

## Improving Environment Through Strategic Environmental Assessment

Naufil Naseer

Department of Environmental Management and Development, Australian National University, Australia

**Abstract:** This study explains both strategic environmental assessment (SEA) and environmental impact assessment (EIA) as decision-making tools and argues that EIA at the project level does not suffice with maintaining and improving environmental assessment. The emphasis of this study was on regional planning as an example of SEA. The objective was to define SEA based on its strategic characteristics and to distinguish SEA from EIA. The research has attempted to present the argument through examples as to how SEA is a better option for improving environmental quality than EIA when it comes to integrating environmental assessment with regional planning and management. In this study it has suggested that SEA is a better tool in assessing the consequences of policies and plans at an early stage of decision-making as it considers a much “broader picture” of the environment. The study initially provides an overview of EIA and its flaws, discusses SEA and how it gives a better understanding of the environmental issues and finally some examples of integrating regional planning with SEA.

**Key words:** Environmental impact assessment, strategic environmental assessment, project management tool, project EIA, regional planning

### INTRODUCTION

EIA is a project management tool for environmental planning and decision-making. It aims to prevent environmental degradation by giving decision-makers better information about the consequences that development projects could have on the environment. However, it is seen that EIA at the project level is an insufficient mechanism for maintaining and improving environmental quality and that a closer integration of environmental assessment with regional planning and management is needed.

During the 1980s it was increasingly felt that large-scale issues that are causing deterioration of the environment (like ozone depletion or climatic change) needs a broader scope of understanding beyond the project level. This way gives a new environmental assessment decision-making tool, viz., strategic environmental assessment (SEA).

**Project EIA:** Environmental impact assessment or EIA is a policy management tool for both planners and decision-makers. EIA is an important phase in deciding about the final shape of a project. Not only does it help officials in making decisions about the project, it helps the project proponent achieve their aims more successfully<sup>[1]</sup>. In short an environmental impact assessment:

- Predicts the likely environmental impacts of the projects.
- Finds ways to reduce unacceptable impacts and to shape the project so that it suits the local environment and
- Presents the predictions and options to the decision-maker.
- Provides a systematic method of impact assessment.
- Estimates the costs and benefits of the project and
- Provides an effective mechanism for coordination of environmental interactions and feedback at project level<sup>[2]</sup>.

**Limitations and drawbacks of EIA:** The benefits of EIA are widely recognized, yet the approach has generally been applied to a project's boundaries that in a way limits its scope. Other limitations of EIA are:

- Considered time-consuming and costly
- Though it facilitates public participation little public participation in actually implemented
- Unavailability for reliable data (mostly in developing countries).
- At times focused on scientific analysis
- Compliance monitoring after EIA is seldom carried out

The drawbacks further narrows down its scope towards environmental decision-making and largely towards sustainable development. However, most important flaws in EIA are:

1. EIA enters at such a late stage of decision making in a project cycle that it hardly influences the final decision in a satisfactory way.
2. EIA as an assessment tool does not possess required levels of information and certainty for plan and policy-making levels.

The drawbacks provide a strong rationale for the emergence and strengthening of strategic environmental assessment (SEA). The environmental assessment (EA) process applied to the policy, plan and program is often known as strategic environmental assessment or (SEA)<sup>[3]</sup>. It not only assesses the effect of a policy, plan or program on the environment but expands its boundaries and addresses areas, regions or sectors of development.

**Strategic environmental assessment:** Making decisions that affect the environment has never been a smooth and uniform process. Though EIA initiated the process of environmental decision-making, development of SEA (there are more than fifteen countries (mostly EU) or States that have institutional arrangements for SEA, mostly at local planning authority level) has overcome the limitations of EIA and gave a comprehensive framework for assessing impacts on the environment. One of the earlier definitions of SEA<sup>[3]</sup>, that is still being widely used, suggested as:

A formalized, systematic and comprehensive process of evaluating the environmental impacts of a policy, plan or program and its alternatives including the preparation of a written report on the findings of that evaluation and using the findings in publicly accountable decision-making.

