



*Integrated Environmental Management Information Series*

# *Strategic Environmental Assessment*



Department of  
Environmental Affairs and Tourism

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Other topics in the series of overview information documents on the concepts of, and approaches to, integrated environmental management are listed below. Further titles in this series are being prepared and will be made available periodically. Sequence of release and titles are subject to change.

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## PREFACE

This document is one of a series of overview information documents on the concepts of, and approaches to, Integrated Environmental Management (IEM). IEM is a key instrument of South Africa's National Environmental Management Act (NEMA). South Africa's NEMA promotes the integrated environmental management of activities that may have a significant effect (positive and negative) on the environment. IEM provides the overarching framework for the integration of environmental assessment and management principles into environmental decision-making. It includes the use of several environmental assessment and management tools that are appropriate for the various levels of decision-making.

The aim of this document series is to provide general information on techniques, tools and processes for environmental assessment and management. The material in this document draws upon experience and knowledge from South African

practitioners and authorities, and published literature on international best practice. This document is aimed at a broad readership, which includes government authorities (who are responsible for reviewing and commenting on environmental reports and interacting in environmental processes), environmental professionals (who undertake or are involved in environmental assessments as part of their professional practice), academics (who are interested in and active in the environmental assessment field from a research, teaching and training perspective), non-government organisations (NGOs) and interested persons. It is hoped that this document will also be of interest to practitioners, government authorities and academics from around the world.

This document has been designed for use in South Africa and it cannot reflect all the specific requirements, practice and procedures of environmental assessment in other countries.

This series of documents is not meant to encompass every possible concept, consideration, issue or process in the range of environmental assessment and management tools. Proper use of this series of documents is as a generic reference, with the understanding that it will be revised and supplemented by detailed guideline documents.

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### Note

All sources used have been acknowledged by means of complete references.

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## SUMMARY

The primary purpose of Environmental Impact Assessment (EIA) is to determine and evaluate the environmental implications of development, to inform decision-making at the project level. However, there are a number of more strategic decisions that are typically made at the planning, programming and policy level that influence the nature of development. Strategic Environmental Assessment (SEA) has therefore evolved, complementary to EIA, in order to determine the environmental implications of policies, plans and programmes.

EIA focuses on the positive and negative impacts of a specific development project once it has been formulated. The role of SEA, however, is to allow for the decision-maker to proactively determine the most suitable development type for a particular area, before development proposals are formulated.

The role of SEA is determined by its place in the decision-making process. SEA can be used to assess a proposed policy, plan or programme that has already been developed; or it can be used to develop, evaluate and modify a policy, plan or programme during its formulation. This distinction is dependant on the stage in the decision-making process at which the SEA is undertaken and the stakeholders involved.

In addition, SEA can have both an advocacy role, where its primary purpose is to raise the profile of the environment, or an integrative role, where the focus is on combining environmental, social and economic considerations.

Through the integration of environmental, social and economic objectives into the policy and planning process, SEA has the potential to assist in the implementation of

the concept of sustainable development. SEA also has the potential to promote an integrated system of planning that incorporates sustainability objectives into the planning process.

There is no single approach to SEA that can be applied in all circumstances. Various SEA processes have been developed internationally, which have their own specific strengths in a particular context. For the purpose of the discussion in this document, selected examples of SEA approaches are briefly provided, categorised according to key characteristics or adaptations of each approach. These examples are presented according to the following key adaptations:

- \* The integration of sustainability objectives into plans and programmes;
- \* The environmental assessment of a region (e.g. Regional Environmental Assessment);
- \* The environmental assessment of sector plans and programs (e.g. Sectoral Environmental Assessment);
- \* The nature of the policy, plan or programme and level of decision-making;
- \* The need for simplicity and speed in a context of limited resources; and
- \* Flexibility that enables self-assessment and the early integration of environmental considerations into the development of policies, plans and programmes.

The practice of SEA is relatively new and is still evolving. The application and testing of different approaches is recommended as a way of contributing to learning. The sharing of information is important for the development and consolidation of SEA.

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# 1. INTRODUCTION

The primary purpose of Environmental Impact Assessment (EIA) is to determine and evaluate the environmental implications of development, to inform decision-making at the project level. However, there are a number of more strategic decisions that are typically made at the planning, programming and policy level that influence the nature of development. Strategic Environmental Assessment (SEA) has therefore evolved, complementary to EIA, in order to determine the environmental implications of policies, plans and programmes.

There are numerous definitions of SEA, which reflect different understandings of its purpose. These definitions include the following:

- \* “SEA is 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 and Verheem, 1996).”
- \* “SEA is a process to assess the environmental implications of a proposed strategic decision, policy, plan, programme, piece of legislation or major plan (White Paper on Environmental Management Policy for South Africa, 1998: 169)”.
- \* SEA is “a process of integrating the concept of sustainability into strategic decision-making” (DEAT and CSIR, 2000).

The first two definitions represent an extension of project-based EIA to the strategic levels of policies, plans and programmes.

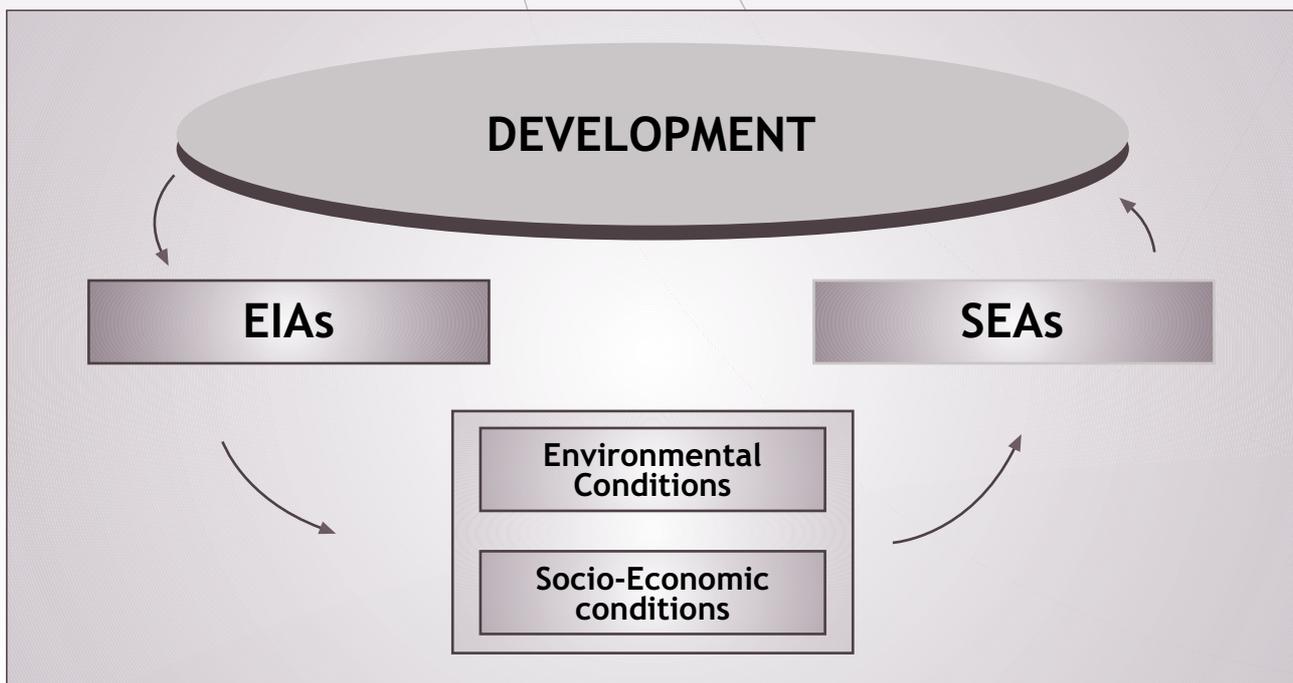
Figure 1: EIA addresses the effect of development on the existing environment and socio-economic conditions, while SEA addresses the effect of the environment and socio-economic conditions on development (adapted from CSIR, 1996)

