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A framework for combining social impact assessment and risk assessment

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ABSTRACT

An increasing focus on integrative approaches is one of the current trends in impact assessment. There is potential to combine impact assessment with various other forms of assessment, such as risk assessment, to make impact assessment and the management of social risks more effective. We identify the common features of social impact assessment (SIA) and social risk assessment (SRA), and discuss the merits of a combined approach. A hybrid model combining SIA and SRA to form a new approach called, 'risk and social impact assessment' (RSIA) is introduced. RSIA expands the capacity of SIA to evaluate and manage the social impacts of risky projects such as nuclear energy as well as natural hazards and disasters such as droughts and floods. We outline the three stages of RSIA, namely: impact identification, impact assessment, and impact management.

1. Introduction

Sustainable development requires more than technical changes and economic analyses (Giddings et al., 2002) and social sustainability should not be ignored. Indisputably, in development projects the assessment of social impacts is as important, if not more, than the assessment of the biophysical and economic aspects of these projects (Ahmadvand et al., 2009). Among different kinds of assessment, social impact assessment (SIA) is recognized as a useful and increasingly popular method.

Vanclay (1999) identified three primary reasons for undertaking SIA: (1) SIA is a part of the democratic process that can assist in ensuring equity and transparency of decision-making; (2) SIA is a form of assessment whereby the identification of the likely impact of development is assessed to ensure that future benefits will outweigh the costs of a proposed project; and (3) by using a participatory process, SIA can lead to better decision-making by accessing and incorporating local knowledge. There are also other reasons to use SIA. It assists in giving social aspects equal weight in sustainable development and renders development more socially sound (Barrow, 2000).

A review of the literature reveals a strong belief that SIA needs to be integrated with other methods of assessment to be more effective. For example, it has long been argued that the mainstream of SIA is too isolated from other impact assessment fields, especially regarding the long-term but localized problems such as toxic waste and short-term but broadly-distributed impacts (Fischer, 1999; Freudenburg, 1986). Vanclay (2004) suggested that an increasing focus on integrative approaches was one of the current trends in impact assessment. Without a good exchange of information between the various forms of impact assessment, SIA and other forms will be less effective, and sustainable development will be more difficult to achieve. In fact, SIA runs parallel with, overlaps, or is used by: EIA (Slootweg et al., 2001); risk and hazard assessment (Dreyer et al., 2010); technology assessment (Russell et al., 2010); project programming and policy monitoring and evaluation; triple bottom line assessment (Vanclay, 2004); as well as a number of other subfields within planning and management (Barrow, 2000). However, the potential disadvantages of integration should also be considered. Rattle and Kwiatkowski (2003) reviewed some main challenges of integrating health and social impact assessment. They found the disciplinary challenge to be very serious. "Each discipline and its practitioners became ever more committed to and dependent on its specific ideologies and methodologies. As a result, thought within each disciplinary field was effectively biased by its abstractions and assumptions. Practitioners established vested interests in maintaining their worldviews" (Rattle and Kwiatkowski, 2003 p: 101). Scientific reductionism, disciplinary worldviews and similar institutional barriers can marginalize

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social factors, and thus SIA can be inhibited by bias towards other fields.

Various papers have provided a conceptual framework to integrate SIA and EIA (e.g. Fischer, 1999; Slootweg et al., 2001) and several attempts have been made to integrate SIA and health impact assessment (HIA) (Kauppinen, 2011; Rattle and Kwiatkowski, 2003). While it is essential to integrate SIA with EIA, HIA and other kinds of IA to ensure better impact assessment and to develop a holistic approach, improving SIA itself by combining it with a similar and synergic assessment like SRA is also desirable for addressing the problems confronting SIA. Despite considerable progress in SIA since the 1970s, the methodology, techniques and approach still need to improve (Barrow, 2000; Kemp, 2011) and some conceptual and procedural difficulties remain (Burdge and Vanclay, 1995; Vanclay, 2004). Problems related to the theoretical foundations of SIA and methodological challenges are some of important issues faced by SIA (Barrow, 2000; Burdge and Vanclay, 1996; Lockie, 2001; Vanclay, 2012).

Although combining SIA and SRA will not solve all theoretical and methodological problems, it can improve the process of SIA. Considering the fact that SIA is a form of risk assessment (Esteves and Vanclay, 2009; Esteves et al., 2012; Vanclay, 1999), combining these approaches could provide an improved framework for understanding and managing the impacts of development. Surprisingly, there has been little serious work regarding the combination of SIA with other types of assessment, particularly SRA.

The aim of this paper is to improve the assessment and management of projects by developing a hybrid model combining social risk assessment and social impact assessment to form 'Risk and Social Impact Assessment' (RSIA). The paper is divided into five parts. The first part gives a brief overview of the concept of SIA. The second part addresses risk concepts and SRA. The third part identifies the common features of the two forms of assessment. The fourth part explores the need for combining SIA and SRA, and finally an innovative integrated framework (RSIA) is presented in the fifth part.

