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A REVIEW OF STRATEGIC ENVIRONMENTAL ASSESSMENTPRACTICES IN DEVELOPING COUNTRIES

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ABSTRACT

The current trend of industrialization and urbanization in the developing countries has a huge impact on the environment. In these developing and transitional countries, EIA has been widely practiced as a planning tool but due to its extensive use certain limitations are recognized to achieve sustainable development.Many governments and environmental assessors are currently showing great concerns regarding the potential environmental impacts of decisions made at policy, plan and programs. The increasing knowledge of the findings of policy and decision making theory in the environmental assessment community has recently led to a debate on the theoretical foundations and the appropriate practical use of strategic environmental assessment (SEA). So in accordance with the same, most of the recent suggestions on how to improve practice have been influenced, focusing particularly on a better unification of SEA into 'real' decision making and procedural flexibility. This paper shows the review of SEA practices which are adopted and executed in the developing nations. It advocates the adoption of SEA as a means to achieve sustainable development in developing countries. Finally it calls for an integrated approach to pursue a path of sustainable development through application and proper execution of SEA by proper research and preparation of an SEA directive mentioning a proper procedure and guidelines.

Keywords: Developing Countries, Environmental Impact Assessment, Strategic Environmental Impact Assessment, Sustainable Development,

I. STRATEGIC ENVIRONMENTAL IMPACT ASSESSMENT

SEA is defined as the formalized, systematic and comprehensive process of evaluating the environmental impact of a policy, plan or program and its alternative with a view to use its finding in publically accountable decision making. In other words, SEA refers to range of analytical and participatory approaches that aim to integrate environment considerations into plans, policies and Programs evaluating their inter-linkages with social and economic consideration[1].

The term SEA is defined in different ways by different users. The key concept of the SEA process is that it focuses on evaluating the impacts of all the proposed plans, policies and programs on environment and try to incorporate the environmental considerations into the development of public policies.In simple terms, SEA is the evaluation of the possible impacts that a plan or policy will have on the environment if it is put into action.

The findings of the evaluations are outlined in an Environmental Report and a consultation of public on the plan and the Environmental report has to be carried out before the plan is put into action. When carried out early in the plan's preparation, the information gained during the evaluation has the potential to influence the plan's development as an alternative are also considered and assessed.

A meaningful SEA can invite someone to engage in a competitive situation against those responsible for preparing plans and policies to identify alternative approaches and different options, and draw special attention towards the best options for the environment. It will help to avoid or lessen the negative impacts on environment and focus the positive ones.The process of SEA applies primarily to the initiatives related to development that are known or likely to have prominent environmental effects, especially those started individually in different sectors, such as transport and energy, or collectively throughspatial or land use change. As with EIA, SEA can and should be interpreted widely,for example to include social, health and other consequences of a proposed action andtheir relationship to sustainable development concepts and plan of actions.

II. EFFECTIVENESS OF SEA

Overall, the betterment of using SEA are seen to be profitable. The range of SEAapplications is far wider than that of EIA. This is probably on the basis that use ofSEA is "need" driven and not being an issue of constitutional compliance in many countriesand within institutions and agencies. However, there are some basic issues regarding the natureof SEA that have not yet been answered completely, for example whether SEA should beseen as a new tool or scaled up proper EIA. SEA is considered to be analternative to EIA with its own specialarea of suitability and capacity to take different forms, but sticking to certain acceptedprinciples. Generally, there are direct linkages between applicationof SEA for a policy and individual EIAs for the projects that arise from implementationof the policy.

There appears to be an emerging consensus that the practice and methodology of SEAneed not be defined as precisely as that of EIA, and this is particularly the case with respect to developing countries. Instead of a detailed prescription of steps to be followed(as in EIA), it seems preferable to establish a limited set of principles and criteria thatallow for a variety of ways of implementing SEAs depending on context.Basically, the view seems to be that SEA is one concept that can take multiple forms, and a framework approach can be taken with certain coreelements "mixed and matched" to meet the needs of a particular situation[2]. In that case, then SEA can be mandated by an enabling law orregulation, but with accompanying guidelines and advice on the key principles, elementsand criteria that are non-prescriptive about approach and method[3].