This approach is typically termed “EIA-based” SEA (Partidario, 1999) and its focus is on determining the environmental implications of a proposed policy, plan or programme.

The definition contained in the South African SEA Guidelines (DEAT and CSIR, 2000) focuses on the role of SEA in facilitating the move to sustainability. This approach enables the proactive consideration of the objectives of sustainability at the earliest stages of decision-making. It facilitates the development of a sustainability framework to guide the development of plans and programmes and/or to assess an existing plan or programme. This approach broadly reflects what Therivel et al. (1992) term “sustainability-led” SEA.

EIA focuses on the positive and negative impacts of a specific development project once it has been designed. The role of SEA, however, is to allow for the decision-maker to proactively determine the most suitable development type for a particular area, before development proposals are formulated. As illustrated in Figure 1, EIA is used to evaluate the impacts of development on the environment and socio-economic conditions, while SEA can be used to evaluate the opportunities and constraints of the environment and socio-economic conditions on development (CSIR, 1996).

The definition of the environment used in various countries in relation to SEA, ranges in focus from an emphasis mainly on biophysical issues, to the inclusion of social and economic aspects. If SEA is to assist in the move towards sustainability, however, it is important that it enables the integration of social, economic and biophysical aspects in the policy, programming and planning process.



The differences in emphasis between EIA and SEA are summarised in the table 1 below.

Table 1: Comparison between the difference in emphasis between EIA and SEA (adapted from CSIR, 1996)

| EIA   | SEA  |
|---|--|
| Is reactive to a development proposal   | Is pro-active and informs development proposals  |
| Is used to assess the effect of a proposed development on the environment and socio-economic conditions         | Is used to assess the effect of the existing environmental and socio-economic conditions on development opportunities and constraints  |
| Relates to a specific project   | Relates to areas, regions or sectors of development  |
| Enables the identification of project-specific impacts  | Enables the development of a framework against which positive and negative impacts can be measured   |
| Has a well-defined beginning and end and focuses on informing a specific decision at a particular point in time | Is a process aimed at the development of a sustainability framework to inform continuous decision-making over a period of time   |
| Is focused on the mitigation of negative impacts and the enhancement of positive impacts                        | Is focused on maintaining a chosen level of environmental quality and socio-economic conditions (e.g. through the identification of sustainability objectives and limits of acceptable change) |
| Has a narrow perspective and includes a high level of detail  | Has a wide perspective and includes a low level of detail to provide a vision and overall framework  |

The EIA-based approach to SEA and the “sustainability-led” approach arose out of various needs. The EIA-based approach aims to address some of the constraints to project-specific EIA, while the “sustainability-led” approach is also needed as a means of implementing the concept of sustainability (Therivel et al, 1992). For example, the EIA-based approach to SEA extends the application of environmental assessment beyond the project level, to the evaluation of the positive and negative impact of policies, plans and programmes, while the “sustainability-led” approach facilitates the formulation of a vision and sustainability objectives to guide future decision-making.

## 2. PURPOSE OF THIS DOCUMENT

This document has been written for a wide audience. Its objective is to serve as an initial reference text. The aim is to provide an introductory information source to government authorities, environmental practitioners, non-governmental organizations (NGOs), industry, project proponents, academics, students and other interested and affected parties (I&APs).

This document focuses on concepts, principles and the general characteristics of SEA. In Section 3, the benefits of SEA are presented. Thereafter, certain milestones in the evolution of SEA internationally, and in South Africa, are briefly described. In Section 5, examples of principles and performance criteria for SEA are listed and in Section 6 key characteristics of selected SEA approaches are summarised. Recommendations for best practice are listed in Section 7. This document does not prescribe or recommend specific methods, but rather provides an overview of the nature of SEA.

## 3. BENEFITS OF SEA

The role of SEA is determined by its place in the decision-making process. SEA can be used to assess a proposed policy, plan or programme that has already been developed; or it can be used to develop, evaluate and modify a policy, plan or programme during its formulation. This distinction is dependant on the stage in the decision-making process at which the SEA is undertaken and the stakeholders involved.

In addition, SEA can have both an advocacy role, where its primary purpose is to raise the profile of the environment, or an integrative role, where the focus is on combining environmental, social and economic considerations (Kørnøv and Thissen, 2000).

Through the integration of environmental, social and economic objectives into the policy and planning process, SEA has the potential to assist in the implementation of the concept of sustainable development. SEA also has the potential to promote an integrated system of planning that incorporates sustainability objectives throughout the planning process, for example, in the identification of suitable locations for development and in the evaluation of alternative policies, plans and programmes (Therivel and Partidario, 1996).

The proclaimed benefits of SEA (Therivel et al., 1992; Therivel and Partidario, 1996; Sadler and Verheem, 1996; DEAT, 2000; Sadler 2001, and Fischer, 2002) are that:

- \* SEA can strengthen and streamline EIA by:
  - Addressing a broader range of alternatives;

- Addressing cumulative effects through the identification of limits of acceptable change for a particular area or sector;
- Facilitating the maintenance and enhancement of a chosen level of environmental quality, which can provide a context for EIA;
- \* SEA can address the causes of environmental impacts rather than simply treating the symptoms of environmental deterioration;
- \* SEA can assist in the integration of the concept of sustainability into strategic decision-making through, for example, the determination of limits of acceptable change and the identification of sustainability targets and indicators, ensuring that development is within sustainable limits;
- \* SEA can provide the context for lower levels of planning and decision-making;
- \* SEA can provide for systematic consideration of the environment and socio-economic conditions at the policy, plan and programme levels of decision-making; and
- \* SEA is based on the participation of the public, non-governmental organisations and other institutions very early in the process. This stakeholder engagement can facilitate increased public acceptance of the policy, plan or programme.

