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A critical review of the dominant lines of argumentation on the need for strategic environmental assessment

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Abstract

In spite of almost two decades of experience, Strategic Environmental Assessment's (SEA) foundations remain unclear to the point that the case for needing an instrument called 'SEA' could be questioned. The aim is to ask: what problems was SEA meant to solve, and what needs was it meant to address, by reflecting on the strengths and weaknesses of SEA thinking to date. I do so by organising the reasons and arguments offered by scholars and practitioners under three 'lines of argumentation' related to the strategic dimension of SEA, its methods and purpose. I explore how each line of argumentation affects the concept of (the purpose and role) and approach to (the procedures, methods and tools) SEA. The problematisation of these arguments and their evolution makes a case for the urgent acknowledgment of misleading simplifications. From this analysis I propose a number of promising fields of inquiry that could help respond to the growing expectations attached to SEA and strengthen its 'strategic' dimension: revisiting the concept of assessment in SEA, promoting strategies for the introduction of SEA, and strengthening the contribution of theory to SEA practice.
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1. Introducing the problem

This paper engages with the foundations of Strategic Environmental Assessment (SEA) as an assessment concept and practical instrument. Although SEA has been the subject of theoretical and practical development for almost two decades, scholars and practitioners remain divided on whether it is theoretical or methodological issues that require additional attention. Back in 1993 scholars maintained that theory had been addressed but that methodologies were lacking: 'SEA has been considered much more from a theoretical than a practical perspective, SEA methodologies are

neither well-developed nor commonly agreed upon' (Thérivel, 1993:164). Yet a decade later, questions about the conceptual basis of SEA were still being raised by scholars: '[SEA is] a ... theme in need of reflection, since there has been much development of procedures and methodologies, but significantly less conceptual development' (González, 2001:5). Practitioners agree: 'SEA practice is ahead of theory ... though we are not sure whether this is a good or a bad thing'.[1] These concerns suggest, at a minimum, that early theoretical efforts have left several questions unanswered. Since the early 1990s, SEA commentators have mainly focused on specific practical aspects of SEA as a 'tool' applied to development initiatives (Dalal-Clayton and Sadler, 2005; Fischer, 2002; Partidario and Clark, 2000; Thérivel, 2004; Thérivel et al., 1992), with comparatively few efforts dedicated to SEA theory (Caratti et al., 2004; Partidario, 1996; Richardson, 2005; Thissen, 2000; Wallington, 2002).

Despite SEA's roots in Environmental Impact Assessment (EIA) – which developed in the late 1960s – and almost two decades of experience, scholars and practitioners appear divided on such fundamental matters as the *concept of* and the *approach to* SEA. Throughout the instrument's career, divisions over these matters have contributed to innovations in process design and a widening choice of methods and tools, resulting in significant diversity in practice (for a recent overview, see Dalal-Clayton and Sadler, 2005). Yet despite such progress in practice, SEA's foundations have remained unclear: Does SEA differ from EIA? If so, are these differences related to the concept or the approach to assessment, or both?

These are decisive times for SEA and such questions need urgent answers. Widespread application has led to a process of transformation involving greater complexity and differentiation in the way SEA is understood and applied. There has also been a systematic growth of expectations attached to SEA. Given the growing investments of governments, and multilateral and bilateral agencies, throughout the developed and developing world aimed at institutionalising SEA, it seems imperative to take stock of developments to date, so as to deepen our understanding about the kind of phenomenon SEA is and should be. This paper is intended as a contribution towards a better understanding of the *foundations*, the raison d'être, of SEA. The aim is to clarify the challenges to, and potential of, SEA at this critical and opportune stage in the instrument's evolution — a stage when significant attention and resources are being directed to its institutionalisation and application. To do so, I focus on the way scholars and practitioners have framed the case for the development of SEA: What problems was it meant to solve? What needs was it meant to address? To what extent has any of this been achieved?

The arguments put forward by members of the SEA community (including scholars and practitioners) in answer to these questions are identified, in this paper, from multiple sources: published academic research, brown literature (especially guidance documents and case study reviews), 'action research' (SEA training, capacity building and review of SEA processes),[2] interviews conducted as part of previous research undertaken by the author,[3] and observations at

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[1] Comment made by Jon Hobbs, of the Department of International Development, during his presentation at the Joint DFID/OECD-DAC Task Team Workshop on *Strategic Environmental Assessment/Sustainability Impact Assessment*, Novartis Foundation, London, 13/10/03.

[2] Including interactions with trainees at capacity building courses for the Maltese and Bolivian Governments in 2005.

[3] This includes my doctoral thesis (Bina, 2003, 2005) and a research project funded by the UK Economic and Social Research Council 'Appraisal, institutional learning and sustainability: defining a new agenda' (see: www.psi.orh.uk/EHB and Owens et al., 2004). Interviews were conducted with academics, SEA and EA experts, government bureaucrats, and decision-makers in the following arenas: Italian Ministry of Transport and related institutions (interviews 2002); Chilean Public Works Ministry and World Bank (interviews 2001-03); and the UK's Office of the Deputy Prime Minister (interviews 2003-04).

Table 1
The three lines of argumentation supporting the development of SEA

First line of argumentation	On 'strategic'	The strategic dimension of SEA, originally linked to the paucity of environmental-type assessments of policies, plans and programmes (PPPs).
Second line of argumentation	On procedures, methods and tools	The framing of SEA's methodological dimension in response to perceived limitations in EIA practice, and the growing emphasis on process *versus* technique.
Third line of argumentation	On purpose	The purpose of SEA and the increased reference to the contribution to sustainable development.

seminars and conferences on SEA between 2001 and 2005.[4] My analysis of the arguments arising from this material suggests that the foundations of SEA can be categorised according to three *lines of argumentation*, presented in Table 1. In the next three sections of this paper I analyse each line of argumentation in order to illuminate their implicit or explicit framing of SEA concepts and approaches. In doing so I distinguish between their early framing (late 1980s, early 1990s),[5] and their evolution during the late 1990s.

I explore in particular the links and overlaps between SEA concepts and approaches, and those of its precursor: EIA. In the final section I discuss the weaknesses and (somewhat hidden) strengths of such evolution, highlighting several challenges which, I contend, need to be addressed by SEA scholars and practitioners to strengthen the concept and approach to SEA (Table 2). For the sake of clarity, I wish to explain the use of key words throughout this paper. By the *concept* of SEA, I refer to the purpose and role of the instrument. The purpose indicates the broad, long-term reasons for institutionalising a system of SEA within a legal framework, a planning context, and/or a particular organisation. The role concerns the way SEA relates to planning and decision-making and interacts with a given institutional, administrative, cultural and political context. Furthermore, the concept of SEA should explain what it means for assessment to be 'strategic' and 'environmental'. By the approach to SEA I refer to the way the instrument is applied in practice: the procedures, methods and tools adopted.

2. From projects to PPPs: a controversial basis for SEA's strategic dimension

The fact that EIA would not apply beyond projects to PPPs (policies, plans and programmes) was the first, and remains the single most common, reason cited as justification of the need for SEA (cf. Thérivel et al., 1992). The main argument has been that important decisions were taken before projects were identified, during the formulation of PPPs, and that these decisions were not subject to environmental assessment (EA).[6] This line of argumentation thus focused, in particular, on the 'object' of the assessment (PPPs), and particularly the timing and hierarchy of decisions regarding PPPs, known as 'tiering' in SEA literature (Noble and Storey, 2001). This reasoning persists to this day, most notably as the main driver behind the European Directive (42/2001/EC). The task of evaluating a range of strategic initiatives widely referred to as 'PPPs' became short-hand for distinguishing SEA from EIA: for explaining both *what* SEA was, and *why* it was needed.

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[4] Including participation in the annual conferences of the International Association of Impact Assessment for the period 2001–2005, and participation in a series of SEA-related seminars during the same period.

[5] It is noted that while the expression 'Strategic Environmental Assessment' appears less than two decades ago, key concepts underlying what is now called 'SEA' had been proposed and partly implemented in the 1970s in the USA. This is discussed later in this paper.

[6] EA is used in here to refer to the wide 'family' of instruments and techniques, which assess the environmental effects of development activities and strategies, including EIA and SEA.

Table 2
The influence of each line of argumentation on SEA's concept and approach

Line of argumentation	Concept of SEA		Approach to SEA
	Purpose	Role	Procedures, methods and tools
First	Major influence	(some influence)	(some influence)
Second	(some influence)	Major influence	Major influence
Third	Major influence	Major influence	(some influence)

The importance of this argument in making a case for SEA becomes evident by comparing some of the most widely cited and representative definitions of SEA and EIA (Bina, 2005). Thérivel et al. (1992: 19–20), for example, defined SEA as:

> the formalized, systematic and comprehensive process of evaluating the *environmental impacts* of a *policy, plan or programme* and its *alternatives*, including the preparation of a written report of the findings of that evaluation (emphasis added).

The similarity between this definition of SEA and a popular definition of EIA is striking:

> [EIA is] a process for identifying the likely consequences for the biogeophysical environment and for man's health and welfare of implementing particular activities and for conveying this information, at a stage when it can materially affect their decision, to those responsible for sanctioning the proposals (Wathern, 1988:6, after Munn, 1979).

The only notable difference lies in the explicit reference to PPPs and the need to consider alternatives in the former definition; in both, the core concept of assessment remained focused on 'environmental impacts' (or effects, as was argued in the mid-1990s). Thus, most scholars and practitioners framed SEA as a new assessment instrument that would apply the concept of EIA beyond the confines of the project level.

