

Topic 14 – Strategic Environmental Assessment

Objective

To gain an understanding of:

- the rationale and objectives of Strategic Environmental Assessment (SEA);
- the institutional arrangements that are in place to undertake SEA;
- the scope of application of SEA in relation to levels and types of decision-making;
- key principles of SEA and elements of good practice; and
- the procedures and methods that are used to carry out this process.

Relevance

The introduction of SEA extends the aims and principles of EIA upstream to the higher, pre-project level of decision-making. It affords an important new means of analysing and addressing the environmental effects of policies, plans, programmes and other proposed strategic actions. All those involved in EIA practice should have an understanding of SEA – what it is, why it has emerged and how it contributes to informed decision-making in support of environmental protection and sustainable development.

Timing

Note: This Topic is in two parts each of two-hours (not including training activity).

Important note to trainers

Presentation of this topic should be tailored to participants' interests and their involvement at policy making levels. The relevance of some sections of the materials will depend on how widely SEA has been accepted and whether or not there is institutional support locally or in the region.

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Information checklist

SEA is not as widely practised as project EIA, and therefore some of the resources listed below may not be readily available.

Nevertheless, it will be helpful to obtain or develop the following, as appropriate:

- details of recent or proposed policies, plans or laws that could result in significant environmental effects and that might be subject to an SEA;
- background information on the operation of strategic decision-making processes (e.g. related to policies, plans and programmes);
- any examples of SEA or equivalent processes that have been applied locally;
- other reports or studies on or relevant to the environmental effects of policies, programmes or plans, for example:
 - state of the environment reports
 - national sustainable development plans
 - environmental or sustainability indicators;
- contact names and telephone numbers of people, agencies, organisations and environmental information data resource centres able to provide assistance with SEA; and
- other resources that may be available such as courses in specific analytical or methodological techniques, videos, journal articles, computer programmes, lists of speakers, and case studies.

Session outline

Note: This session has been divided into two parts. Part 1 is intended to provide an introduction to SEA concepts and principles. Part 2 is intended for those participants who require further information on different forms of SEA and elements of procedure, methods and practice. By completing both parts trainers can provide a comprehensive overview of the subject.

Topic 14 Part 1

Welcome the participants to the session by introducing yourself and getting them to introduce themselves. Outline the overall coverage of the session, its objectives and why they are important.

This topic introduces the concept and practice of Strategic Environmental Assessment (SEA), and places it within a broad, comparative framework. Although relatively new, there is increasing recognition of the importance of SEA as a tool for analysing and addressing the environmental effects of policy, plans, programmes and other proposed strategic actions. In comparison to EIA, the nature and scope of SEA processes are characterised by greater diversity, and this point needs to be emphasised when considering their potential application to levels and types of decision-making that are relevant locally.

Briefly introduce the concept of SEA. Note that it can be variously defined and understood. Ask the participants to adopt or adapt a definition that best meets the local situation and requirements.

The term Strategic Environmental Assessment (SEA) is variously defined and understood. It refers here to a formal process of systematic analysis of the environmental effects of development policies, plans, programmes and other proposed strategic actions. This process extends the aims and principles of EIA upstream in the decision-making process, beyond the project level and when major alternatives are still open.

SEA represents a proactive approach to integrating environmental considerations into the higher levels of decision making, consistent with the principles outlined in Agenda 21. Often, broader, less detailed assessments are required at these levels compared to project EIA. A comparison of these and other key characteristics of EIA and SEA can be found in Box 1. Both processes have common elements, but increasing modification to procedure and methodology are necessary when moving from the project to the policy level.

To date, only a relatively small number of countries and international organisations have made formal provision for SEA. These frameworks vary, sometimes substantially, and indicate the flexible adaptation of SEA to different levels and types of decision-making. As presently institutionalised, SEA is a multi-stage process that encompasses a spectrum of approaches and diverse



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arrangements, procedures and methods. These include EIA-based environmental appraisal and integrated policy and planning systems, and range in emphasis from assessing the impact of implementing a policy or plan to applying SEA iteratively to build environmental aspects throughout the formulation of a proposed approach.

Despite taking different forms, SEA systems have a common purpose: to take account of environmental concerns in policy and planning decision-making, thereby contributing to sustainable development. However, there are varying interpretations of the role, scope and process of SEA; for example with regard to substantive aims, contribution to environmental protection and sustainable development, inclusion of economic and social factors, and minimum legal and procedural requirements. These issues are reflected in the menu of definitions of SEA outlined in the Annex to this topic, which can be reviewed to identify aspects that are relevant to a given country.

Box 1: Some comparisons between EIA and SEA	
EIA of projects	SEA of policy, plans and programmes
Takes place at end of decision-making cycle	Takes place at earlier stages of decision-making cycle
Reactive approach to development proposals	Pro-active approach to development proposals
Identifies specific impacts on the environment	Also identifies environmental implications, issues of sustainable development
Considers limited number of feasible alternatives	Considers broad range of potential alternatives
Limited review of cumulative effects	Early warning of cumulative effects
Emphasis on mitigating and minimising impacts	Emphasis on meeting environmental objectives, maintaining natural systems
Narrow perspective, high level of detail	Broad perspective, lower level of detail to provide a vision and overall framework
Well-defined process, clear beginning and end	Multi-stage process, overlapping components, policy level is continuing, iterative
Focuses on standard agenda, treats symptoms of environmental deterioration	Focuses on sustainability agenda, gets at sources of environmental deterioration

Source: amended from CSIR (1996)

Outline the rationale and aims of SEA, and indicate the benefits that might be expected from the implementation of this process in a given country using information gained in the training needs analysis (Topic C). Ask participants to contribute to this review.



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The premise of SEA can be simply stated: EIA on its own is not enough. Only a relatively small proportion of the proposals and decisions made by governments are subject to examination. SEA rounds out and scales up the coverage from projects to include policy, plans, programmes and other proposed strategic actions with potentially important environmental effects. This process gets at the *sources* of environmental impacts, rather than treating only the *symptoms* in relation to specific projects (as identified in Box 1).

By doing so, SEA responds to what the Brundtland Commission called 'the chief institutional challenge of the 1990s'. From this perspective, SEA facilitates informed and integrated decision-making through the provision of environmental information at the same time and on par with social and economic aspects. The introduction of SEA has been driven by both procedural and substantive trends and imperatives (see Box 2). Often called the bottom-up and top-down strategies, these are aimed at:

- reinforcing project-level EIA; and
- promoting environmentally sound and sustainable development.