#### 4. THE LEGISLATIVE DEVELOPMENT OF SEA

This section focuses primarily on the legal development of SEA, which can be traced back to the US National Environmental Policy Act (NEPA, 1969) (Sadler, 2001). NEPA requires the preparation of an environmental impact statement (EIS) for major federal actions that significantly affect the environment (Sadler and Verheem, 1996). These actions include, as defined by the Council on Environmental Quality (CEQ), projects and programs, rules, regulations, plans, policies or procedures (ibid).

By the end of the 1980's a number of countries had begun to make certain provisions for SEA and during the period from 1990 to 2000, the number and diversity of SEA systems established in various countries increased (Sadler, 2001). Provision for SEA is typically based on one of four categories, as identified by Sadler (2001), namely: EIA law (e.g. the USA); planning regulations (e.g. Sweden); a separate administrative order or policy directive (e.g. Canada); or an equivalent process of policy appraisal and of plan evaluation (e.g. the United Kingdom).

In South Africa, key concepts related to SEA were articulated in an SEA Primer and Protocol produced by the CSIR in 1996 and 1997 respectively. In 2000 the Department of Environmental Affairs and Tourism (DEAT) published a guideline document on SEA in South Africa. In conjunction with the production of these documents a number of SEA processes were undertaken which followed a variety of approaches. The application of these SEA processes were related to a number of activities, including the establishment of industrial development zones, municipal planning and management and port development.

South Africa's National Environmental Management Act (NEMA) No 107 of 1998, provides for the development of procedures for the assessment of the impact of policies, plans and programmes. In addition, a requirement related

to SEA in the context of spatial planning is referred to in the Municipal Planning and Performance Management Regulations of 2001 (Ch2,s2(4)(f)), promulgated in terms of the Municipal Systems Act No 32 of 2000, and in The White Paper on Spatial Planning and Land Use Management, produced by the Ministry of Agriculture and Land Affairs in 2001 (Section 3.2). Also, the South African White Paper on a National Commercial Ports Policy, states that, "SEA should be used for the proactive integration of environmental issues with social and economic issues at the policy and planning level (National Department of Transport 2002:25)".

Recent milestones in the international development of SEA include the promulgation of the European Union Directive on SEA and the United Nations Economic Commission for Europe (UNECE) Protocol on SEA to the Convention on Environmental Impact Assessment in a Transboundary Context.

The SEA Directive 2001/42/EC of the European Parliament and of the Council requires Member States to develop mandatory procedures for the environmental assessment of certain plans and programs (Kjorven and Lindhjem, 2002). In terms of this Directive, Member States are required to promulgate the laws, regulations and administrative provisions that are necessary to comply with the Directive within 3 years of its enforcement (European Union, <http://europa.eu.int/comm/environment/eia/>, 21/10/03).

Article 1 of the SEA Directive (2001/42/EC) states that its objective is to:

"...provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development, by ensuring that, in accordance with this Directive, an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment (<http://europa.eu.int/comm/environment/eia/>."

The UNECE Protocol on SEA is a supplement to the Convention on Environmental Impact Assessment (EIA) in a Transboundary Context (the Espoo Convention, 1991) (UNECE), <http://www.unece.org/>. This Protocol, which will be open to all United Nations members, was adopted and opened for signature at the Ministerial 'Environment for Europe' Conference in Kiev, Ukraine (21 May 2003). Signatories of the Protocol are required to evaluate the environmental consequences of certain draft plans and programmes (UNECE, <http://www.unece.org/>). The Protocol addresses policies and legislation, however, it leaves the application of SEA to these as optional (ibid).

## 5. PRINCIPLES OF SEA

South African principles for SEA are contained in the *Guideline Document: Strategic Environmental Assessment in South Africa* (DEAT and CSIR, 2000), and are listed below:

- \* SEA is driven by the concept of sustainability;
- \* SEA identifies the opportunities and constraints which the environment places on the development of plans and programmes;
- \* SEA sets the levels of environmental quality or limits of acceptable change;
- \* SEA is a flexible process which is adaptable to the planning and sectoral development cycle;
- \* SEA is a strategic process, which begins with the conceptualisation of the plan or programme;
- \* SEA is part of a tiered approach to environmental assessment and management;
- \* The scope of an SEA is defined within the wider context of environmental processes;
- \* SEA is a participative process;
- \* SEA is set within the context of alternative scenarios; and
- \* SEA includes the concepts of precaution and continuous improvement.

Canada is another example of a country that has developed its own principles for SEA. The Canadian Environmental Assessment Agency has produced guidelines for implementing this Cabinet Directive (<http://www.ceaa-acee.gc.ca/>), which state that the implementation of the Directive should be guided by the following principles:

- \* Early integration - the analysis of environmental considerations should be fully integrated into the process for the development of a policy, plan or program and the consideration of environmental effects should begin early in the conceptual planning stages of a proposal.
- \* Examine alternatives - the evaluation and comparison of the environmental effects of alternatives in the development of a new policy, plan or program, is one of the most critical aspects of any SEA.
- \* Flexibility - the Guidelines for Implementing the Cabinet Directive, are advisory and not prescriptive. Departments and agencies have discretion in determining how they conduct SEA.
- \* Self-assessment - each department and agency is responsible for applying SEA to its proposed policies, plans and programs, determining how the assessment should be conducted, performing the assessment and reporting on the findings.
- \* Appropriate level of analysis - the scope of the analysis should be commensurate with the level of effects anticipated.
- \* Accountability - SEA should be part of an accountable decision-making process within the federal Government.
- \* Use of existing mechanisms - The departments and agencies should use existing mechanisms when undertaking the analysis of environmental effects, involving the public if required, evaluating performance and reporting on results.

<sup>1</sup> The term "environment" is extended in these principles to include all relevant biophysical, social and economic aspects related to the plan and/or programme being developed or reviewed.