This line of argumentation has three main weaknesses, which relate to the portrayal of EIA's origins, the 'strategic' nature of SEA, and the concept of 'tiering'. In the first instance, the understanding that PPPs were not included in the scope of EIA is inaccurate. Since its conception, it was intended that EIA should be applied to all levels of assessment; therefore, the environmental assessment of PPPs cannot be considered a distinguishing factor of SEA. Wathern (1988:3), for example, argued that EIA is a 'procedure for assessing the environmental implications of a decision to enact legislation, to implement policies and plans, or to initiate development projects … [hence EIA is] equally applicable at other levels of planning' (1988:19). This interpretation is consistent with the US National Environmental Policy Act of 1969 (NEPA, US Congress, 1969), which established the EIA instrument. NEPA referred to 'Major Federal Actions' without distinguishing between projects and more strategic initiatives (González, 2001; Thérivel, 1993).[7] The concept of EIA was therefore intended to be applicable to all tiers of decision-making and, accordingly, NEPA led to Programmatic Environmental Assessments, which differed progressively from project-EIA in terms of the geographical scale and methods of analysis (Bass, 2005). Importantly, however, the introduction of Programmatic forms of EIA were not based on a different understanding of the concept of assessment. A decade after NEPA, Lee and Wood (1978)

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[7] It is also noteworthy that debates on the scope of social impact assessment and health impact assessment have never been concerned with the distinction between projects and PPPs, suggesting that the diversity of such initiatives is not considered significant in terms of the concept or nature of assessment.

suggested a tiered system of EIA applied to a chronological sequence of activities, from policies to projects. Ironically, it was the contribution of these authors that was subsequently used to justify the need for SEA, based on the argument that EIA had not previously been applied to PPPs (notably: Thérivel et al., 1992). At that time, however, no clear analysis was provided to explain why that was the case, despite its applicability to PPPs. I would argue that this was not a case of evolution from EIA to SEA, but rather the application of the concept of EIA and essentially of its approaches, to progressively higher levels of decision-making.

A further weakness of the first line of argumentation relates to the essence of SEA: in other words, what was meant by the term 'strategic'. The tendency has been to equate the strategic character of SEA (identified by the adjective 'strategic' in the expression 'SEA') with the strategic nature of PPPs. In contrast, I would argue that the significance of this adjective lies less with the nature of what was being assessed and – as suggested by the acronym itself – more with the purpose and approach to assessment: it represents an implicit critique of the narrow interpretation of impact assessment that has undermined EIA's full potential. The way the concept and approach to SEA have evolved suggests that 'strategic' was primarily meant to characterise the relation between assessment and the whole planning process. In the words of Carlo Benedetto: 'if we want to do a strategic assessment, this will be [strategic] only insofar as it considers the strategy of the entire process [of planning and decision]'.[8] This issue of 'strategic', at the heart of how one defines and distinguishes SEA from EIA, is discussed further in the next section.

The final weakness relates to questions raised about the actual existence of PPPs, and of the hierarchical 'tiering' of decision levels. The view that policies, plans, programmes and projects exist as a hierarchy of initiatives was widely held in SEA literature and legislation (for example: EC, 2001; Fischer, 2002; Thérivel et al., 1992). In turn, SEA scholars referred to a 'tiered approach to SEA', whereby SEA was to apply differently to programmes, plans and policies (Thérivel et al., 1992:37). Tiering implied that PPPs are discrete, clearly distinguishable levels of decision-making, that projects derive from PPPs according to a top–down hierarchy, and that coherence between the top (policies) and bottom (projects) layers is ensured through transparent communication and feed-back loops between decision levels.

There are certainly cases that reflect (at least in part) this hierarchical relation between initiatives, especially where the significant injection of funds into planning is linked to demands for tightly regulated processes. The case of the Structural Funds regime in the European Union is one such example (ERM, 1998). However, after the mid-1990s, questions about PPPs and tiering began to arise in developed and developing countries alike (Dalal-Clayton and Sadler, 2005; EC, 2005; OECD and UNDP, 2002), effectively problematising the object of SEA. Petts (2003:288) described tiering as a 'naïve concept'. Boothroyd (1995:102) found the linearity implicit in tiering to be 'at odds with reality': 'the most important steps in the policy-making process are taken behind closed doors. Often the nature of policy has to be induced from the programs and projects it supports' (Boothroyd, 1995:104). Similarly, Bridgewater (1989, in Bailey and Dixon, 1999:254) argued that '[s]ome policies may be implicit in that they were part of election campaigns or are "generally accepted" but are not committed to paper in any official form … policies can be vague … ambiguous statements which merely indicate a broad general direction'. Major development initiatives in the transport (Rayner, 2004) and energy (Nilsson, 2005) sectors provide a vivid illustration of this less tangible, yet highly influential, understanding of policy-making.

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[8] Interviewed (between July and August 2002) as part of a research project on the assessment and decision-making in Italy's transport sector (in: ECMT (Ed.) (2004) *Assessment and Decision Making for Integrated Transport and Environment Policy*, European Conference of Ministers of Transport/OECD, Paris).

Often the intent of policies was not reflected at lower planning levels, for various reasons to do with institutional structures, capacities and political will; or due to the absence of intermediate links between national policies and individual projects, such as planning at regional levels (Furman and Hildén, 2001; Hildén et al., 2002; Sheate et al., 2001; Thérivel, 1993; Noble and Storey, 2001). This problem was accentuated by weak systems of governance and by the overwhelming weight of projects (often referred to as 'mega-projects') on the development agenda. In particular, aid and investment in mega-projects are often defined in a policy-vacuum (Bina, 2003). This policy-vacuum helps explain why practitioners have sometimes applied SEA to major projects (for example: CSIR, 2003), in an attempt to investigate their strategic and long-term implications, and thus compensate for the lack or inadequacy of higher planning tiers. If SEA of projects was far from the normative ideal, then, it was however visible in practice (cf. Dalal-Clayton and Sadler, 2005). Contrary to the common wisdom about tiering that informs SEA's foundations, the capacity and political will for explicit planning and policy-making is weak in many countries, a deficiency that was often revealed through EIAs of major infrastructure projects (McDonald and Brown, 1995), and sometimes offset through the unorthodox application of SEA (Bina, 2003; CSIR, 2003). Despite this, applying SEA to projects remained tantamount to an anathema, being in direct conflict with the first line of argumentation: that the essence of SEA lies in its connection with 'strategic initiatives'.

This analysis has shown that in answer to the defining questions of SEA, the first line of argumentation provided the following: What is SEA? It is the assessment of environmental consequences of PPPs. Why do we need SEA? Because EIA does not apply to PPPs. I have identified three significant weaknesses in the reasoning underlying these answers, arguing that it is difficult to see any substantial difference between EIA and early SEA, in terms of concept (the next section deals with differences in approach). In the first instance, given that the original concept of EIA included PPPs as part of its remit, the answer 'Because EIA does not apply to PPPs' is simply wrong. It is one thing to argue that a new instrument (SEA) was needed because of the widespread failure of regulations (and subsequent implementation) to extend EIA beyond the scope of projects. It is another to apparently ignore such failure, building a case on the erroneous assumption that EIA was not meant to apply to PPPs. The second weakness relates closely to the first. Given that in principle EIA was applicable to PPPs, the strategic nature of these initiatives could hardly be used to explain the strategic dimension of SEA. Scholars and practitioners did not explain why it had been necessary to develop a 'strategic' alternative to EIA, or what it meant for SEA to be a strategic version of EIA (cf. Partidario, 2000). Instead they focused on the failure of EIA practice to assess PPPs. A failure which could only justify a renewed call for EIAs of strategic initiatives (arguably the interpretation taken by the European 'Directive 2001/42/EC of the European Parliament and of the Council on the Assessment of the Effects of Certain Plans and Programmes on the Environment', which repeats the format of the earlier Council Directive 'on the assessment of the effects of certain public and private projects on the environment' (85/337/EEC, and 1997 amendment)).

Thus, explaining the 'strategic' dimension of SEA in terms of its application to PPPs seems inadequate in the light of the first and second criticisms raised above. Yet, the intuitive appeal of the first line of argumentation had transformed it into a powerful storyline, despite being simplistic, and perhaps even detrimental to the early development of SEA. This was further illustrated by the third weakness, which referred to 'tiering' as a central element of SEA's conceptualisation. This analysis suggests that behind the hierarchical system evoked through 'PPPs' and 'tiering' is a less coherent reality; one that EA theorists have appeared unwilling to engage with (at least until the late-1990s). Instead, rational and normative models of planning

have informed interpretations of the concept of SEA, in spite of the wealth of criticism surrounding such models (Caratti et al., 2004; Lawrence, 2000; Richardson, 2005). Thus far, the case for SEA appears to rest on thin ground.

3. From poor technique to the need for process

While the first line of argumentation is essentially concerned with the broad concept, particularly the purpose of SEA, the second focuses on the role of SEA and its approach (process, methods and tools).

