

# STRATEGIC ENVIRONMENTAL ASSESSMENT APPRAISAL OF PLANNING POLICIES

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## ABSTRACT

This research introduces the topic of Strategic Environmental Assessment, as a newly developed approach, aimed at serving the broad goals of environmental protection and sustainable development. Strategic Environmental Assessment, also abridged as "SEA", aims to prevent environmental degradation. It gives decision-makers specific information about the consequences that development policies, plans and programmes, could have on the environment. The benefits of Strategic Environmental Assessment are widely recognised, particularly in the early stage of broad ranging planning policies and decisions. There is a considerable body of literature currently dedicated to the topic. This paper presents a review of the key issues involved in the field of policy impact appraisal, in addition to some thoughts on the application of SEA principles. It emphasises the need for impact assessment at a more strategic level, and the subsequent guidance for future plans, proposals, and interventions. In the present time, it could be argued that Strategic Environmental Assessment is likely to become the most direct method for implementing "sustainability". Thus, globally applicable methodologies for undertaking SEA will need to be addressed by planners, and incorporated into their approaches towards an overall environmental improvement. The research consists of five main parts. First, the environmental concerns, and policy impact are discussed. The second part reviews the environmental impact assessment, along with relevant definitions and scope, and explains its recent shift of scope. Third, the Strategic Environmental Assessment (SEA) is introduced as a process of policy appraisal. Next, the fourth part is a review of key problems related to the subject. In the fifth part a synthesis of different methodologies for undertaking SEA is presented. The research concludes in part six a general outlook for strategic environmental assessment, and a brief recap on its context and broad issues, including: actors, objectives, impacts, methodologies, and public involvement. The research attempts to present a comprehensive view, primarily at the theoretical level, regarding the prospects, and range of opportunities, made available by "Strategic Environmental Assessment" as a decision-guiding tool.

**Keywords:** Strategic Environmental Assessment, Planning Policies Impact, Environmental Impact Assessment, Sustainable Development.

## INTRODUCTION

Urban development is always initiated in the form of a policy, a proposal or a plan. In the recent years, and due to increased awareness about environmental degradation, the impact of such policies and plans came under strict scrutiny. Undesirable or detrimental effects of planning proposals were addressed and methods of preventing further decline discussed. As early as the seventies, Environment well-being and protection, became an issue of growing concern among policy-makers and analysts [1]. Their key interest and quest was to develop ways in which harmful effects of planning practices can be evaluated, controlled, if not altogether prevented.

According to this view, any proposed policies and programmes should be thoroughly studied and then evaluated before they are put into action. Such an evaluation is basically an "assessment" of how such proposed changes would impact on society and the environment, locally as well on the regional and global levels. The purpose of an assessment is to forecast and discover, prior to implementation stage, all the possible effects both positive and negative.

Of course the negative effect on nature is the major issue, which currently generates greater worries, and reservations, on the part of planning authorities and observers. Over the past decade, there has been considerable growth of interest in environmental issues, in sustainability, and in better planning and management of development in respect with the environment. Environmental pollution has been recognised as the primary threat in the current condition. Environmental pollution is a term that refers to all the ways in which human activity harms the natural environment. Pollution can be witnessed, and measured in cases such as contaminated soil or water. Other kinds of pollution can be invisible or non-perceived by humans, but they can drastically reduce

the quality of life for people, impede functions and whole urban systems.

Many people think of air, water, and soil pollution as forms distinct from each other. However, each of the parts of an environment (air, water, and soil) depends upon the others, and upon the inhabitants living within the environment, and the impact of the extent to which these inhabitants use and abuse each of the three components. The relationships among all the living and non-living things in an environment make up an "Ecological System", also called an "Ecosystem". All the ecosystems of the earth are connected, thus pollution that seems to affect only one part of the environment may also affect other parts [2]. There are two types of pollution, classified according to their sources. The first is called "point source pollution", and comes from one specific point or location such as a factory or sewage plant. The second type is "non-point source pollution", generating from large urban areas, where residues from fuels and fertilisers, heavily consumed, could be washed off into local water resources. Together, they combine to cause the biggest threat to nature.

Since the declarations of the Earth Summit held in Rio De Janeiro, 1992, universal concerns has been growing, and a chief goal pursued by all disciplines, that is to have pollution reduced. This broad goal has been particularly addressed and pursued, by different bodies involved in the planning practice and control authorities [3]. Urban planners involvement became a necessity, since most of the pollution, that now threatens the health of the environment and its inhabitants, comes from planning practices, and management processes. Thus, in order to improve the environment, both planning and management strategies will have to be altered, and this will inevitably entail some repercussions. Several negative results might occur, for example less industries, less/slower farming, more unemployment, and less freedom of choice regarding modes of transportation.

