

Applying good EIA practice criteria to SEA – the Öresund Bridge as a case

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Abstract: The paper is concerned with the evaluation of EIA and good EIA practice criteria. It also looks at the applicability of such criteria to SEA. This is done through a closer examination of three good practice criteria proposed by Westerlund: the basis for the decision criterion, the result criterion and the alternative criterion. A connection is made with the Swedish Öresund Bridge project and the criteria are problematized in light of this project. The discussion is also linked to the issue of rationality in strategic decision-making. The paper argues that seeing SEA as an EIA analogy is not purely straightforward.

Introduction

This paper will discuss the evaluation of EIA and, connected to this, it will also examine the issue of good EIA practice criteria, and their possible applicability to SEA. Three specific good practice criteria, proposed by Westerlund, will be discussed in a theoretical setting, and in connection with the Swedish Öresund Bridge project. Special focus will be put on three issues that relate to Westerlund's criteria, namely, the EA as the basis for a decision, the intended result of an action and the alternatives to an action. This is connected to the wider issue of rationality in decision making for large-scale and strategic projects (as well as plans, policies and programmes). The paper then attempts to shed light on the point that seeing SEA as analogous to EIA is not as straightforward as it might first seem – when considering SEA from a general perspective, or from a 'good SEA practice' point of view.

EIA and Evaluation

The need for the evaluation of any system of decision-making is obvious: to develop a system its present function must be understood. International studies of EIA have repeatedly found either a complete lack of or major deficiencies in evaluation and thus in development of methods and concepts (Sadler 1988; 1996). The object of our discussion however is to

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look at a set of evaluation criteria: Westerlund's criteria for 'genuine EIA' (Westerlund 1993; 1997). We will examine the criteria in relation to a major environmental assessment – the case of the Öresund Bridge – and discuss the theoretical and practical implications of using these criteria. The object is to examine whether the criteria are suitable and practicable at the SEA-level.

Sager (1995) claims that most studies of EIA deal mainly with theoretical systemic aspects such as their structure, intention, wording of legislation, administrative structures etc. rather than with the actual function of EIA systems. Although the systemic aspects may dominate, it seems that there are three common types of evaluation attempting to grasp both structure and function in varying degrees. In the first one finds that EIA systems are evaluated against a more or less explicit ideal such as that of the National Environmental Policy Act (NEPA) or the EU directive on impact assessment. Such studies can reveal interesting national or sectoral characteristics. The second category contains for example *ex ante* evaluations of EIA documentation against criteria for good documents or practice. This approach sees the documentation, normally the EIS, as a product where the quality of the product determines its usefulness in decision-making. The third prevalent type of evaluation deals with the function of the system based on statements by those more or less closely involved. International and national, systems wide surveys and case studies adopt this approach (see for example, Sadler 1996, Sadler & Verheem 1996). Thus it is important to distinguish between the two dimensions of EIA analysis. The first is a dichotomy of EIA systems structures on the one hand and implementation structures on the other. The second could loosely be called the dichotomy between 'theory' and 'practice'. Any EIA system might be said to have a theoretical side, which is also normative, in the sense that it is designed to operate on certain principles. On the other hand there is the practice of how it operates (Emmelin 1998a).

Good practice and criteria

One way in which to look at the problem of 'good practice' is indicated by the evaluation dimensions suggested by Emmelin (1998b). Good practice can be stated in systemic terms without regard to the actual practice of the systems. Moreover, criteria that relate to the main steps of an EIA, often modelled on the NEPA, have been common in international textbooks on EIA throughout the period that we are dealing with here. Wood (2003) uses the main steps as the analytic framework for a comparison of national systems. Hildén (2000) has criticised this approach, especially when applied to environmental assessment in a wider sense

than that of the impact assessment of projects aiming at decisions on the permissibility of the project; his view seems to be that 'good practice' is more complex, relating more to process and document content than to structure. He does not discuss the problems of regulation with such a view of 'good practice'.

