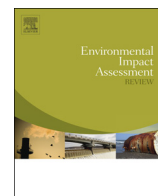




Contents lists available at ScienceDirect

Environmental Impact Assessment Review

journal homepage: www.elsevier.com/locate/eiar

Conceptualizing impact assessment as a learning process

Luis E. Sánchez^{a,*}, Ross Mitchell^b^a Escola Politécnica, University of São Paulo, Av. Prof. Mello Moraes, 2373, 05508-900 São Paulo, Brazil^b Shell International Exploration & Production BV, Netherlands

ARTICLE INFO

Article history:

Received 11 December 2015

Received in revised form 3 June 2016

Accepted 9 June 2016

Available online xxxx

Keywords:

Effectiveness

Environmental assessment

Knowledge management

Organizational learning

Social learning

ABSTRACT

This paper explores how project developers and their consultants, government regulators and stakeholders can learn from the impact assessment (IA) process, thus potentially improving its effectiveness and enhancing project sustainability. Despite the benefits that learning can bring to an organization, failure to learn appears commonplace both within the IA process and, once approved, subsequent industrial development. To nurture organizational learning through IA, enabling structures that foster information sharing and interpretation and enhance organizational memory are needed. In this paper learning outcomes are grouped into three categories: acquisition of knowledge and skills, developing new behaviors and developing sustainability-oriented norms and values. Means to achieve such outcomes include education and training, experiential learning, learning through public participation (social learning) and a 'learning organization approach'. Societal expectations increasingly demand not only projects that 'pass' the review criteria of regulators, financiers and the community, but IA processes capable of delivering sustainable outcomes that include learning and sharing of knowledge. It is proposed that learning be treated as a purposeful – not as an accidental – outcome of IA, and facilitated by adopting a 'learning organization approach' coupled with best practice such as early stakeholder engagement.

© 2016 Elsevier Inc. All rights reserved.

1. Introduction

The acquisition, interpretation and use of knowledge have always been key ingredients of impact assessment (IA). In assessing the impacts of a proposed development, an interdisciplinary team combines the knowledge, skills and competencies of each team member in order to: (1) identify direct, indirect and cumulative impacts and risks; (2) make predictions on the future state of the environment both with and without the proposed project; (3) assess the significance of impacts, considering the perspectives of affected communities, civil society organizations (CSOs), government agencies and other stakeholders; and (4) make recommendations on effective means to mitigate (avoid, reduce, restore or compensate) harmful impacts and to enhance beneficial ones.

While the importance of knowledge for IA practice is well established, the role that learning plays, or 'could' play, in the IA process remains 'fresh' although with increasing interest from researchers and practitioners. Indeed, recent reflections on the effectiveness of IA – a recurrent theme in the literature – consider knowledge and learning alongside other effectiveness criteria (Bond et al., 2013). Still, learning appears to mainly show up in the 'softer' aspects associated with IA such as the post-approval phases of development where adaptive

management planning is increasingly practiced (Walkerden, 2005). Appraising the evolution of IA, Jacobs et al. (1993) describe the IA process as one of "continuous evaluation, learning, adaptation and feedback" (p. 14), noting that "over the past two decades, developers have 'learned' about environmental impacts, environmentalists have 'learned' about development, governments have 'learned' about consultation, and the art of mitigation has been advancing" (p. 24; emphasis added). If so, many questions remain. How has this learning been integrated into IA practice? Is learning a beneficial side-effect of IA or can it be explicitly treated as a desired outcome of knowledge sharing or co-creation? Can robust, mutual learning be achieved within a strict IA timeframe among diverse affected communities and other stakeholders, IA specialists and the developer?

Our paper enquires how project developers and their consultants, government regulators and stakeholders can learn throughout the IA process, thus potentially improving its effectiveness, with arguably more sustainable outcomes. The findings are applicable to any form of IA such as Environmental Impact Assessment (EIA) or Environmental, Health and Social Impact Assessment (ESHIA). While recognizing that learning is relevant to all levels of IA, from policy to project, we focus mostly on IA from a project level perspective.

Following this introduction, this paper is structured around the following questions: (1) who can learn in IA and for which purpose?; (2) what are the possible learning outcomes?; and (3) how can learning be achieved? Each question is developed in three separate sections (2–4) following the structure shown in Table 1. After reviewing the

* Corresponding author.

E-mail addresses: lsanchez@usp.br (L.E. Sánchez), ross.mitchell@ualberta.net (R. Mitchell).

Table 1
A taxonomy of learning in impact assessment.

