Impact Assessment and Project Appraisal, 25(1), March 2007, pages 27–41
DOI: 10.3152/146155107X190596; http://www.ingentaconnect.com/content/beech/iapa

Towards a new supraregulatory approach to environmental assessment in Northern Canada

Lindsay Galbraith, Ben Bradshaw and Murray B Rutherford

In some jurisdictions in northern Canada, co-managed environmental assessment (EA) processes, such as that of the Mackenzie Valley Environmental Impact Review Board (MVEIRB), have been adopted. In these same jurisdictions, Aboriginal communities are increasingly negotiating private agreements with mining project proponents as a means of managing impacts and ensuring that local communities secure benefits from the developments. This paper offers a formal assessment of the MVEIRB EA process, to determine whether the rise of private agreements might be attributable partly to deficiencies in the EA process. While the MVEIRB EA process excels in its use of traditional and local knowledge, and its fair and rigorous decision-making process, significant deficiencies remain, as the EA process does not adequately consider benefits, provide project-specific follow-up, or build trust and capacity among stakeholders. We argue that these deficiencies help to explain the rise of supraregulatory agreements; we suggest further research to assess their effectiveness for achieving positive outcomes.

Keywords: environmental assessment, impact and benefit agreements, Mackenzie Valley, Northwest Territories, mining, sustainability

This old lady was walking along, looking for berries and she found this gold rock. Later on, when a prospector saw the rock, he asked where she found it and said they wanted this rock. The old lady said, "No. You give me something then I will give it to you." He gave her three stovepipes for that rock. That's how the gold mines came to be here [in Yellowknife]. And our people did not benefit from that … As you see today, we walk around the arsenic that's left behind. Who's going to clean that up?

paraphrased interview, from Galbraith (2005)

HISTORICALLY, RESOURCE development in the Canadian north has produced immense economic wealth; however, as this Dene story illustrates, it has also given rise to environmental damage and the neglect, indeed even mistreatment at times, of local Aboriginal people (see, for example, Royal Commission on Aboriginal Peoples, 1996). Notwithstanding improvements in current practice, this legacy has created tension between Aboriginal peoples and resource developers exploring and operating within the so-called 'traditional territories' of some Aboriginal communities. More problematically, this tension subsists despite the advent and refinement of environmental assessment (EA) processes that, by definition and design, aim to foresee and prevent negative impacts associated with resource development.

This apparent paradox should come as no surprise to readers of the EA literature, a portion of which has long directed attention to certain deficiencies in EA design and practice (see, for example, Sadler, 1996; Ross *et al*, 2006). The quality of individual EAs varies considerably from place to place and over time, and although there are some exemplary cases of EA (see, for example, Berger, 1988; or Gibson, 2002 for a similar discussion and further evidence), this paper is concerned with common failings of EA, especially in the context of resource

Lindsay Galbraith (corresponding author) is at Gartner Lee (Consultants) Ltd, 490–6400 Roberts St, Burnaby, BC, V5G 4C9, Canada; Email: lgalbraith@gartnerlee.com; Tel: +1 604 299 4144. Ben Bradshaw is in the Department of Geography, University of Guelph, Guelph, ON, N1G 2W1, Canada; Email: bbradsha@uoguelph.ca; Tel: +1 519 824 4120. Murray B Rutherford is in the School of Resource and Environmental Management, Simon Fraser University, Burnaby, BC, V5A 1S6, Canada; Email: mbr@sfu.ca; Tel: +1 604 291 4690.

 1461-5517/07/010027-15 US$08.00

developments affecting Aboriginal peoples in the Canadian north.

To offer just a few examples, it has been argued that EA frequently fails to identify all the potential impacts of a development (Berkes, 1988), while for those that are identified, time horizons are often too short (Mulvihill and Baker, 2001). Reflecting purported failings in accountability and fairness, EA has historically been criticized for excluding the general public and local forms of knowledge in key steps of the process, in favour of bureaucratic elites and 'expert' knowledge (Freudenburg, 1986; Gibson, 2002; Lawrence, 2003), and for allowing these elites too much discretion in their decision making (Beanlands and Duinker, 1983). Another failing concerns the tendency for EA to focus on process rather than outcomes; that is, instead of concentrating on substantive goals (such as environmental or cultural protection or the attainment of sustainability), at times the conduct of EA has tended more towards mere compliance with obligatory stages (Armour, 1991; Lawrence, 2003; Mulvihill and Baker, 2001).

In the light of these and other perceived failings, some critics have gone so far as to suggest that EA is inherently flawed (for instance, Nikiforuk, 1997; Rees, 1980; Wismer, 1996), which implies a need for significant reinvention or perhaps augmentation with other formal or even informal measures. Other contributors to the literature are less pessimistic, arguing instead that EA's purported failings can be addressed in future EA design and practice (for instance, Armour, 1991; Boyd, 2003; Gibson, 2002; Meredith, 1992; Noble, 2002; Noble and Storey, 2005), even with respect to the needs and expectations of Aboriginal communities (for instance, Mulvihill and Baker, 2001).

