



Testing an ex-ante framework for the evaluation of impact assessment laws: Lessons from Canada and Brazil



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ABSTRACT

Scholars have been increasingly investigating legislative changes in Environmental Impact Assessment (EIA). However, most of the existing evaluation frameworks have been applied to ex-post scenarios, after EIA laws and respective policies and regulations had been implemented for some time. This article has a twofold objective: first, to propose an ex-ante framework for the evaluation of proposed EIA laws and, second, to test the application of the framework to bills C-69 and PL-3729, which target federal-level EIA reform in Canada and Brazil, respectively. The proposed framework is meant to indicate the extent to which proposed legislative changes meet 50 good practice criteria, thus providing a more balanced and transparent account of the issues that should be addressed effectively in the legislative process and in future regulations and guidelines. Results indicate very contrasting scope and potential effects of proposed legislative changes in the two countries. Brazil's bill is essentially intended to integrate existing regulations into a law that would make EIA faster, simpler and less frequent. Canada's bill, recently approved by Parliament, includes a new *Impact Assessment Act* that is expected to deliver more comprehensive and credible assessments. The ex-ante framework, by exposing how close or distant proposed EIA regimes are from good practices, can be particularly helpful in lawmaking and regulatory design. The article finally discusses limitations and highlights future avenues of research.

1. Introduction

A plethora of scholarly studies has evaluated EIA effectiveness based on content analysis of national legislation (e.g., Chen et al., 2007; Gałaś et al., 2015; Glasson and Salvador, 2000; Khosravi et al., 2019; Wood, 2003). However, as EIA legislation matures, scholars are beginning to realize the importance of understanding not only the performance of existing laws but also the merits and likely effects of proposed legislative changes.

Based on very different methodologies and evaluation criteria, studies have investigated EIA reforms in Canada (Doelle, 2012; Doelle and Sinclair, 2019; Gibson, 2012), Brazil (Fonseca et al., 2017), Australia (Bond et al., 2014; Middle et al., 2013), South Africa (Sandham et al., 2013), Sudan (Ali, 2007), Peru (Castro et al., 2014), and Greece (Pediaditi et al., 2018). EIA reforms can have intended and unintended consequences of both positive and negative nature. Morgan (2012) and Pope et al. (2013) have highlighted that legislative reforms can be a potential threat to EIA when driven by an “agenda of increasing efficiency and streamlining approvals processes for development” (Pope et al., 2013, p. 7). However, when driven by an agenda of sustainability,

transparency and rigour, law reform can also represent opportunities for important advancements.

Ex-ante evaluations of proposed EIA law reforms are complex. Like most processes of environmental policy analysis, such pre-evaluations depend on an understanding of the policy cycle, including what agendas and problems drive EIA reform, what has or has not been working in practice, and how perceived problems can be addressed in future legislation (Crabbé and Leroy, 2008; Howlett and Ramesh, 2009). However, policymakers engaged in law reform rarely have complete or even barely adequate information about these issues or the potentially useful response options. Moreover, their perceptions about desirable legislative fixes are not always a product of rational and balanced deliberations. They can reflect a tacit acceptance of the preferences of powerful constituencies and/or partisan groups that favour narrow interests and short-term priorities (Buttel and Flinn, 1976; Morrison-Saunders et al., 2001; Taylor et al., 2015). Therefore, it is very important for policy-makers to find inspiration in what the literature considers to be best practice in EIA regimes. After all, best practice offers a variety of learning opportunities for both practitioners and regulators (Morgan, 2017).

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Table 1
Chronology of EIA evaluation principles and criteria.

Proponents	Quantity of evaluation items ^a	Framing of lists of evaluation principles and criteria	Potential application to EIA regimes and cases ^b
Gibson (1993)	8	Elaborate principles	Ex-ante and Ex-post
Wood (1995)	14	Questions	Ex-post
Sadler (1996) – Process	14	Concise principles	Ex-ante and Ex-post
Sadler (1996) – Practice	19	Concise principles	Ex-post
Leu et al. (1996)	97	Questions	Ex-post
Senécal et al. (1999) – Basic principles	14	Concise principles	Ex-ante and Ex-post
Senécal et al. (1999) – Operating principles	15	Concise principles	Ex-ante and Ex-post
Annandale (2001)	23	Questions	Ex-post
Ahmad and Wood (2002)	24	Concise requirement statements	Ex-post
IAIA (2002)	17	Concise performance criteria	Ex-ante and Ex-post
Vanclay (2003)	26	Concise principles	Ex-ante and Ex-post
Bond et al. (2005)	11	Questions	Ex-post
Zeremariam and Quinn (2007)	18	Questions	Ex-post
Morrison-Saunders et al. (2007)	17	Concise principles	Ex-ante and Ex-post
Macintosh (2010)	13	Concise principles	Ex-ante and Ex-post
Gibson et al. (2016a, 2016b)	68	Concise and elaborate component requirements	Ex-ante and Ex-post
Pinto et al. (2019)	24	Questions	Ex-post and Ex-ante

^a The number of criteria listed in this column was calculated by adding every criterion, including sub-criteria.