Despite its wide use and acceptance, project EIA has acknowledged shortcomings as a tool for minimising environmental effects of development proposals. It takes place relatively late at the downstream end of the decision-making process, after major alternatives and directions have been chosen. Normally at this stage, the issues have narrowed to how a project should be implemented environmentally, rather than whether, where and what form of development is environmentally appropriate. By addressing these issues upstream in the decision-making process, SEA can help to focus and streamline EIA of any subsequent projects.

More optimally, SEA is a proactive tool to anticipate and prevent environmental damage caused by sector policies and plans enacted by development agencies. A key objective is to provide early warning of large scale and cumulative effects, including those resulting from many smaller-scale actions that otherwise would fall under thresholds for triggering a project EIA. For example, an SEA of a land use plan can take account of biodiversity losses associated with proposed developments, or an SEA of a national road building programme can address the implications for climate warming of increased CO₂ emissions in light of commitments under the Kyoto protocol and against other transport alternatives.

Other potential policy and institutional benefits can be gained from the use of SEA as indicated in Box 3. These derive from but extend beyond the gains that occur when the main aims of SEA are achieved. They centre on changes to the culture of decision-making that are thought to accompany what the World Bank refers to as 'mainstreaming' the environment, i.e., making it part of the mandate and operation of economic agencies. Such changes are expected to be long term

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and gradual, but some could be instituted sooner (e.g. meeting obligations of a country under the conventions on biodiversity and climate warming).



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Box 2: Aims and objectives of SEA

To support informed and integrated decision-making by:

- identifying environmental effects of proposed actions
- considering alternatives, including the best practicable environmental option
- specifying appropriate mitigation measures

To contribute to environmentally sustainable development by:

- anticipating and preventing environmental impacts at source
- early warning of cumulative effects and global risks
- establishing safeguards based on principles of sustainable development

To reinforce project EIA by:

- prior identification of scope of potential impacts and information needs
- addressing strategic issues and considerations related to justification of proposals
- reducing the time and effort necessary to conduct individual reviews

Source: amended from Sadler and Brook, 1998.



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Box 3: Some wider potential policy and institutional benefits from use of SEA

- mainstreaming environmental objectives
- incorporating sustainability principles into policy-making
- meeting obligations under international environmental agreements
- ‘sustainability assurance’ for development proposals and options
- instituting environmental accountability in sector-specific agencies
- greater transparency and openness in decision-making

Briefly trace the background, evolution and current status of SEA, noting relevant local trends and developments. Ask participants to help identify these.



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SEA trends and developments can be placed in the broader context of EIA history (see Topic 1–*Introduction and overview of EIA*). Key legal and policy milestones are listed in Handout 14-1. In broad outline, the path of SEA development can be divided into two main phases with a third one imminent. These have been called:

- *the formative stage* – from 1970 to 1989;



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- *the formalisation stage* – from 1990 to 2000; and
- *the extension stage* – 2001 onward.

During the *formative stage*, certain legal and policy precedents for SEA were established by the introduction and early implementation of EIA. The US *National Environmental Policy Act* (NEPA, 1969) was intended to apply to 'legislation and other major actions'. For much of this period, however, its scope of application beyond the project level was limited, primarily focused on programmes. In a few other countries, elements of SEA were recognisable in certain EIA processes, for example public inquiries and environmental reviews conducted in Australia and Canada. By the end of the 1980s, other countries and international organisations had begun to make some provision for SEA (see Handout 14-1).

During the *formalisation stage*, SEA systems were established by an increasing number of countries in response to *Agenda 21* and other policy statements on sustainable development. These systems were and still are relatively diversified. Some countries made provision for SEA of policy, plans and programmes separately from EIA legislation and procedure (e.g. Canada, Denmark). Other countries have introduced SEA requirements through environmental appraisal (e.g. UK), in reforms to EIA legislation (e.g. Czech Republic, Slovakia) or as part of resource management or biodiversity conservation regimes (e.g. New Zealand, Australia). Certain lending and development programmes financed by the World Bank became subject to sectoral and regional environmental assessment (EA).

An *extension stage* is set to begin, marked by the widespread adoption and further consolidation of SEA. Key driving forces will be the transposition of the recently concluded European Directive on SEA by member states (to enter into force in 2004) and later by accession countries; and the negotiation of an SEA Protocol to the UNECE Convention on Transboundary EIA by signatory countries (with a provisional date of May 2003 for completion). These and other international legal and policy developments (discussed later) indicate a possible tripling of the number of countries that make provision for SEA over the next decade.

Discuss the scope of application of SEA to different levels of decision-making, including policy, plans and programmes. Ask the group to identify proposed actions that are subject to some form of SEA already or that could benefit from the application of this process.

In principle, SEA can apply to a wide range of proposed actions above the project level. The scope of SEA application and relationship to different levels and types of development decision-making are depicted in Figure 1. It illustrates SEA as a multi-stage process that encompasses policy, plans and programmes (and, in certain jurisdictions, legislative bills and other instruments). These terms mean different things in different countries (see Box 4), and the scope of application of SEA will be defined by what is understood to be a policy, plan or programme within a particular jurisdiction.

An indicative list of areas covered already by some form of SEA can be found in

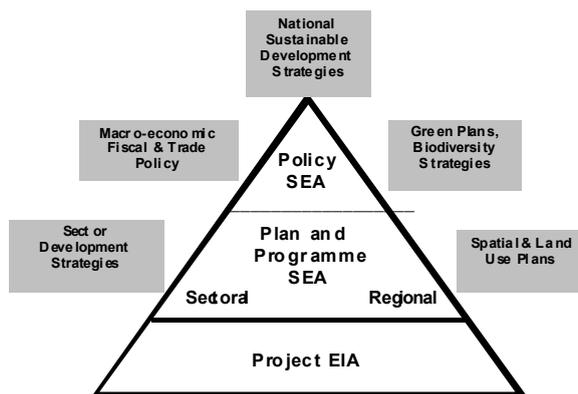
Box 5. Most attention is given to proposed actions in specific sectors that are known or likely to have significant environmental effects. Examples include energy, transportation and industrial development. Other areas commonly subject to SEA include spatial plans, regional development programmes and resource management strategies. As a rule of thumb, candidate areas for SEA include strategic proposals that concern or affect use of land and natural resources, extraction of raw materials, production of chemicals and other hazardous products, and/or the generation of pollutants, wastes and residuals. These areas continue to be extended.

In practice, the scope of application of SEA is incomplete and highly variable, both across jurisdictions and in relation to areas and processes of decision-making. So far, few if any countries or international organisations have a comprehensive SEA system in place, one that applies to all strategic actions likely to have significant environmental effects. Most commonly, SEA is applied at the level of development plans and programmes. Policy level applications are less common, but arguably even more important for leveraging a change in direction toward environmental protection and sustainable development.