The International Association for Impact Assessment (IAIA) has developed a set of performance criteria for SEA. These criteria aim to provide general guidance on the development of new SEA processes and on the evaluation of existing SEA processes (IAIA, 2002). In summary, the IAIA SEA Performance Criteria (2002) state that a good-quality SEA process is:

- \* Integrated (e.g. addresses the interrelationships of biophysical, social and economic aspects)
- \* Sustainability-led (e.g. facilitates the identification of development options that are more sustainable)
- \* Focused (e.g. concentrates on key issues of sustainable development and is customized to the nature of the decision-making process)
- \* Accountable (e.g. is subject to independent checks and documents how sustainability issues were taken into account in decision-making)
- \* Participative (e.g. informs and involves government bodies and interested and affected public throughout the decision-making process)
- \* Iterative (e.g. ensures that the results of the assessment are available early enough to influence decision-making and planning).

## 6. KEY CHARACTERISTICS OF VARIOUS SEA APPROACHES

There is no single approach to SEA that can be applied in all circumstances. Various SEA processes have been developed internationally, which have their own specific strengths in a particular context. SEA approaches have been developed that are specifically adapted, for example, to the environmental analysis of sectors; or the analysis of environmental impacts within a spatial context; or to the nature of decision-making at various spheres of government.

International approaches to SEA can also be differentiated according to the administrative and institutional context in which they have been developed. For example, SEA has been adopted on the national level by countries such as Canada, The Netherlands and the United States (Sadler, 2001). In South Africa, the national Department of Environmental Affairs and Tourism (DEAT) published a Guideline Document on SEA in 2000. In addition, international funding agencies, such as the World Bank, have developed guidance on environmental assessment related to regions (World Bank, 1996) and to sectors (World Bank, 1993).

For the purpose of the discussion below, examples of SEA approaches are briefly provided, categorised according to key characteristics or adaptations of each approach. This is not to imply that each example does not display some of the strengths and characteristics of the other SEA processes, or cannot be used for a range of different purposes; but it is rather to highlight a particular characteristic or adaptation of each approach. The discussion begins with a brief summary of the approach adopted in the Guideline Document: Strategic Environmental Assessment in South Africa (DEAT and CSIR, 2000).

The examples of SEA approaches provided below are presented according to the following key adaptations:

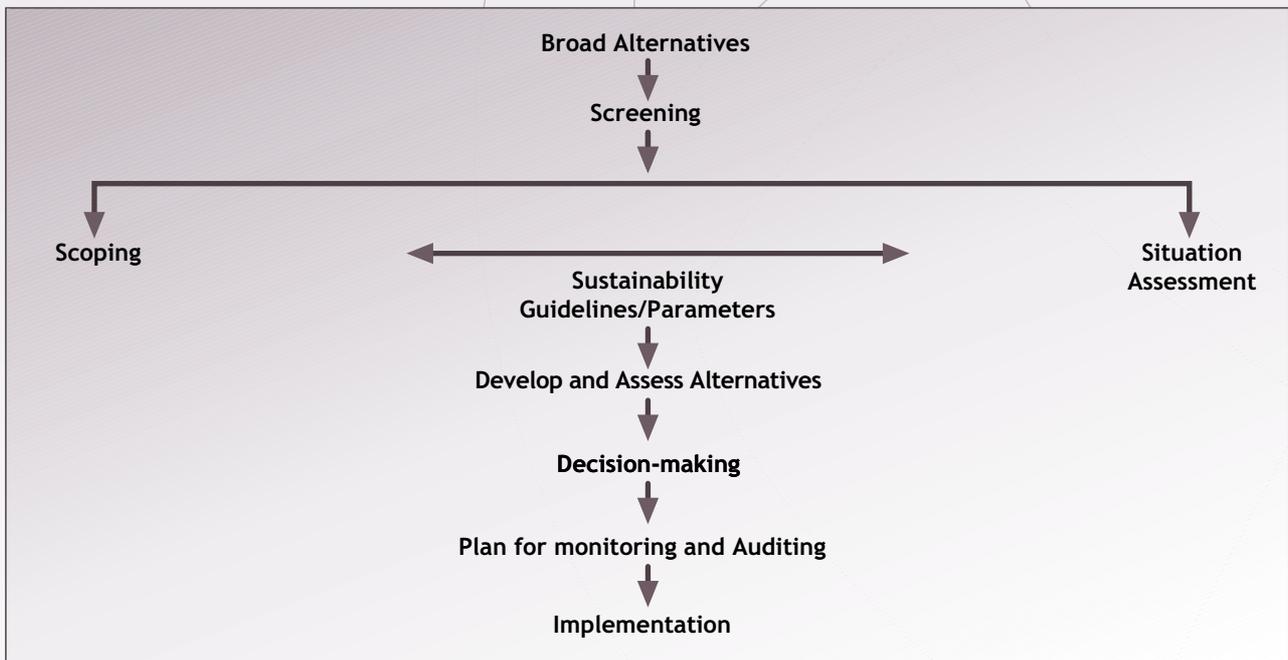
- \* The integration of sustainability objectives into plans and programmes (e.g. The South African SEA Guidelines);
- \* The environmental assessment of a region (e.g. Regional Environmental Assessment);
- \* The environmental assessment of sector plans and programs (e.g. Sectoral Environmental Assessment);
- \* The nature of the policy, plan or programme and level of decision-making (e.g. The Netherlands approach);
- \* The need for simplicity and speed in a context of limited resources (e.g. The Environmental Overview); and
- \* Flexibility that enables self-assessment and the early integration of environmental considerations into the development of policies, plans and programmes (e.g. the Canadian approach).

It is important to note that each SEA system displays more than one characteristic described above, however, for the purpose of the discussion below, each example is described under one of the headings listed.

### 6.1 Integration of sustainability objectives into plans and programmes

One of the key principles contained in the Guideline Document: Strategic Environmental Assessment in South

Figure 2: Conceptual illustration of the process contained in the SEA Guideline Document (adapted from DEAT and CSIR, 2000:18)



Africa (DEAT and CSIR, 2000:15) is that “SEA is driven by the concept of sustainability”. It is stated in this document that “the focus of SEA is on integrating the concept of sustainability into the objectives and outcomes of plans and programmes (DEAT and CSIR, 2000:15).” This approach is therefore, an example of the use of SEA in operationalising the principles of sustainability through their integration into planning.

The approach to SEA described in the South African Guidelines includes the following key elements (illustrated in Figure 2):

- \* Identify broad plan and programme alternatives;
- \* Screening;
- \* Scoping;
- \* Situation Assessment;
- \* Formulate sustainability parameters for the development of the plan or programme;
- \* Develop and assess alternative plans and programmes;
- \* Decision-making;
- \* Develop a plan for monitoring and auditing; and
- \* Implementation.

This approach to SEA involves the formulation of a sustainability framework to guide future decision-making over a period of time. This framework is developed through the following activities: scoping; analysis of the existing situation and the development of sustainability parameters. These activities are briefly described below.