### IMPACT ASSESSMENT : A SHIFT OF SCOPE

Environmental Impact Assessment (EIA) is the process of predicting and evaluating an action's impacts on the environment, the conclusions to be used as a tool to assist planners and/or authorities in decision-making. Several definitions for EIA are currently in use across the literature available on the subject. The nature, scope and definitions of EIA are often differently stated [4]. In the late seventies, reference was made to the need to identify and predict the impact on the environment, and on man's health and well-being, of legislative proposals, policies, programmes, projects and operational procedures, and to interpret and communicate information about the impacts. In the Eighties, an operational definition was introduced in the UK. The term environmental assessment described a process by which information about the environmental effects of a project is collected, and taken into account by the planning authority in forming their judgements concerning approval or rejection. From 1991, a shorter and more succinct definition has been used in Europe and by the United Nations :

"an assessment of the impact of a planned activity on the environment".

In essence, EIA is a process that examines the environmental consequences of planning actions, in advance. The emphasis is on prevention of further deterioration and environmental protection. The process involves a number of systematic steps, which are carried out in a holistic and multi-disciplinary way (Figure 1). A standard EIA technique might seem linear and rigid at the first instance. However, the implementation of EIA should be a cyclical activity, with feedback and interaction between the various steps. The steps commonly involve the following:

- Reviewing the existing state of the environment and the characteristics of

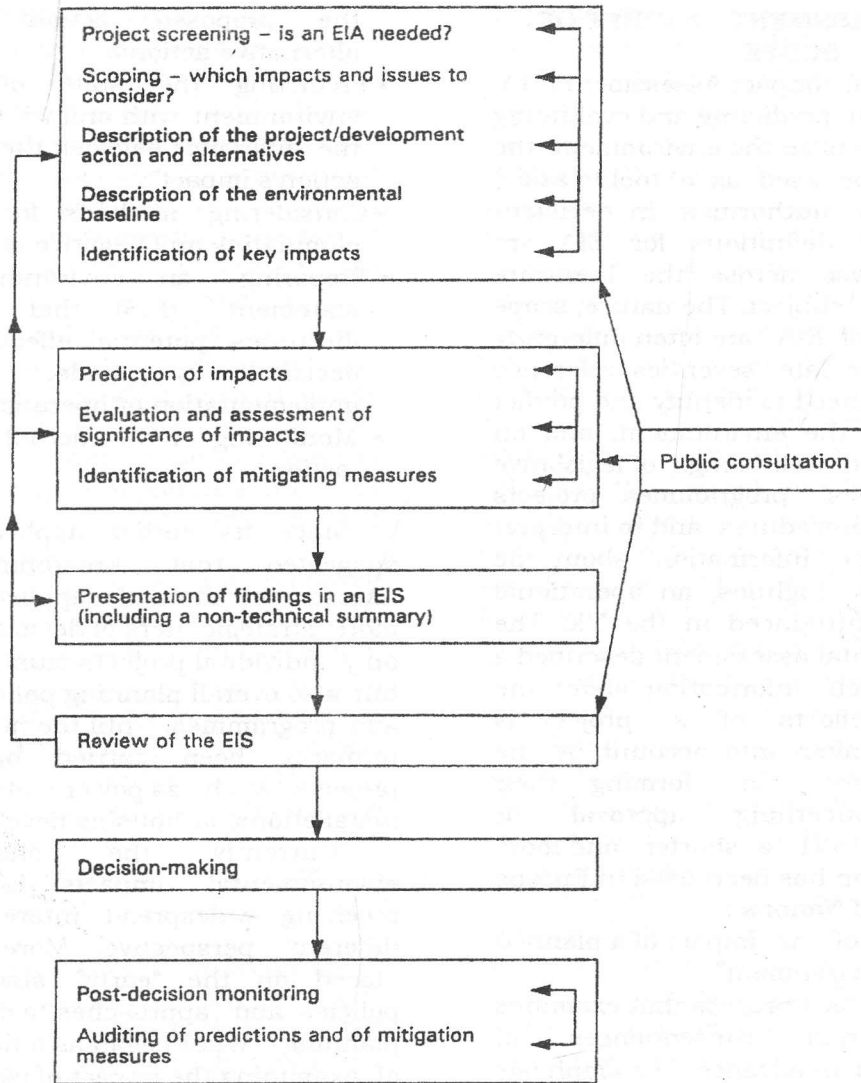
the proposed action and possibly alternative actions;

- Predicting the state of the future environment with and without the action, the difference between the two being "the action's impact";
- Considering methods for reducing or eliminating any negative impacts;
- Preparing an environmental impact statement (EIS) that outlines and discusses potential effects; and after a decision is made, through the implementation or operation phases
- Monitoring of the actual impacts of the action.

Since its earlier applications, it was suggested that Environmental Impact Assessment should be applied to the earlier, more strategic tiers of decision-making. Not only individual projects must be considered, but also overall planning policies, proposals, and programmes. Until the nineties, EIA has primarily been carried out for larger projects, such as power stations, industrial installations, or housing developments [5].