Quality criteria for EIS are a way of codifying 'good practice'. Several sets of *ex ante* evaluation criteria for EIS exist. Among them are the 'Lee-Colley package' (Lee & Colley 1992) and a proposal for Nordic quality criteria (Hildén ed. 1996). The Lee-Colley package focuses more on document content whereas the Nordic quality criteria very explicitly also include an evaluation of the process as mirrored in the EIS. The Nordic package for evaluation is thus a set of criteria for good practice beyond the content of the EIS.

The prevalent Swedish way of defining 'good practice' in many areas is to publish 'good examples'. This is done by both the planning and environmental authorities as a means of stimulating local authorities in particular to develop their approaches to planning and to the environmental assessment of plans.

In this paper we have chosen to look at the issues of whether and how a set of normative EA good practice criteria are applicable to assessment of a more strategic nature. Westerlund's criteria, discussed below, are interesting in that they try to define a set of generic criteria, which on the one hand are supposed to be readily assessed, and on the other relate to more than document quality. Westerlund assumes that basic generic criteria for good practice at the project EIA level also apply to assessment at higher levels, i.e. to SEA.

The concept of genuine EIA: good practice criteria

In the context of good practice criteria for EIA, it will also be of interest to mention briefly two broad approaches to SEA – one can be called the 'EIA-mode' and the other the 'planning mode'. These approaches can be said to take two differing stances on the role and functioning of SEA – and this will naturally have implications for how SEA, and especially alternatives in SEA, are and ought to be viewed.

Working in the 'EIA-mode', the role and functioning of SEA can essentially be seen as being characterised by proposal assessment. The consideration of alternatives is made at a discrete, set point in time and often the aim of an assessment will be to increase the acceptability of a proposal. The SEA will, in these cases, be undertaken outside the planning or programme/policy preparation process and will be a separate assessment procedure that takes place following the submission of a (PPP) proposal.

In contrast, SEA operating in the ‘planning mode’ can be seen as being integrated into a planning or policy/programme preparation process, and therefore alternatives are considered in succession. One of the main aims of the ‘planning mode’ SEA would be to identify and highlight areas of problems and conflicts and to serve as guidance to future planning.

Westerlund (1997; cf. also Westerlund 1993; Carlman 1995) has one set of six clearly articulated formal criteria that he has described as criteria for ‘genuine EIA’. These are advocated, among others, by the Swedish National Board for Housing, Building and Planning (Boverket 2000) and, at least in part, by the Swedish National Audit Office (RRV 1996) and can therefore be seen as an official view of good EIA practice in Swedish planning (insofar as one exists at all).

Westerlund’s EIA criteria² are:

- The *Basis for the Decision Criterion*: the EIA is to be the basis for the decision at hand.
- The *Result Criterion*: the purpose or result of the proposal is to be explicit.
- The *Alternative Criterion*: alternatives to the proposal are to be presented.
- The *Environmental Impact Criterion*: environmental impacts of the proposal are to be described.
- The *Balancing or Compatibility Criterion*: it must be possible for the decision-maker to bring together environmental and socio-economic information from an EIA.
- The *Checking Criterion*: the EIA is to undergo public review before it is finalised.

The focus in this article is on three of Westerlund’s more fundamental criteria – the Basis for the Decision Criterion, the Result Criterion and the Alternative Criterion. The remaining three criteria can be seen as more technical in nature and will not be discussed further in this paper.

The importance Westerlund and others (cf. Carlman 1995) place on the six criteria can perhaps be seen to go beyond that of ‘good practice criteria’. The criteria are often seen as *decisive criteria*, and thus as what defines ‘EIA’; if even one of the criteria is not completely fulfilled or

² English terminology from Westerlund (1997). Descriptions from Westerlund (1992).

⁴ The term EA is used here to denote both EIA and SEA. Neither Westerlund nor Boverket (2000) differentiate the applicability of these criteria to EIA or SEA.

met, according to Westerlund (1997) and Carlman (1995), the resulting process and document cannot be characterised as a 'genuine EIA'. In the context of the two broad approaches mentioned above, Westerlund sees SEA as operating in the 'EIA-mode' through the application of these criteria.