Generally, policies are understood to stand at the apex of a decision-making hierarchy, and guide or set a context for plans and programmes (see Figure 1). An integrated framework may be represented as a logical sequence of proposed actions and linkages. Policies lead to plans and programmes, both sectoral and spatial (e.g. land use plans), some of which, in turn, initiate and fix the location of specific projects and activities. Where this arrangement is in place, it permits a tiered approach to SEA and EIA, in which each stage sets up the next as part of a rolling review of policy, plan and project development.

In many countries, however, this idealised framework may be absent, fragmentary or approximated only partially. More likely, many aspects of policy, plan and programme development will be incremental rather than systematic. How this process operates needs to be understood in order to apply SEA successfully in a given country. In turn, policy, plan and programme development will reflect the prevailing 'political culture', the rules and norms by which decisions are made.

Where SEA is not yet in place or is incomplete, a country may introduce SEA independently or in response to the requirements of multi-lateral financial institutions (see below). In either case, 'mapping' the types and process of decision-making in sectors known to have environmental effects can be instructive. This schematic outline can indicate how SEA might be linked and adapted to the prevailing structure of decision-making, or its role extended. For this exercise, use may be made of materials gathered from the Training Needs Assessment, as well as drawing on the local knowledge of participants.



Source: Sader (1994)

Figure 1: SEA in relationship to other decision-making processes

Box 4: A generic definition of policies, plans and programmes

Often there is no clear distinction between what constitutes a policy, plan or programme. A generic definition is:

- *Policy* – guiding intent, defined goals, objectives and priorities, actual or proposed direction
- *Plan* – strategy or design to carry out a general or particular course of action, incorporating policy ends, options and ways and means to implement them
- *Programme* – schedule of proposed commitments, activities or instruments to be implemented within or by a particular sector or area of policy

In practice, these terms are overlapping and mean different things in different countries. This is especially the case with plans and programmes, which are used interchangeably in many jurisdictions. However, the meaning of these terms only need be understood generically. *For a given country or jurisdiction, the important point is to apply SEA to what is defined or normally considered to be a policy, plan or programme.*

Box 5: Indicative list of areas subject to SEA

- sector-specific policy, plans and programmes
- spatial and land use plans
- regional development programmes
- natural resource management strategies
- legislative and regulatory bills
- investment and lending activities
- international aid and development assistance
- structural adjustment funds and operations
- macro-economic policy
- budgets and fiscal plans



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- international trade agreements

Source: amended from Partidario (2001)

Summarise principles and elements for SEA good practice, and discuss their relevance for local use and application.



14-2

SEA takes place under a diverse set of arrangements and decision-making contexts. There is no single model of or best approach to SEA. Instead, a number of general principles of SEA good practice have been drafted, which apply to and underpin the different forms of SEA noted previously. The guidelines described below were developed through the international study of EA effectiveness, and have been subject to further review by SEA administrators and practitioners at international workshops (see Handout 14-2 for a more detailed list).



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A hierarchy of principles can be identified, based upon the EIA core values and principles described in Topic 1 – *Introduction and overview of EIA*. The basic principles for effective EIA issued by the International Association for Impact Assessment (IAIA) are understood to apply to SEA, but to require further elaboration to take account of their differences as indicated earlier in Box 1. Guiding principles for SEA process design and implementation are described in Box 6 below. They lead toward identification of performance criteria for the conduct and administration of SEA (currently being developed by an IAIA working group, see www.iaia.org).



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Enabling conditions for meeting these guiding principles are established through appropriate institutional arrangements. These include:

- clear legal or administrative/policy mandate;
- explicit scope of application to decision-making;
- requirements and responsibilities for compliance;
- guidance on procedure and process to be followed;
- provision for administrative oversight; and
- mechanisms for quality control, including review of SEA implementation and outcomes.

When introducing or strengthening these arrangements, a number of ‘factors’ can contribute to their successful implementation. The following ‘reality checks’ can be made based on lessons from international experience:



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- promote SEA as a bonus not a burden;
- encourage creativity and innovation;
- tailor the approach to the requirements of decision makers;
- provide start-up help and assistance wherever possible;
- build a knowledge base through ‘hands on’ experience; and
- learn by doing when applying new methods and procedures.

Further guidance on applying the principles listed in Box 6 is provided by operational rules of thumb for SEA good practice. These include:



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- begin as early as practicable in the process of policy or plan formulation;
- keep in mind that the purpose of SEA is to inform decisions not to produce a study;
- provide the right information at the right time for decision-making;
- focus on the comparison of major alternatives;
- carry out an appropriate form of analysis – impact assessment or policy appraisal;
- use the simplest procedures and methods consistent with the task;
- look to gain environmental benefits as well avoid adverse impacts; and
- review and document the outcomes of the SEA process.

Box 6: Guiding principles for SEA process design and implementation

- *fit-for-purpose* – the SEA process should be customised to the context and characteristics of policy and plan making
- *objectives-led* – the SEA process should be undertaken with reference to environmental goals and priorities
- *sustainability-driven* – the SEA process should identify how development options and proposals contribute toward environmentally sustainable development
- *comprehensive scope* – the SEA process should cover all levels and types of decision-making likely to have significant environmental and health effects
- *decision-relevant* – the SEA process should focus on the issues and information that matter in decision-making
- *integrated* – the SEA process should include consideration of social, health and other effects as appropriate and necessary (e.g. if equivalent processes are absent)
- *transparent* – the SEA process should have clear, easily understood requirements and procedures
- *participative* – the SEA process should provide for an appropriate level of public information and involvement
- *accountable* – the SEA process should be carried out fairly, impartially and professionally having regard to the requirements in force and internationally accepted standards, and subject to independent oversight and review
- *cost-effective* – the SEA process should achieve its objectives within limits of available policy, information, time and resources

Source: Sadler and Verheem, 1996; Sadler and Brook, 1998.

End of Topic 14 Part 1

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Topic 14 Part 2

Introduce the second section of Topic 14, which covers institutional arrangements, procedures and methods for carrying out SEA and some future directions. Begin the session by outlining the different types of provision that are made for SEA and the pros and cons of the institutional arrangements that are in force. Consider which framework(s) might be adapted when introducing SEA in a given country, and note any barriers which may stand in the way.

A number of countries and international organisations have made formal provision for some type of SEA or a near equivalent process. The legal and administrative arrangements for SEA vary in mandate, scope, elements of procedure and relationship to decision-making. Using these points of reference, a comparison of different types of institutional frameworks can be found in Handout 14-3. The examples are illustrative rather than definitive. However, the countries and international organisations listed have relatively well-established SEA systems (or, in the case of the European Directive, can be expected to be important in extending and consolidating formal arrangements).