In essence it is a wider application of EIA to the level of policy, plans and programs (PPPs). Through it, the impacts that PPPs and alternatives would have on the environment are evaluated in a formalized, systematic and comprehensive manner before the projects are initiated. The findings of the evaluation are subject to public accountability before decision-making. The extension of EIA beyond projects to PPPs is likely to be one of the most significant developments in this field. Several factors have contributed to the promotion of a systematic approach in government policies and activities. Some of the significant factors<sup>[4]</sup> are:

- SEA is viewed as improvements on the existing process of project EIA.

- It supports measures to promote sustainable development, which require integration of environmental considerations into development planning.
- It increases awareness of global and international dimensions of governmental activities at all levels.
- It promotes interaction between the economy and the environment over the opportunities available for the public and interested parties.
- It enables one to participate in discussion about the needs and alternatives in the policy formulation stage.

SEA is applicable to sectoral, regional and other PPPs. Sectoral SEAs would be required for PPPs related to agriculture, forestry, fishing, energy, minerals, water supply and treatment, transport, tourism and waste disposal. Regional SEAs required for PPPs relates to land use and development including urban use plans, particularly to urban reconstruction or urban areas.

**Types of SEA:** SEA holds great potential as an instrument for policy making and planning process<sup>[4]</sup>. The first SEA system was set up in the United States in 1969. About 25 countries now have some form of SEA being used in environmental decision making. The European Commission is adopting an SEA directive, which would apply in all EU member states from 2004. Some of the commonly adopted forms of SEA are as follows:-

**Strategic environmental assessment:** Generic term to identify the process of evaluating the environmental impact of policy, planning and program

**Policy impact assessment:** Particularly indicates the process of evolution of policy proposal (SEA of a land use plan in Weiz, Austria)

**Regional environmental assessment:** Determines the regional environmental and social implications of multi-sectoral developments within a defined geographical area over a certain period of time (used by city authorities in Madrid, Spain)

**Sectoral environmental assessment:** Evaluates sector investment program involving multiple sub-projects. Also supports integration of environmental concerns into long-term development.

**Environmental overview:** Leads to an early identification of environmental and social impacts along with opportunities and incorporation of mitigation measures into program design.

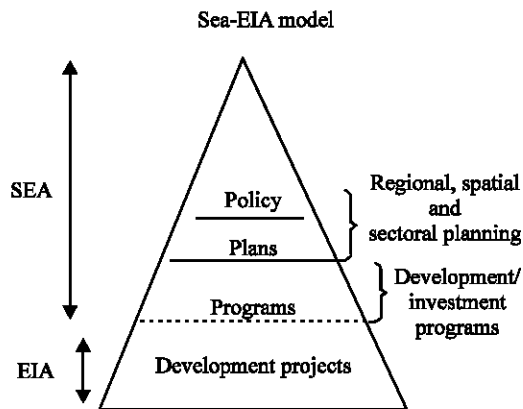


Fig. 1: Various levels of tiering of SEA and EIA

**Programmatic environmental assessment:** Evaluates group of action related geographically or having similarities of project type, timing or technological character.

These forms are developed keeping in view various national and institutional developments of evaluation tools according to particular policy making and planning processes and needs. It would be pertinent here to mention similarities and differences between the two processes of EIA and SEA.

**Difference between SEA and EIA:** SEA and EIA have similar objectives and are complementary to one another as can be seen through various levels of tiering (Fig. 1). SEAs are applied at the PPP level prior to more detailed EIA, which is applied at the individual project level. SEA greatly reduces numbers and scope of EIAs that need to be carried out at any stage of the planning process. Once SEA has been prepared, specific projects that come under the scope of PPP can be assessed.

SEA and EIA differs fundamentally in scope and nature of their approach, EIA is carried out once a policy has already been decided. It is an exercise, which provides information about the likely environmental impacts of any individual project and can be useful in identifying necessary mitigation measures. The difference between the two processes is also evident from the scale of frameworks. The framework within which SEA is carried out is much larger than EIA and allows consideration of alternatives and a better view of a much "bigger picture".

**Example:** If a government decides for various economic and diplomatic reasons to meet the rising energy demands by means of increased use of nuclear power, EIA can be used to help minimize the environmental damage. However, it cannot be used to address the fundamental question of whether there is anything sustainable about

building nuclear power stations or not. A system of SEA would ensure that not only would the economic and social impacts of different energy policies be taken into account but also the input on all significant environmental variables would be considered.