Currently, the consideration of environmental impacts is once again receiving widespread interest, yet from a different perspective. More emphasis is placed on the "early" stages of forming policies and approaches to deal with urban planning. What began as a narrow requisite of examining the impact of isolated projects, is now gradually shifting to encompass an evaluation of whole policies. A new field of study has been set up: Strategic Environmental Assessment, often abridged as "SEA".

In some instances, SEA is being seen as an extension of EIA for projects, only at an earlier stage in the decision-making process. However, since its onset in the mid nineties, SEA has proven to advance the agenda of *Sustainability* [6]. It is argued that strategic assessment may be the most direct way of making judgements about sustainability operational.



**Figure 1** Serial steps in the Environmental Impact Assessment (EIA): a cyclical process with considerable interaction between the various steps.[4].

**STRATEGIC ENVIRONMENTAL ASSESSMENT A FORM OF POLICY APPRAISAL**

Strategic Environmental Assessment is one way of overcoming limitations of the existing systems of impact assessment for individual projects (EIA). It provides a means of anticipating and preventing environmental damages at source, as opposed to only treating the impacts at the project stage [7] (Figure 2). This approach is

consistent with the sustainability agenda, and could allow the principle of sustainability to be implemented in a phased way from policies to plans, and programmes (Figure 3). Thus, It provides an exemplary framework for a broader, integrated approach to environmental protection.

The arguments for assessing the impacts of a policy, or programme, before they become manifested in projects themselves

need reviewing in the context of a more general discussion of the policy process [5]. The extent to which policies, or programmes form a simple progressive framework for addressing these matters is thus itself under inquiry. Strategic

Environmental Assessment is being advocated by many planners and government agencies world-wide as an improvement on the existing limited system of project EIA, also criticised as a case-by-case "reactive" system of project EIA. But other factors have also contributed to the promotion of systematic review of the environmental consequences of government policies and activities. These factors include:

- An increased awareness of the global dimension of government activity at all levels, and of the complex interaction between the economy and the environment;
- Concern over the opportunities available to the public, and interested bodies to participate in discussions, about problems and alternatives, in the stage of policy formulation; and
- Moves within governments to undertake more systematic appraisal of different policy options, as to improve decision-making and accountability.

The review of consequences would consider the costs and benefits of a proposed policy, and a comparison of the different measures needed to implement it. Most importantly, it would be comprehensive enough as to include the financial, social as well as the environmental implications.

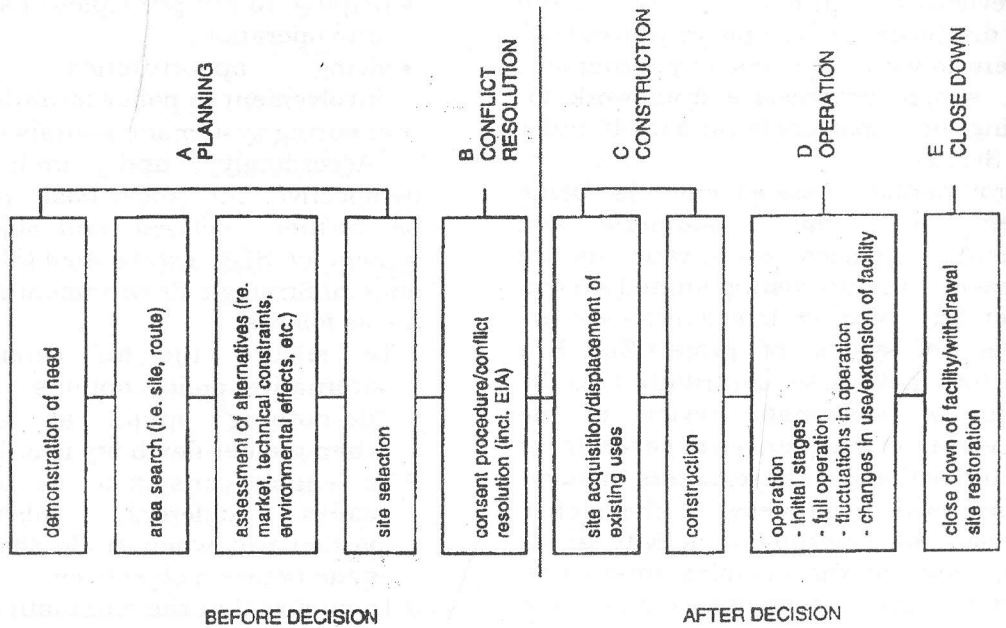
The above factors have together generated a considerable interest, among academic and policy-making circles, in favour of employing assessment of implications, of policies and alternatives at a strategic stage.