14-3

Four main points stand out from the description of SEA institutional frameworks in Handout 14-3:

Formal provision for SEA is made through both law and policy.

EIA legislation mandates the SEA process in some countries. Where separate provision is made for SEA, it is usually through administrative order or policy directive (although this proportion will change when the European SEA Directive comes into force). A few countries have more than one type of provision for SEA and/or have integrated the process within a resource management, land use or development planning system.

There is limited coverage of policy proposals and draft legislation.

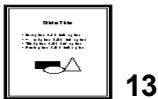
Policy level SEA systems apply to high-level processes of decision-making (e.g. submissions to Cabinet and Parliament). In some countries, they are characterised by minimal procedure and flexible implementation. In others, EIA-based legislation applies specifically or implicitly to policy (although it is not always implemented. However, this situation may be changing as the listing of recent developments in Handout 14-1 indicates).

Plan and programme level SEA systems are based mainly on or correspond to EIA provision and procedure.

The areas and sectors subject to review may be defined generally or listed specifically (e.g. plans and programmes that initiate or fix the type and location of specific projects). Appraisal-based systems are closely related but applied as an integral, iterative part of the plan-making process, rather than as a separate, formalised procedure.

SEA arrangements are diversified, far more than those in place for EIA.

Five types of SEA systems may be recognised in the institutional frameworks outlined in Box 7. These define a range of options for possible consideration by countries that currently have no formal provision for SEA but are moving in that



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direction or intend to strengthen existing SEA process elements.

Other countries, states in federal jurisdictions and international organisations, additional to those listed in Box 7 and Handout 14–3, have established SEA systems at an equivalent level. Many more, including transitional and developing countries have some experience of SEA or related areas and aspects. Examples include domestic processes of sector and spatial planning, or preparing national environmental action plans, environmental overviews or other reports required as part of international lending and assistance activities.

A SWOT analysis of these processes and their institutional strengths, weaknesses, opportunities and threats can supplement information from the training needs analysis and decision mapping (described in Part 1 of this Topic). This analysis could indicate the most appropriate arrangements for:

- introducing SEA within a given country, which may be different from those arrangements in force for EIA, or what is required elsewhere; or
- alternative or equivalent means of integrating environmental considerations into policy and plan-making.

Box 7: Different types or institutional models of SEA systems

- *EIA-based: SEA* – carried out under EIA legislation (e.g. Netherlands) or as separately administered but related procedure (e.g. Canada)
- *Environmental appraisal* – SEA provision is made through a comparable, less formalised process of policy and plan appraisal (e.g. UK)
- *Dual-track system* – SEA arrangements are differentiated and implemented as separate processes (e.g. the Netherlands' environmental test (or appraisal) of legislation and SEIA of specified plans and programmes)
- *Integrated policy and planning system* – SEA elements are part of effects-based policy and plan-making (e.g. New Zealand)
- *Sustainability appraisal* – SEA elements are replaced by integrated (environmental, economic and social) assessment and review of major policy and planning issues (e.g. Australia, Resource Assessment Commission, now disbanded, and UK sustainability plans, now being rolled out)

Now describe the main forms of SEA of policy, plans and programmes, emphasising those that are most relevant to the issues and realities in a given country. Ask the participants how chosen forms could be modified and adapted to purpose.

The institutional arrangements described above incorporate a number of different forms of SEA. A differentiated, rather than 'one-size-fits-all', approach is taken to address the levels and types of strategic decision-making described in Part 1 of this Topic (refer back to Figure 1). The main, generic forms of SEA are described in Box 8, comprising policy, spatial plan and sector-specific programmes. Particular reference is made to SEA instruments that are used already or may be potentially applicable in many developing countries. Further information on SEA practice and experience in these areas can be found in the



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companion volume (*Environmental Impact Assessment and Strategic Environmental Assessment: Towards an Integrated Approach*).



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Box 8: Generic forms of SEA of policies, plans and/or programmes

- *Policy SEA* – review of proposed government actions and options at the broadest level; includes potentially wide range of decisions in the form of guidelines, statements, position papers, legislation and strategies relating to specific sectors (e.g. national energy policy) or applying government wide (e.g. privatisation, trade liberalisation); and can be extended to audit or reassessment of long established policies that have adverse environmental effects (e.g. agricultural subsidies).
- *Sector plan and programme SEA* – review of a development or investment programme for a particular sector (e.g. energy, transport or agriculture); includes evaluation and comparison of the environmental effects of major alternatives (e.g. demand versus supply measures and mix of fuel sources for power generation); and can be extended to any series of projects that, when grouped together (e.g. by stage of technology), can have potential cumulative effects.
- *Spatial plan and regional SEA* – review of multi-sector development or investment programme for a particular region (e.g. river basin, coastal zone or urban area) or a land use plan for an officially designated area; includes evaluation and comparison of the environmental effects of alternative strategies and measures for plan implementation; and can be extended to regional or ecosystem assessment of cumulative effects on resource potentials, biodiversity or other aspects of natural capital stock.

Sources: adapted from Goodland (1998); World Bank (1993; 1996).



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Policy SEA

Policy proposals – whether stated or enacted in law – are the most critical point of entry for SEA to influence the course of development. However, law and policy development traditionally is given little or no external scrutiny, and SEA has proven difficult to apply at the highest level. This tradition is deeply rooted in the structure of political power and often reinforced by constitutional conventions, such as Cabinet secrecy. Political will or acceptance is a prerequisite for the application of policy level SEA.

In addition, policy-making processes are not necessarily straightforward. Aspects to watch for when considering the way forward for SEA include the following:

- Many policies evolve in an incremental and non-systematic fashion, or are defined by standing practices. In these cases, an environmental policy audit may be more suitable than an SEA.
- Often, policies in sectors known to have environmental effects are formulated in isolation or with little reference to their relationship to other areas (e.g. transport and energy). In these cases, SEA may need to consider the effects across policy boundaries, noting any inconsistencies.

- Policy outcomes can be highly uncertain, affected by many intervening factors. In these cases, SEA can address significant environmental *implications* and *issues*, rather than impacts *per se* (which can be clarified later by tracking policy implementation).
- Environmental concerns often do not weigh heavily on major policy initiatives, which may be off-limits to SEA or subject only to limited review. In these cases, SEA still can help to mitigate the effects of their implementation (e.g. conclusion of an side agreement on environmental cooperation under the North American Free Trade Agreement).

These points also help explain why certain countries have instituted policy-level SEA on a non-statutory basis, using minimal or modified procedure to review legislative and other government proposals. For example, in the Canadian, Danish and Dutch systems, SEA of policy and legislative proposals is broad and qualitative, with relatively brief documentation of environmental effects. In these countries, the SEA process is also connected to the highest levels of political decision-making. Recent guidance issued as part of reforms to Canada's process calls for SEA to be linked more closely to the sustainable development strategies prepared by federal agencies.