The three criteria state, firstly, that an EA⁴ has to be ready before the decision is made so that the EA can function as a *basis for the decision*. Secondly, the EA should also state the *intended result of the action*. Why ought a project to be undertaken, or a policy or plan accepted and implemented? What, and who, will benefit from this? Westerlund (1992) discusses the *objective* and *subjective* purposes of a project. The objective purpose is the more fundamental reason for action: 'One does not construct a bridge for the sole reason that a bridge shall be constructed – there is one or more reasons why the bridge is constructed' (Westerlund 1992, p. 108). The subjective purpose of building a bridge might in this case be for the developer to earn money, for the architect to earn fame, for the local authority to gain popularity and so on. The objective purpose, however, could be to transport people and goods from place *A* to place *B*. This reflects a rationalist view in that an action is not taken (or undertaken) without a clearly defined objective in mind and that behind every action there is an underlying purpose or objective, and that for every objective there is one correct means to achieve this.

Thirdly, the EA also has to *consider alternatives* to the proposed action. This criterion also states that these alternatives are to be based on the objective purpose; the assessment has to consider what other reasonable means⁵ to achieve the objective purpose exist. To return to the aforementioned example, if the objective purpose is to transport people and goods from *A* to *B*, then ferries might be an alternative to constructing a bridge. If one or a few (objective) purposes for an action are defined and pointed out the assumption is that it will be possible to investigate, design and analyse alternatives.

We will now look at these three criteria in connection with the Öresund Bridge case. Before this, however, it will be of interest to look at the historical EIA situation in Sweden, and it will also be necessary to give some very brief background details on the *realpolitik* of the Öresund Bridge decision.

⁵ Cf. Westerlund 1981a; 1992, for a discussion on the concept of 'Rule of Reason'.

EIA in Sweden

EIA as a formal process was introduced relatively late in the Nordic countries if seen from an international perspective. NEPA, which introduced EIA into the US came into effect in 1969 and the EU directive (85/337/EEC) on EIA dates from 1985, although in its present form it is from 1997 (revised as 97/11/EC). Denmark passed comprehensive legislation in 1989, Norway in 1990 and Finland and Iceland in 1994. A requirement in the Planning and Building Act (PBA) for environmental assessment came into effect in 1994⁶; however, the Öresund Bridge was not assessed in accordance with the PBA. At the time of the planning and decision-making on the Öresund Bridge no national legislation relating planning or environmental assessment to the international practice of EIA existed in Sweden. The lack of formalised EIA-procedures does not, however, mean that EIA was an unknown concept in Sweden. The Commission on natural resources and the environment in 1981 published three reports by Westerlund (1981a, b, c) containing a detailed analysis of NEPA and the Swedish legislation at the time. Westerlund concludes that no independent procedures similar to EIA existed in Sweden at the time⁷. Procedures similar to EIA but integrated into other processes were found, namely, the permit procedures relating to the Environmental Protection Act and the planning processes in accordance with the Building Code. The situation when the decisions on the Öresund Bridge were made was much the same with regard to EIA. The Natural Resources Act stipulated environmental assessment for permits under the Water Rights Act but there was no material regulation concerning the form of the assessment which would make production of a formal EIA according to international standards at the time mandatory. Furthermore the strategic decision-making on large projects regulated under the Natural Resources Act was not mandatory for the Government. In Westerlund's reports (1981a, b, c) generic criteria for EIA are discussed and several of these are similar or identical to the set of criteria for 'Genuine EIA' published later and applied here. There were other attempts to introduce or develop EIA at this time. In particular, a development project directly related to the previous

⁶ It is in fact still highly debatable whether Sweden does have legislation conforming to a reasonable degree with what is internationally considered to be EIA.

⁷ Westerlund (1981c) does not use the Swedish term corresponding to EIA (Sw: 'miljökonsekvensbedömning') but rather a term inspired by the term EIS: 'miljöeffektbeskrivningar'; literally 'environmental effect descriptions/statements'. This is because his focus is on how a requirement for a formal EIA can be introduced into Swedish decision-making.

decision process on the Öresund Bridge had made extensive attempts to develop impact assessment methods (SOU 1978).