Reflecting the latter opinion, Gibson (2002) argues that the EA process in Canada has not only markedly improved since its 1973 inception, it is gradually moving towards a form of 'advanced environmental assessment': "empowering the public, recognising uncertainties and favouring precaution, diversity, reversibility, adaptability," and even taking a decisive role in promoting sustainability (page 160). In support of this claim, the author cites the emergence of co-managed EA processes such as that of the Mackenzie Valley Environmental Impact Review Board (MVEIRB). Established out of two comprehensive Aboriginal land claims[1] and defined through the Mackenzie Valley Resource Management Act (MVRMA) (Government of Canada, 1998), the MVEIRB is made up of Aboriginal- and Government-appointed members, and has, since 1998, been responsible for EAs that take place within the Mackenzie Valley, Northwest Territories (NWT).[2]

Gibson (2002) is not alone in drawing positive attention to this EA innovation; given that these co-managed processes specifically reflect local community concerns and needs; others too have labelled them as a form of 'best practice' EA (for instance, Armitage, 2004; Boyd, 2003; Donihee *et al*, 2000; Lawrence, 2003). It is somewhat ironic, then, that a region home to 'best practice' EA has also spawned another regulatory innovation, which has not only been characterized as an 'adjunct' to the public EA process (Klein *et al*, 2004) but by many accounts (for instance, Kennett, 1999; O'Faircheallaigh, 1999) reflects and serves to redress EA's failings. We refer to the rise of negotiated agreements, such as 'impact and benefit agreements,' which have been increasingly struck between would-be mineral developers and Aboriginal communities or other local parties in hinterland regions of, for example, Canada and Australia.[3]

The specific content of these agreements varies, but typically they include provisions governing royalties and/or profit-sharing, employment, wider economic development opportunities, and enhanced protection of environmental and socio-cultural amenities. In the Mackenzie Valley, three types of negotiated agreement with the developers of mining projects have been used in recent years in conjunction with EA: impact and benefit agreements (IBAs), which are largely private agreements that serve to document in a contractual form the benefits that a local (often Aboriginal) community can expect from the development of a local resource in exchange for its support and cooperation; socio-economic agreements, which deal with broader territorial economic development considerations; and environmental agreements, which primarily focus on environmental mitigation, monitoring, and follow-up. Although each type of agreement is distinct, all three can be thought of as supraregulatory,[4] in that the form and substance of the agreement are not explicitly prescribed in legislation, yet they are typically used alongside regulatory processes like EA.[5]

This paper seeks to understand better the emergence of these supraregulatory agreements in a region known for its best practice EA. More exactly, it offers an evaluation of the MVEIRB EA process in order to determine whether certain deficiencies in the process exist that might, at least in part, account for the rise of supraregulatory agreements.

The paper consists of six further sections. In the next section, we discuss recent resource developments in the Mackenzie Valley, the establishment of supraregulatory agreements, and the possible relationship between these agreements and EA. We then describe the methods we used to develop criteria and evaluate the MVEIRB EA. In the following section, we draw on the (critical) EA and environmental justice literature to identify recurrent failures in EAs that are of particular concern for large-scale developments affecting Aboriginal communities. We then use these common failures to develop normative criteria with which to evaluate the MVEIRB EA process. We compare the deficiencies detected in our evaluation with the rationales for supraregulatory agreements offered by participants that have been involved with MVEIRB EAs. Finally, we present

our conclusions regarding the relationship of supraregulatory agreements to EA.

EA in the Mackenzie Valley

The Canadian North has a long history of natural-resource exploitation, which, according to Watkins (1977) and others, has produced a state of 'underdevelopment' — a situation characterized by weak political sovereignty, widespread leaking of resource rents, and a resulting lack of sustained regional economic growth. This has been especially true in the case of mineral development in Canada's North (CEAA, 1996; CIRL, 1997; Klein *et al*, 2004). More recently, however, Aboriginal land claims and self-government, and devolution of political authority and tax credits to the Territorial governments have begun to alter this situation by redirecting the flow of resource revenues and other benefits to Aboriginal and non-Aboriginal residents.

Alongside these shifts in public governance, the emergence of supraregulatory agreements signals further progress towards securing local benefits from local developments. As Kennett (1999: 1) argues with reference to IBAs, such agreements stem from the "underlying premise that it is no longer acceptable to develop natural resources in a manner that imposes significant costs at the local level while the benefits are enjoyed elsewhere."