The arguments for SEA can be summarised, and associated with the above three factors as:

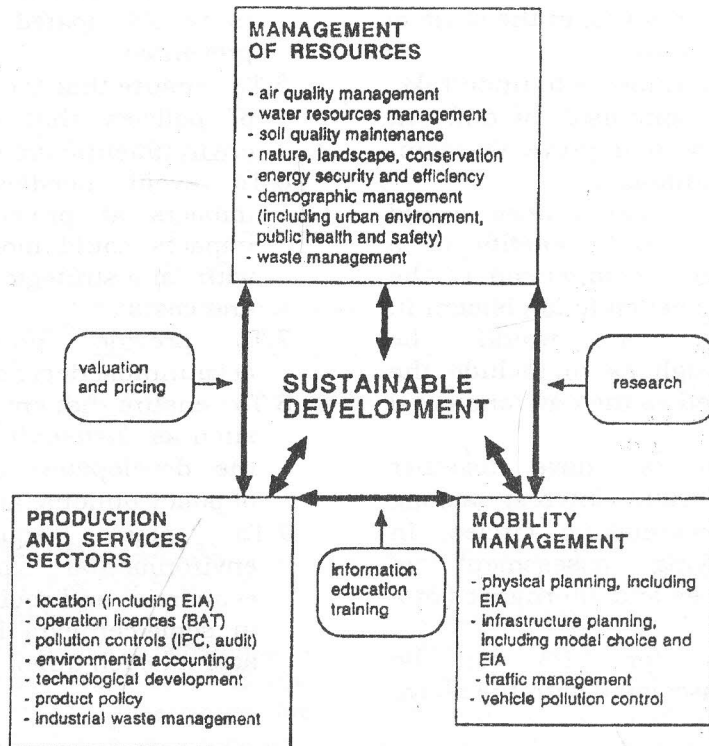
- helping to put principles of sustainability into operation;
- giving opportunities for wider involvement in policy formulation; and
- ensuring systematic appraisal of choices.

Accordingly, and from a broader perspective, the above basic principles can be further explored, and objectives for a system of SEA established [5] The multiple aims of Strategic Environmental Assessment are as follows

1. To ensure the full consideration of alternative policy options, including the "do-nothing" option, at an early time when greater flexibility is at hand;
2. To enable consistency to be developed across different policy sectors, particularly when trade-offs need to be made between objectives;
3. To ensure that the cumulative, indirect or secondary impacts, of diverse activities are considered, including the unintended consequences;
4. To enable adverse environmental impacts to be anticipated, and hence avoided or prevented;
5. To ensure that the environmental impact of policies that do not have an overt environmental dimension is assessed;
6. To avoid needless re-assessment of impacts at project level, where such impacts could more effectively be dealt with at a strategic level, thus saving time and costs;
7. To provide publicly available and accountable decision-making framework;
8. To ensure that environmental principles, such as *Sustainability*, are integrated into the development, appraisal and selection of policy options; and
9. To place equal emphasis to environmental considerations, as to economic and social concerns, given that in some contexts they could be traded-off against each other.



**Figure 2** Generalised planning and development life-cycle for major projects, referring to the necessary distinction of impact assessment during the stages of "Before Decision" (A, B), and "After Decision" (C, D, E) [4].



**Figure 3** A framework for Sustainable Development adopted in countries of the European union [4].

### PROBLEMS WITH STRATEGIC ENVIRONMENTAL ASSESSMENT

The complexity of the policy-making process, and multiple stages included, pose a true challenge to the ensuing evaluation and impact assessment. The dynamic nature of the policy process means that a policy itself is likely to be a series of decisions rather than a timed single one. It also means that issues involved are likely to be redefined throughout the process. It could also be that a series of decisions and actions will constitute the policy subsequently.

It is this complexity that poses major difficulties in analysing the impacts of a policy. There are therefore conceptual problems in undertaking policy appraisal, and particularly when undertaking that appraisal as part of the formulation stage, which is what SEA calls for. Also, insufficient political will and low priority given to environmental concerns, are some institutional barriers to introducing and implementing SEA [6].

The application of strategic environmental assessment, at an early stage, is likely to be subject to many difficulties. Many of the expected problems resemble those encountered in conventional policy analysis, and in EIA of individual projects. In outline, the problems would include the following seven points [5]:

1. Vague nature of statements at the level of policies, and the tendency for decisions to be made in an incremental, and not clearly mentioned fashion;
2. Problems of system boundaries and the consequent analytical complexity required (e.g. large number of potential decisions that flow from a higher-level decision, and large number of potential developments over a physical area)
3. Lack of information about existing and future environmental conditions, future development proposals (i.e. nature, scale, location), and thus the lack of precision with which impacts can be predicted;
4. Large number and variety of alternatives to be considered, at different stages of policy formulation;

5. Lack of shared information about the experience of EIA at the strategic level, and cases in which it has been applied;
6. Uncertainty over public involvement in the policy-making process; and
7. Sensitivity of some issues due to the political nature of the decision-making process.

Notwithstanding these difficulties, strategic environmental assessment is justified in terms of enabling a more consistent integration of environmental concerns into decision-making. It may be that different forms of SEA are appropriate at different levels of decisions or during the formulation of policies. An agreed protocol remains to be achieved [8].