Failure to apply to PPPs was not the only identified problem with EIA practice. Scholars and practitioners have widely promoted SEA as a new mechanism to solve several methodological 'problems' associated with EIA: a tendency to react to, rather than anticipate, development proposals; the narrow scope of information requested for the assessment and the limited scope of the alternatives and mitigation measures considered; the failure to consider cumulative impacts; the limited influence of the assessment results over the final decision; the excessive rigidity of the process and its typically compressed timescale, which also affected the quality of public participation; and the limitations of techniques and procedures for monitoring impacts.[9]

This well-documented list of grievances imputed a lack of effectiveness to EIA practice and led to another line of argumentation in favour of the development of SEA: the need for a new approach to SEA. However, by focusing on these essentially technical shortcomings (the *symptoms*), it oversimplified the nature of the problem (the *causes*), and thus its response: i.e. new and/or better techniques. It was a deeper malaise that had undermined the effective application of EIA, the causes of which encompassed a range of problematics that were essentially political, institutional and policy-related rather than narrowly technical. Such problems were identified to include a lack of political commitment to, and capacity for, environmental integration, sustainable development, and strategic planning, as well as weak environmental governance (see for example: Bina, 2005; EEA, 2005; OECD and UNDP, 2002; Owens and Cowell, 2002; Wallington, 2002). These difficulties, which affected EIA (and subsequently SEA), were compounded by the limits and challenges of planning practice and theory (Lawrence, 2000) and associated linear conceptions of the policy process, as well as by the political dimension of any significant development decision which led almost invariably to confrontation between rationality and power (Flyvbjerg, 1998; Owens and Cowell, 2002; Richardson, 2005; Stirling, 2006). Additional challenges included the limits of technical–rational models of assessment, which focussed on providing neutral information and scientific knowledge, on the role of scientists (and other 'experts') versus lay participants, and on the need to explicitly address issues of value (Caratti et al., 2004; Connelly and Richardson, 2005; Owens et al., 2004; RCEP, 1998).

In sum, by focusing on symptoms instead of causes, the EA community identified a technical, rather than a conceptual, concern. As such, the early response of this community was to extend its almost uncritical embrace of the predominant interpretation of EIA as a technical and 'objective' tool (Munn, 1979) to its successor: SEA. This interpretation has informed the majority of EIA and SEA approaches, despite it being a reductionist one, particularly when

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[9] These essentially technical and procedural limitations – together with their implications – have been documented elsewhere. See for example: Benson, 2003; Espinoza and Alzina, 2001; Goodland and Mercier, 1999; Lee and George, 2000; Petts, 1999; Sadler and Verheem, 1996; Sadler 1996; Thérivel et al., 1992; Thérivel, 1993; and Wood 1999.

compared to the original intentions of the founders of this instrument. According to Caldwell (2000, emphasis added):

> NEPA's purpose was *never the writing* of impact statements, but to provide an *analysis* and an *inducement* to ecological rationality. To use EIA as it was intended requires *leadership committed* to the objectives and subjecting budgets, strategies, programs and plans to that end… [I]t requires a *broadened perspective*, including additional scientific, technical and quality of life considerations.

Caldwell argued that environmental assessment was, and still is, 'an innovative aspect of public policy formation'; as such, it is confronted with inevitable 'bureaucratic and political incomprehension and resentment' (Caldwell, 2000:n.a.). In contrast to Caldwell's aspirations, Bartlett and Kurian (1999:417) noted that the most common model of EIA remains the 'information processing model' according to which the instrument is essentially regarded as addressing information problems. In turn, its political nature, 'when recognised, is decried' (see also: McDonald and Brown, 1995). These authors go on to argue that the effectiveness of EIA, based on the original conception, could be measured in terms of its contribution to changing political institutions (interpreted as formal organisations and rules), and the worldviews and behaviour associated with them: '[t]he logic of NEPA is clearly aimed at restructuring rules and values … through the forced institutionalisation of ecological rationality' (Bartlett, 1997:57; see also Wallington, 2002). Yet in practice EIA has tended to be implemented 'as an informational technique, the findings of which need no more than [a] review by the relevant agency' (Caldwell, 2000:n.a.); or, in the words of Wolf (2003:1), by considering it a 'purely regulatory approach'.

The preceding account highlights the critical relationship between assessment, planning processes and the wider context in which both are shaped and implemented. It suggests that the early concept of EIA was intended to address complex political, institutional and cultural problems, but that its early application as a predominantly 'informational technique' resulted in the persistence of such problems. This partly explains why the vision of the founders of EIA – analysis aimed at inducing ecological rationality into systems of governance – and its innovative potential is still to be fully realised.

Yet the complex problems identified here were not central to the initial framing of arguments in favour of SEA, which relied more on the technical difficulties (*symptoms*) summarised earlier. As a result, the EA community focused on adapting old, and seeking new, procedures, methods and tools.

It was only during the last ten years that the SEA community began to shift their attention from symptoms to the many important issues raised above by Caldwell, Bartlett and Kurian amongst others, thus marking a new phase in SEA's career. The difficulties faced by SEA practice showed the limits of EIA's legacy, or of the 'impact assessment mindset' in the words of one practitioner.[10] Having 'muddled through' during the 1990s, users' expectations began to change. It became necessary to understand assessment as a process as well as an instrument, and as a process that had to engage with its context: encompassing both the nature of the strategic initiative to be evaluated, the purpose attached to SEA, and the institutional, cultural and political character of the development sector and organisations where SEA is applied (Bina, 2003; Hilding-Rydevik and Bjarnadóttir, 2005).

This insight had a significant impact on received understandings of the role of SEA — defined earlier as the way SEA relates to planning and decision-making and interacts with a given

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[10] Comment by John Horberry, made during the Department for International Development – DfID, UK, Expert meeting – *Enabling agreement on environment and sustainable development,* held in London, 6/3/03.

institutional, administrative, cultural and political context. An important contribution came in the mid-1990s by Sadler and Verheem (1996:26) who argued that SEA was a 'systematic process' and that 'environmental consequences' should be '*included* and appropriately *addressed* at the *earliest…* stage of decision-making' (emphasis added). Their emphasis on an early consideration of environmental consequences marked the need to re-define the relationship between assessment and the planning process. It became clear that SEA's greatest potential was more in persuading planners – early on – to design more environmentally sustainable initiatives ('an observable effect on goals' suggest Hildén et al., 2002:1), and less in confronting proponents with information on negative consequences.

The SEA community was somewhat belated in recognising moments (or 'windows') in the decision process through which influence could be exerted: the definition of the problem, the choice of policy questions, and the bounding of institutional remits. Or, at least, SEA scholars and practitioners were less than ambitious in their efforts to take advantage of these opportunities until later in the 1990s. After that time, scholars and practitioners progressively endeavoured to expand the capacity of SEA to direct planning and decision-making toward more environmentally sustainable ends, particularly through the formulation of initiatives (Partidario and Clark, 2000; Eggenberger and Partidario, 2000; Thérivel and Partidario, 1996; Thissen, 2000; Van der Vorst et al., 1999). The new emphasis on key moments, 'opportunities', and 'strategic alternatives' (Noble and Storey, 2001:490), together with the conception of SEA as 'a decision-*making* tool' (Fischer et al., 2001) or 'tool for forward planning' (OECD and UNDP, 2002:150), all contributed to a revised understanding of SEA as a process integrated with planning and decision-making. The understanding of, and ability to map (early on), the functions and timing of key activities and decision moments throughout the policy process became essential to both the applicability of the 'early start' rule and to process integration. The European research project 'Analytical SEA' (ANSEA) proposed a methodology centred around the description and analysis of decision-making, with the aim of identifying 'decision windows' through which SEA can best act to integrate environmental and sustainability concerns (Caratti et al., 2004). The importance of key moments was also discussed in terms of the 'constant micro-level judgements' (Richardson, 2005:349), and the 'many subtle contingencies' (Stirling, 2006; see also Fischer et al., 2001; Noble, 2002; Partidario, 2000; Van der Vorst et al., 1999) associated with policy making and SEA's new role therein.

By highlighting a proactive shaping of strategic initiatives rather than simply an analysis of implications, developments in SEA followed – often inadvertently – in the footsteps of other variants on IA, including: policy evaluation and analysis (Boothroyd, 1995), cost–benefit analysis (Pearce, 1998), technology assessment (Porter, 1995), and EIA itself (Vanclay and Bronstein, 1995; Petts, 1999). A similar concern with shaping initiatives early on in the design stages, and more generally with process, was witnessed in environmental planning (RCEP, 2002), environmental policy integration (Jordan, 2001), environmental governance and sustainable development strategies (OECD and UNDP, 2002). The last decade has shown greater cross-pollination between SEA and these other fields (Bina, 2005).

These developments led to changes in the role of SEA (Brown and Thérivel, 2000; Caratti et al., 2004; Furman and Hildén, 2001; Nilsson and Dalkmann, 2001; Renton and Bailey, 2000; Thissen, 2000) and were crucial in the development of a revised interpretation of its 'strategic' dimension, thus strengthening its differentiation from EIA practice. Increasingly, the role of SEA was to integrate environmental and sustainability concerns *throughout* the life of plans, as had been recommended, notably, by Sadler and Verheem (1996) in their appeal for early influence. It would have to be a more pervasive role, one that requires a more articulate structure and process so as to raise questions at critical moments (such as the identification of objectives or alternatives), to

persuade a range of actors of the benefits and advantages of more environmentally-friendly solutions (using carrots as well as sticks), and to assist in negotiations between inevitably different worldviews and values, which are intrinsically linked to complex planning issues.