More exactly and fully, Kennett (1999) suggests that these agreements serve two primary purposes from the perspective of their Aboriginal signatories (and perhaps from a governmental perspective as well): to address concerns of Aboriginal people (and other local residents) regarding adverse effects associated with large-scale mineral development; and to ensure that local people and communities have an opportunity to obtain benefits from mineral development occurring in their region. Interestingly, both of these rationales implicate EA design.[6]

Starting with the former, the idea that supraregulatory agreements serve to address impacts that are insufficiently addressed via the EA process is one that O'Faircheallaigh (1999) draws attention to in his review of the phenomenon of negotiated agreements as used in Australia. For him, this failing of EA largely derives from its *ex ante* nature. By design, EA is undertaken prior to a decision on whether or not to proceed with a proposed development, which thereby necessitates extensive forecasting of the likely impacts of the development. Forecasts offer probabilities, not certainties (Holling, 1978; Hammond *et al*, 1983; Noble 2000), and so actual consequences may not match those predicted at the time of the EA. Supraregulatory agreements respond to this dilemma by providing for adequate follow-up of predicted impacts through, for example, the development of Aboriginal participatory monitoring programs, and impact mitigation funds.

Kennett's (1999) other EA-implicating rationale, the need to secure local benefits from local development, reflects a perceived gap in existing legislation concerning natural-resource development (also see CIRL, 1997; Keeping, 1999; O'Faircheallaigh, 1999; Sosa and Keenan, 2001; Illsley, 2002). While EA addresses negative impacts, ideally serving to mitigate any and all, it often does not address the issue of positive impacts or benefits, which are commonly assumed to be secured by all members of a society, both near to, and far from, a development. In reality, this assumption has rarely been fulfilled, especially in the case of hinterland megaprojects, since much of the benefit from development may accrue to regions and peoples well beyond the site of development (Bone, 2003; Sosa and Keenan, 2001).

The demand for securing local benefits from local developments is especially pronounced in the Canadian North, where many Aboriginal residents have secured explicit rights to certain parcels of land through claim settlements, as well as implicit rights to larger portions of the land base by asserting traditional ownership and use. Indeed, the phrase 'traditional territories' has increasingly been used of late to justify Aboriginal rights to lands that have long been treated as belonging to 'the Crown' (that is, the state).

For example, in a report issued by the Canadian Institute of Resource Law (CIRL, 1997: 27), it is argued "IBAs simply reflect the right of Aboriginal groups to receive direct benefits from projects occurring within their traditional territories." A similar understanding of the rights associated with being traditional landowners was expressed by a representative of an Aboriginal community in an interview conducted as part of the present study (Galbraith, 2005: 90):

> We gave up portions of our traditional land use areas for the project and so that is the reason why [the companies] agreed to compensation. They recognize that there is a give and take, and that we have to give up land so they can proceed with their project.[7]

It is evident that the respondent assumed rights to 'traditional territories' and identified the negotiated agreement as a form of compensation for the loss of some of those rights.

The project to which this respondent refers is one of three diamond mine developments located northeast of Yellowknife, NWT, within the Tlicho and Akaitcho claim areas of the Mackenzie Valley (see Figure 1). The other three Aboriginal claim areas of the Mackenzie Valley are the Gwich'in, Sahtu, and Deh Cho; to date, three of the five claims have been settled with the Canadian Government (the Gwich'in, Sahtu, and Tlicho settlements). North America's first diamond mine, BHP Billiton's Ekati Mine, received final approval in 1997 and opened in 1998. This development was closely followed by the Diavik Diamond Mine owned by Rio Tinto plc and Aber Diamonds Corporation. A third mine, De Beers

Canada's Snap Lake project, gained final approval in 2004 and is scheduled to begin production in 2007.

In each case, the mine developers negotiated IBAs with regional Aboriginal groups (five in the case of Ekati, and four for each of Diavik and Snap Lake). In addition to these 13 private and largely confidential IBAs, a number of parallel public socio-economic agreements and environmental agreements were established between the mine developers, the Government of the NWT and the federal Department of Indian and Northern Affairs, with the same Aboriginal groups as occasional third parties.

EA process evaluation method

The EA process evaluation was completed in two steps. First, the (critical) EA and environmental justice literature was reviewed in order to identify recurrent failings in EA that are of particular importance for large-scale natural-resource developments affecting northern Aboriginal communities. Even though existing frameworks informed these criteria, such as the effectiveness framework used in Sadler (1996), it was necessary to devise a unique set of criteria for the purposes of addressing this unique research focus.

Step two of the evaluation drew on the normative criteria to score the design and practice of EA as undertaken by the MVEIRB, especially as it was applied to three diamond mine development proposals within the Mackenzie Valley. The objective here was to determine whether a best practices EA process, as conducted by the MVEIRB, was able to avoid the common failings. If not, this could provide a possible explanation for the use of supraregulatory agreements.

Data for the evaluation were derived from extensive document review and in-depth semi-structured interviews with 18 key informants involved in the region's EA process and/or negotiation or implementation of supraregulatory agreements. While most of these informants represent multiple organizations, the key ones generally represent the following groups: Aboriginal organizations; independent experts or consultants; Government agencies or regulators; and governmental organizations (for instance, board members or staff).