### METHODOLOGIES OF STRATEGIC ENVIRONMENTAL ASSESSMENT

The methodologies for undertaking SEA are neither well developed nor commonly agreed upon. This is still a subject which generates extensive debate, and also needs urgent attention from concerned parties on a world-wide basis. According to Therivel [5], two issues in SEA methodology underlie the multiple techniques adopted world-wide. First is the issue of whether SEA should take different forms when applied for policies, for plans, or for programmes. Many of the methods employed are directly transferable, though some will differ in degree of detail and level of specificity. Due to the difference in nature and characteristics, between policies and plans for example, the issues considered in the assessment of their environmental impact will differ consequently.

The second issue is whether SEA should take different forms depending on the type and scale of the policy or programme itself. There are currently three established types of strategic environmental assessments: sectoral, regional, and indirect [5]. The most commonly prepared or proposed subjects within each category include:

- Sectoral: Transport, industry, housing, energy, waste disposal, water supply, and agriculture;

- Regional: metropolitan/city plans , community plans, redevelopment plans, and rural plans, national utilities such as airports or universities, and other planning decisions concerning locations for developments; and
- Indirect: science and technology, fiscal policies, and justice or law enforcement.

These issues become apparent when considering the main steps in any SEA required by governments and planning authorities. Based on earlier experience in preparing SEA manuals in Europe and in the United States, comparable issues could be drawn (Figure 5). Together they define a brief outline of the methodology, or sequence of steps which could be applicable to a range of strategic levels and topics:

**Determining the Need for an SEA**

The first stage in the preparation of a "Strategic Environmental Assessment" is usually carried out by the concerned authority, e.g. an urban planning body proposing a certain action. The authority or agency will decide whether there is a need for an SEA and will also determine the feasibility of such process. The need for SEA is in some cases determined by legislation, or by initiative from private agencies to

ascertain their efficiency, and environmental sensitivity. Recently, environmental assessment has been undertaken and advocated by several organisations seeking to assert their "Green" credentials, accountability, and sense of responsibility towards nature.

Certain factors would also suggest that an SEA is needed. Namely, four broad factors interact to do so, such as: the level of planning activity within the study area; the rate of change in the area (e.g. population growth); public activism and influence; and unique environmental features, resources, or sensitive sites subject to violations of environmental standards.

**Establishing a Work Programme**

Also initiated by the planning authority, this stage includes a discussion of the practical application of SEA, and a list of tasks that are essential. While few countries have formal or relevant regulations, the practice of impact assessment is becoming increasingly common around the world [9]. This stage would discuss internal administrative matters such as time schedule, budget, and staff recruitment for the operation.

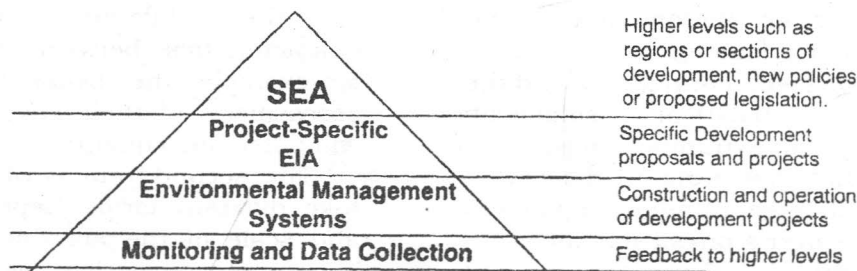


Figure 4 A tiered sequence of assessment of the different levels of action and policy-making process [8].