^b Most of the reviewed publications were not explicit about the application of their principles and criteria to ex-ante evaluations. The classification presented in this column was, in most cases, inferred from the frameworks' contents, taking into account the wording of the principles and criteria, and the information required to apply them.

While best practice principles and evaluation criteria have long been perceived to be useful in EIA practice and research, scholars have been using such criteria mostly to evaluate the effectiveness of existing EIA regimes and particular assessments in these regimes, as opposed to proposed EIA law reforms. Also, some of these criteria have been found to be either too vague or not comprehensive or generic enough to be valid in particular cases or jurisdictions (e.g. Fischer, 2002; Fischer and Gazzola, 2006; Fonseca and Resende, 2016; Pope et al., 2018). There is, therefore, a clear opportunity to develop ex-ante frameworks targeting the pre-reform stages of EIA regimes.

This article has a twofold objective: first, to propose an ex-ante framework for the evaluation of EIA laws and, second, to test the application of the framework to bill C-69 and bill PL-3729, which target federal-level EIA reform in Canada and Brazil, respectively. The framework proposed here builds on the 'Next Generation Environmental Assessment' framework developed by Gibson et al. (2016a, 2016b). The framework is intended to answer the following question: how well do legislative initiatives incorporate good practices in EIA regimes? Findings, besides revealing the likely strengths and limitations of the EIA reforms in those two countries, underpin discussions about the applicability of the proposed framework to different jurisdictional contexts worldwide.

The article is structured in five sections, beginning with this introduction. The next section provides a background on the different types of EIA evaluation criteria. Section 3 explains the proposed framework and its application to the Canadian and Brazilian assessment bills. Section 4 presents and discusses the main findings and the framework's merits and drawbacks; and, finally, Section 5 draws conclusions.

2. Evaluation criteria for EIA systems

In the 1980s, one of the very first studies to speculate on why EIA is or is not effective accurately foresaw a growing interest in the development of generic EIA good practice principles or performance criteria (Ortolano et al., 1987). The 1990s witnessed mutually reinforcing initiatives in this direction. In the early 1990s, Gibson (1993), based on Canada's early lessons with EIA policy-making, proposed eight principles for the design of EIA systems. Gibson's article, along with other studies, provided a basis for the development of the often-cited set of 14 evaluative criteria developed by Wood (1995). In 1996, both Wood's

and Gibson's criteria were cited as an inspiration for the development of two sets of principles for evaluating EIA 'process' and 'practice' in the context of one of the world's most extensive evaluations of EIA effectiveness (Sadler, 1996). The year 1996 also witnessed the proposed EIA evaluation model from Leu et al. (1996), which includes a detailed list of almost 100 criteria. In 1999, the International Association for Impact Assessment (IAIA), drawing on the work of Sadler (1996) and others, proposed a set of generic Principles of Environmental Impact Assessment Best Practice (Senécal et al., 1999).

The IAIA Best Practice Principles mentioned the possibility of 'next generation' impact assessment principles building on existing ones. Since then, there have been various follow-up efforts. In 2001, Annandale (2001) proposed a modified and expanded version of Wood's (1995) criteria for the evaluation of EIA systems in small developing countries. In 2002, Ahmad and Wood (2002) also proposed an expanded version of Wood (1995) for the evaluation of the EIA systems in Egypt, Turkey, and Tunisia. The IAIA followed-up on its previous best practice principles by publishing application-specific principles related to, for example, strategic environmental assessment (SEA) (IAIA, 2002), social impact assessment (Vanclay, 2003) and follow-ups (Morrison-Saunders et al., 2007). In 2005, a set of 11 questions was proposed by Bond et al. (2005) for the evaluation of different dimensions of EIA effectiveness. Two years later, Zeremariam and Quinn (2007) used a modified and expanded version of Wood (1995) to evaluate Eritrea's EIA system. Macintosh (2010), based on IAIA's principles and other studies, proposed a list of 13 principles to guide EIA policy development in Australia. In 2016, Gibson et al. (2016a, 2016b) proposed a generic, comprehensive framework for the evaluation of EIA systems worldwide. And, more recently, Pinto et al. (2019) proposed a more detailed set of 24 criteria to address EIA follow-up principles, building on Morrison-Saunders et al. (2007)'s earlier work.

The various evaluation criteria proposed in the past decades have been organized and conceptualized in different ways. Some publications propose 'frameworks', others, 'models' or 'lists' of requirements. Moreover, as noted by Wood (2003) and Pinto et al. (2019), there seems to exist a hierarchical treatment of the concepts 'principles' and 'evaluation criteria', in which the former is seen as more generic than the latter. Table 1 presents, in chronological order, such past proposals of EIA evaluation principles and criteria.

The EIA evaluation principles and criteria presented in Table 1 represent a fraction of a growing literature concerned with the evaluation

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