The recognition that a more pervasive role was needed had implications for the approach to assessment. Where technocratic and rationalist approaches (Thérivel and Partidario, 2000; Shepherd and Ortolano, 1996) bent on positivist precision and detail had previously been dominant, practitioners increasingly recognised the value of more openly political (Bartlett and Kurian, 1999; Sánchez-Triana and Ortolano, 2001), collaborative approaches, aimed at consensus-building (Owens et al., 2004; Thérivel and Partidario, 2000). In turn, EIA and SEA were recognised, by some, to be social processes (Stirling 1999:131). Increasingly, decision-makers and related actors, including senior bureaucrats, were being involved by practitioners in discussions about environmental opportunities as well as liabilities, rather than being informed about them.[11] SEA practitioners – and subsequently its scholars – realised through experience that 'there is no escape from power' (Richardson, 2005:344) or from the confrontation of values (Owens and Cowell, 2002). They tried to respond to such challenges by designing more collaborative, participatory and dialogical processes, which allowed for the discussion of values recognised to be an inherent dimension of decision-making and sustainability (cf. CSIR, 2003, an issue discussed further below). Thus, in the late 1990s, there was an attempt to incorporate elements of both rationalist and political interpretations in approaches to SEA, once again echoing progress in other arenas, including environmental planning (cf. RCEP, 1998).

This analysis suggests that scholars and practitioners have widely promoted SEA as a new mechanism to solve several methodological 'problems' associated with EIA. However, by focusing on these essentially technical shortcomings (the symptoms), they oversimplified the nature of the problem. The second line of argumentation paid little attention to the underlying causes of EIA's difficulties, which encompassed to the challenging relationship between assessment, planning processes and the wider context (political, institutional and cultural). Such initial framing of the arguments has had significant impact on the approach (procedures, methods, tools) to SEA, which continued, by and large, to be that of a technical and 'objective' tool, just like EIA. Despite being conceived as an answer to a crisis in EIA practice, during its early period of conceptualisation and implementation SEA did not distance itself in any fundamental way from EIA.

Moreover, as scholars including Caldwell, Bartlett and Kurian, and Wallington have pointed out, the original intentions of NEPA, from which EIA originated, continued to be poorly executed. Such intentions viewed EIA and what we now call SEA as a mechanism that could promote change by acting upon the entire machinery of government, seeking to improve not only specific plans or projects, but also to change political institutions and the worldviews and behaviour associated with them. Assessment was meant to induce ecological rationality into systems of governance (Bartlett, 1997; Caldwell, 2000; Wallington, 2002). Therefore, the original role of EIA and SEA was to engage with planning and decision-making and the institutional, administrative, cultural and political context.

However, the role and approach proposed for SEA seemed destined to fall equally short of the original concept, apparently failing to heed the lessons of EIA analysts. It was only during the last decade that the SEA community shifted attention from symptoms to causes, redefining progressively both the role and approach to SEA. It did so by focusing on the relationship between assessment, planning processes, decision-making and the wider political and institutional context. Increasingly, assessment was understood as a process as well as an instrument, and as a process that had to engage with its context. These changes are in line with the original intentions of

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[11] Comment by a senior bureaucrat at the Ministry of Finance, Evaluation Unit, Italy, interviewed (between July and August 2002) as part of the research for ECMT on an overview of assessment and decision-making in Italy's transport sector.

NEPA, suggesting that SEA is becoming a renewed attempt to implement concepts from the late 1960s and 1970s. The more recent approach to SEA has included persuasion and negotiation between different worldviews, as well as evaluation, thus incorporating elements of both rationalist and political interpretations of assessment. Cross-pollination between SEA and other forms of IA, environmental planning, environmental policy integration, environmental governance and sustainable development strategies, assisted this change.

4. From environment to sustainability? The purpose of SEA

In the early stages of SEA's career, scholars and practitioners defined SEA's purpose by extending the original understanding of EIA as a mechanism related to the natural environment. The purpose of assessment is defined here as the broad, long-term reasons for institutionalising a system of SEA within a legal framework, a planning context, and/or a particular organisation. SEA's purpose reflected a renewed emphasis on the need to take environmental factors into account in the design of planning and development proposals. Together with the growing appeal of environmental integration and sustainable development discourses in the 1980s and early 1990s (Jordan, 2001; WCED, 1987; UNCED, 1992), this renewed emphasis imparted unprecedented prominence on SEA amongst assessment instruments.

Over the last 15 years, however, sustainable development has progressively accompanied, and sometimes replaced, the focus on environment in SEA (CSIR, 2003; Hedo and Bina, 1999; Levett and McNally, 2003; ODPM, 2003). Glasson (1995:715–716), for example, viewed SEA as an instrument with 'considerable potential … for the integration of socio-economic development and the bio-physical environment at the regional scale', adding that 'SEA can be seen as providing a potentially effective vehicle for promoting sustainable development'; a view shared by many others (Brown and Thérivel, 2000; Dalal-Clayton and Sadler, 2005; Eggenberger and Partidario, 2000; Fischer, 2003; Noble and Storey, 2001; Partidario, 1996, 2000). Sadler (2001) clarified that the 1996 definition given by Sadler and Verheem sealed the link between the assessment mechanism and the 'chief institutional challenge of the 1990s' outlined in *Our Common Future* (WCED, 1987), which in turn echoed many of the challenges discussed above. Even the early contribution by Thérivel et al. (1992:20), argued that SEA would '"trickl[e] down" the objective of sustainability'. This development represents the third line of argumentation.

In accord with the previous two lines of argumentation, the SEA-sustainability link emphasised here represents a reinforcement of, rather than a departure from, the original understanding of assessment that underpinned the conception of EIA. From the outset, EIA was entrusted with far-reaching responsibilities (Taylor, 1984; US Congress, 1969; Wallington, 2002). Lynton Caldwell (1998, 2000 n.a.), one of the architects of NEPA, recalls that the intention behind section 102(2.c) of NEPA (US Congress, 1969) was 'to require an assessment of the environmental effects of proposed government action *for the purpose of implementation of the principles enumerated in the congressional Declaration* of National Environmental Policy section 101(b)' (emphasis added). The section was concerned with the social, cultural and economic dimensions of environment and development, as well as with environmental problems as problems in the natural environment. The purpose and role of EIA therefore represented a tall order from the very beginning, entailing political as well as technocratic dimensions that were to challenge the generations of policy-makers and practitioners to come (Taylor, 1984; Wallington, 2002). EIA was placed at the centre of the uneasy balancing act between environmental and other values (or environmental protection and other goals); it was called to help with this balancing effort but, as Taylor (1984:5) noted, 'with apparent naïveté, the drafters of the statute [NEPA] set no clear standards of what is a correct "balance" between such

values, and the law: 'grandly but vaguely commands the agencies, "Think more carefully about the environment before acting!"'.

Yet, despite the centrality of the link to sustainability within the overall SEA discourse, the actual meaning – in practical terms – of 'contributing' to sustainable development is poorly understood and discussed. The field as a whole remains surprisingly vague about what is meant by 'contributing to sustainable development' (EC, 2001, Article 1) and the 'balancing' of environmental, social and economic issues (Taylor, 1984), or the consideration of the environmental consequences 'on a par with economic and social considerations' (Sadler and Verheem, 1996:26). The implied linearity of the SEA-sustainability link, as if one could seamlessly lead to the other, is misleading. Instead, I would argue that there are far-reaching implications arising from the mere suggestion of such link, both in terms of the purpose, role and approach to assessment (aspects that are closely connected, as shown in the following discussion).

What purpose and role should SEA fulfil once linked to sustainability? Is it to facilitate the internalisation of the ecological dimension in PPP formulation, or is it supposed to question substantive choices, including our consumption patterns and our commitment to economic growth? Is sustainability to be understood as the combination of three equal pillars (economic, social and environmental), or does it refer to the concept of environmental sustainability, which acknowledges the centrality and limits of ecosystem capacity (cf. OECD DAC, 2006; Sadler, 1999).[12] Ad hoc examples of SEA have provided a range of answers to the above questions: from the inclusion of social and economic objectives or indicators during scoping so as to promote all three dimensions of sustainability (ERM, 1998), to the design of participatory processes focused on environmental services and aimed at promoting environmental sustainability (Kessler, 2003), to SEA processes aimed at strengthening environmental governance (World Bank, 2005).

In their overview, Dalal-Clayton and Sadler (2005:46) suggest that the purpose and role of SEA ranges widely across what they call 'models and approaches' to SEA from all over the world. Their findings support the idea that the purpose and role of SEA should be context-specific: framed according to the institutional, administrative, political and cultural context in which it is being applied. This idea has received increasing attention, as discussed under the second line of argumentation. The previous section examined the changing role of SEA, with particular emphasis on the need to interact with a range of institutions so as to strengthen their capacity to integrate the environment in development agendas. This can be seen as an attempt to implement the contribution of SEA to sustainability (third line of argumentation), by focusing on the need for institutional change (WCED, 1987).

In addition to variety, the third line of argumentation has also triggered new challenges. A number of interviewees, including decision-makers and experts, have highlighted the tension over the purpose of SEA, typically expressed in the division between 'pure' environmental interpretations and sustainability (sometimes know as integrated) versions of assessment. They expressed concern over how to deal with the inevitable trade-offs arising in most strategic-level decision arenas, asking whether assessment should explicitly advocate an environmentally sustainable future, or be 'objective' and seek to 'balance' the three pillars of sustainability (terms used by the interviewees, despite decades worth of evidence showing the limits of objectivity, as discussed above).[13] These concerns illustrate how the purpose also has implications for the

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[12] The reference to 'environmental sustainability' draws on the early focus of EIA on ecological rationality (Bartlett, 1997; Caldwell, 2000), and on the recent work of scholars (Sadler, 1999; Wallington, 2002; Wood, 2003).