**\* Scoping includes:**

- the articulation of a vision (which expresses broadly what the plan or programme aims to achieve), and
- the identification of the strategic issues that should be addressed in the SEA.

**\* Analysis of the existing situation includes:**

- The identification of the social, economic and biophysical resources that should be maintained and/or enhanced, as well as the trends, institutions, legislation and other factors that influence the maintenance and enhancement of these resources;
- The identification of sustainability objectives, criteria and indicators related to the resources identified in the previous stage - Broad objectives are developed, based on the sustainability requirements of the socio-economic and biophysical resources identified. These objectives are translated into more specific sustainability criteria that may be

quantitative or qualitative. These criteria are typically based on limits for acceptable change in the environment (including socio-economic conditions) and may reflect existing standards in legislation, for example, or may be developed through specialist input and stakeholder engagement. Sustainability indicators are identified so that progress towards achieving the sustainability objectives and criteria may be measured.

- The identification of the biophysical and socio-economic opportunities and constraints to the plan or programme - Where the sustainability criteria are already met, an opportunity exists to improve further (e.g. increase the quality of community services). However, a constraint exists where the sustainability criteria are not met (e.g. pollution levels exceed the levels contained in the sustainability criteria).

**\* The development of sustainability parameters**

The sustainability parameters (which may be in the form of principles and/or guidelines) aim to guide the planning process towards achieving the objectives of sustainability already defined.

These parameters should include recommendations on how, through the design of the plan or programme, the constraints identified could be addressed and the opportunities, enhanced. These parameters may for example:

- Set maximum permissible levels for sulphur dioxide emissions;
- Include maps indicating the activities permitted in various zones of a particular area, including perhaps, no-go areas; and
- Make recommendations concerning environmental planning and management at other levels of decision-making, such as recommendations concerning EIAs or other studies required.

The sustainability parameters, objectives, criteria and indicators form the sustainability framework to guide future planning and decision-making. The sustainability framework can also be used to assess existing plans and programmes in terms of the objectives and criteria for sustainability.

The South African SEA Guidelines (DEAT and CSIR, 2000) state that a strategy for implementation of the plan or programme is required, that may include aspects related to mechanisms for implementation (e.g. legislation), the roles and responsibilities of various stakeholders, financial and human resource requirements and a communication strategy. Monitoring and auditing of the implementation of the plan or programme is required to assess whether the sustainability criteria are being met and the guidelines are being adhered to. A monitoring and auditing programme should be developed for this purpose. The sustainability indicators, formulated as part of the SEA, are tools that can be used for monitoring the extent to which the sustainability criteria are being met.

The monitoring and auditing guides the adjustment of the plan or programme, as well as the sustainability framework.

The information obtained through monitoring and auditing should feed back into the baseline information for future SEA processes.

**6.2 The environmental assessment of a region**

The World Bank introduced guidance on Regional Environmental Assessment (REA), with the adoption of an Operational Directive on environmental assessment (Amended in 1996 as OP/BP/GP 4.01) (World Bank, 1996). The nature and purpose of REAs was further discussed in the Environmental Sourcebook published by the World Bank in 1991 (World Bank, 1996). The section that follows provides a brief overview of REA, summarised from the Environmental Sourcebook, update published by the World Bank in June 1996.

REA was developed to enable the formulation of development plans, programs, strategies and projects that are environmentally sustainable. The REA focuses on influencing a strategy or plan that is being formulated and assessing the cumulative impact. REA is specifically adapted to the analysis of environmental impacts in a spatial context, such as a river basin, coastal zone, province or municipal area. A key aspect of REA is the consideration of the environmental opportunities and constraints of a region in development planning. The REA includes the analysis of a region's natural resources, as well as its socio-economic characteristics.

The REA process includes two main stages: designing the study and execution of the study.

Designing the study essentially includes determining the scope of the study; developing the terms of reference and selection of the REA team. This stage includes activities such as: understanding the regional planning framework; defining the spatial context; determining the optimal multi-sectoral focus; defining the study goals; establishing appropriate institutional arrangements; developing the terms of reference, planning the public consultation and defining the review process.

Executing the study includes taking into account the policy, legal and administrative framework that influences environmental management in the region; undertaking an assessment of existing baseline environmental conditions; describing the development plan and related projects; making an inventory of other plans and projects, estimating the potential cumulative impacts of the planned activities on the regional environmental and socio-economic conditions, undertaking an analysis of the environmental costs and benefits of alternative investment options; making recommendations for an optimal regional investment plan and formulating an environmental management strategy.

The environmental management strategy would typically include, for example, the identification of projects that would require special mitigation measures; guidelines for environmental monitoring; and plans for institutional strengthening (e.g. training).

**6.3 The environmental assessment of sector plans and programs**

This section is summarised from the Environmental Assessment Sourcebook Update Number 4 (October 1993)

compiled by the Environment Department, The World Bank. In 1989, The World Bank provided generic guidance on Sectoral Environmental Assessment (EA) in Operational Directive (OD) 4.00, Annex A: Environmental Assessment (Amended in 1991 as OD 4.01). Additional guidance on sectoral EA is provided in the Environmental Assessment Sourcebook (1991).

Sectoral Environmental Assessment enables the environmental analysis of sector planning and investment strategies, early in the planning process, before major decisions have been made. Sectoral Environmental Assessment relates not only to the analysis of existing policies, institutions and development plans for a sector, but it also promotes the integration of environmental concerns into sector-wide development and investment planning. Sectoral Environmental Assessment allows for recommendations to be made concerning the long-term planning for a sector. These recommendations may relate, for example, to legal aspects, environmental standards and guidelines and to training. This type of assessment also allows, inter alia, for the planning of sector-wide mitigation and monitoring measures. Public consultation is an important part of the Sectoral Environmental Assessment process.

A Sectoral Environmental Assessment includes, for example:

- \* An analysis of the national environmental policy, legal and administrative framework, as well as the sector-specific legal and institutional aspects;
- \* A description of the nature of the program, plan or series of projects to which the sectoral EA applies, and of the main environmental issues related to the sector and the relevant plan or program;
- \* A description of the current environmental situation in the sector;
- \* An environmental impact analysis, including the consideration of cumulative effects;
- \* An analysis of the environmental costs and benefits of alternative investment options and strategies;
- \* A mitigation plan for eliminating, reducing to acceptable levels or mitigating environmental impacts;
- \* A plan for improving environmental management in the sector; and
- \* An environmental monitoring plan.

#### *6.4 The nature and level of decision-making*

The section that follows is summarised from Sadler and Verheem (1996), Bailey and Dixon, 1999); Verheem and Tonk (2000) and Dalal-Clayton and Sadler (2003).