The Öresund Bridge

We will now give a brief description of the decision making process relating to the Öresund Bridge, and then discuss Westerlund's criteria in light of this.

For over a century, proposals and ideas have existed to construct a fixed link of some kind between Sweden and Denmark. In 1973 the first agreement was signed between the two governments. For reasons relating, among other things, to the downturn in the global economy in the 1970s, this came to nothing. A number of committees investigated and reported on the fixed link issue in the 1960s, 1970s and 1980s (Blomquist & Jacobsson 2002).

In the mid 1980s the European Round Table of Industrialists (ERT) proposed and worked for improvements to the European transport infrastructure network. One of ERT's proposals included a fixed link across the Öresund. Following intense lobbying by various actors, including the Swedish motor industry (Blomquist and Jacobsson 2002; Falkemark 1999), the proposals finally found favour with the Danish and Swedish governments and eventually, in 1991, an intergovernmental agreement was signed. On the Danish side of the Öresund, the issue was more or less clear and decided with the signing of the intergovernmental agreement and the subsequent parliamentary approval (Law 590 on the construction of a fixed link across the Öresund). In Sweden, however, the agreement and proposal to construct a rail and road bridge was to be tried and assessed in accordance with Swedish legislation. Eventually, in 1994 final permissions were granted by the Swedish Government to construct the Swedish section of the bridge. By this time the construction of parts of the access routes on the Danish side was already underway.

The basis for the decision

This very compact description of the decision-making process will in itself indicate that the first of Westerlund's criteria was not fulfilled. The EIA was clearly not available as a basis for the decision (the intergovernmental agreement of 1991). However, perhaps it is also possible to question whether this Basis for the Decision criterion would ever have been fulfilled for a project of this type. In 1991, politicians in Sweden perceived a time pressure to finalise an agreement on the Öresund Bridge. A general election was coming up in September 1991 and there was a strong possibility that the Centre Party, an outspoken 'anti-Bridge' party, would be part of the new government. The agreement between Denmark

and Sweden was therefore rushed through (Falkemark 1999) and although Swedish legislation would require an environmental assessment of the proposal, the Swedish Minister for Transport assured his Danish counterpart during negotiations that this assessment process would not stop the actual construction of the Bridge – at most it would alter technical details (Falkemark 1999).

Even if these political time constraints and lobby groups had not played an important role, it would have been very difficult to define the exact moment when the plan to construct the Öresund bridge was finalised, and when the *de facto* decision was made. Certain large-scale projects, such as the Öresund Bridge, can, in Etzioni's (1967) words, be seen as 'contextuating decisions'. Although the Bridge project was formally a construction project, it exhibits many characteristics of a plan or policy formulation, and it was frequently referred to, for example, in terms of the realisation of an Öresund Region (cf. e.g. Idvall 2000; Blomquist & Jacobsson 2002). For a project of this magnitude a number of decision-making levels and points in time can be seen to exist – some authorities assess certain parts of the proposal and other authorities and courts are concerned with other issues. The Bridge decisions were complex and decisions on parts of the process were taken by the Government, the Parliament, the National Licensing Board for Environmental Protection, the Water Court, and again by the Government. This complexity also led to conflicts and contradictions in the decision making process; for example, the validity and applicability of a negative decision by the National Licensing Board for Environmental Protection was belittled in Parliament by the Prime Minister Carl Bildt (Blomquist & Jacobsson 2002). It will therefore be difficult to identify a discrete specific decision before which an EIA should have been ready in accordance with the criterion. Like a policy, such a large project evolves and changes (cf. Hall 1980).

Furthermore, the formal decision to build the Bridge was preceded by an informal or *de facto* decision. The project was changing and evolving, even while the formal assessment process went on; new and altered assessment documents and reports on the Öresund Bridge were submitted in a relatively haphazard fashion to the authorities throughout the ongoing assessment procedure. It was perhaps unavoidable then that proposals of this magnitude would change and evolve during the decision making process, and thus it became difficult also to determine *what* it is that the EIA ought to assess.