[13] Interviews conducted between 2001–2002, for my doctoral thesis, and between 2003–2004, for the research project 'Appraisal, institutional learning and sustainability: defining a new agenda' (see: www.psi.orh.uk/EHB and Owens et al. 2004).

approach to assessment: in particular how SEA is to balance values and goals in practice (cf. Taylor, 1984). The common belief in the effectiveness of assessment as provider of objective and scientific information leaves the assessment community in doubt about how to support the achievement of this balance. Practitioners have had to find ways of dealing with competing 'claims of environmental integrity, social justice and a dignified quality of life' and providing adequate input to 'the substantial moral and political task of adjudicating between claims that cannot always be happily reconciled' (Owens and Cowell, 2002:168).

In several instances, SEA practitioners have shown innovation and leadership where theorists have been lagging behind. Such innovation has addressed complex issues: the capacity for strategic and long-term planning, for inter-disciplinary work and cross-sectoral cooperation; the need to balance the influence of sources of expertise and knowledge; and the provision of fora where different actors and stakeholders can present and discuss the intrinsically value-laden problems under scrutiny (for example: Hedo and Bina, 1999; CSIR, 2003; Dalal-Clayton and Sadler, 2005; Levett and McNally, 2003; Tomlinson, 2004; Short et al., 2003). The developments in the approach to SEA, incorporating elements of both rationalist and political interpretations of assessment mentioned in the previous section, are also improving SEA's ability to contribute to sustainability. However, they remain by-and-large ad hoc contributions, rather than a systematic development throughout the field of SEA.

As it swings between interpretations of its purpose and role, the SEA community once more follows in the footsteps of other instruments. Boothroyd (1995:84) noted that policy evaluation began as a process with 'particularistic goals' (evaluating goals 'established by the powerful according to their interests [and] values'), but moved onto 'efficiency', 'equity' and 'quality-of-life' goals, and culminated in the 1970s as a process with 'sustainability goals'. The 1970s witnessed the inclusion of ecological relationships and quality of life issues within different IA tools (including technology assessment and, later, risk assessment), drawing on systems theory, which provided powerful conceptual tools for the analysis of complex and uncertain impact chains. Some of these early developments are taking place in SEA practice. However, change can take a long time before it is institutionalised. Boothroyd (1995:84) found that '[d]ay-to-day inhouse [policy evaluation] is still mostly particularistic, with the universals of welfare economists enjoying primary respect'. He argued that positivism continued to dominate assessment: '[s]ystem-sensitive IA … is still the exception … IA is still mostly systematic (mechanical and reductionist) rather than systemic' (Boothroyd, 1995:90). Similarly, the conclusion of Shefer and Kaess (1990:84) on the progress in economic assessment is that 'innovation in evaluation approaches has tended to echo the prevailing social climate. In spite of the wide array of techniques now available… the field is rather conservative in its trends'. The authors appealed for 'a change in the perception of evaluation in planning and analysis' (Shefer and Kaess, 1990:86).

These observations imply the resilience of a focus on (and bias towards) certain disciplines (notably economics) and worldviews that prioritise one or more pillars of sustainability, as well as the continued influence of positivism in the social sciences (Owens et al., 2004). They hold lessons that are completely relevant to SEA's experience today, prompting attention to the opportunity, or the need (depending on the institutional and political context), to anchor this instrument in environmental sustainability. The challenges encountered in putting sustainability into practice through SEA may explain why the recent guidance for assessment in development cooperation (OECD DAC, 2006:8) referred to SEA as a range of 'analytical and participatory approaches that aim to integrate environmental considerations into policies, plans and programmes and evaluate the inter linkages with economic and social considerations'. The

guidance thus placed environment as the central purpose of doing this assessment and called for the evaluation of 'inter linkages' rather than the balancing of the three sustainability dimensions. If the SEA community were to reclaim the centrality of environment, Wiseman's dictum (in Thérivel and Partidario, 2000:278) that 'SEA should focus on the effect of the environment on development, not development on environment' could provide a new interpretative lens. However, the operationalisation of such a priority shift would require, inter alia, a central role for concepts such as that of carrying capacity (Jacobs, 1997) and the precautionary principle (Harremoës et al., 2001), both still rare in SEA practice (but see: Kessler, 2003).

In spite of significant progress, unresolved tensions about the purpose and role of SEA persist. Users are increasingly perplexed by the proliferation of instruments to address sustainability-related issues, such as Sustainability Assessment (Gibson et al., 2005), and the lack of clear distinctions between them. The fact that socio-economic concerns have often been considered in SEA practice may indicate a preference amongst its practitioners for sustainability-type assessments, possibly because they convey greater 'legitimacy' on the process (cf. Burdge and Vanclay, 1995) than would a focus solely on the natural environment.[14] Alternatively, there may be a perception that thinking in strategic terms implies the coordinated treatment of all three pillars: 'ultimately, SEA is nothing else but an attempt to ensure that [land-use] planning is done more objectively, including … necessarily the three *patas* [pillars]'.[15] In Europe, the English authorities have chosen to apply the European Directive (EC, 2001) by combining SEA and Sustainability Appraisal into one process (ODPM, 2003). Yet, many scholars and practitioners still primarily consider the environment, and express reservations about replacing environmental with wider sustainability objectives (Sheate et al., 2001; Wood, 2003).

The analysis of the third line of argumentation has explored the changing emphasis from environmental protection to wider sustainable development objectives, in SEA theory and practice. I have argued that this change actually represents a reinforcement of, rather than a departure from, the original understanding of assessment that underpinned the conception of EIA. This review has suggested that much still needs to be done to meet the renewed commitment. While the analysis reveals a growing interest in the idea that sustainable development should be adopted as the purpose of SEA, there is no evidence of a generalised trend in theory or practice, and several recent examples show a 'return' to environment as the central purpose of doing SEA (EC, 2001; OECD DAC, 2006). In terms of the approach to assessment, the preceding investigation has shown elements of innovation in SEA practice, including the capacity for inter-disciplinary work and cross-sectoral cooperation, and the need to balance the influence of sources of expertise and knowledge, all of which are essential when addressing sustainability questions. However, this is by no means common to all practice: differences continue due to diverging interpretations of what it means for SEA to contribute to sustainable development. Perhaps not surprisingly, practitioners have faced difficulties when trying to provide support for how to balance values and goals in practice, and how to deal with the inevitable trade-offs arising in most strategic-level decisions.

Overall, it seems remarkable that in spite of the importance attributed to SEA's 'contribution' to sustainability, the conceptual and practical implications of this contribution remain poorly discussed within the SEA community.

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[14] Note the parallel with 'green' plans evolving into sustainable development strategies (OECD and UNDP, 2002:37).
[15] Interview with Jaime Rovira, then vice Director of the CONAMA, Santiago de Chile, 18/4/02, conducted as part of my doctoral research.

5. Discussion and conclusions: the next stages in SEA's career

This critical reflection on the foundations of SEA has helped identify the strengths and weaknesses of arguments relating to the concept and approach to SEA. The main factors influencing the early development of these lines of argumentation, and their evolution over the last 15 years, are highlighted in Fig. 1.

The first line of argumentation has been a decisive influence in slowing the evolution of SEA in response to identified problems with EIA, by claiming that its strategic dimension was the result of the strategic nature of the planning decisions it was assessing, and by oversimplifying the nature of PPPs and of tiering. This has meant that the development of the 'strategic dimension' of SEA, in terms of its role, procedures, methods and tools, was delayed until the late 1990s. The second line of argumentation initially focused on technical and procedural problems (symptoms) related to EIA practice. It was not until the late 1990s that the SEA community began to address the causes that had led to the unsatisfactory implementation of EIA, which related to its failure to live up to the original intentions of NEPA: analysis aimed at restructuring rules and values and inducing ecological rationality into systems of governance (Bartlett, 1997; Wallington, 2002). Scholars and practitioners gradually looked beyond methodologies, and the scope or scale of impacts, to address key questions about how to conceptualise the object of the assessment (beyond narrow interpretations of PPPs), and how to ensure a more effective integration of the processes of assessment, planning and decision-making. This stage of SEA's career has thus been more reflexive in terms of the role and approach to SEA, consistent with a maturing phase in the instrument's history.
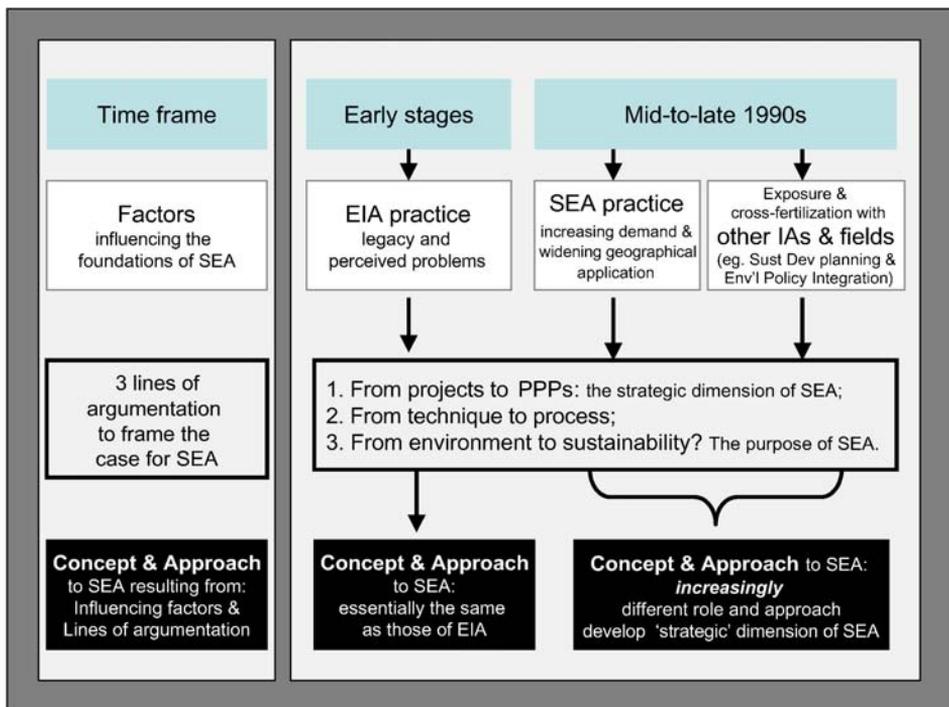

Fig. 1. The changing concept and approach to SEA.

