enforcement. Enforcement is key for successful implementation. Penalties for compliance failure, with EIA procedures, are inadequate. Enforcement should be carried out with policy instruments, institutions, and funding.

Summary

The current EIA system in Vietnam is basically consistent with international practice (Obbard et al., 2004). The plan is within the coverage of the EIA, so the EIA is conceptually SEA-inclusive. Although policy is not accommodated, and there is a lack of technological capacity. The government realizes the importance of SEA, and some initiatives have been undertaken. To implement EIA and SEA effectively, enforcement by public participation, technology capacity, and resources allocation should be given high priority. Table A12 summarizes the potential for SEA in Vietnam.

Table A12 Potential for SEA in Vietnam

Dimensions/topics	Current status	Remarks
Political will	√	Interest/willingness of the government is obvious in SEA application.
Legal mandate	√	The current EIA regulation is SEA-inclusive.
Administrative framework	–	MoNRE is responsible for overall coordination nationwide, but lack of qualified staff is a problem.
SEA procedure/ Methodology/ guideline	×	Not available, only established for EIA.
Technical know-how	–	Expertise available in administration and in academia based on pilot scale SEA experiences.
Experience in SEA implementation	–	Some practices of pilot-scale SEA projects
Public involvement	–	Stipulated in the legal EIA document but with less concrete requirements.

√ : Positive, × : Negative, – : Neutral

The indicators/criteria adopted in identifying the grading of the listed components are selected based on the degree and influence that these indicators/criteria may have to describe the statutes of the relevant component (Briffett et al., 2003). The government's introduction and application of SEA is used as evidence to confirm political will. The legislation(s) on EIA/SEA is the most appropriate indicator of a legal mandate. Establishment of a Ministry of Environment and Planning or other authorities including staffing to be responsible for EIA and SEA is used for the administrative framework. Existence and the quality of the official document to guide the SEA implementation are used to describe the statutes of SEA procedure, guideline, and methodology. The ability of the workforce in designing, controlling, and monitoring EIA/SEA activities is used to define technical capacity. The number of EIA/SEA projects and quality of the report are adopted for grading of experiences in SEA implementation. Finally, public involvement is evaluated by both regulations and practical implementation.

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