The SEA system in The Netherlands is a two-tier system that requires the following:

- \* An SEA for various plans, programmes and sectoral policies in terms of the EIA Act of 1987; and
- \* An environmental test of law and regulations, introduced in 1995.

The SEA procedure promulgated in terms of the EIA Act of 1987 applies to national plans on waste management, land development, electricity production and drinking water supply; as well as to regional plans on waste management and the siting of new industrial and housing areas. The SEA procedure is similar to that for EIA of

projects and includes, for example: full public participation, the analysis of alternatives, independent review and the monitoring of the implementation of the policy or plan. This procedure was developed to suit the open and structured nature of the decision-making process into which it was integrated. Dalal-Clayton and Sadler (2003) state that this process is “generally considered to be effective.”

Another process, the Dutch ‘E-Test’ (environmental test), was developed to assist in the design of new legislation and was established through a Cabinet Directive in 1995. The E-Test is required for all policies submitted to Cabinet that are not otherwise subject to an environmental assessment. The E-Test includes the compilation of an ‘environmental paragraph’ that should address, inter alia, four questions related to the effects of the policy on waste and on emissions to air, soil and surface water, on the use of physical space, on energy consumption and mobility and on the consumption of raw materials. The purpose of the E-Test is to provide environmental and sustainability issues with a central role in national policy-making. The principles for implementation of the E-Test, include that it should be introduced in a low-key way; that it should not delay decision-making; that the content of the environmental paragraph should reflect the significance of the issues raised and that the procedural and substantive requirements should be kept at a minimum to enable integration with other processes. The lead initiating agency is responsible for compiling the environmental paragraph and the involvement of the Minister of the Environment is mandatory. Dalal-Clayton and Sadler (2003: 63) state that: “A recent independent review of the E-test found that it was implemented in accordance with procedure but had little influence on decision-making. Currently, initiatives are underway to strengthen the process.”

#### *6.5 The need for simplicity and speed in a context of limited resources*

A type of environmental assessment which can be applied to the strategic level of decision-making and which is attractive for its simplicity, speed and minimal use of resources, is the Environmental Overview. This approach is summarised from Brown (1997).

The Environmental Overview is based on the United Nations Development Programme (UNDP) Handbook and Guidelines for Environmental Management and Sustainable Development, published in 1992. This approach applies to projects, programs, policies and sectoral activities (in the section that follows the Environmental Overview will be described in terms of its application to programs as an example).

The environment is defined in this process as including, not only biological and physical aspects, but also social, cultural, health and economic aspects. The Environmental Overview can be used in the formulation of a program, as well as in its review. In summary the Environmental Overview involves addressing a number of structured questions that relate to biophysical and social conditions, the main environmental and social issues, the economic situation, the current environmental management practice and capabilities, the impacts and opportunities related to implementation of the proposal, the alternatives for design of the proposal and the formulation of an operational strategy. The generic questions provided are modified to suit the context of the relevant programme.

Participants in undertaking the Environmental Overview should include a wide range of specialists, amongst others. Although a brief document is compiled in which the questions are addressed, the focus is on the interactive, participatory group process of undertaking the environmental overview and on the modification of the draft proposal as an integral part of the process. Participants in the process have included UNDP staff, their government counterparts responsible for project formulation (from line agencies such as health, energy, forestry and agriculture), representatives from other UN agencies and representatives of environmental Non-Governmental Organisations (NGOs). It is preferable for the process for undertaking the environmental overview to include participation by those affected by the proposal.

The Environmental Overview has been applied, for example, to a national shelter strategy proposal in Namibia, to a tourism sector development in Cambodia and to road development in a number of countries.

#### 6.6 Flexibility and early integration of environmental considerations

The Government of Canada established an SEA process, separate from the EIA process, by Cabinet Directive in 1990 (Dalal-Clayton and Sadler, 2003). A revised SEA Cabinet Directive was produced in 1999 which linked environmental assessment to the implementation of Strategies for Sustainable Development and clarified the responsibilities of federal departments and agencies.

The section which follows is a brief overview of the 1999 Cabinet Directive, summarised from the Canadian Environmental Assessment Agency's Guidelines on Implementing the Cabinet Directive.

In terms of the 1999 Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals, Ministers expect that an SEA has been undertaken if the proposal is submitted to an individual Minister or Cabinet for approval; and implementation of the proposal may lead to important positive or negative environmental effects. Importantly, the Canadian approach promotes the early integration of environmental considerations into the development of a policy, plan or programme. Departments and agencies are responsible for applying SEA to their proposed policies, plans and programmes as appropriate, and determining how the assessment should be undertaken. The guidelines produced by the Canadian Environmental Assessment Agency are advisory and not prescriptive, leaving it to the departments' and agencies' discretion to determine how they will undertake SEAs.

The process for conducting an SEA presented in these Guidelines, includes a preliminary scan and the analysis of environmental effects. The purpose of the preliminary scan is to determine whether important environmental concerns are likely to arise due to the implementation of the policy, plan or programme. If potential important environmental effects are identified (or if there is uncertainty or a high level of risk related to the outcome), an analysis of these environmental considerations should be undertaken. The analysis should be fully integrated into the evaluation of alternative proposals. The SEA should consider the following: the scope and nature of potential

effects; the need for mitigation; the scope and nature of residual effects; follow-up and public and stakeholder concerns. The final decision should include the outcome of the SEA. Departments and agencies should use existing mechanisms for public and stakeholder engagement and for reporting, as far as possible.

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## 7. RECOMMENDATIONS FOR BEST PRACTICE

The practice of SEA is relatively new in the environmental assessment field. Approaches are still being tested, refined and reviewed. To contribute to the development of SEA, the following is recommended for best practice:

- \* SEA can be used, and traditionally has been used, for the assessment of a development proposal. However, a more proactive use of SEA is in the integration of sustainability objectives into the formulation of strategies and frameworks for future decision-making. In the latter approach, the focus is not on an assessment at one point in time (although this may be needed in certain circumstances), but rather on expanding the information base for future decision-making over a period of time, to include issues related to sustainability.

- \* The nature of the SEA process and its outcomes is influenced by the context in which it is applied. It is suggested that in some cases the focus should be on strengthening existing processes through the integration of SEA principles and key elements of SEA into these processes (e.g. those for conservation planning and development planning). This would be appropriate particularly in instances where the existing decision-making process already contains substantial elements of an SEA approach. This integration is particularly important to ensure that duplication is avoided, thereby promoting the efficient use of resources.