The third line of argumentation, that SEA would contribute to sustainable development, has potentially radical implications for the concept of SEA, which in turn affects the approach to assessment. However, the analysis in this paper has identified a striking lack of explanation addressing what this might mean: the kind of sustainability to be embraced, and the way to make that contribution in practice. There have been important instances of innovation and leadership, especially from practitioners rather than theorists (CSIR, 2003; Dalal-Clayton and Sadler, 2005; Levett and McNally, 2003), but these remain ad hoc contributions, rather than a systematic development throughout the field of SEA. The rapidly expanding field of sustainability assessment (Gibson et al., 2005) can provide useful answers to what it means for assessment to contribute to sustainability, but it also raises the question: how should SEA differ from sustainability assessment?

Identified shortcomings in the arguments which justify the need for SEA point to three broad areas of research and development. I contend, further, that these issues demand the urgent attention of policy makers, bureaucrats and experts responsible for the regulation and institutionalisation of SEA around the world, as well as of trainers and capacity builders. The issues raised here also suggest a clear role for SEA scholars, ensuring that further discussions proceed from conceptual and practice-oriented perspectives.

5.1. Revisiting the concept of assessment in SEA

I have suggested that most of the early arguments for SEA had in fact already been at the normative heart of EIA's conceptual foundations. SEA is not different from EIA because it applies to strategic initiatives. If it is in any substantive way a departure from EIA, that departure has occurred in practice: SEA is best conceived as a renewed attempt, by the assessment community to address the fundamental challenges identified in the early 1970s — challenges which have been addressed in EIA practice with only limited success. Acceptance of, and response to, these claims is crucial to the future development of SEA. On the one hand, my analysis undermines many of the arguments considered to distinguish SEA from EIA, and thus to provide a raison d'être for SEA. On the other hand, my analysis unveils a renewed strength and sense of purpose for the field of environmental assessment, highlighting its role in the transition to new rules and institutions that promote ecological rationality into systems of governance.

The last decade has witnessed significant attempts to strengthen the concept and approach to SEA, as a result of the progressive opening of SEA research to other fields and disciplines, and as a response to innovations in practice. The simple linearity of early normative SEA conceptions jarred with the complexities faced by practitioners: they had to think differently about the object of assessment, and to explore the planning and decision-making dimensions of the PPPs as well as their political, institutional and cultural context; they had to face challenges including the policy-vacuum from which many initiatives arise, and the inevitable clash between values and worldviews intrinsic to most development strategies.

These developments, analysed in detail in this paper and confirmed by my own experience in the field, make it possible to identify the following distinctive traits of SEA's evolution: SEA is being used increasingly to address the weaknesses of the policy context for strategic development initiatives, and of the policy processes intended to deliver them. Ultimately, this will lead SEA to address the political, institutional and cultural context that influences both assessment and planning, as originally envisaged by NEPA. In other words, the role of assessment is changing as it moves upstream, targeting the early stages in the design of development proposals, and crucially the processes and contextual factors that shape these proposals.

The prediction and evaluation of the potential environmental effects of PPPs has ceased to be an accurate description of what many SEAs achieve – or aim to achieve – despite the fact that many new laws continue to use this as the core definition of the new assessment regimes. Impact prediction and evaluation remain a part of the assessment process, but the importance of these analytical stages is becoming secondary to a range of preparatory tasks (often under the heading of 'scoping') that seek to direct planning and decision-making towards environmentally sustainable framings of problems, objectives, and alternatives (Caratti et al., 2004; CSIR, 2003; EC, 2005; OECD DAC, 2006). Collaboration, negotiation and persuasion become central activities of these preparatory tasks, all the more so when the aim is to contribute to sustainable development (OECD and UNDP, 2002).

Assessment is becoming more participatory, not only in terms of involving representatives of civil society, but also in seeking greater cooperation and coordination between government agencies, development sectors and sources of expertise that have a direct or indirect interest or contribution to make. Finally, there is a growing emphasis on the opportunity of using SEA as a catalyst for rational and social forms of learning: to promote long-term positive impacts on the culture and worldviews of the organisations and sectors that apply this mechanism (see Nooteboom in this issue; also: Bina, 2003; Nilsson, 2005; World Bank, 2005), and to strengthen the capacity for environmental planning (Bina, 2003; OECD and UNDP, 2002) in line with the original EIA concept discussed by Bartlett (1997).

However, no single SEA combines all the characteristics described here, and while some recent assessments have applied several of these conceptual and methodological avenues, many more are likely to remain within the straightjacket of narrow interpretations of EIA, failing to realise SEA's potential (a risk, in my view, that persists in relation to the implementation of the European Directive (EC, 2001)). This may be the result of legal requirements, of institutional, cultural and political constraints (discussed in the second line of argumentation), or simply of time and resource constraints. Nonetheless, I would also point to a persistent failure to reflect on what this analysis has shown to be early misconceptions in the framing of a case for SEA. It seems reasonable to assume that this failure will have done little to set SEA onto a path more consistent with the challenges it faces.

5.2. Promoting strategies for the introduction of SEA

Instead of searching for universally applicable and replicable good practice examples or manuals, policy makers, bureaucrats and experts responsible for regulating and institutionalising SEA processes should ask themselves first *why* they want SEA: what it is that needs fixing in the way they take strategic decisions about development (what keeps these from delivering sustainable outcomes?), and what do they think SEA can and should do about it (Bina, 2003; Hilding-Rydevik and Bjarnadóttir, 2005). Answering these questions would force authorities responsible for SEA in each development ministry (or sector of government) to critically consider the three lines of argumentations reviewed here. Authorities could then frame the purpose, role, and approach to SEA so that it is relevant and consistent with the institutional, planning, organisational and cultural context of application. This would provide each ministry (or organisation responsible for SEA implementation) the basis for a strategy that would introduce SEA as a system designed to address those challenges that are perceived to be the most serious and urgent within the specific context in question. A similar strategy could also ensure that SEA is institutionalised as an integral part of the structures and processes being set up for environmental governance – including policy integration and sustainable development strategies – thus maximising synergies between otherwise disparate initiatives and frameworks.

A strategy for the introduction of SEA could have short- and long-term goals: the first targeted at making specific initiatives (major projects, and PPPs) environmentally sustainable, and the second aimed at progressing institutional and cultural change within the organisation, strengthening the capacity of the organisation to analyse and define development problems and solutions with environmental sustainability as a core concern. This might include the design of opportunities to support 'learning-oriented assessments' (Bina, 2003:306, see also World Bank, 2005), which would in turn promote reflection in a case-by-case manner, based on the results of each assessment. Only after this, should responsible authorities search for answers about *how* to do SEA. In other words, only once these issues have been considered should the question of methods and techniques be addressed.

5.3. Time for theory to contribute to practice

Cross-fertilization with other disciplines should be encouraged (the quest for inter-disciplinarity) to strengthen the contribution of theory to practice through the provision of space for reflection and the identification of new directions. I have highlighted the way in which the salient elements of SEA's evolution during the 1990s echoed earlier (or parallel) developments in other assessment instruments and fields of knowledge. I have also suggested that the isolationist tendencies of the EA community (Nitz and Brown, 2002) may have hindered the development of both EIA and SEA. There are signs that this trend may be reversing, however. In recent years, scholars have begun to engage with other disciplines and perspectives, including that of planning (Eggenberger and Partidario, 2000; Richardson, 2005), strategy formation (Cherp, 2005), knowledge and decision-making theory and policy analysis (Kørnøv and Thissen, 2000). Additional efforts have explored the potential of SEA to contribute to various forms of learning (Bina, 2003; Nilsson, 2005; Owens et al. 2004) and environmental justice (Connelly and Richardson, 2005; Jackson and Illsley, 2005). Other fruitful areas of inquiry, yet to be fully explored, include environmental policy integration, sustainable development strategies and environmental governance mechanisms (including how these areas are being discussed in the development studies literature).