More formalised procedure based on EIA legislation can be appropriate if policies are detailed and formulated by a systematic and transparent process. The procedure followed corresponds more to plan and programme assessment, including detailed analysis and greater public input. This approach is applied in certain transitional countries (e.g. Czech Republic, Poland, Slovakia) and may have wider application in Central and Eastern Europe. With certain adaptations, a similar approach to SEA of policy may be used by developing countries with centralised structures of decision-making (as suggested by SEA developments and capacity building activities taking place in China and Vietnam).

Sector plan and programme SEA

SEA of plans and programmes proposed for specific sectors is a long-standing process. It has been applied in the USA for more than twenty years at both federal and state levels (although the NEPA process is reported to be still under-used at the programmatic level). A number of other countries also have considerable experience with this form of SEA, including the Netherlands where it is mandatory for sector (and spatial) plans and programmes listed in the EIA Decree (e.g. waste management, electricity generation, drinking water supply). The European Directive includes a larger number of sectors that either automatically require or may be subject to SEA.

Internationally, the World Bank has made increasing use of what it defines as sectoral EA, broadly commensurate with the trend towards more broadly based programmatic lending (e.g. structural adjustment funds). Typically, this form of SEA is prepared for plans and programmes that finance a number of sub-projects. It has been applied to the road, water, power, agriculture and urban development sectors in all major regions of Bank operations. Some borrowing countries have carried out SEA for a number of Bank financed programmes (e.g. India) but it has been little used in other regions (e.g. Sub-Saharan Africa).



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Experience to date indicates that SEA usually takes place after the scope and objectives of a plan or program are defined. So far, it has played a limited role in consideration of alternative investments, and, in some cases, an SEA is prepared only when a plan or program has been finalised and project priorities are defined. Terms of Reference for sectoral EA suggest its use is intended primarily to establish a framework for EIA at the sub-project level, and secondarily to identify significant environmental issues and any policy and institutional measures to address them. In practice, sectoral EA is less effective in meeting the second objective.

Other approaches that are used by or relevant to developing countries include the environmental overview, which is applied internally by UNDP, and what is termed Strategic Environmental Analysis (SEAN), now used by the Netherlands Development Organisation. The environmental overview is a flexible tool that is reported to be effective in assisting with the rapid formulation of a range of sector assistance programmes. It is also seen as having the potential to work at other levels and in varied settings. SEAN is a more comprehensive and participatory approach to strategic planning, which so far has been applied mainly at the regional level in developing countries (described below).



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Spatial plan or regional SEA

SEA of spatial or land use plans also dates back to the formative phase of EIA in the USA. Federal land use plans to which NEPA applies include those prepared for multi-purpose public lands, national forests and wildlife management zones, as well as for national parks and other strictly protected areas. In California, SEA applies to many types of spatial plans, including those prepared for cities and counties and for regional transportation, infrastructure, parks and waste disposal. Similar SEA processes are in place elsewhere, including the UK, for development plans at the county level, and the Netherlands for regional waste management and urban development plans. The European Directive on SEA also applies to spatial plans.

Land use plans prepared for officially designated areas are usually undertaken by a prescribed or defined procedure and the integration of SEA is relatively straightforward. In the UK, for example, SEA or environmental appraisal is used to inform each stage of plan-making. This process assesses environmental effects iteratively rather than only at the draft stage or with regard to plan implementation. It is intended to lead toward sustainable development by assessing the effect of plan objectives, alternatives and proposals on global change, natural resources and local environmental quality (and is now backed by a new wave of sustainability based regional plans).

Internationally, the Regional Environmental Assessments (REA) carried out for World Bank financed investment programmes correspond to SEA of spatial plans. REA is intended to apply to investment programmes for a particular region, such as a watershed or coastal zone. This approach is used where a number of development activities with potentially significant cumulative effects are planned for the same area (normally defined by physical or ecological boundaries). In such cases, an REA can have major advantages over individual project EIAs. So far, however, experience with REA has been limited by comparison to the number and types of sector EA reported above.

Other approaches used by or relevant to certain developing countries include:

- *SEA of regional development plans (RDP)* – required by the European Union as part of the programme by which accession countries of Central and Eastern Europe achieve social and economic cohesion. There are similar requirements for EU structural funds as set out in *Handbook on Environmental Assessment of Regional Development Plans and Structural Funds* (<http://europa.eu.int/comm/environment/eia/home.htm>).
- *SEA of spatial and regional plans as part of bilateral assistance* – some limited and informal use was reported by the OECD Working Party on Development Assistance and Environment. Some of the reviews of development cooperation carried out by the Netherlands EIA Commission, for the Ministry of Foreign Affairs, are of this type.
- *SEAN process to formulate sustainable development plans and strategy* – applied formally and informally to support broad, decentralised processes in a number of countries and spatial contexts. A web site gives updated information on the process and its applications for potential users (<http://www.seanplatform.org>).
- *SEA of district and territorial development plans in Hong Kong SAR* – a number of these have been completed in accordance with an executive directive. Of particular interest may be the SEA of the medium and long-term land use and growth strategy for Hong Kong (<http://www.info.gov.hk/epd>).
- *SEA related to biodiversity* – the Secretariats of both the Biodiversity and Ramsar conventions have called for the use and development of SEA at an ecosystem level as an implementing mechanism. In the interim, conservation organisations have carried out biodiversity assessments and SEA of regional plans affecting wetland and other habitats.

Review the procedures and methods that are or can be used to carry out an SEA, drawing attention to the different approaches that may be necessary to cover the full range of strategic decisions. Ask participants to identify the key steps of SEA practice that are appropriate locally, modifying them as necessary.

During the last decade, considerable experience with SEA practice has been gained in different countries. In many cases, the procedure and methods used in SEA are the same as in EIA. Notable examples include plans and programmes that have a direct relationship to projects or land use change. However, EIA-based procedures and methods still may need to be modified to take account of greater uncertainty about potential effects, compared to project-specific proposals. For broader policies, which have environmental effects that are indirect or attenuated, less formal, more flexible appraisal procedure and methods can be appropriate (an example is given in Box 9).

EIA and appraisal-based SEA processes are overlapping and include common procedural elements. These can be illustrated by comparing the steps outlined in Boxes 10 and 11. For example, both processes include provision for scoping, consideration of alternatives and mitigation of environmental effects. They also diverge in certain respects; examples include explicit requirements for public involvement and the information to be provided in an EIA-based SEA (Box 10) and the emphasis on clarifying trade-offs and constraints in an environmental appraisal (Box 11).