In other instances it may be appropriate to undertake a separate SEA process, however, it is recommended that in all cases the SEA should be strongly linked to the process for the formulation of the policy, plan or programme and to final decision-making. The focus should not be on the application of a general pre-determined SEA process, but rather on designing and undertaking an appropriate context-specific procedure to integrate the objectives of sustainability into strategic decision-making.

- \* The earlier the SEA process begins in the process of formulating the policy, plan or programme, the more effective it is likely to be. Not only can the SEA assist in the conceptualisation of the policy, plan or programme, but incorporation of changes as a result of the SEA findings, at a late stage of development of the policy, plan or programme, can be avoided.

- \* The benefits of the SEA should be clear, not only to the implementing agency, but to all other stakeholders

in the region or sector. This could assist in promoting the involvement of stakeholders, other than the lead agency, in the implementation of the SEA.

- \* A visioning process during the initial stages of the SEA provides a useful way of identifying a common purpose for the SEA amongst a range of stakeholders. This enables participants to focus on a desired future, rather than on current problems (Lochner et al., 2003).
- \* It is important that the purpose and scope of the SEA is clearly defined. It should also be clearly stated what issues will not be addressed. To assist in focusing discussion during the process, it is suggested that agreement is sought on the desired outcomes of a particular discussion before it begins (Lochner et al, 2003).
- \* It is important that the SEA includes practical recommendations for the implementation of the principles, strategies and guidelines contained in the report. The link between objectives and strategies, and the institutional arrangements, projects and actions required should be clear. This will assist in monitoring progress in the implementation of the recommendations resulting from the SEA process.
- \* The focus of the SEA process should not be on the production of the report, but on the development of the institutional arrangements, decision-support systems, environmental management tools and procedures, as well as the capacity building and training programmes required to integrate the objectives of sustainability into strategic decision-making.
- \* As the practice of SEA is relatively new, in many instances capacity building amongst various stakeholders, related to the nature and purpose of the SEA and its desired outcomes, may be required as part of the process. Specialists providing an input into the SEA process may require additional assistance in moving away from assessing the impact of a proposed development on the environment and socio-economic conditions (as in EIA), to identifying the opportunities and constraints that the environment and socio-economic conditions presents for future development (SEA approach) (Heather-Clark, 2003). Training and capacity building may also be needed for the implementation of the recommendations resulting from the SEA

## 8. CONCLUSION

The practice of SEA in South Africa, and internationally, is currently evolving. The testing of various approaches and determining the effectiveness of these, is therefore important in the development of best practice. Capacity building amongst all stakeholders will also assist in promoting the effective implementation of SEA, and thereby promote the integration of the objectives of sustainability into strategic decision-making.

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## 10. GLOSSARY

### Definitions

#### *Affected environment*

Those parts of the socio-economic and biophysical environment impacted on by the development.

#### *Affected public*

Groups, organizations, and/or individuals who believe that an action might affect them.

#### Alternative proposal

A possible course of action, in place of another, that would meet the same purpose and need. Alternative proposals can refer to any of the following but are not necessarily limited thereto:

- \* alternative sites for development
- \* alternative projects for a particular site
- \* alternative site layouts
- \* alternative designs
- \* alternative processes
- \* alternative materials

In IEM the so-called “no-go” alternative also requires investigation.

#### *Authorities*

The national, provincial or local authorities, which have a decision-making role or interest in the proposal or activity. The term includes the lead authority as well as other authorities.

#### *Baseline*

Conditions that currently exist. Also called “existing conditions.”

#### *Baseline information*

Information derived from data which:

- \* Records the existing elements and trends in the environment; and
- \* Records the characteristics of a given project proposal

#### *Decision-maker*

The person(s) entrusted with the responsibility for allocating resources or granting approval to a proposal.

#### *Decision-making*

The sequence of steps, actions or procedures that result in decisions, at any stage of a proposal.

#### *Environment*

The surroundings within which humans exist and that are made up of -

- i. the land, water and atmosphere of the earth;
- ii. micro-organisms, plant and animal life;
- iii. any part or combination of (i) and (ii) and the interrelationships among and between them; and
- iv. the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being. This includes the economic, cultural, historical, and political circumstances, conditions and objects that affect the existence and development of an individual, organism or group.

#### *Environmental Assessment (EA)*

The generic term for all forms of environmental assessment for projects, plans, programmes or policies. This includes methods/tools such as EIA, strategic environmental assessment, sustainability assessment and risk assessment.

#### *Environmental consultant*

Individuals or firms who act in an independent and unbiased manner to provide information for decision-making.

#### *Environmental Impact Assessment (EIA)*

A public process, which is used to identify, predict and assess the potential environmental impacts of a proposed project on the environment. The EIA is used to inform decision-making.

#### *Fatal flaw*

Any problem, issue or conflict (real or perceived) that could result in proposals being rejected or stopped.

#### *Impact*

The positive or negative effects on human well-being and/or on the environment.

## ***Integrated Environmental Management (IEM)***

A philosophy which prescribes a code of practice for ensuring that environmental considerations are fully integrated into all stages of the development and decision-making process. The IEM philosophy (and principles) is interpreted as applying to the planning, assessment, implementation and management of any proposal (project, plan, programme or policy) or activity - at the local, national and international level - that has a potentially significant effect on the environment. Implementation of this philosophy relies on the selection and application of appropriate tools to a particular proposal or activity. These may include environmental assessment tools (such as Strategic Environmental Assessment and Risk Assessment); environmental management tools (such as monitoring, auditing and reporting) and decision-making tools (such as multi-criteria decision-support systems or advisory councils).

## ***Interested and affected parties (I&APs)***

Individuals, communities or groups, other than the proponent or the authorities, whose interests may be positively or negatively affected by a proposal or activity and/or who are concerned with a proposal or activity and its consequences. These may include local communities, investors, business associations, trade unions, customers, consumers and environmental interest groups. The principle that environmental consultants and stakeholder engagement practitioners should be independent and unbiased excludes these groups from being considered stakeholders.

## ***Lead authority***

The environmental authority at the national, provincial or local level entrusted in terms of legislation, with the responsibility for granting approval to a proposal or allocating resources and for directing or coordinating the assessment of a proposal that affects a number of authorities.

## ***Mitigate***

The implementation of practical measures to reduce adverse impacts.

## ***Non-governmental organizations (NGOs)***

Voluntary environmental, social, labour or community organisations, charities or pressure groups.

## ***Proponent***

Any individual, government department, authority, industry or association proposing an activity (e.g. project, programme or policy).

## ***Proposal***

The development of a project, plan, programme or policy. Proposals can refer to new initiatives or extensions and revisions to existing ones.