## Strategic Environmental Assessment Appraisal of Planning Policies

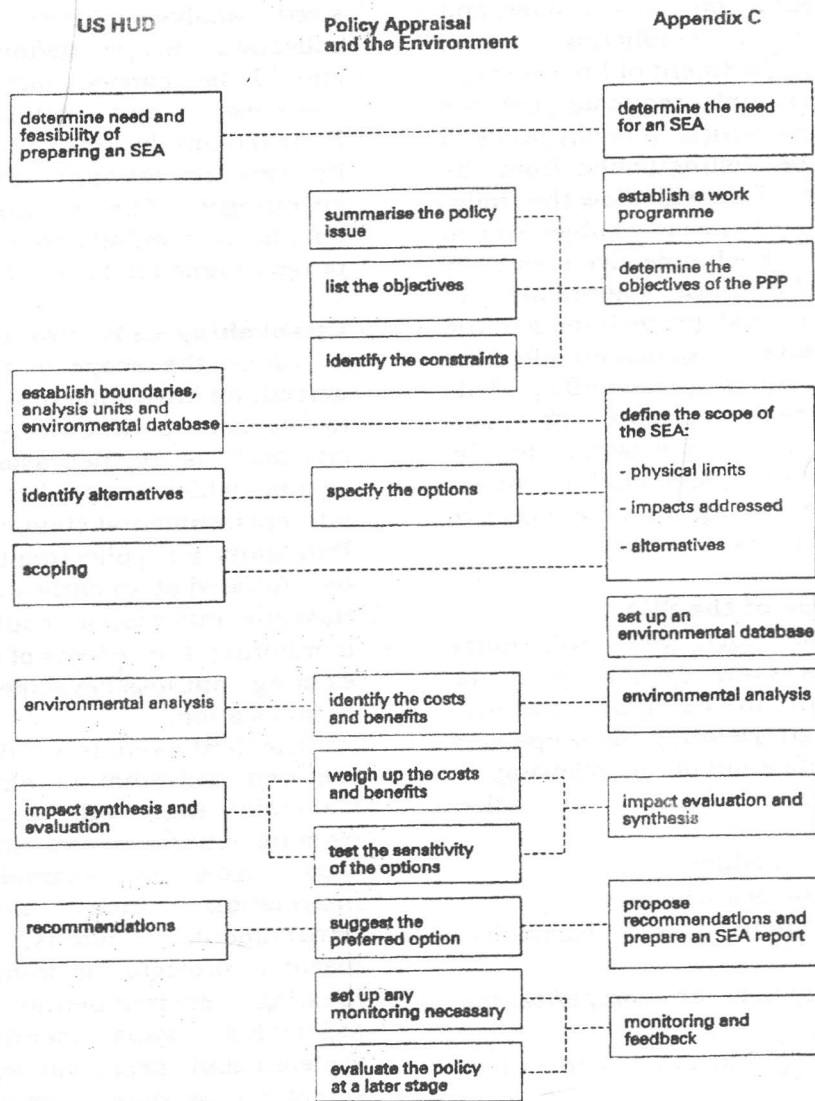


Figure 5 Steps in Strategic Environmental Assessment, synthesised from two manuals proposed by the US Department of Housing and Urban Development, and UK Department of the Environment, in its paper Policy Appraisal and the Environment [5].

More specifically, this stage could address the issues and problems of particular areas of study, and the tasks such as public participation, consultations, the possible updating or establishing of databases. In developing countries, it is particularly necessary to consider the budget limits, given the usual situation where tight government spending constrains the process, and could potentially marginalise the whole issue of environmental protection. While devising

the work programme and staffing plan, cooperating agencies, non-governmental organisations, and other interested bodies must be invited to participate [3] and their potential contributions channelled into the operation.

### Determining the Objectives

At this stage, a clear understanding of the objectives (of any policy in question) will have to be established. Many policies or programmes will incorporate environmental

considerations, but as part of a broader, and sometimes internally conflicting, set of objectives. The Department of Environment in the UK for example requests that the ultimate objectives which a policy seeks to achieve should be distinguished from the intermediate ones. This will allow the trade-off between different classes of objectives to be made explicit. Each objective should be revisited during the course of appraisal, and analysis of options. A slight reshaping of the objectives may have a significant effect on the impacts and on the trade-offs [5]. This stage sets the realistic framework which enables subsequent decisions to be implementable. Herein, sustainability ought to be incorporated as an ultimate objective of the planning policies.

### Defining the Scope of the SEA

The scope of each SEA will differ according to its level (policy, plan, or programme), and to its type (sectoral, regional, or indirect). Defining the scope also involves the identification of the following:

- Physical/regional limits of the assessment;
- Impacts that it will address;
- Possible alternatives it will cover;
- Constraints such as legislative requirements;
- Need for mitigation or compensation measures; and
- Views of the public and concerned organisations.

Of particular importance is the identification of physical and regional limits of an early SEA, at the programme level. At this level, setting the limits will be generally influenced by the existing features of geography, natural resources, man-made features (e.g. motorways, railroads), as well as by existing administrative boundaries, and planning authority local zones. For policy-level SEA, the boundaries might be jurisdictional (e.g. city, county, region), and a multiplicity of level of influence accorded to different entities.

Depending on the size of the study area, boundaries being defined, it may be necessary to break the territory into smaller

sized analysis units for ease of data collection. Scope definition as a process should be carried out in a climate of openness and public accountability. Participation by the public and cooperation by various relevant agencies should be encouraged. The results of the process should be regularly recorded, and the study progress amended accordingly.

### Establishing an Environmental Database

After the scope of the SEA has been agreed, an environmental database will need to be set up. Knowledge of the "baseline situation" is a necessary reference point against which to predict and then monitor any environmental change that might occur. Provisions for collecting baseline data must be initiated at an early stage in the process. Baseline information could be obtained by monitoring the effects of similar policies, or existing but less developed policies, already in application.

The first step is to decide what data is required and what is already in existence. Generally, there will be a large amount of existing environmental data relating to the study area. For example, this includes information from authorities, from environmental audits, from previous research projects, or from land use plans. Existing environmental data is then assembled, gaps identified. Monitoring systems and special surveys (e.g. using field sampling) can then be used to obtain data to meet remaining deficiencies.