Project EIA cannot itself lead to comprehensive protection of the environment. It reacts to development proposals rather than anticipating them. Additionally, it does not steer development towards environmental resilient locations or away from sensitive areas, it only allows for proposals to be accepted or rejected, whereas SEA allows for a more practical approach. In view of the proceedings it can be acknowledged that EIA solely works at project level and does not consider environmental issues at broader perspective.

**SEA and regional planning:** Current SEA processes vary considerably in scope. They may be formal or informal, comprehensive or more limited in scope and closely linked with or unrelated to either policy or planning instruments<sup>[9]</sup>. SEA can be applied either at the policy initiative level or to the more precise program and planning stage. At times SEA may be used at a national level but then it may extend to international boundaries, like when formulating policies for coastal belts, hydropower generation or phasing out of ozone depleting substances. However, if the policies at the generic level are formulated on environmentally sound basis, then the associated regional plans and projects are expected to cause least conflicts between regional and local environmental priorities and issues.

Environmentally and specifically in SEA, a region can be any area comprising of states or provinces within a country or a group of countries in a particular territory or zone. At times it may become difficult to consider all possible cumulative effects in a region where a major project(s) has been established. They are often considered outside the scope of an individual proponent and more in the area of responsibility of government and bureaucracy. Having such an adaptable definition, region has a much wider boundary. Historically some broad approaches to SEA with respect to regional planning have been adopted. A chronological list of such few measures are given below:

- Introduced as a relatively separate distinct process and an extension of EIA in Canada.
- Incorporated into policy appraisal (in U.K) and regional and land use planning (in Sweden). Recently there has been a growing recognition of the importance of integrating environmental assessment with other policy and planning instrument.

- World Bank in 1989 adopted an internal directive on EIA, which allows for the preparation and sectoral or regional assessments.
- OECD Development Assistance Committee in 1991 adopted a principle calling for specific arrangements for analysing and monitoring environmental impacts of program assistance (assistance not linked with project activities).
- UNDP in 1995 introduced strategic overview as a planning tool. In most of the developing countries where SEA has been undertaken, the basic aim and approach has been to identify the environmental consequences (and associated socio-economic effects) of existing, new or revised policies, plans and programs<sup>[5]</sup>.

**Donor agencies and regional planning:** Recently, SEA approaches have also been introduced by bilateral and multi-lateral donor agencies and by other international development organizations. As with EIA these conditionalities are becoming an integral part of SEA practice in the developing countries and a vector for their wider adaptation for domestic applications. The World Bank is using sectoral environmental assessments to address sector-wide issues and loans covering in various transport and irrigation projects. It is also undertaking regional environmental assessment to take an area-based approach to development planning.

**Integrating SEA with regional planning and management:** Two examples try to emphasize the role of integrating SEA with regional planning. One is from Australia regarding the regional forest agreement process and other is from Germany on integrating SEA in regional planning. It is important to note that regional forest agreement process is a relatively new initiative.

**Regional forest agreements:** In 1992, The National Forest Policy Statement of the Commonwealth Government of Australia was published that provided a national framework for ecologically sustainable management of Australian forest. The Commonwealth government and all States and Territory governments in 1995 endorsed a policy statement. The endorsement proved as an umbrella agreement in which the governments (central, state and territory) expressed a commitment to strengthen the integration of decision-making and to promote cooperative planning for forest and eventually paving way for the inter-governmental regional forest agreement (RFA) process<sup>[6]</sup>.

Regional Forest Agreement is an example of integrating strategic environmental assessments at a

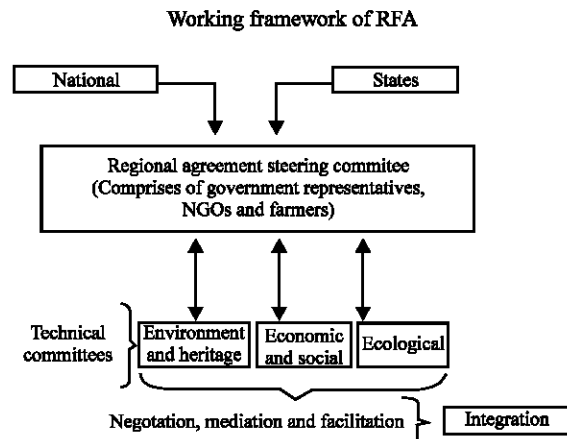


Fig. 2: An overview of working of all parties in formulating RFA

broader level so as to incorporate EA required for a vast region (in this particular case, the Commonwealth Government of Australia and its States). As mentioned earlier it is difficult to describe a region and so creating regional agreements is a cumbersome task.