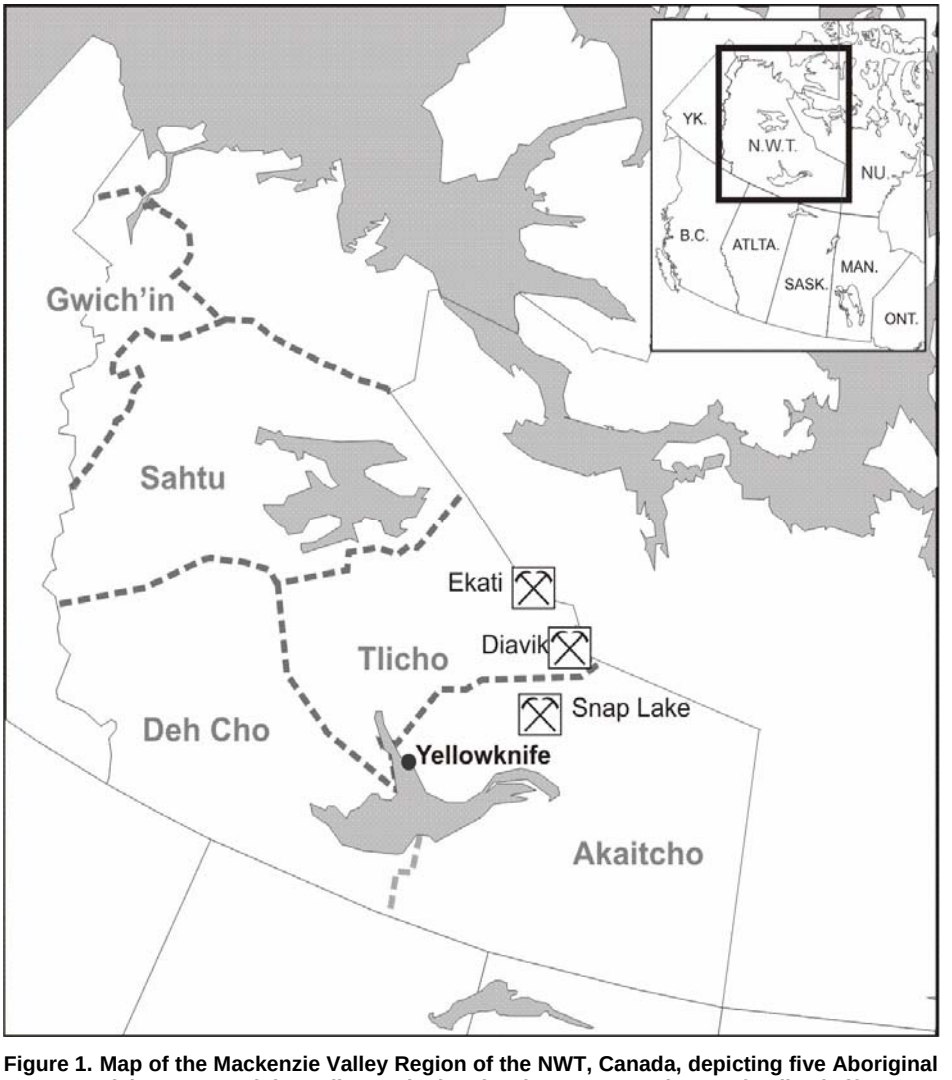

Figure 1. Map of the Mackenzie Valley Region of the NWT, Canada, depicting five Aboriginal claim areas and three diamond mine developments northeast of Yellowknife

Evaluative framework

Evaluation has long been employed to assess EA effectiveness and efficiency (see, for example, Baker and McLelland, 2003; Sadler, 1996; Wood, 2003). While there is no single method for evaluating EA, a common approach compares theory to practice (Sadler, 1996). In this paper, the theory is derived from a review of the (critical) EA literature (for instance, Armour, 1991; Beanlands and Duinker, 1983; Gibson, 2000, 2002; Nikiforuk, 1997; O'Faircheallaigh, 1999; Rees, 1980; Sadler, 1996) and the environmental justice literature (for instance, Cutter, 1995; Edelstein and Kleese, 1995; Jobes, 1986).

Specifically, we identified recurrent failings found in previous evaluations of EA that are of particular concern for large natural-resource developments affecting northern Aboriginal communities. Each failing was then inverted to form a positive ideal or normative criterion used in the evaluation. For example, the common failure 'narrow scope and inflexible design' became the normative criterion 'broad in scope and flexible in design.' These normative criteria (that is, theory) were then compared with practice in the evaluation process. The failings are described in the next section and their associated normative criteria and the application in the evaluation in the one after that.

Sadler's (1996) *International Study of the Effectiveness of Environmental Assessment* is a very widely utilized framework for EA effectiveness evaluations (see, for example, Baker and McLelland, 2003; Marsden, 1998; Todd, 2001).[8] Sadler (1996) offers a "checklist" (page 43), which, as he describes, can be used as a "basis for evaluating the effectiveness of the EA process" (page 61). From here, unique and more specific criteria must be defined for a narrower type of evaluation. As Sadler (1996) puts it, identification of criteria should be based on the "level and focus of review" (page 43).