### Impact Prediction, Evaluation and Mitigation

Strategic environmental Assessment has initially adopted many of the techniques of project-specific EIA [10]. However, due to the continuous, iterative character of policies, a wider range of impact prediction techniques is to be considered for SEA.

Techniques include aerial photography, cartographic techniques, computer models, remote sensing, and national/regional forecasts relating to issues such as population, energy use, pollution levels, and traffic. Geographical Information Systems

(GIS) can be particularly useful in modelling and predicting changes to the environment [8]. Further techniques for impact prediction, include mapping and overlay methods, resource and waste coefficient analyses, accident and uncertainty analysis, and consultation with agencies and the public. Attention must be paid to all types of impact: cumulative, secondary and indirect. Distinctions should be made between short-term and long-term impacts, as well as between reversible and irreversible impacts.

Evaluation of the significance of impact can be based on several criteria. These include the degree of compliance with relevant environmental standards, maintenance of carrying capacities, and sensitivity to local conditions, especially the residents' views. Several methods are used to test the magnitude and significance of environmental impacts such as: checklists, scaling/weighting systems, overlay methods, consultation with environmental agencies, screening procedures, resource depletion, diffusion and damage analysis, and landscape assessment techniques, in addition to social surveys. Evaluation of alternatives could take the form of a matrix, through the cross-tabulation of various alternatives against environmental components. Lateral relationships (impacts) will be noted in appropriate matrix cells.

Mitigation measures should be proposed to eliminate or minimise all negative impacts identified in previous steps. Such measures could include:

- Changing the policy scale, type, or location;
- Improved public outreach (e.g. advisory groups, information programmes);
- Altering the objectives as to give greater attention to negative impacts;
- Compensation options, financial or otherwise, such as new amenities, parks, community centres, or improved transport infrastructure; and
- Resettling or reconstructing of affected habitat.

Some impacts will have to be evaluated despite the level of uncertainty concerning

their likelihood. Such uncertainty, though possible to reduce, remains an acceptable part of any environmental impact prediction. The evaluation and synthesis of impacts should also take into account the attitudes/preferences of local residents, and the effectiveness of public planning and management in mitigating potential impacts through reduction, prevention, and compensation.

### Recommendations and SEA Report

Recommendations will be finally derived from the findings of the impact evaluation. They may conclude:

- Identification of a preferred alternative;
- Necessary mitigation measures; and
- Required monitoring measures.

Besides evaluation Criteria, techniques used to select preferred measures for implementation include public participation, and consultation with environmental agencies. Ultimately, the principles of carrying capacities and sustainability would consist the primary criteria by which to decide one final alternative to be adopted.

A formal SEA report should then be prepared, documenting the findings of each stage of the process, as follows:

- Description of the need for the SEA;
- Discussion of the objectives of the policy, plan, or programme;
- Description of existing policies and regulations affecting the SEA;
- Explanation of the scoping process and its conclusions;
- Discussion of alternatives considered, and rationale behind the selection of preferred option;
- Description of existing environment and the area likely to be affected;
- Description of significant impacts of the preferred policy and alternatives;
- Proposals for mitigation measures;
- Details of monitoring proposed; and
- Non-technical summary.

The report should also briefly mention the difficulties encountered in each stage of the process, the details of consulting stages, and results of participation exercises. The SEA findings could be

reported in different format, such as maps, photomontages, models, matrices, summary sheets as well as text.

### Monitoring and Feedback

Monitoring will be needed to evaluate the effects of the policy, from its early operation. It would identify further studies and modifications needed during implementation, and feed back into future decision making. This is particularly important in order to check the extent to which the assumptions and forecasts in the SEA have turned out to be valid.

Environmental monitoring techniques and systems ought to be applied, engaging the multiple disciplines concerned with environmental quality. Within the final report, it is advisable to include statements regarding the monitoring requirements, the agency responsible for observing the impacts and subsequent mitigation measures, and to suggest the best timing and frequency of monitoring.

The above steps do not necessarily occur in strict sequential order. Furthermore, they should be regarded as components of a cyclical/dynamic process, requiring periodic review, involvement by the public, and feedback to assist serial decisions.

## CONCLUSION

### A General Outlook for Strategic Environmental Assessment

The main purpose of this research has been to review the field of Strategic Environmental Assessment, its aims, processes and considerations. SEA has been primarily considered on the theoretical level, rather than on the practical level. This was intended in order to present useful insight into the field, and to highlight its components. Another aim of the above discussion was to emphasise the potential of, and opportunities presented by, the SEA to assist the planning decisions, and to incorporate environmental sensitivity and sustainability into the process of policy-making.

The following part is a final outlook which recapitulates some broad issues and further stresses them aiming to provide a better understanding of SEA and its expanding context :

### Actors involved in the production of SEA

Existing systems of SEA all require the agency that is concerned with setting the policies or programmes to prepare the SEA. For example, ministries of housing, urban development, departments of transportation, could engage in the production of SEAs, depending on their roles in proposed actions.