III. DEVELOPMENT OF SEA

During last twenty to thirty years the world has seen a rapid, though controversial, evolution of the environmental policy agenda. Moreover,traditional environmental decision-making is being questioned, because it is notefficiently answering the new challenges of the late 20th century and notbecause it has not developed proper legal mechanisms ormethodologies, or because it could not seek to find solutions for adverse environmental degradation, asproclaimed by the United Nations Conference onEnvironment and Development in 1992. It is not fullyachieving the initially expected results regarding environment and its integration with economic and social issues.

Project's Environmental Impact Assessment (EIA), as currently practiced, is unable to respond to the increasing complications and provide forglobal, sustainable and proper decision-making. Such disillusion with thecapacity of project's EIA to aid, as a single tool, proper environmentaldecision-making in a systematic stepwise system was the strongest argument thatdetermined the need for SEA in its early days.

IV. EVOLUTION, BENEFITS AND RATIONALE FOR SEA

The National Environmental Policy Act (NEPA) is the main thing bywhich we can find the main requirements to be known as SEA.In fact, the action-forcing mechanism, shaped as a requirement andsubsequently nominated EIA, to bring about substantive environmentalreforms through the US federal bureaucracy, imposed upon federalagencies to prepare an environmental impact statement for "legislationand other major federal actions significantly affecting the quality of the human environment" (Section 102(2)(c), National Environmental PolicyAct of 1969).Since then several international initiatives subscribe the need for SEA. The table 1 lists a serious of key events that have contributed to the evolutionand consolidation of SEA[4].

Table 1 SEA Key Historical Initiatives

Year	SEA key historical initiatives
1969	The National Environmental Policy Act (NEPA) passed bythe U.S. Congress, mandating all federal agencies anddepartments to consider and assess the environmental effectsof proposals for legislation and other major projects.
1978	US Council for Environmental Quality (USCEQ) issuesregulations for NEPA which apply to USAID and specificrequirements for programmatic assessments.
1989	The World Bank adopted an internal directive (O.D. 4.00) on EIA which allows for the preparation of sectoral and regional assessments
1990	The European Economic Community issues the first proposal for a Directive on the Environmental Assessment of Policies, Plans and Programs.
1991	The OECD Development Assistance Committee adopted a principles calling for specific arrangements for analyzing and monitoring environmental impacts of program assistance.
1991	The UNECE Convention on EIA in a Trans-boundary Contextpromotes the application of EA for policies, plans andprograms.
1995	The UNDP introduces the environmental overview as a planning tool.
1997	The Council of the European Union adopts a proposal for a Council Directive on the assessment of the effects of certain plans and programs on the environment.
2001	The UNECE issues a draft protocol on Strategic Environmental Assessment applying to policies, plans and programs.
2001	Council of the European Union adopts the Council Directive2001/42/CE on 27 June on the assessment of the effects ofcertain plans and programs on the environment.

People compare traditional reactive EA andstrategic proactive EA, arguing that "traditional reactive project level EIAis necessary but not sufficient to exploit opportunities which exist todaybut which may be gone tomorrow".The expansion of project's EIA principles to the policy and planning levelsdid not succeed without

some resistance. It was argued that broadprinciples of environmental assessment were already incorporated in thedecision-making process at that level, and that the adoption of SEA in asystematic manner would represent only some advantages.

V. LEVELS OF DECISION MAKING IN ENVIRONMENTAL ASSESSMENT

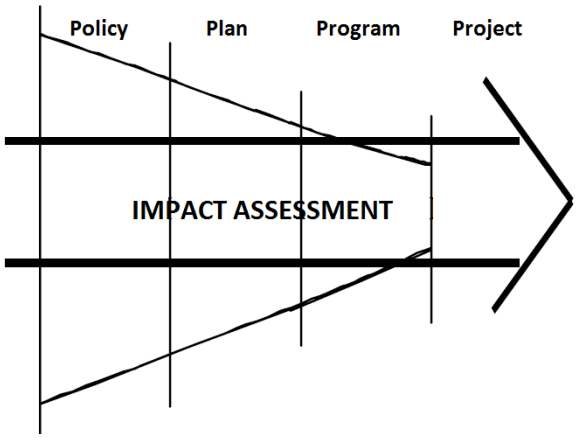

Figure 1 above shows that the focus of impact assessment increases as we go ahead in the decision making levels, going from a very wide scope of issues and concerns, at the policy levels, towards a more focused, to the point approach at program level, and later at the project level[5].