Since the focus of the present assessment is on the use of EA for large-scale natural-resource developments affecting northern Aboriginal communities, existing criteria — such as Sadler's checklist (1996) or the criteria used by Baker and McLelland (2003) to evaluate British Columbia's EA process in the context of First Nations' participation in mining developments — are not entirely appropriate. In other words, it was important to devise an original set of criteria to assess accurately whether or not certain key failings exist in a best practice EA in the Canadian North, which may help to give rise to supraregulatory agreements.

Evaluation process

Data for the evaluation were gathered in Yellowknife, NWT, in the summer of 2004.[9] Information on the MVEIRB EA process and the Mackenzie Valley Resource Management Act (Government of Canada, 1998) regime was primarily collected through document review.[10] Once this preliminary data source was exhausted, any information gaps were identified, and an interview schedule was designed to fill them. The interviews had three goals: to fill in knowledge gaps; to corroborate information already obtained through the document review; and to obtain the informants' expressed rationale for using supraregulatory agreements, the latter of which might or might not be in relation to the EA process.

Once the data collection step was complete, scores were assigned for each evaluation criterion based on the researcher's judgement as to whether or not the criterion was met in design (scored as 'apparent' or 'not apparent') and whether the criterion was met in practice (again scored as 'apparent' or 'not apparent'). The distinction between design and practice is important since some information sources were conflicting, in that an official document or government informant might claim that the program proceeds as it was originally designed, while a series of emails on public record or observations reveals that the program is actually practiced in a manner that is distinct from its original design.

The evaluation process, then, assessed both design and practice, where design is defined by formal process documents and legislation, and practice by actual actions (formal and informal). Only when a process criterion was clearly apparent through more than one data source (that is, document review and interviews) was a positive score given.

Common failings of EA in Canada

As suggested earlier in this paper, the literature concerning EA provides a mixed review, and the collective record of EA practice reveals certain common failings. For example, Ross *et al* (2006) observe that, while good EA principles are well established in the literature, the failure to use "common sense" in EA practice has perpetuated some less than satisfactory practices. The following paragraphs provide a brief review of these failings as they relate to the interests of Aboriginal people living near large natural-resource developments. Identified through a review of the (critical) EA and environmental justice literatures, these failings are explained in the text below and summarized in Table 1 alongside the normative criteria derived from them. As mentioned previously, the purpose of identifying common failings of EA was to create normative criteria for the evaluation.

A first common failing stems from the scoping phase of EA, which, at times, has been considered too narrow in focus, thereby leading to inflexibility in design. This phase seeks to make a preliminary identification of potential project impacts on natural and social systems by assessing baseline conditions and project plans (Beanlands and Duinker, 1983). While there have been examples of innovative or 'ambitious' approaches to scoping that lead to an

overall improved EA (see, for example, the review of the Great Whale project by Mulvihill and Baker (2001)), practitioners and regulators often focus on short-term and direct impacts that can be measured more easily than long-term and indirect impacts (Mulvihill and Baker, 2001).

The practice and design of scoping, then, tend to produce inflexible and brittle project plans that are vulnerable to system change and surprise (Holling, 1978; Noble, 2000). Narrow scoping unfairly burdens certain human populations that are most vulnerable to long-term, regional, and cumulative impacts, such as northern Aboriginal people (Bone, 2003; Tollefson and Wipond, 1998).

Consulting with the public and Aboriginal communities is now a requisite for EA in Canada. However, local approaches or indigenous methods that may be used in an EA are often overshadowed by approaches selected by experts (Mulvihill and Baker, 2001), and methods that employ traditional and local forms of knowledge and public commentary are not always integrated into an EA (Sallenave, 1994). Furthermore, many EA designs do not consistently require practitioners to disclose their methods, leaving the general public and even decision-makers unaware, and unable to assess the accuracy, of EA findings (Lawrence, 2003).

A third common failing concerns the tendency for EA practitioners and regulators to work through a process rather than towards a desired outcome such as sustainability. EA is sometimes considered simply a process that moves through the obligatory stages (Armour, 1991; Lawrence, 2003; Mulvihill and Baker, 2001). This has led Nikiforuk (1997) to describe EA as simply a tool to secure government authorizations.

A fourth common failing arises from the timing and role of EA within the overall decision-making process for a proposed project. Wood's (2003) evaluation of leading EA systems in seven developed countries (including Canada) found that EA is poorly integrated into decision-making, and that in only one of those countries (The Netherlands) could it be demonstrated that "in practice, the [EA] report actually influences the decision and is not just 'boiler plate' paper" (page 195). The situation is worse in many developing countries, where extreme political pressures and even corruption can determine the ultimate outcome.

In Canada, Boyd (2003) claims that the discretionary nature of EA is a "fundamental" flaw (page 154), and that Government and industry treat EA as a process to determine how to, rather than whether to, proceed with a project (page 160). The actual decision about whether to approve a project is usually made by a Government minister or department, and can override EA findings of significant impacts (for instance, CEAA, 1996: section 37). Those who disagree with the EA or the ultimate decision have little recourse, because Canadian courts are reluctant to interfere with the substantive aspects of Government EA decisions (Boyd 2003).