It is widely noted that Governments are present at federal (central), state (province) or local level and absence of a "regional government" makes the task more difficult. So the first job is to identify the boundaries of the region. Then like various stages of EIA and SEA, RFA has to undergo stages to reach to an acceptable form. These stages start from the Scoping Agreements between Commonwealth and State Governments. It includes an initial analysis with wide consultation on what should be covered by the assessment, economic and social considerations, geographical boundaries of the likely impacts, who and what might the agreement affect.

A sensitive process of integration follows scoping. Why it is sensitive, is due to the fact that each government has its own set of priorities for successful integration of environmental protection and economic development. Hence integration can be hampered by politics. Agendas of government officials and politicians are mostly dominated by economic issues and may cause a failure to establish link between the States, environment and a nation's economic well being. Other obstacles include the lack of legislation for such integration as well as the lack of experience and expertise in planning and designing laws and policies. Once these obstacles are overcome, ground can be leveled for mutual understanding and integration. An overview of the working of all parties in formulating RFA is shown at Fig. 2.

Public displays and submissions are equally important before a final agreement is negotiated by the governments and submitted to the relevant minister for

approval. Last but not least, the issue of implementation and monitoring of the agreement ensures its success. In the case of the RFA process a review of all points is recommended after a period of five years. The recommendations will then be given to independent auditors, which would in turn give a final report. The RFAs is binding for a period of 20 years. What would be the outcome of RFA and how does these agreements react to sustainable developments in twenty years are difficult questions to answer presently. What can be said now is that RFA has started a national consultative process within and between states involving not only government officials but common people.

**Case study of regional planning in Germany:** In order to gain experience with the practical and legal application of SEA in regional planning, the Ministry of the Environment, Spatial Planning and Agriculture of the Federal State of Northrhine-Westphalia, Germany, together with their EIA Association organized a case study of SEA in regional planning. They defined regional planning as territorial planning for regions within their federal states. Depending on the state, the bodies responsible were planning groups, administrative districts, or the state planning authorities<sup>[7]</sup>.

The plans were sub-divided to cover smaller areas or different structural functions, depending on the state concerned. The regional plan took lead from the requirements of the regional development plan, which has already been adopted by the state and lays down spatial objectives for the area as a whole and its constituent parts, as well as the steps necessary to attain these objectives. Regional planning at this level, therefore, occupied an intermediate position between urban land use planning by local authorities and the overriding plans drawn up at state level.

Overall, the result of the case study was perceived to be positive. The case study stimulated lively, intensive and open discussions between the participants and it was considered to be helpful. At the beginning, there were different opinions on the issue of public participation expressed. However, the discussions in the course of the case study helped to reduce some reservations against public participation. It became obvious that even such a comparatively straightforward case offers the opportunity to discuss issues like public participation and the environmental statement.

## CONCLUSION

As a result of deliberation, it can be stated that SEA offers a foundation on which environmental decision-making can be based to ensure maximum consideration of alternative options at an early stage (at a point where there is greater flexibility). SEA is more

practical in probing options and preferring ends rather than predicting the most likely outcomes. SEA is set in the context of goals and objectives in helping to choose a strategy for action so that environmental impacts can be avoided or at the least minimized at the earliest possible stage of policy and environmental decision-making process.

SEA deals with policies, plans and programs whereas EIA's proper role is dealing with projects. It is important that policy formulation should incorporate SEA in order to give environment a proper consideration. Developing PPPs without having the environment on equal footing with social and economic needs should end.

Planners should make themselves familiarize with SEA since it is consistent with the strategic approach of planning and is comprehensive in terms of what is being addressed. This is crucial if planning is to promote sustainability in policies and development plans. Policies developed for development plans should be made with reference to the wider role of environment. Up till now the practical experience has suggested that SEA is a viable learning process. However, it will take time before it is applied and even more time before it is applied effectively.

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