Results and alternatives

We will now look more closely at the linked Result and Alternative Criteria in conjunction. These Criteria state that it is necessary to specify an objective purpose for a proposed development so that it will be possible to assess alternatives. In the rationalist tradition, alternatives are seen as giving the decision maker a wider spectrum of information such that s/he can make the most (environmentally, or otherwise) correct decision.

For the Öresund Bridge, the EIA that was produced did not state why the Bridge should be built and only a few alternatives are mentioned briefly, on seven pages out of 182 in the EIA report (Öresundskonsortiet 1994). Alternative locations such as the construction of a bridge or tunnel between Helsingborg and Helsingör were not discussed, with reference to the fact that the intergovernmental agreement had already determined the location of the Bridge. Furthermore, a rail-only tunnel between Copenhagen and Malmö that had many proponents and supporters was not assessed at all.

Looking at the issue of the objective purpose from a wider perspective, it is possible to see difficulties with it for strategic decisions, such as the Öresund Bridge. To return to the example mentioned earlier – the generic bridge where the objective purpose was to create a means to transport people and goods between points *A* and *B* – it is also possible to ask oneself what the *underlying* purpose of the transport of these people and goods was. In other words, *why* is it desirable and/or necessary to carry out these transportations?

For the Öresund Bridge, it is possible to discern several different purposes in the arguments that were presented. For some actors, primarily at the national and/or central level, the bridge was a goods transport link between Gothenburg, Stockholm and the Continent. For other actors, mostly at the local and/or regional level, the Bridge was a manifestation of the creation of a new international region in the Öresund area.

The issue of the *purpose* of the bridge will naturally affect the *alternatives* that are considered. It seems that if the objectives for a project are widely dispersed, varying, fluid, and changing over time then the search for alternatives will naturally be problematic. The same can also apply when the purposes of a project are manifold or very diverse. Thus, if the purpose is the transport of goods to the Continent, perhaps ferries between Sweden and Poland are a better alternative? Alternatively, the bridge or tunnel could perhaps be constructed between Helsingborg and Helsingör (at the narrowest point of the sound) instead? If the point is to create an Öresund Region, then perhaps tax and employment policies are a preferable means to do this.

Looking at how good practice issues were perceived in the Öresund Bridge project and EIA, the emphasis seems to be on the width of background material and reports. In the Öresund Bridge EIA, little mention is made of EIA process-related issues, whereas it is stated that 'the research reports that form the basis for the EIA are very extensive' (Öresundskonsortiet 1994, p. 3). That is, the focus is placed on the contents and findings of the EIA document and the corresponding background material.

We can see that for a contextuating⁸, or strategic, decision – such as that of the Bridge – a number of so called objective purposes can be identified, but that the purposes behind any action can also be vague or unspecified, or they can change over time. These characteristics will also apply to many plans, policies and programmes that SEA will affect – not least in spatial planning. A clear-cut search for one or a few objective purposes and a rationalist design of alternatives based on these will therefore be less than optimal.

Good practice criteria and strategic decisions

The purpose of this paper was not to re-prove or discuss the failings of the decision-making process in the Öresund Bridge case, this having already been done by others (cf. e.g. Carlman 1993; Falkemark 1999; Westerlund 1993). Instead, the point was to discuss the relevance of Westerlund's (main) good practice criteria in light of a large project – to what extent these criteria can be seen as relevant to large-scale (strategic) projects.

It is possible to see large-scale contextuating decisions as evolving and developing. This will also have implications for an EA of these decisions. It is thus possible to question whether 'grand projects', such as the Öresund Bridge, are designed and decided upon 'all in one go', or whether their coming into existence is a sort of gradual step-by-step process. In other words: can there be identified a specific point in time when the blueprint, design or plan for the bridge was complete 'on paper', or was the bridge's development indeed a more piecemeal form of development where the plans and designs changed during the actual decision-making process (and construction)?

This paper has discussed how there may be difficulties in defining a discrete time for a decision. Furthermore, it may be difficult to identify an objective purpose for taking an action – such as constructing the Öresund Bridge. A number of desired objectives can co-exist and these objectives may vary over time. This will, in turn mean that reliance on a

⁸ Cf. Etzioni (1967)

rationalist and systematic search for alternatives is somewhat problematic.