It is the limited self-reflection within the SEA community that has prompted the present critique of the evolving arguments in favour of SEA. My hope is that, by making explicit the assumptions that underpin the lines of argumentation elaborated in this paper, the SEA community will concede misleading simplifications, question would-be self-evident truths, and acknowledge the potential of alternative lines of inquiry that – building on the strengths of SEA identified herein – could help respond to the growing expectations attached to SEA. This is especially urgent given the rapid dissemination and institutionalisation of SEA around the world, and the enduring authority of the three lines of argumentation: a point reinforced by Dalal-Clayton and Sadler's (2005:21) repetition of most of these problematic arguments in their statement that 'the rationale for the SEA of PPP falls into three main categories: strengthening project EIA; addressing cumulative and large-scale effects; and advancing the sustainability agenda'.

If, as I have argued, SEA is best understood as an attempt to implement original EIA intentions, my explorations should be considered relevant to EIA and SEA, and the distinction between the two would have to be reconceptualised. There is a specific need to consolidate the particular qualities of SEA in terms of strengthening the 'strategic' dimension of assessment, consolidating the developments identified for each line of argumentation. Clarifying whether SEA's purpose is to promote environmental protection, environmental sustainability or the broader concept of sustainable development seems a *conditio sine qua non* if the instrument is to have a future. The SEA community should continue to draw lessons from other instruments, but it

should also seek to clarify the difference between SEA and other 'strategic' instruments (cf. Dalal-Clayton and Sadler, 2005; Gibson et al., 2005).

Acknowledgements

References

Bailey J, Dixon J. Policy environmental assessment. In: Petts J, editor. Handbook of environmental impact assessment. Oxford: Blackwell Science; 1999. p. 251–72.

Bartlett RV. The rationality and logic of NEPA revisited. In: Clark R, Canter L, editors. Environmental policy and NEPA: past, present and future. Boca Raton, FL: St. Lucie Press; 1997.

Bartlett RV, Kurian PA. The theory of Environmental Impact Assessment: implicit models of policy making. Policy Polit 1999;27:415–33.

Bass R. United States. In: Jones C, Baker M, Carter J, Jay S, Short M, Wood C, editors. Strategic Environmental Assessment and land use planning. London: Earthscan; 2005. p. 242–60.

Benson J. (2003) What's the alternative? Impact assessment tools and sustainable planning. Paper presented at the 23rd Meeting of the IAIA, Marrakech 14–20 June 2003.

Bina O. 2003. Re-conceptualising Strategic Environmental Assessment: theoretical overview and case study from Chile, unpublished PhD Thesis, Geography Department, University of Cambridge, Cambridge.

Bina O. Strategic Environmental Assessment. Paper presented at an International Research Workshop: innovation in environmental policy? Integrating the environment for sustainability, held in Cambridge,12–13 October 2005; 2005. Available at http://www.uea.ac.uk/env/cserge/events/2005/epi/index.htm.

Boothroyd P. Policy assessment. In: Vanclay F, Bronstein DA, editors. Environmental and social impact assessment. Chichester: John Wiley; 1995. p. 83–126.

Bridgewater G. Environmental impact assessment of policies in Canada. In: 8th annual meeting of the international association for impact assessment, Montreal, 25 June 1989, Montreal;1989.

Brown A, Thérivel R. Principles to guide the development of Strategic Environmental Assessment methodology. Impact Assess Proj Apprais 2000;18:183–9.

Burdge RJ, Vanclay F. Social impact assessment. In: Vanclay F, Bronstein DA, editors. Environmental and social impact assessment. Chichester: John Wiley; 1995. p. 31–66.

Caldwell LK. The National Environmental Policy Act: an agenda for the future. Bloomington, IN: Indiana University Press; 1998.

Caldwell LK. Preface. In: Partidario MP, Clark R, editors. Perspectives on Strategic Environmental Assessment. London: Lewis Publishers; 2000. pp. n.a.

Caratti P, Dalkmann H, Jiliberto R, editors. Analytical Strategic Environmental Assessment: towards better decision-making. Cheltenham: Edward Elgar Publishing Ltd.; 2004.

Cherp A. SEA and strategy formation theories: from three Ps to five Ps. International experience and perspectives in SEA, the international association for impact assessment special thematic meeting, Prague, 26–30 September 2005 (paper presented at the 'SEA Theory and Research' session); 2005.

Connelly S, Richardson T. Value-driven SEA: time for an environmental justice perspective? Environ Impact Assess Rev 2005;25:391–409.

CSIR (Council for Scientific and Industrial Research). Strategic Environmental Assessment: port of Cape Town sustainability framework. Report by CSIR (Stuart Heather-Clark and Michelle Audoin) for the National Port Authority, Cape Town; Report no. ENV-S-C 2003-074, Stellenbosch, South Africa; 2003.

Dalal-Clayton B, Sadler B. Strategic Environmental Assessment: a sourcebook and reference guide to international experience. London: IIED and Earthscan; 2005. also available at: http://www.iied.org/spa/sea.html#chap (22/2/05).

EC (European Commission). Directive 2001/42/EC of the European Parliament and of the Council on the Assessment of the Effects of Certain Plans and Programmes on the Environment, Luxembourg, 27 June 2001, (PE-CONS 3619/3/01 REV 3); 2001. http://europa.eu.int/comm/environment/eia/sea-support.htm (04/07/01).

EC (European Commission). A sourcebook on Strategic Environmental Assessment of transport infrastructure plans and programmes. A report prepared by BEACON for DG TREN, EC, Brussels; 2005.

EEA (European Environment Agency). Environmental policy integration in Europe — administrative culture and practices. EEA technical report No. 5/2005, EEA, Copenhagen; 2005. http://reports.eea.eu.int/technical_report_2005_5/ (7/6/05).

Eggenberger M, Partidario M. Development of a framework to assist the integration of environmental, social and economic issues in spatial planning. Impact Assess Proj Apprais 2000;18:201–7.

ERM (Environmental Resources Management). Handbook on environmental assessment of regional plans and EU structural funds programmes, a report by ERM, prepared for directorate general environment. Brussels: European Commission; 1998. available at http://europa.eu.int/comm/environment/eia/sea-support.htm.

Espinoza G, Alzina V, editors. Revisión de la Evaluación de Impacto Ambinetal en Países de América Latina y el Caribe - Metodología, Resultados y Tendencias, Banco Interamericano de Desarrollo and Centro de Estudios para el Desarrollo, Santiago, Chile; 2001.

Fischer TB. Strategic Environmental Assessment performance criteria— the same requirements for every assessment? J Environ Assess Policy Manag 2002;4:83–99.

Fischer TB. Strategic Environmental Assessment in post-modern times. Environ Impact Asses Rev 2003;23:155–70.

Fischer TB, Wood C, Jones C. Policy, plan and programme environmental assessment in England, the Netherlands and Germany: practice and prospects. Environ Plann B Plann Des 2001;29:159–72.

Flyvbjerg B. Rationality and power: democracy in practice. Chicago: University of Chicago Press; 1998.

Furman E, Hildén M. Transport planning: influence of Strategic Environmental Assessment/integrated assessment on decision-making, Helsinki. Final report of a workshop, produced in collaboration with the Ministry of the Environment and the Ministry of Transport and Communication. Ministry of the Environment; 2001. http://www.vyh.fi/eng/orginfo/publica/electro/fe534/fe534.pdf.

Gibson RB, Hassan S, Holtz S, Tansey J, Whitelaw G, editors. Sustainability assessment: criteria and processes. London: Earthscan; 2005.

Glasson J. Regional planning and the environment: time for a SEA change. Urban Stud 1995;32:713–31.

González S. El Marco de la Evaluación Ambiental Estratégica. Evaluación Ambiental Estratégica— Aplicaciones y Potencialidades para Chile Fundación Casa de la Paz. Santiago, Chile: Centro de Estudios para el Desarrollo and Comisión Nacional del Medio Ambiente; 2001.

Goodland R, Mercier J-R. The Evolution of Environmental Assessment in the World Bank: from "Approval" to Results. Environment Department Papers, Paper no. 67, The World Bank, Washington D.C.; 1999.

Harremoës P, Gee D, MacGarvin M, Stirling A, Keys J, Wynne B, Vaz S, editors. Late lessons from early warnings: the precautionary principle 1896–2000. Environmental issue reportCopenhagen: European Environment Agency; 2001.

Hedo D, Bina O. Strategic Environmental Assessment of hydrological and irrigation plans in Castilla y Leon. Environ Impact Asses Rev 1999;19:259–73.

Hildén M, Furman E, Kaljonen M. Experiences from 17 countries on the influence of SEA on decision making in transport planning. Paper presented by M Hildén to a meeting of DG TREN, 11 October 2002, Brussles; 2002.

Hilding-Rydevik T, Bjarnadóttir H. Understanding the SEA implementation context and the implications for the aim of SEA and the direction of SEA research. International experience and perspectives in SEA, the International Association for Impact Assessment Special Thematic Meeting, Prague, 26–30 September 2005 (paper presented at the 'SEA Theory and Research' session); 2005.

Jackson T, Illsley B. An examination of the theoretical rational for using Strategic Environmental Assessment of public sector policies, plans and programmes to deliver environmental justice, drawing on the example of Scotland. *International experience and perspectives in SEA*, International Association for Impact Assessment Special Thematic Meeting, Prague, 26–30 September 2005; 2005.

Jacobs M. Making sense of environmental capacity. A report for CPRE; 1997. July 1997.

Jordan A. Efficient hardware and light green software: environmental policy integration in the UK. In: Lenschow A, editor. Environmental policy integration: greening sectoral policies in Europe. London: Earthscan; 2001. p. 35–56.