A range of methods can be used to carry out an SEA. These are drawn from both EIA and policy appraisal/plan evaluation. With various adaptations, a number of methods have been applied successfully in SEA practice already. Some examples are listed in Box 12, together with their relevance for key stages of the SEA. Generally, the tools used in SEA tend to be relatively simple and easy to apply (e.g. checklists and matrices), although more advanced predictive methods can be employed if circumstances warrant (e.g. traffic simulation models of road building programme) and multi-criteria analysis can assist in clarify the trade-offs and comparisons among alternatives.

In all cases, an SEA should be carried out systematically. The following principles of good practice have particular reference to conducting a systematic analysis (see also Topic 1 – *Introduction and overview of EIA*):

- rigour – SEA should apply the 'best practicable' methodologies to address the impacts and issues being investigated;
- practicality – SEA should identify measures for impact mitigation that work best at this level; and
- credibility – SEA should be carried out with professionalism, objectivity, impartiality and balance.

Other supporting elements also need to be in place for SEA to be carried out systematically, as indicated above. These include:

- baseline or background information – to help identify the potential environmental effects of the proposed strategic action (use may be made of data gathered for other purposes, e.g. state of the environment reports);
- headline indicators – to permit evaluation of whether or not environmental protection objectives are being met or if proposed strategic actions are likely to lead to unacceptable change; and
- policy frameworks – to facilitate trade-offs and consideration of alternatives in relation to environmental and sustainability requirements

and commitments established by a country or international organisation.

Box 9: Example of minimum process and procedure– the Netherlands E-test

<i>Screening/scoping phase</i>	Interdepartmental working group identifies proposals to be tested and issues to be examined
<i>Analysis/ documentation phase</i>	E-test carried out by the responsible Ministry, with assistance of the Joint Support Centre, and results documented in an Explanatory Memorandum to the draft legislation
<i>Review/submission phase</i>	Joint Support Centre, in co-operation with the Ministry of Justice, reviews the quality of the information in the memorandum to determine if the draft can be submitted to the Council of Ministers

Source: Verheem and Tonk (2000)



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Box 10: Carrying out an EIA-based SEA (also called Strategic Environmental Impact Assessment [SEIA])

The conduct of an SEIA can include some or all of the following steps:

- *screening* – to determine whether or not an SEA is needed and at what levels
- *scoping* – to identify key issues and alternatives, clarify objectives and develop terms of reference for SEA
- *identification and comparison of alternatives including no action* – to clarify implications and trade-offs
- *inform and involve the public* – to identify the views and concerns held by stakeholders
- *analyse and evaluate the impacts* – to identify the significant effects of selected alternatives and measures for mitigation and follow-up
- *document the findings* – to provide the information that is needed for decision-making and/or to comply with legal requirements (as in the European Directive)
- *review the quality of the information* – to ensure it is clear, sufficient and relevant to the decision being taken
- *carry out follow up* measures as necessary – to monitor effects, check on implementation, and track any arrangements for subsidiary SEA or EIA

Source: adapted from UNECE (1992).

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Box 11: Carrying out a strategic environmental appraisal

The conduct of an appraisal-based SEA can include some or all of the following steps:

- *list the objectives* of the proposal and *summarise the policy issue*, identifying possible trade-offs and constraints
- *specify the range of options* for achieving the objectives, including the 'do
- *identify and list all environmental impacts, issues and implications* and consider mitigation measures to offset them
- *assess their significance* and importance in relation to other effects
- *quantify costs and benefits* where possible and appropriate (i.e. without disproportionate effort)
- *value costs and benefits*, using an appropriate method including those based on monetary values, ranking or physical quantities
- *state the preferred option* with reasons for doing so
- *monitor and evaluate* the results, making appropriate arrangements for doing so as early as possible
- *consider how the appraisal will be publicised*

Source: adapted from UK Department of Environment, Transport and the Regions (1998)



24&25

Box 12: Examples of methods and their usage in SEA

Step	Examples of methods
Baseline Study	SOE reports and similar documents Inventory of environmental stock/setting 'Points of reference' from comparable studies
Screening/Scoping	Formal/informal checklists Survey, case comparison Effects networks Public or expert consultation
Formulating options	Environmental policy, standards, strategies Prior commitments/ precedents Regional/local plans Public values and preferences
Impact analysis	Scenario development Risk assessment Environmental indicators and criteria Policy impact matrix Predictive and simulation models

	GIS, capacity/habitat analysis
	Benefit/cost analysis and other economic valuation techniques
	Multi-criteria analysis
Documentation for decision-making	Cross-impact matrices
	Consistency analysis
	Sensitivity analysis
	Decision 'trees'

Source: Sadler and Verheem (1996).

Briefly consider future directions for SEA development, noting how it might be used as a tool for assessing the sustainability of proposals. Discuss the practicalities of such an approach locally.

There is increasing discussion of the use of SEA as an instrument to review the sustainability of development proposals, rather than merely to minimise the impact of policy, plan and programme decisions. Although this aspect is reflected in the aims and principles of SEA, it is not always evident in practice. In many cases, there is token reference to sustainability, rather than serious consideration of whether proposals are leading toward or away from this goal. This concern reflects both the difficulties encountered in defining sustainability, and the fluid state of SEA process development.

Looking ahead, future directions for SEA as a sustainability instrument can follow two routes (see also Topic 15 – *Future directions*). One route leads towards refocusing SEA as a process for environmental sustainability assurance of policy and plan making, checking that proposed actions are consistent with key measures and safeguards. Box 13 outlines a set of generic questions for this purpose, indicating how sustainability tests might be framed at different stages of the SEA process. The other route involves repositioning SEA as a stepping-stone or transitional process that leads toward 'sustainability appraisal' or integrated assessment of environmental, economic and social effects of policy, plan and programme proposals.

Eventually, it is likely that both directions will converge. What is not yet clear is the time frame by which countries can realistically achieve an integrated approach. Some critics prefer to press toward sustainability appraisal. Others argue that a separate SEA process will be needed for the foreseeable future to ensure environmental considerations are fully represented in the decision-making mainstream. This debate will differ in given countries, bearing in mind that many have yet to introduce SEA systems or elements in any form.

Further discussion of these issues can be found in the companion volume (*Environmental Impact Assessment and Strategic Environmental Assessment: Towards an Integrated Approach*).



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Box 13: Using SEA to test for sustainability assurance

Stage of SEA	Sustainability test	Key questions
Screening	Direction toward requirements	Is the proposal consistent with sustainability policies? What are the environmental <i>implications</i> in this regard?
Scoping	Distance to target	How does the proposal measure up against key indicators? What are the significant environmental <i>issues</i> in this regard?
Significance	Determination of significance	What are the environmental <i>impacts</i> of the proposal? How significant are they with reference to sustainability policies and criteria?