Conclusions and discussion

It is also possible to question what strategic decision-making is. Can strategic decisions be arrived at through careful, rationalist⁹ calculation and consideration, or is a strategic decision one that lies outside the framework, structure or possibilities of an EA? Are strategic decisions somehow politically intuitive or are they rationally calculated? These are of course recurrent questions, and the issues touched upon in this paper indicate that they continue to be valid.

Stenstadvold (2001, p. 50) notes, based partly on the writings of Flyvbjerg (1991) and Falkemark (1999), in a discussion of the Gardermoen EIA-process that 'politics and power can pervert or disrupt any attempt at instilling rationality into a process, seemingly regardless of regulations, formal procedures and organisation'. He claims that the accelerated pace of the processes tends to reduce the quality of planning and the influence of democratic processes, resulting in the reduced legitimacy of the project. Although this is a general observation, which seems to be supported by experience from other large projects (Hall 1980; SOU 1998), it is important to note that in individual cases such a conclusion rests on the assumptions of rationality concerning a planning process made, and the criteria used to assess it. One such assumption is that it is possible *ex ante* to know what an appropriate plan for a complex project is.¹⁰ As Hall (1980) shows in his classic study: projects evolve as new complications are uncovered and both the external context and the internal problems change and develop.

Our discussion indicates that seemingly straightforward criteria of rationality such as those propounded by Westerlund's for 'genuine EIA' rest on problematic theoretical and practical assumptions concerning both the decision-making structure and the nature of complex projects. The assumptions on rationality become theoretically simpler if strategic environmental assessment is seen as an analogy of project EIA. However, as we have discussed, this assumption may not hold good in many cases. There are many actors with varying objectives; the bridge is a means to different ends. And while the changes in European political geography

⁹ Rationality is used here to approximate 'instrumental rationality' rather than Habermasian 'communicative rationality'. See, for example, Sager (2001).

¹⁰ The *ex post* showing up of deficiencies in a process needs to be complemented by making a counterfactual case for the possibility of designing a better process *ex ante*. (Beckman 1990; Emmelin 2003)

may have changed the function of the bridge as a Scandinavian link to the continent, its function, perhaps symbolic, as a link between two regions remained a rational motive for some actors. Furthermore the contention that politics and power pervert decision-making rests on an assumption that the regulations, formal procedures and organisation are in fact geared to rational decision-making. This seems to be a somewhat dubious assumption concerning the Swedish planning system particularly with regard to environmental assessment at the time.

Another valid point here is the question of whether SEA can be an aid to 'doing the right things', or whether SEA is a tool to 'doing things right – preferably from the beginning' – to put it crudely, whether SEA is a leadership tool or a management tool? Looking at the Öresund Bridge case, the point is whether SEA could have been a determinant to the decision to build or not to build the bridge, or if the policy decision to build a bridge was essentially one that came from beyond the EA process, and one which an EA could only influence as a mitigatory 'doing things right, from the beginning'-tool.

This questioning of the EIA mode of thinking is not to say that good practice criteria in general, and Westerlund's criteria in particular, are not useful. They *are* useful in that they force a clarity of reasoning for EA. However, it may be more difficult to apply these rigorously in practice: decision making, especially for large-scale projects such as the Öresund Bridge, is more complex than formal good practice criteria perhaps allow for. Instead, it may be useful to try to envision an approach that somehow combines both a formal assessment with the realisation that large-scale projects (and PPPs) change and evolve over time and even during the actual decision-making process. Perhaps a mixed scanning approach would be more optimal. This way strategic decision-making would not be impeded by a system of rigid and rationalist formal criteria. At the same time, however, a rational and structured way of thinking on issues and decisions could be maintained.

Perhaps it will be more useful to apply a 'planning mode' of SEA for the kinds of decisions that have been discussed in this paper; decisions where the purposes are manifold and perhaps change over time. The attempt to apply Westerlund's best practice criteria to SEA has however illustrated some of the more general problems of seeing SEA purely as an EIA analogy.

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