Kessler JJ. Working Towards SEAN-ERA. A framework and principles for integrating environmental sustainability into planning. Tropical resource management papers, vol. 43. Wageningen: Wageningen University; 2003.

Kørnøv L, Thissen W. Rationality in decision-and policy-making: implications for Strategic Environmental Assessment. Impact Assess Proj Apprais 2000;18:191–200.

Lawrence DP. Planning theories and environmental impact assessment. Environ Impact Asses Rev 2000;20:607–25.

Lee N, George C, editors. Environmental assessment in developing and transitional countries. Principles, methods and practice. John Wiley & Sons Ltd: Chichester; 2000.

Lee N, Wood C. EIA — a European perspective. Built Environ 1978;4:101–10.

Levett R, McNally R. A Strategic Environmental Assessment of Fiji's tourism development plan. World Wide Fund for Nature; 2003.

McDonald GT, Brown L. Going beyond environmental impact assessment: environmental input to planning and design. Environ Impact Asses Rev 1995;15:483–95.

Munn RE. Environmental impact assessment: principles and procedures. SCOPE report, vol. 5. Chichester: Wiley; 1979.

Nilsson M. Learning, frames and environmental policy integration: the case of Swedish energy policy. Environ Plan C Gov Policy 2005.

Nilsson M, Dalkmann M. Decision making and Strategic Environmental Assessment. J Environ Assess Policy Manag 2001;3:305–27.

Nitz R, Brown L. Applying SEA to policy-making. In: Marsden S, editor. SEA in Australia; 2002.

Noble B. The Canadian experience with SEA and sustainability. Environ Impact Asses Rev 2002;22:3–16.

Noble BF, Storey K. Towards a structured approach to Strategic Environmental Assessment. J Environ Assess Policy Manag 2001;3:483–508.

ODPM (Office of the Deputy Prime Minister). The Strategic Environmental Assessment directive: guidance for planning authorities. London: ODPM; 2003.

OECD DAC (Organisation for Economic Cooperation and Development — Development Assistance Committee). Good practice guidance on applying Strategic Environmental Assessment (SEA) in development cooperation. Paris: OECD Development Assistance Committee; 2006.

OECD and UNDP (Organisation for Economic Cooperation and Development and United Nations Development Programme). Sustainable development strategies — a resource book. London: Earthscan Publications Ltd; 2002.

Owens S, Cowell R. Land and limits: interpreting sustainability in the planning process. London: Routledge; 2002.

Owens S, Rayner T, Bina O. New agendas for appraisal: reflections on theory, practice and research. Environ Plann A 2004;36:1943–59.

Partidario M. Strategic environmental assessment: key issues from recent practice. Environ Impact Asses Rev 1996;16:31–55.

Partidario M. Elements of an SEA framework — improving the added-value of SEA. Environ Impact Asses Rev 2000;20:647–63.

Partidario MP, Clark R, editors. Perspectives on strategic environmental assessment. London: Lewis Publishers; 2000.

Pearce D. Cost–benefit analysis and environmental policy. Oxford Rev Econ Pol 1998;14:84–100.

Petts J, editor. Handbook of environmental impact assessment. Oxford: Blackwell Science; 1999.

Petts J. Barriers to deliberative participation in EIA: learning from waste policies, plans and projects. J Environ Assess Policy Manag 2003;5:269–93.

Porter AL. Technology assessment. In: Vanclay F, Bronstein DA, editors. Environmental and social impact assessment. Chichester: John Wiley; 1995. p. 67–82.

Rayner T. Sustainability and transport appraisal: the case of the "Access to Hastings" multi-modal study. J Environ Assess Policy Manag 2004;6:465–91.

RCEP (Royal Commission on Environmental Pollution). Twenty-first report. Setting environmental standards, RCEP, Cm, vol. 4053. London: The Stationery Office; 1998.

RCEP (Royal Commission on Environmental Pollution). Twenty-third report. Environmental planning, RCEP, Cm, vol. 5459. London: The Stationery Office; 2002.

Richardson T. Environmental assessment and planning theory: four short stories about power, multiple rationality, and ethics. Environ Impact Asses Rev 2005;25:341–65.

Renton D, Bailey J. Policy development and the environment. Impact Assess Proj Apprais 2000;18:245–51.

Sadler B. (1996) International Study of the Effectiveness of Environmental Assessment, Canadian Environmental Agency/ IAIA, Minister of Supply and Services Canada, cat. No.: EN106-37/1996E.

Sadler B. A framework for environmental, sustainability assessment and assurance. In: Petts J, editor. Handbook of environmental impact assessment. Oxford: Blackwell; 1999. p. 12–32.

Sadler B. A framework approach to strategic environmental assessment: aims, principles and elements of good practice. In: Dusîk J, editor. International workshop on public participation and health aspects in strategic environmental assessment. The Regional Environmental Centre, workshop convened to support the development of the UNECE Protocol on Strategic Environmental Assessment to the Espoo Convention, November 23–24, 2000, Szentendre: Hungary; 2001. pp. 11–24.

Sadler B, Verheem R. Strategic Environmental Assessment- status, challenges and future directions. The Hague, ministry of Housing, Spatial Planning and the Environment of The Netherlands; 1996.

Sánchez-Triana E, Ortolano L. Organisational learning and environmental impact assessment at Colombia's Cauca Valley Corporation. Environ Impact Asses Rev 2001;21:223–39.

Sheate W, Dagg S, Richardson J, Aschermann R, Palerm J, Steen U. SEA and integration of the environment into strategic decision-making. Volume 1 (Main Report). Final report to the European Commission, 1 May 2001; 2001. Published on the web [http://europa.eu.int/comm/environment/eia/sea-support.htm (07/09/01)].

Shefer D, Kaess L. Evaluation methods in urban and regional planning. Town Plan Rev 1990;61:75–88.

Shepherd A, Ortolano L. Strategic Environmental Assessment for sustainable urban development. Environ Impact Asses Rev 1996;16:321–35.

Short M, Baker M, Carter J, Jones C, Wood C. The use of appraisal in English land use planning. In Building Capacity for Impact Assessment, presentation at the 23rd Annual Meeting of the International Association for Impact Assessment, 14–20 June 2003, Marrakech, Morocco; 2003.

Stirling A. Analysis, participation and power: justification and closure in participatory multi-criteria analysis. Land Use Policy 2006;23:95–107.

Stirling A. The Appraisal of Sustainability: some problems and possible responses. Local Environ 1999;4:111–35.

Taylor S. Making bureaucracies think: the environmental impact statement strategy of administrative reform. Stanford: Stanford University Press; 1984.

Thérivel R. Systems of Strategic Environmental Assessment. Environ Impact Asses Rev 1993;13:145–68.

Thérivel R. Strategic Environmental Assessment in action. London: Earthscan; 2004.

Thérivel R, Partidario MR, editors. The practice of strategic environmental assessment. London: Earthscan Publications Ltd; 1996.

Thérivel R, Partidario M. The future of SEA. In: Partidario MP, Clark R, editors. Perspectives on strategic environmental assessment. London: Lewis Publishers; 2000. p. 271–80.

Thérivel R, Wilson E, Thompson S, Heany D, Pritchard D. Strategic Environmental Assessment. London: Earthscan Publications Ltd; 1992.

Thissen W. Strategic environmental assessment at a crossroads. Impact Assess Proj Apprais 2000;18:174–6.

Tomlinson, P.,2004. United Kingdom: The evolution of strategic environmental assessment, integrated assessment and decision making in transport planning. In Assessment and Decision Making for Integrated Transport and Environment Policy (Ed, European Conference of Ministers of Transport) ECMT/OECD, Paris, pp. 112–186.

UNCED (United Nations Conference on Environment and Development). Agenda 21, United Nations General Assembly; 1992. http://wwwunorg/esa/sustdev/agenda21texthtm 13/12/02, New York.

US Congress. The National Environmental Policy Act of 1969 (and following amendments). US Council on Environmental Quality; 1969. http://ceq.eh.doe.gov/nepa/regs/nepa/nepaeqia.htm, (8/9/03).

Vanclay F, Bronstein DA, editors. Environmental and social impact assessment. Chichester: John Wiley; 1995.

Van der Vorst R, Grafe-Buckens A, Sheate W. A systemic framework for environmental decision-making. J Environ Assess Policy Manag 1999;1:1–26.

Wallington, T., 2002. Civic environmental pragmatism— a dialogical framework for Strategic Environmental Assessment, PhD Thesis, Murdoch University, Western Australia.

Wathern P, editor. Environmental impact assessment: theory and practice. London: Unwin Hyman; 1988.

WCED (World Commission on Environment and Development). Our common future. Oxford University Press; 1987.

Wolf CP. Proactive and creative. Building capacity for impact assessment, presentation at the sustainability assessment workshop (19/6/03) of the 23rd annual meeting of the international association for impact assessment, 14–20 June 2003, Marrakech, Morocco; 2003.

Wood C. Comparative evaluation of EIA Systems. In: Petts J, editor. Handbook on Environmental Assessment. Oxford: Blackwell; 1999. p. 10–34. (Volume 2).

Wood C. Rose-Hulman Award Acceptance. Building capacity for impact assessment, acceptance speech at the plenary session of 20/6/03 of the 23rd annual meeting of the international association for impact assessment, 14–20 June 2003, Marrakech, Morocco; 2003.

World Bank. Integrating environmental considerations in policy formulation— lessons from policy-based SEA experience. Environment department. Washington D.C.: World Bank; 2005.

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