The timing of EA is also problematic. As argued previously, the *ex ante* recommendations of an EA can be vulnerable to regular system change and surprise events that take place during project construction, operation, and closure (Holling, 1978; Hammond *et al*, 1983; Noble, 2000). This failing would be acceptable if proponents and regulators consistently and explicitly linked EA findings and recommendations to *ex post* monitoring and follow-up, however, critics assert that this is seldom done (O'Faircheallaigh, 1999), and when it is done, it is seldom done well (Noble and Storey, 2005). Inadequate follow-up typically results in 'surprises' that particularly burden communities that are near the site of development.

Table 1 Common EA failings and the associated normative criteria used to evaluate the Mackenzie Valley Environmental Impact Review Board EA process

EA failings	Normative criteria	
Narrow scope and inflexible design	Broad in scope and flexible in design	- Prepares for uncertainty - Focuses on relevant impacts, including cumulative impacts
Exclusionary methods	Inclusive approach	- Transparent, open, and integrates public concerns - Interdisciplinary, multi-method, substantial use of traditional and local knowledge
Process over product	Emphasize goals as well as process	- Focuses on values, ethics, community concerns - Is treated as a tool to achieve clear aims
Discretionary and short-term decisions	Emphasize meaningful and long-term decisions	- Balanced and fair decision-making - Substantially informs project outcomes
Token and restrictive consultation	Encourage partnership	- Weighs local/Aboriginal values on a par with dominant values - Gives participants equal consideration - Allows for local decision-making to influence outcomes
Excludes benefits	Plan for positive outcomes	- Assesses benefits - Aims decisions at maximizing benefits as well as minimizing impacts

Compounding this problem of discretionary decision-making are the difficulties practitioners face in effectively making use of public participation. Wilkins (2003) argues that "public participation and the development of the discourse and social learning that it creates" are the key to dealing with "the effects of personal value judgments [that] are reflected in the politicized evaluations, narrow boundaries, data gaps and simplified assumptions that are found in EIAs both in developed and developing states" (page 413).

However, even when participation is encouraged, communities often lack skills, time, financial resources, and access to technocratic forms of knowledge and guidance documents (Craig and Tester, 1982; Sinclair and Diduck, 2001). Moreover, when participation does take place, it is often difficult to integrate alternative cultural conceptions (for instance, views of the utility of land) into the process — a particular problem associated with integrating Aboriginal community consultation (Baker and McLelland, 2003; Edelstein and Kleese, 1995; Sallenave, 1994). Meaningful local participation is also discouraged in many instances, as the final decision authority often resides with those who live outside of the place under consideration (Donihee and Myers, 1990).

A final common failing identified in the literature suggests that EA focuses too much attention on aiming to mitigate adverse impacts rather than facilitate or plan for positive outcomes. This focus on potential negative aspects of a project merely allows for a "best worst-case" scenario (Noble and Storey, 2005). To attain broader goals, such as sustainability, it is necessary to design for gains and assess potential benefits (Gibson, 2000). The absence of consideration of benefits in EA particularly affects Aboriginal people living in Canada's northern hinterlands, a population more likely to experience adverse effects associated with resource development than it is to experience positive effects (Usher, 1998).

It is clear from the foregoing review that Aboriginal people are particularly burdened by these common failings of EA (Edelstein and Kleese, 1995; Jobes, 1986). One approach to mending this inequity is offered by those environmental justice scholars who suggest that compensation be used to help offset the unequal distribution of risks and benefits (Cutter, 1995; Fletcher, 2003). Another environmental justice approach argues for a greater degree of participation in decision-making for these impacted groups, which can help to redistribute impacts and benefits in a more equitable manner (Illsley, 2002). These considerations from the environmental justice literature are also captured in the evaluative criteria presented in Table 1.

Evaluation of the MVEIRB EA process

The EA process in the Mackenzie Valley transpires in one, two, or three stages. First, the applicable regional Land and Water Board[11] undertakes a preliminary screening. Based on its results, a proposed project is either granted direct approval to proceed or is referred to the MVEIRB for an environmental assessment. This second stage is more detailed than a screening and is usually reserved for more complex projects.[12] Once the MVEIRB assessment is complete, the regional Board can approve, reject, or refer the proposal to a fuller environmental impact review.

This third level of review, which is clearly the most comprehensive and rigorous of the three, has only been required once, for a newly proposed diamond mine project within the Mackenzie Valley (MVEIRB, 2006b). Stage two, an MVEIRB environmental assessment, is the more common occurrence for mine development projects; it is this process that is evaluated herein. Outlined in Table 2, the evaluation findings show that the MVEIRB EA process meets a significant majority of the normative criteria reflecting best practice; however, it is also apparent that the process suffers from some key deficiencies. The details of, and explanations for, these findings, grouped by the six normative criteria, are presented below.