The SEA may be incorporated into the primary document proposing the policy or action. In other cases, it might be prepared with assistance from agencies, consultants, and/or committees, whose work is related to environmental protection (also supported by Paridario [9]). This is particularly done in the case of a proposed action with severe environmental repercussions.

The audience for SEA results has traditionally been the government agency that handles the policy-making. In some cases, an independent environmental authority might review or comment on the outcome. This would ensure that both the process and the product are comprehensive, accurate and unbiased. The disadvantages are that such review takes time, cost and may lead to antagonism between agencies.

### The need for SEA at multiple levels

Until recently, SEAs have been carried out exclusively for plans and programmes, rather than for policies. In most countries, proposals for policy SEA are still in their early stages. Problems and issues in devising early SEA itself constitute the main concern, rather than specific measures for implementation. This reflects the increasing complexity involved in applying a formal procedure of impact assessment, early in the policy-making process.

There seem to be two methods for defining what levels may require SEA. The "List Method" gives a definite list of topics, where newly proposed policies, plans, or

programmes would require SEA, according to local regulations. Listed topics might include physical planning, housing, and technology.

However clear, this method could overlook some policies that have significant environmental impact. Alternatively, the "Definition Method" is more comprehensive and gives a definition against which to decide what policies would require an SEA. For example, SEA may be required for projects that are geographically located in sensitive environmental areas.

### Impacts considered in SEA

The impacts considered in the process of SEA can be classified under three types. However, they are to be examined in conjunction, and their interrelationships studied. They include:

- *Traditional Impacts* as covered by project-level EIA: e.g. air and water quality, geology, and noise;
- *Sustainability-related Impacts* consider resources that are threatened by irreversible impacts: unique environmental features, use of energy and non-renewable resources; and
- *Policy-related Impacts* affect other policies: e.g. safety and risk, suitability of development, fire hazards, and social conditions.

### SEA Methodologies

Up to the present time, different methodologies exist for undertaking SEA. Very few are officially acknowledged [5]. Manuals are being produced by governments, in an attempt to give clear step-by-step instructions for carrying out an environmental appraisal. In Europe and North America, guidelines have been prepared by governments for the preparation of SEA. A number of methods and computer models have been proposed by academic and research institutions. In general, it could be argued that SEA methodologies is a progressive area of study that remain to be further developed.

### Public consultation and participation

The level of public involvement in various steps of an SEA process is an issue of significant concern. Public participation is often complicated by the extent of issues involved. Participation is made more complex by the difficulty of bringing different actors together, at appropriate stages of decision-making. Further difficulty arises when devising an efficient process of discussion, exchange of ideas, shared opinions, and productive analyses. Despite its numerous obstacles, and strenuous arrangements, the process of public consultation and participation is widespread and public inquiries are held.

Overall, Strategic Environmental Assessment is still a formative stage of process development. Nevertheless, it constitutes a significant contribution to the field of environmental studies, which has rapidly expanded over the past decade. With the universal trend towards sustainability and environmental protection, it represents and further builds up an appropriate approach towards more active environmental policies, within most branches of urban planning and management.

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## التقييم البيئي الإستراتيجي : تقييم السياسات التخطيطية

حسن عبد السلام

قسم الهندسة المعمارية - جامعة الإسكندرية

### ملخص البحث

يتناول هذا البحث موضوع "التقييم البيئي الإستراتيجي" كمدخل تخطيطي جديد ، يهدف إلى الاهتمام بالبيئة و الحد من الأضرار اللاحقة بها ، و تحقيق "التنمية المستدامة" . يتم هذا التقييم لكي يوفر لصانعي القرار معلومات عن الآثار البيئية المرتبطة بالسياسات و الخطط و البرامج التخطيطية ، في مرحلة مبكرة من رسم السياسة أو اتخاذ القرار. يستعرض البحث النقاط و المبادئ المتصلة بتقدير النتائج البيئية المترتبة على السياسات التخطيطية ، و يؤكد على ضرورة دراسة المعلومات و التوقعات و تحليلها خلال المراحل الأولى بحيث يكون ممكنا تفعيل العملية التخطيطية . كذلك يشير البحث إلى أن التقييم البيئي الإستراتيجي سيصبح الأداة الرئيسية للوصول الى تحقيق التنمية المستدامة ، و وضع سياسات أكثر حفاظا و احتراماما للبيئة الطبيعية . يتكون البحث من أربع أجزاء ، الأول هو تعريف للاهتمامات و المشاكل البيئية و تأثير السياسات عليها. الجزء الثاني يقدم شرحا عاما لعملية تقييم الأثر البيئي و التطور المعاصر في هذا المجال وصولا إلى ما يعرف بالتقييم الإستراتيجي و الذي يتناوله الجزء الثالث . رابعا ، يقدم البحث عرضا للمشاكل و التحديات في مجال التقييم البيئي. أخيرا، يحتوي الجزء الخامس من البحث على الخلاصة و بعض النقاط المتعلقة بالإطار التطبيقي .