Questions	Categories	Examples
Who can learn? [learners]	All participants in the impact assessment process as individuals, groups or organizations – focus on: -Organizational learning -Social learning	Project developer Consultant team Government regulator Stakeholders (directly and indirectly affected) Other individuals and groups (e.g. scientists, media)
What can be learned? [learning outcomes]	Skills and knowledge (equivalent meanings: single-loop learning/instrumental learning/improving performance within existing processes) New behaviors (equivalent meanings: double-loop learning/improving the process/communicative learning) Norms and values (equivalent meanings: triple-loop learning/transformational learning)	Increased scientific knowledge Increased capacity to mitigate impacts and enhance benefits Preparing better IA documents (terms of reference, environmental impact statements or reports, environmental and social management plans, etc.) Adopting more effective communication strategies New political strategies to influence government planning and decision-making Recognizing the need for negotiating multiple objectives and trade-offs when using sustainability as a policy-goal Developing project alternatives consistent with sustainability objectives Addressing gaps in legislation/regulation that hinders the effectiveness of IA Reaching mutual understanding (≠agreement) in disputes Sharing of knowledge Sustainability-oriented learning
How can learning be achieved? [processes to facilitate learning/to deliver learning outcomes]	Formal education Experience Public participation Learning-organization approach	Training and capacity building Critical reflection (e.g. after-action review technique) Early engagement with stakeholders Collaborative learning activities (e.g. joint fact-finding) Employing community liaison officers Participatory or community-based monitoring Establishing and maintaining internal structures that facilitate organizational learning: information sharing, information interpretation, organizational memory

literature on these questions, in [Section 5](#), we examine key conditions that enable learning in IA and, in [Section 6](#), propose learning as a purposeful outcome. Conclusions are presented in the final section.

2. Agents and purposes of learning in impact assessment

Learning is an ample concept with several meanings depending on the ontological context (e.g., educational, political, cultural). It is commonly described as some kind of activity or process of gaining knowledge or skill ([Merriam-Webster, 2015](#)). In the management field, learning is defined as “increased capacity to take effective action” ([Kim, 1993](#), p. 38). Business dictionaries often treat learning more as an outcome, such as “measurable and relatively permanent change in behavior through experience, instruction, or study” ([Business Dictionary, 2015](#)). Thus, learning is goal-oriented: a process of acquiring not only new knowledge and skills, but also new behaviors and values.

Although individual knowledge learning underpins IA by way of specialized knowledge sharing, collective levels of learning such as group, organizational and social learning are fundamental to its practice and dissemination. Impact assessment is typically undertaken by consultant firms under contract with a project proponent and done to conform to applicable regulations and company policies or standards. External expert and public review are also part of the process, while early public engagement is a generally recommended best practice. Thus both group and organizational learning offer possibilities for social learning, which is discussed in this section.

The concept of group and organizational learning (OL) was developed in the managerial sciences as a metaphor to explain the extent to which learning by individuals within organizations are transferred and become “embedded in an organization memory and structure” ([Kim, 1993](#), p. 37). Enabling OL in natural resource management is understood to benefit from information, structure and culture ([Genskow and Wood, 2011](#)). [Huber \(1991\)](#) lists four ‘constructs’ of OL: knowledge acquisition, information distribution, information interpretation and

organizational memory. For [Fitzpatrick \(2006\)](#), the ‘structures’ internal to an organization that facilitate learning are similar to the ‘constructs’ of [Huber \(1991\)](#), and include information sharing, information interpretation and organizational memory. For [Gazzola et al. \(2011\)](#), three internal ‘conditions’ influence an organization’s capacity to learn through IA: cultural (e.g., values and shared beliefs), structural (e.g., the degree of inter-department coordination and collaboration and their approach to information exchange) and behavioral conditions (e.g., routines).

Various hierarchical and other conceptualizations illustrate how learning can occur at various levels or degrees among people within a group or organization. Following [Argyris and Schön \(1996\)](#), the literature distinguishes between single- and double-loop learning. Single-loop level learning focuses on matching actions and results, or ‘adaptive learning’ necessary for the organization to survive; namely, acting to change behavior, or what is commonly referred to as ‘change management’ (also adaptive management in the context of resource development). When a mismatch between action and outcome is detected, future actions are altered accordingly in order to prevent similar mistakes. In contrast, double-loop learning occurs when serious problems are detected and the organization’s norms and values consequently change. Double-loop learning focuses on the actions and the assumptions behind the actions, or ‘generative learning’ necessary for the organization to thrive. [Argyris and Schön \(1996\)](#) call this “a change in the values of theory-in-use, as well as [change in] strategies and assumptions” (p. 21). Subsequent research introduced the notion of triple-loop learning; namely, a change in assumptions and actions from a normative, moral or ethical sense, and also evolutionary or experiential learning (e.g., [Kransdorff, 2006](#)). Triple-loop learning is both normative and transformative by “helping individuals create a shift in personal perceptions through questioning inconsistencies and incongruities in organizations” ([Kransdorff, 2006](#), p. 177).

This ‘loop level’ learning in groups or organizations can also be considered within a ‘collaborative learning’ environment. Among the first to describe collaborative learning, [Daniels and Walker \(1996\)](#)

Download English Version:

<https://daneshyari.com/en/article/7465076>

Download Persian Version:

<https://daneshyari.com/article/7465076>

[Daneshyari.com](https://daneshyari.com)