Source: Sadler, (1999)

Undertake a training activity to reinforce the topic, if appropriate, focusing on local requirements and priorities for SEA capacity building. The information obtained from the training needs analysis undertaken in Section C can be used for this purpose.

Conclude by summarising the presentation and previewing the next topic.



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SEA of District and Territorial Development Plans in Hong Kong SAR.

<http://www.info.gov.hk/epd>

SEAN process to formulate sustainable development plans and strategy.

<http://www.seanplatform.org>

Annex 1: Some definitions of SEA

There is no uniformly accepted definition of SEA. Five examples are given below, which describe SEA:

- with and without reference to EIA procedure [1,2];
- by referring to accountable decision-making [1,3] or by specifying a duty of care for the environment [5];
- as taking place at the earliest appropriate stage of decision-making [2,3];
- to include environmental consequences on par and simultaneously with economic and social factors [2], to holistically understand environmental and social factors [4], or to ensure environment, economic and social factors are integrated [3]; and
- as delivering environmental protection and sustainable development objectives and policies [5] or expanding the policy focus beyond immediate concerns [4].

[1] 'The formalised, systematic and comprehensive process of evaluating the environmental impacts of a policy, plan or programme and its alternatives, including the preparation of a written report on the findings of that evaluation, and using the findings in publicly accountable decision-making'. (Therivel, et al, 1992)

[2] 'A systematic process for evaluating the environmental consequences of proposed policy, plan or programme initiatives in order to ensure they are fully included and appropriately addressed at the earliest appropriate stage of decision-making on par with economic and social considerations'. (Sadler & Verheem, 1996)

[3] 'A systematic, on-going process for evaluating, at the earliest appropriate stage of publicly accountable decision-making, the environmental quality and consequences of alternative visions and development intentions incorporated in policy, planning or programme initiatives, ensuring full integration of relevant biophysical, economic, social and political considerations'. (Partidario, 1999)

[4] 'A process directed at providing the authority responsible for policy development (the "proponent" during policy formulation) and the decision-maker (at the point of policy approval) with a holistic understanding of the environmental and social implications of the policy proposal, expanding the focus well beyond the issues that were the original driving force for new policy'. (Brown and Therivel, 2000)

[5] 'A process to systematically analyse and document the environmental effects and consequences of proposed strategic actions (e.g. policy, plan, programme, legislation) and alternatives, including measures to mitigate significant adverse environmental effects and enhance positive aspects, and ensure that the relevant findings are taken into account as an integral part of decision-making, consistent with a duty of care for the environment and with specific reference to the objectives, principles and policies for environmental protection and sustainable development that apply within the jurisdiction concerned'. (Sadler, 2001)

Training activities

Training activities will be more instructive if they are framed around a local proposal. Consider inviting prospective course participants to make a presentation if they have expertise in this area of EIA.

Discussion themes

- 14-1 SEA can apply to a wide range of proposed actions at the policy, plan and programme level. What types of strategic issues and impacts are associated with development proposals locally? How could these benefit from the application of SEA?
- 14-2 What provisions, potentials and capacities exist for undertaking SEA? How can these be developed? Are there appropriate arrangements on which the use of SEA can be based?
- 14-3 What should be the scope of SEA? Should the SEA process aim for comprehensive coverage or apply only to plans and programmes?
- 14-4 What type of SEA process is best adapted to local decision-making? Should this be the same as or different from the EIA process?
- 14-5 Which procedures and methods will be most useful and effective? What needs to be done to strengthen or improve their application?
- 14-6 How can major alternatives be identified and compared in SEA? What information needs to be gathered for this purpose?
- 14-7 What role can or should the public have in SEA? How might stakeholders be involved constructively in this process?

Speaker themes

- 14-1 Invite a speaker who is knowledgeable about SEA (or a related process) to discuss its aims, benefits and key elements. The presentation should be followed by an open discussion of how the aims and benefits of SEA can be best realised locally.
- 14-2 Invite a speaker who has experience with SEA practice to review the process step-by-step and discuss the procedures that apply. The presentation should be supported by examples of process implementation that are relevant to the local situation.
- 14-3 Invite a speaker who has an understanding of SEA methods to review how they work and what they can be used for. Ensure that some of the discussion covers the data requirements for the method and that note is made of any limitations.

Group Activity 14–1: Establishing an SEA process

Title: Making formal provision and arrangements for SEA

Aim: To gain an appreciation of how an SEA process could be introduced or strengthened in accordance with local requirements and international trends.

Group size: Four to six people

Duration: Half to one day, depending on the desired level of detail.

Resources required:

- Background information on planning and policy-making processes used locally.
- Copies of Handout 14-1.

Description of activity:

- Get the group as a whole to determine the scope of the SEA process that should apply locally (e.g. to cover policy, plans and programmes or only certain aspects).
 - Using Handout 14-1, assign each group the task of identifying/adapting a shortlist of the provisions and arrangements that could be used to introduce or strengthen SEA.
 - Assemble the group as a whole and ask each small group to summarise its findings, noting any problems that were encountered, the provisions and arrangements that were identified.
-

Group Activity 14-2: Identifying key issues and alternatives

Title: Scoping a development plan (or programme)

Aim: To understand how scoping procedure can be used to identify the key issues and alternatives to be included in an SEA of a development proposal.

Group size: Four to six people

Duration: Half to one day, depending on the desired level of detail.

Resources required:

- ❑ Background information from a local development plan, either for a sector or area, including the environmental and sustainability objectives that are part of the plan or might be affected by it.
- ❑ Copies of OHP 26, focusing on issues related to the proposed plan at the *screening*, *scoping* and *significance* stages.
- ❑ Summary of relevant aspects of Topic 4 – *Screening*, Topic 5 – *Scoping* and Topic 6 – *Impact Analysis (Evaluation)*.

Description of activity:

- ❑ Get the group as a whole to review the development plan to identify a shortlist of key environmental issues and impacts that are likely to occur as result of its implementation.
 - ❑ Assign each group the task of drawing up terms of reference for an SEA, including the main alternatives that should be considered.
 - ❑ Assemble the group as a whole and ask each small group to summarise its findings, noting any problems that were encountered, the scope and contents of terms of reference and the range.
-



1

What is SEA?

- systematic, transparent process
 - instrument for decision-making
 - addresses environmental effects of strategic proposals
 - includes policy, plans and programme decisions
 - undertaken when alternatives are still open
 - applies EIA aims and principles
 - flexible, diversified process
-



2

Why is SEA important?

