Available online at www.sciencedirect.com
SCIENCE DIRECT®
Environmental Impact Assessment Review
24 (2004) 3–25
ELSEVIER
Environmental Impact Assessment Review
www.elsevier.com/locate/eiar

Strategic environmental assessment quality assurance: evaluating and improving the consistency of judgments in assessment panels

Bram F. Noble*

Department of Geography, University of Saskatchewan, # 9 Campus Drive, Saskatoon, SK, Canada S7N 5A5

Received 1 January 2003; received in revised form 1 May 2003; accepted 1 May 2003

Abstract

Assessment panels and expert judgment are playing increasing roles in the practice of strategic environmental assessment (SEA). Thus, the quality of an SEA decision rests considerably on the quality of the judgments of the assessment panel. However, there exists very little guidance in the SEA literature for practitioners concerning the treatment and integration of expert judgment into SEA decision-making processes. Subsequently, the performance of SEAs based on expert judgment is often less than satisfactory, and quality improvements are required in the SEA process. Based on the lessons learned from strategic- and project-level impact assessment practices, this paper outlines a number of principles concerning the use of assessment panels in SEA decision-making, and attempts to provide some guidance for SEA practitioners in this regard. Particular attention is given to the notion and value of consistency in assessment panel judgments.

Keywords: Expert judgment; Strategic environmental assessment; Consistency; Consensus; Assessment panels; Decision-making

1. Introduction

Strategic environmental assessment (SEA) is gaining widespread recognition as a tool for supporting the sustainable development of the environment through

* Tel.: +1-306-966-1899.
E-mail address: b.noble@usask.ca (B.F. Noble).

0195-9255/$ – see front matter © 2003 Elsevier Inc. All rights reserved.
doi:10.1016/S0195-9255(03)00118-5

policy, plan and program decision-making processes. In recent years, we have witnessed a growing body of literature addressing SEA principles (e.g. Noble, 2000; Partidario, 2000; Therivel, 1993), methodology (e.g. Noble and Storey, 2001; Brown and Therivel, 2000; Verheem and Tonk, 2000), and performance criteria (e.g. Fischer, 2002; IAIA, 2002; Nitz and Brown, 2000). However, as Bonde and Cherp (2000) suggest, SEAs remain less than satisfactory and improvements in the quality of SEA decisions are required (see, e.g. Hazell and Benevides, 2000; Curran et al., 1998). The challenge is to consider how practitioners can ensure the quality of strategic decisions given the relatively broad-brush nature of SEA, and the increasing emphasis placed on the role of assessment panels, or groups of informed individuals, selected to assign impact assessment judgments based on experience and expertise.

The argument presented here is that the limitations to improved SEA decision-making are largely due to the way in which assessment judgments are analyzed, treated, and applied in the SEA decision process. As more complex evaluation and decision-making methods and techniques are used in SEA, there is an increasing reliance placed on the judgments and expertise of assessment panels; however, there is very little guidance available to practitioners concerning its use and treatment. Based on the lessons learned from recent practice expert-based strategic- and project-level impact assessment case studies, and drawing particularly upon the results of an expert-based SEA of Canadian energy policy (Noble, 2002), this paper attempts to provide some guidance to practitioners on the way in which assessment judgments are solicited, evaluated, and integrated into SEA decision-making processes. The author elsewhere reports on the results of the SEA case study in detail (see Noble, 2002). What follows is a discussion of quality assurance in SEA decision-making, including guidelines for soliciting and analyzing expert judgment, and a detailed discussion of the notion and value of assessment consistency—an issue that has received insufficient attention (if at all any) in the SEA literature.

2. Assessment panels and SEA quality assurance

Various innovative methods and techniques have been discussed in the impact assessment literature in recent years. Noble and Storey (2001), for example, presented a multi-criteria approach to SEA methodology, and Goyal and Desphande (2001) explored the value of the "importance scale matrix" in minimizing bias and subjectivity in EA decision-making. Pastakia and Jensen (1998) introduced the concept of a "rapid impact assessment matrix," and Bonnell (1997) demonstrated an adaptation of the Delphi technique to address spatial variations in cumulative environmental effects.

As more complex evaluation processes are being used in impact assessment that involve integral reasoning, there is, inherently, a stronger reliance on expert judgment (Kontic, 2000, p. 428). For example, in the SEA of the revised