Figure 1 Focusing Impact Assessment

VI. DIFFERENCE BETWEEN SEA AND EIA

The table below shows the main points of difference between SEA and EIA.

Table 2 Difference Between SEA and EIA

No.	SEA	EIA
1.	It is applied to plans, policies and programs (PPP) and their impacts	It is applied to the projects and their impacts
2.	The perspective is long-term and strategic.	The perspective is of short-term and of execution.
3.	It considers a wide range of different alternatives and their assessment	No alternatives are considered in this. Its just the alternative considered.
4.	The main objective is to take the decision on plan, policies and programs.	The main objective is to get the clearances and the permission for the project
5.	There are no well defined guidelines for this.	There are well defined guidelines for this process.
6.	It is a repetitive process.	It is a result oriented assessment process.
7.	It covers a wide area – a city as a whole, or a region for assessment of plan, policies and programs.	It is limited to a specific project with no provision for assessment of cumulative effect of the project with other projects.
8.	The emphasis is given for meeting balanced environmental, social and economic objectives in plan, policies and programs.	The emphasis is given for mitigating environmental and social impact of the specific project.

9.	Follow-up in SEA is performed through the preparation and development of policies, plans, programs and projects.	Follow-up in EIA is performed through the construction and implementation of the project or detailed plans.
10.	The strategy may never be put into practice given that the actions established in plans and programs may never be implemented.	Projects requiring an EIA are executed, once their feasibility is guaranteed.
11.	It is usually conducted independent of the project proponent.	It is usually conducted and financed by promoter of the project.
12.	The process is cyclic and continuous.	The process is discrete, motivated by detailed factual proposals.
13.	It is not mandatory.	It is mandatory.

In 1996 the CSIR (Council for Scientific and Industrial Research) in South Africa published the diagram represented in Figure 2 below to demonstrate the difference between SEA and EIA. The figure suggests that while EIA focuses on the effects of development on the environment, SEA focuses on evaluating the effects of the environment on development.

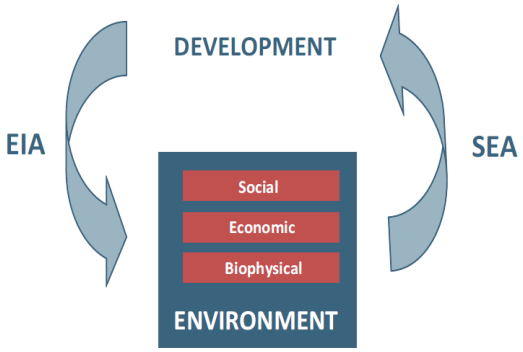

Figure 2 Difference Between SEA and EIA

VII. EVALUATION AND FUTURE POTENTIAL FOR SEA

The processes for SEA in different countries have been studied and evaluated and potential for SEA is reported in the table given below.

Table 4 provides beneficial overview of the existing status of SEA processes and the future potential for SEA by indicating the degree to which each country has attained ability in EIA and indulges in appropriate strategic environmental considerations in planning, reporting and management activities. A grading system is undertaken to confirm the activities which are Undertaken (U), Not undertaken (NU) or Partially Undertaken (PU) . Whereever there is lack of information, the mark "?" is kept.