- EIA of projects insufficient by itself
 - effects of strategic decisions not assessed
 - SEA rounds out coverage to this level
 - gets at sources of environmental impacts
 - responds to sustainable development agenda
-



3

Key aims and objectives of SEA are to:

- facilitate informed decision-making
 - contribute to environmentally sound and sustainable development
 - identify and address cumulative effects
 - supplement and reinforce project-level EIA by:
 - clarification of scope and context
 - reducing the time and effort for review
-



4

Wider potential policy and institutional benefits of SEA include:

- mainstreaming the environment
 - incorporating sustainability principles into policy-making
 - meeting international obligations
 - 'sustainability assurance' of development proposals
 - environmental accountability in sector-specific agencies
 - greater transparency and openness in decision-making
-



5

SEA trends and developments

- limited development and implementation to 1990
- formalisation and diversification in 1990s
- increasing number of countries establish SEA
- response to sustainability agenda
- entering expansion and consolidation phase
- pending international & supra-national arrangements
- more developing countries expected to take up SEA



6

Indicative list of areas subject to SEA

- sector-specific policy, plans and programmes
- spatial and land use plans
- regional development programmes
- natural resource management strategies
- legislative and regulatory bills
- investment and lending activities
- international aid and development assistant



7 & 8

Guiding principles for SEA process design and implementation

- *fit-for-purpose* – customise to decision-making
- *objectives-led* – identify environmental goals & priorities
- *sustainability-driven* – ensure proposal promotes sustainable development
- *comprehensive scope* – cover policies, plans & programmes
- *decision-relevant* – focus on issues that matter
- *integrated* – include social, health effects
- *transparent* – clear, easy to understand requirements
- *participative* – provide for public information and involvement
- *accountable* – implement fairly, impartially & professionally
- *cost-effective* – meet objectives within time and budget limits



9

Institutional conditions that enable SEA good practice

- clear legal or policy mandate
- explicit scope of application
- requirements for compliance
- guidance on procedure and process
- provision for administrative oversight
- quality control mechanisms



10

Some success factors in SEA practice

- promote SEA as a bonus not a burden
- encourage creativity and innovation
- tailor the approach to the needs of decision makers
- provide start-up help
- build a knowledge base from case experience
- learn by doing when applying methods and procedures



11 & 12

Operational rules of thumb for applying SEA guiding principles

- begin as early as practicable
- purpose is to inform decisions not produce a study
- provide the right information at the right time
- focus on comparison of major alternatives
- carry out an appropriate level and type of analysis
- use the simplest procedures and methods consistent with the task
- try to gain environmental benefits as well avoid adverse impacts
- review and document the outcomes of the SEA process



13

Institutional arrangements for SEA

- type of provision for SEA differs
- formalised in both law and policy
- vary in scope, role and relationship to decision-making
- limited development at policy level
- non-statutory, flexible, informal procedure
- greater development at plan/ programme level
- SEA systems diversified compared to EIA



14

Different types of SEA systems

- EIA-based – part of EIA law or separate procedure
 - environmental appraisal – comparable, less formalised process
 - dual-track – separate processes operated
 - integrated policy and planning – SEA part of policy and plan-making
 - sustainability appraisal – integrated assessment and review
-



15

Main forms of SEA

- Policy SEA – applies to highest level proposals
- Sector plan and programme SEA – applies to proposals for specific sector
- Spatial plan and regional SEA – applies to land use proposals for particular region



16

Policy SEA

- critical lever to influence development
- SEA difficult to apply at policy level
- often political and bureaucratic resistance
- policy-making itself not straightforward
- SEA needs to be adapted to process
- few countries make provision for policy SEA
- early adoption of non-statutory, minimum procedure
- policy SEA now legislated in some countries



17

Sector plan and programme SEA

- most developed form of SEA
- will be extended by European Directive
- sector EA applied to World Bank financed programmes
- carried out by borrowing countries
- use and scope of application increasing
- mainly applied to establish framework for EIA of sub-projects
- potential lies in evaluation of major alternatives
- other approaches also relevant to developing countries



18 & 19

Spatial plan and regional SEA

- long established form of SEA, e.g. in USA
- applies to land use plans for designated areas
- spatial planning is a systematic, transparent process
- easily integrated with SEA
- regional EA (REA) promoted by World Bank
- use limited compared to sector EA
- applies to group of sub-projects for a geographic area
- provides framework for analysing cumulative effects
- other approaches also relevant to developing countries



20 & 21

Carrying out a strategic environmental impact assessment (SEIA)

- *screening* – whether and what level of review is needed?
- *scoping* – what are the key issues and alternatives?

- *identification & comparison of alternatives* – what are the implications & trade-offs?
- *inform & involve the public* – what are the views & concerns?
- *analyse and evaluate the impacts* – what are the main effects, how can they be mitigated?
- *document the findings* – what information is needed for decision-making?
- *review the quality of the information* – is it clear and sufficient for this purpose?
- *carry out follow up* – are agreed measures being implemented?



22 & 23

Carrying out a strategic environmental appraisal

- *list the objectives of the proposal* – what does it aim to achieve?
 - *describe the alternatives* – what are options can achieve the objectives?
 - *identify environmental impacts, issues and implications* – what are the effects, how can they be mitigated?
 - *assess their significance* – how important are they?
 - *quantify costs and benefits* – how can this be done?
 - *value costs and benefits* – which method(s) can be used?
 - *state the preferred option* – what are the reasons?
 - *monitor and evaluate the results* – what arrangements are in place?
-



24 & 25

Some examples of methods and their usage in SEA	
Step	Examples of methods
Baseline Study	SOE reports and similar documents Environmental stock/setting 'Points of reference'
Screening/Scoping	Formal/informal checklists Survey, case comparison Effects networks Public or expert consultation
Formulating Options	Environmental policy, standards, strategies Prior commitments/ precedents Regional/local plans Public values and preferences
Impact Analysis	Scenario development Risk assessment Environmental indicators and criteria Policy impact matrix Predictive and simulation models GIS, capacity/habitat analysis Benefit/cost analysis and other economic valuation Multicriteria analysis
Documentation for Decision Making	Cross-impact matrices Consistency analysis Sensitivity analysis Decision 'trees'

Using SEA to test for sustainability assurance



26

Stage of SEA	Sustainability Test	Key Questions
Screening	Direction toward requirements	Is the proposal consistent with sustainability policies? What are the environmental <u>implications</u> in this regard?
Scoping	Distance to target	How does the proposal measure up against key indicators? What are the significant environmental <u>issues</u> in this regard?
Significance	Determination of significance	What are the environmental <u>impacts</u> of the proposal? How significant are they with reference to sustainability policies and criteria?

Topic 14
**Strategic
Environmental
Assessment**