Broad and flexible

Often considered the most critical stage in EA (Mulvihill and Baker, 2001), scoping sets the terms under which an assessment takes place. Under the MVRMA, the MVEIRB is required to consider a broad range of issues that reflect the interests and needs of the local participants. For instance, an "impact on the environment" is not limited to effects on biophysical components, but also includes effects on social, cultural, and economic components (Government of Canada, 1998: section 111), allowing for a broad picture of the project environment. One Board representative noted that this information, along with the depth or detail of required information, aims to address uncertainty. For example, when the Board decides that there is insufficient detail to reasonably predict a potential impact, further information is required before the Board can make a decision (MVEIRB, 2003b).

Along with this broad definition of environment, the MVRMA requires that the MVEIRB assesses both adverse and positive impacts of the proposed development (Government of Canada, 1998: section 117). By assessing a project based on net change (that is, adverse minus positive), as opposed to net impact (that is, adverse impact only), the Board is required to consider a more dynamic project environment. This breadth, as one Board representative stated, allows the goal of sustainability to be realized through "sustainable economic, social, and cultural development,"[13] even for non-renewable resource developments like mining.

However, the inclusion of economic benefits has been criticized for adding to the momentum that already supports the project. One Government

Table 2. MVEIRB EA process evaluation findings

Normative criteria	Score X = not apparent ✓= apparent in		Score explanation
	Design	Practice	
Broad in scope and flexible in design	✓	✓	- Recognizes uncertainty, promotes learning
	✓	✓	- Considers social, cultural, economic impacts and benefits, aims to manage cumulative impacts
Inclusive approach	✓	✓	- Considered a "bottom-up approach"
	X	✓	- Draws on wide range of parties, open to participation. **TK valued at par in practice, but design provides more resources to 'experts'**
Emphasize goals as well as process	✓	✓	- Suited to assess cumulative effects and local needs
	✓	X	- Tool to achieve regional and long-term goals. **Considered too process-based**
Emphasize meaningful and long-term decisions	✓	✓	- Quasi-judicial Board bound by legal principles
	X	X	- **Inadequate follow-up**
Encourage partnership	✓	✓	- Half of members are Aboriginal, all members from the North
	X	X	- **Unequal capacity, lack of trust among participants**
	✓	✓	- Local concerns inform decision-making
Plan for positive outcomes	✓	✓	- Assesses benefits
	X	X	- **Design does not require recommendations to maximize benefits** (benefits-related recommendations made *occasionally* in practice, but follow-up is severely limited)

Note: The MVEIRB EA process meets many of the normative criteria, although it is deficient in some regards in design and/or practice

representative described this criticism: "you see your impacts being reduced by virtue of higher benefits." Under the MVRMA, then, a net biophysical impact can turn into an overall net benefit. This breadth appears to be important for local participants (for instance, the Snap Lake Diamond Project EA considered opportunities for local business (MVEIRB, 2003a)).

Inclusive methods

The MVEIRB approach to EA is characterized by its tendency to encourage local participation and consider local forms of knowledge. The MVEIRB EA uses what one Board member calls a "bottom-up approach", whereby the Board includes and involves a wide range of "everyday folks" steeped in local knowledge and values, and where members are local to the region. The MVEIRB EA process further encourages the general public to influence the process by meaningfully using traditional knowledge (TK) (for instance, MVEIRB, 2001; 2003b; 2004a). In practice, traditional knowledge and scientific knowledge are often given equal weight. Nonetheless, more resources from the proponent and intervening parties are allocated to experts of science and law than traditional knowledge — a common frustration conveyed by many Aboriginal organizations (for instance, CBC, 2004). One Aboriginal respondent explained (Galbraith, 2005: 55):

> I think where the MVRMA works really well is that TK and scientific knowledge are given equal weight. It's unfortunate they don't spend the money on doing TK research as they spend on hiring experts on vegetation and geotechnical studies. You can say there's equal weight, but what you are putting your money behind is the one you are putting your weight on.

Product as well as process

The MVEIRB EA process looks broadly at long-term and regional goals and, by focusing on managing cumulative effects, the process is especially relevant to northern Aboriginal populations, which are particularly vulnerable to cumulative impacts (Bone, 2003; Tollefson and Wipond, 1998). In one example, the Board decided to conduct a cumulative effects assessment for four diamond exploration projects using "reasonably foreseeable future development" as a study scope — a common practice for the MVEIRB (Ehrlich and Sian, 2004). In keeping with the MVEIRB's guiding principle of protecting the cultural well-being of residents and communities in the Mackenzie Valley, the proposed project was rejected by the Board because it would "contribute significantly to the cumulative effects on both the tangible and intangible aspects of culture that are central to the social and cultural well being of the [Yellowknives Dene First Nation]" (MVEIRB, 2004b: 61).