## ***Public***

Ordinary citizens who have diverse cultural, educational, political and socio-economic characteristics. The public is not a homogeneous and unified group of people with a set of agreed common interests and aims. There is no single public. There are a number of publics, some of whom may emerge at any time during the process depending on their particular concerns and the issues involved.

## ***Role-players***

The stakeholders who play a role in the environmental decision-making process. This role is determined by the level of engagement and the objectives set at the outset of the process.

## ***Scoping***

The process of determining the spatial and temporal boundaries (i.e. extent) and key issues to be addressed in an environmental assessment. The main purpose of scoping is to focus the environmental assessment on a manageable number of important questions. Scoping should also ensure that only significant issues and reasonable alternatives are examined.

## ***Screening***

A decision-making process to determine whether or not a development proposal requires environmental assessment, and if so, what level of assessment is appropriate. Screening is initiated during the early stages of the development of a proposal.

## ***Significant/significance***

Significance can be differentiated into impact magnitude and impact significance. Impact magnitude is the measurable change (i.e. intensity, duration and likelihood). Impact significance is the value placed on the change by different affected parties (i.e. level of significance and acceptability). It is an anthropocentric concept, which makes use of value judgements and science-based criteria (i.e. biophysical, social and economic). Such judgement reflects the political reality of impact assessment in which significance is translated into public acceptability of impacts.

### *Stakeholders*

A sub-group of the public whose interests may be positively or negatively affected by a proposal or activity and/or who are concerned with a proposal or activity and its consequences. The term therefore includes the proponent, authorities (both the lead authority and other authorities) and all interested and affected parties (I&APs). The principle that environmental consultants and stakeholder engagement practitioners should be independent and unbiased excludes these groups from being considered stakeholders.

### *Stakeholder engagement*

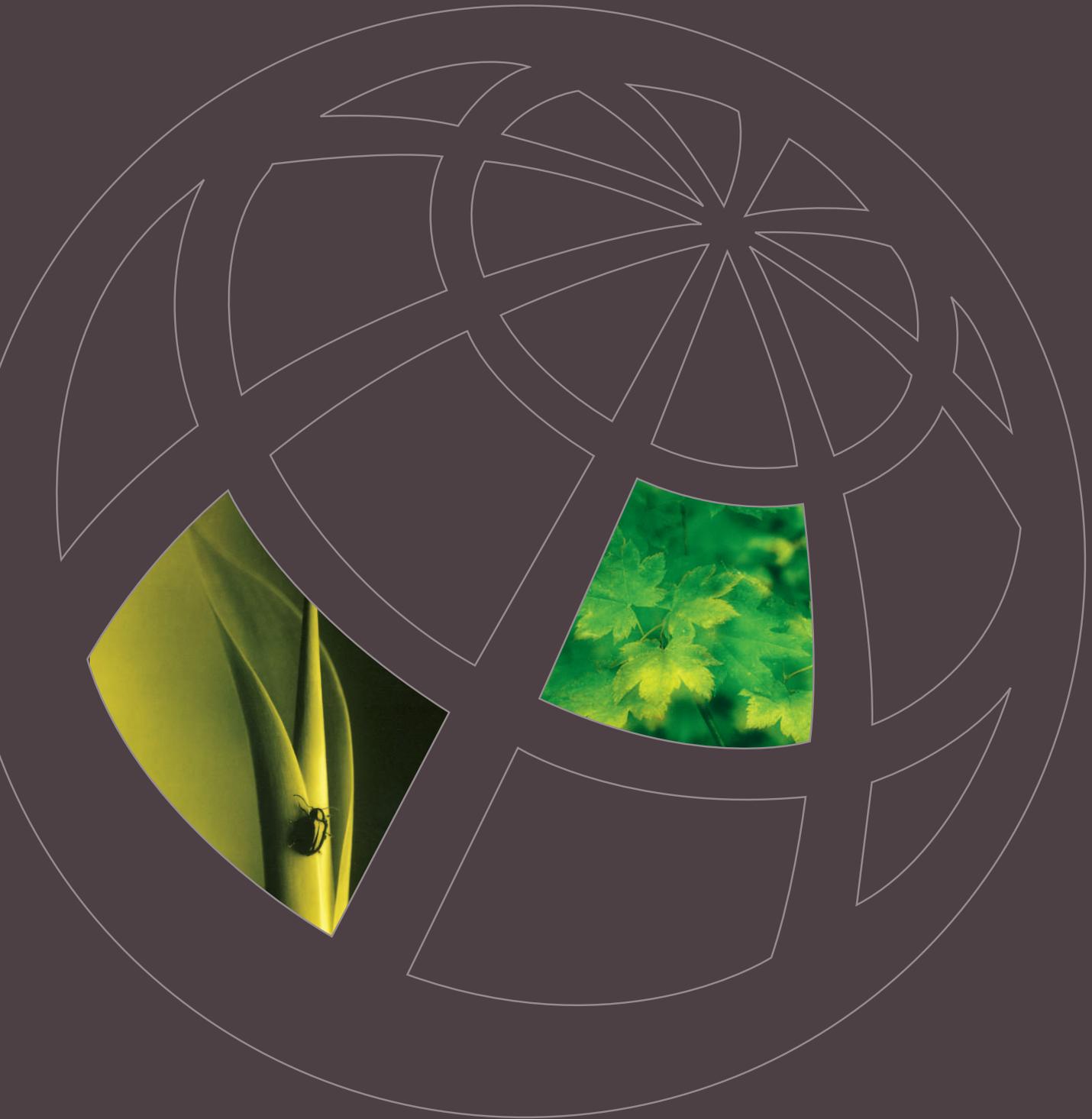
The process of engagement between stakeholders (the proponent, authorities and I&APs) during the planning, assessment, implementation and/or management of proposals or activities. The level of stakeholder engagement varies depending on the nature of the proposal or activity as well as the level of commitment by stakeholders to the process. Stakeholder engagement can therefore be described by a spectrum or continuum of increasing levels of engagement in the decision-making process. The term is considered to be more appropriate than the term "public participation".

### *Stakeholder engagement practitioner*

Individuals or firms whose role it is to act as independent, objective facilitators, mediators, conciliators or arbitrators in the stakeholder engagement process. The principle of independence and objectivity excludes stakeholder engagement practitioners from being considered stakeholders.

## **ABBREVIATIONS**

|      |                                     |
|------|-------------------------------------|
| CBO  | Community-based Organization        |
| EA   | Environmental Assessment            |
| EIA  | Environmental Impact Assessment     |
| EMP  | Environmental Management Plan       |
| EMS  | Environmental Management Systems    |
| I&AP | Interested and Affected Party       |
| IEM  | Integrated Environmental Management |
| NGO  | Non-governmental Organization       |
| SEA  | Strategic Environmental Assessment  |



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