2. Social impact assessment

SIA is now conceived as being the process of analyzing, monitoring and managing the social aspects and consequences of development (Esteves et al., 2012; Vanclay, 2003). SIA can be seen as the result of sociologists' attempts over a long time to make social science more practical (Carley and Walkey, 1981; Carter, 1981; Torgerson, 1981). Carter (1981 p: 5) called SIA "old wine in new bottles" and Freudenburg (1986 p: 452) considered that "its lineage is ancient, but its emergence is recent". SIA originated with the 1969 National Environmental Policy Act of the USA and – as an important part of planning and implementation for projects, plans, programs and policies – SIA is a process that is now used worldwide, albeit to varying degrees and in varying ways (Esteves et al., 2012).

Becker (2001 p: 312) defined SIA as "the process of identifying the future consequences of a current or proposed action, which are related to individuals, organizations and social macro-systems". This definition implies that SIA is generally considered to be ex-ante or forward-looking in nature (Goldman and Baum, 2000). However, it is also considered to be applicable as an ex-post assessment (Ahmadvand et al., 2009; Western and Lynch, 2000).

Vanclay (2006) is critical of the narrow, limited approach of traditional project-based SIA and argued that strict ex-ante understandings exclude the follow-up assessment of impacts of past developments, which surely must inform SIA practice and therefore be desirable if not essential. He broadened the conventional understanding of SIA which, in his opinion, was not conducive to engaging communities or to achieving the best outcomes for society in terms of sustainable development, or even good project design. Vanclay (2006) concluded that SIA should not merely be ex-ante, but also needed to be goal-oriented and proactive rather than just reactive. This revised understanding of SIA seems to be the emerging contemporary approach (Esteves et al., 2012).

Finsterbusch (1977) identified the two main goals of SIA as being: 1) assisting decision making by determining the full range of costs and benefits of a proposed action; and 2) improving the design and administration of policies in order to mitigate disadvantages and increase benefits. The main objective is to assist policy makers and societal stakeholders to identify development goals, and to ensure that positive outcomes are maximized while minimizing the negative impacts (Vanclay, 2003). SIA applies to both the ex-ante and ex-post assessments of planned interventions. As shown in Fig. 1, it is important to assess both positive and negative impacts, as well as intended and unintended impacts, equally.

3. Social risk assessment

While the concept of risk assessment has been a well-established part of the natural sciences since the 1970s, using the concept in the social sciences is rather new (Goldman and Baum, 2000; Krimsky and Golding, 1992). Technological progress in the 1980s had a strong impact on the establishment and expansion of interdisciplinary risk research and the social science contribution to it (Zinn, 2008). The prevailing definition of risk in the social sciences is uncertainty about and severity of the events and consequences of an activity with respect to something that human value (Aven and Renn, 2009).

According to Renn and Walker (2008), there is basic agreement on three core components of risk assessment:

- Identification of risks: establishing its cause–effect link;
- Assessment of exposure and/or vulnerability: modeling diffusion, exposure and effects on risk targets;
- Estimation of risk: determining the strength of a cause–effect link.

Different disciplines within the natural and social sciences have formed their own concepts of risk (Renn, 2008). It is important to appreciate that human behavior is primarily driven by perception and not by facts or by what is understood as facts by risk analysts and scientists. All risk concepts of the social sciences have in common the principle that the causes and consequences of risks are mediated through social processes (Renn, 2008).

The primary task of risk assessment is the identification and exploration of the types, intensities and likelihoods of the consequences related to risks (Renn and Sellke, 2011). Once risk identification is undertaken, it is the task of risk management to prevent and reduce

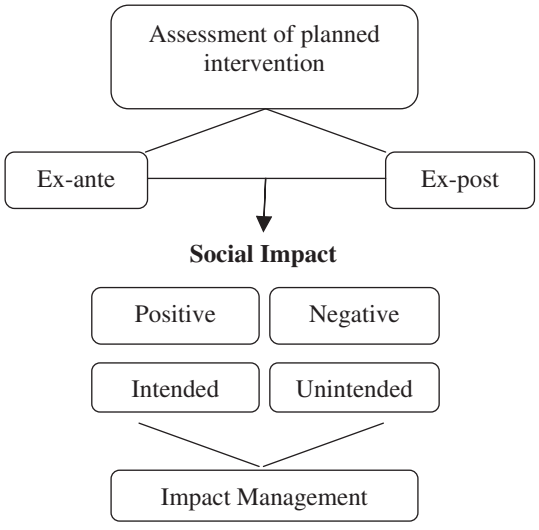

Fig. 1. A simple schema of SIA.