Table 3 Comparative Analysis of existing SEA processes in Developing countries

Topic	HongKong	Malaysia	Phillipines	Singapore	Srilanka	Vietnam	India
POLITICAL							
National Environmental Code	U	U	U	U	U	U	U
Stable Political Regime	U	U	U	U	NU	?	NU
Active Green Party	U	NU	U	NU	NU	NU	PU
Democratic Regime	U	PU	U	PU	?	NU	U
LEGAL MANDATE							
Mandatory EIA	U	U	U	NU	U	U	PU
Mandatory SEA	PU	NU	NU	NU	NU	NU	NU
EA Admin Procedures	U	U	U	PU	U	U	PU
Environmental Legislation	U	?	U	NU	NU	U	U
INSTITUTIONAL CPACITY							
Independent Environmental Protection Agency	U	U	U	NU	PU	PU	PU
Ministry of Environment	U	U	U	U	U	U	U
Planning Authority	U	U	U	U	U	U	U
Regional Environmental Planning	U	PU	U	PU	NU	PU	PU
ISO 14000 take up	U	U	U	U	PU	U	U
Environmental Reports	U	U	U	PU	U	PU	U
Assessment of Biodiversity	U	U	U	U	U	U	U
Annual Environmental Quality Report	U	U	U	U	U	U	U
Environmental Planning Agency	U	NU	U	NU	NU	NU	U
SOCIAL ACKNOWELDGEMENT							
Mandatory Public Participation in EIA	U	PU	U	?	?	NU	PU
Mandatory environmental NGO Consultation	U	NU	U	NU	U	NU	PU

Mandatory Social Impact Assessment	NU	NU	U	NU	NU	NU	PU
Technical knowhow							
EIA guidelines	U	U	U	NU	U	U	U
SEA guidelines	U	NU	NU	NU	NU	NU	NU
Environmental Quality Guidelines	U	U	U	U	NU	U	U
Environmental Project Construction Management	U	U	U	?	U	U	PU
Process implementation							
Mandatory Screening	U	U	U	NU	NU	NU	U
Mandatory Scoping	U	U	U	NU	NU	NU	PU
Baseline Data	U	?	?	?	?	?	?
Impact Prediction	U	U	U	NU	U	U	PU
Mitigation	U	U	U	NU	U	U	PU
Auditing	U	NU	U	NU	NU	U	PU
Monitoring	U	NU	U	NU	NU	U	PU
Independent Review	U	U	U	NU	U	U	NU
Environmental Management Plan	U	U	U	NU	NU	NU	U
Educational Awareness							
University Courses	U	U	U	U	U	U	U
Training Courses	U	U	U	U	U	U	U
NGO's	U	U	U	U	U	U	U

U: Undertaken

NU: Not Undertaken

PU: Partially Undertaken

? : Lack of Information

VIII. STATUS OF SEA IN INDIA

India along with certain other Asian countries have made SEA a constitutional requirement for certain plans, policies and programs, while with SEA in India it has been restricted to certain externally supported and funded programs. In India, SEA is a voluntary process that can be practiced not only to plan, policies or programs but also to the cumulative or stand alone projects.

The SEA can be executed at two different stages:

1. Before starting of the project; and

2. After project EIA's are prepared to review decision making, strengthen accountability and develop public confidence.

Executing SEA before project starts has been of importance in the Indian scenario, since results of this evaluation have showed profits of delivering necessary information to assist the progress of decision-making and decreasing the need for EIA. The SEA results have been proved advantageous in reducing time and cost as well as the stress of conducting EIA, and have been intensely relevant in streamlining project level EIAs by a changed context and scope for EIA. SEA has also been proved necessary at plan and program level by providing a inclusive view of environmental and social issues for a wider evaluation of the combined and integrated impacts of proposed projects, before their application in some protected area of the country. All of these above mentioned factors can be considered advantages of the SEA, while at the same time indicating SEA effectiveness in case of e.g. time- and cost-efficiency[6].

The SEA process has been proposed by various authors as a promising and hopeful approach to improve the scope of India's system for environmental assessment. As mentioned above the experience of SEA in India has been limited, but there are still some examples of SEA practices in India.As seen earlier, SEA process is not an officially recognized procedure in India but some donor agencies have commissioned such assignments[7]. Some of the India SEA's are as follows:

1. Maharashtra: Proposed Irrigation Project on Human River, Wildlife Institute of India, Dehradun for Netherlands Commission for Environment Impact Assessment.
2. Gujarat: Highway Program funded by World Bank, SEA commissioned and funded by World Bank
3. TamilNadu: Water Resource Planning, Palar Basin, SEA commissioned and funded by World Bank.
4. Indian Eco-development Project: World Bank promoted this five year project for conservation of globally significant biological diversity through execution of eco-development strategies in and around seven selected Protect Areas (PA) of the country.

VIII. CONCLUSIONS

Today in the modern times, the impacts on environment by various human induced activities areof a great importance and if planning is done at the initial stages of execution of different plans, policies and programs can help to avoid or decrease the negative impacts on environment and the positive ones can be focused more on. Thus, SEA in today's time is of very much importance.SEA can provide early and initial warnings of integrated cumulative effects which would lead to project EIA and can serve as a positive process.

SEA process is answering the so called challenges that are created in terms of environmental impacts and its decision making in the late 20th century. The traditional decision making is not achieving the expected results regarding environmental and its integration with social and economic issues. Project EIA is unable to respond to the increasing complications of the impacts of environmental impacts.The execution of the SEA over the last decade or so made obvious some critical changes challenges of capacity development, which should also be reflected by appropriate training courses.

The identification of serious environmental threats in proposals of PPPs will cause a decrease in number of project based impacts. So due to failure of EIA due to some basic problems in governance should increase the possibility of adoption of SEA.In developing world, to make sure about the sustainable development needs and

for promoting it, SEA should be established at municipality level and at regional levels on a regular basis. SEA at these levels should not be separated or differentiated from the SEA at the national level.

Specifically it is appearing by the literature that the SEA methodology is not well defined and elaborated as compared to EIA especially for the developing countries. Particular attention needs to be paid to the types of workswhere SEA can contribute and the operation of SEA in existing PPPs and the main benefits and costs of using it.

At local level there is a need for training for SEA, simple and proper SEA processes and further research on how to make the processes simple and more adaptive in various works. The absence of research can lead to failure of proper execution of SEA processes. SEA practitioner's needs to be properly informed about the nature of policy making processes as they need to diagnose where there are opportunities that SEA cancontribute in the making of policy.

As in European Union, developing nations can consider developing an SEA directive to care for their environment at regional levels under some regional associations such as South Asian Association for Regional Corporation (SAARC) or Association of South Asian Nations (ASEAN).

It requires huge efforts from all nations of the developed world to introduce and amend legislation, prepare documents and research with different case studies during the preparation of an SEA directive.

One visible feature that has been properly understood is that although in the developing countries there are elements of SEA being practiced, but everybody doesn't recognize it as SEA. So it can be concluded that the SEA types and processes need to be adapted and changes are to be made according to the particular needs and requirements of the country where it is to be executed.

REFERENCES

[1]. Partidário M.R., Strategic Environmental Assessment –Key issues emerging from recent practices, *Environmental Impact Assessment review, Vol 16*, 1996, 31 – 55.

[2]. Sadler B., Aschmann R., Dusik J., Fischer T., Partidário M.R. and Verheem R., *Handbook on SEA*(Earthscan: London, 2011).

[3]. UNEP, *Environmental impact Assessment and Strategic Environment Assessment: Towards an integrated approach*(Geneva, Switzerland: UNEP, 2004).

[4]. Partidario M.R., *Strategic Environmental Impact Assessment: current practices, future demands and capacity building needs*, (Training Course, IAIA, 2003).

[5]. Partidário M. R., Elements of Strategic Environmental Assessment, *Environmental Impact Assessment Review*, *Vol 20*, 2000, 647-663.

[6]. Rajvanshi, A.,Strategic Environmental Assessment of the India Ecodevelopment Project: Experiences, *Prospects and Lessons Learnt. Journal of Environmental Assessment Policy and Management*, 2001 pp. 373–393.

[7]. Rajvanshi, A., &Mathur, V. B., Integrating Biodiversity into Strategic EnvironmentalAssessment - Case Studies from India. Chandrabani: Wildlife institute of India, 2005