While it appears to facilitate regional and long-term goals, the MVEIRB is often criticized for focusing too little on substance and too much on process (for instance, MVEIRB, 2005). For example, many complain that the information request (IR) process is too formal and legalistic (see MVEIRB, 2004b: 8; 2003b: rules 36–40 for a description of this process).

Meaningful and long-term decisions

While the Board is significantly limited in enforcing its decisions, it is generally perceived as conducting decision-making in a fair manner: it is a quasi-judicial Board, bound by a variety of legal principles developed to ensure this. Many respondents described the Board's decision-making process as "open," "balanced," and "fair." According to one Board representative, decisions to determine significance are consensus-driven and, in practice, based on a 50% likelihood of occurrence, which allows for less technical studies (for instance, TK studies, intrinsic value of wilderness) to inform decisions. The decision-making process also benefits from the standing nature of the Board, where members remain for a three-year renewable term (Government of Canada, 1998: section 14). One Board representative felt that this approach contributes to learning: members can "develop their own policies and procedures [and] can improve them."

One fundamental deficiency of the MVEIRB EA decision-making process is inadequate EA follow-up. The MVEIRB not only lacks jurisdiction to ensure that EA recommendations are adopted, but some of its recommendations are not clearly within the scope of responsibility of any particular regulatory agency. Government authorizations issued after an EA, such as permits and licences, typically function to capture these measures and, as such, manage project outcomes.

However, EA recommendations do not always perfectly 'fit' within these instruments. One Board representative described the EA undertaken for projects that consider caribou issues, such as Snap Lake, where this regulatory gap results in a failure to enforce EA recommendations: "What happens when you are talking about a migratory terrestrial species like caribou? That is every bit as important or more and there is no way to pick it up."

Issues relating to potential socio-economic impacts have been especially challenging in the same way and have been documented by the board (MVEIRB, 2006c). Further, project-specific follow-up programs are only employed under the most rigorous type of assessment (Government of Canada, 1998: section 134), the environmental impact review (and only one project has been referred to this type of EA to date), and are not apparent in the typical MVRMA EA process.

Partnership

Although critics of the MVEIRB EA system feel that the Board fails to achieve partnership in practice, the co-managed nature of the Board requires considerable cooperation between Aboriginal citizens and the Government (for instance, Government of Canada, 1998: section 112). The general public is given a significant amount of power to influence EA outcomes. In particular, 'public concern' is sufficient to trigger a project from a screening assessment to a full environmental assessment (Government of Canada, 1998: section 125(2)(a)). If resources to provide adequate capacity are not paired with an EA, however, having the ability to trigger an EA may not be synonymous with having meaningful access to an EA.

The Board only provides participant funding for the most infrequent type of EA, an environmental impact review (MVEIRB, 2004a: 40). As stated above, this has been triggered only once since the federal Government proclaimed the MVRMA in 1998 (MVEIRB, 2006b). Many respondents cited this as a concern. One representative from an Aboriginal organization stated, "you are almost scared to trigger an EA" alluding to already strained human resources that discourage some potential intervening parties from participating in the process.[14] This decision by certain participants not to participate in an EA does not mean that they trust the Government to represent their interests, however. Indeed, the sentiment of some Aboriginal leaders is quite the opposite.

The legacy of Aboriginal–Government relations in the North poses a barrier to achieving partnership. Even the creation of the MVRMA (Government of Canada, 1998) by the Gwich'in and Sahtu Dene Land Claim Settlement Acts (Government of Canada, 1992; 1994) is contested as an imposition on some Aboriginals and Métis organizations that have not yet settled their land claims in the Mackenzie Valley. In reference to this apparent imposition, one Aboriginal representatives stated, "In our view that's their business, that's their [settlement]. They should not dictate to [our] people how they can issue our land."

In addition to Aboriginal mistrust, other parties neither trust the proponent to be impartial when participating nor trust the federal Minister to make a fair final decision. One representative from the MVEIRB described a common perception in the Mackenzie Valley: "Companies literally will appear in front of the Board or in front of an EA panel and they will simultaneously be in the Minister's office." Also, Canada's free entry system for mining claims allows mining companies not only to claim a block of land, but also to invest significant amounts of money in exploration, planning, research, and infrastructure, before triggering an EA. One Board representative argued that these regulations impose on EA decisions: "the company has invested tens or hundreds of millions, who knows. And it is extremely difficult from a political standpoint to say, 'no'."

It is apparent the MVEIRB EA process does not adequately meet the partnership normative criterion. Trust and capacity failings make the process longer, financially straining, and unfair for many parties involved.

Includes benefits

As mentioned earlier, the MVEIRB EA process expressly considers benefits. The MVEIRB also

integrates benefits in EA by implicitly seeking sustainable development as a positive substantive goal. While this is not a stated goal in the MVEIRB's guiding legislation, one Board representative stressed that it is a goal in practice. By addressing benefits, that representative claimed, the EA process is better suited to achieving sustainable development than other processes, even in an inherently environmentally unsustainable practice like mining.

However, this consideration is not designed to follow through to regulatory stages. According to the MVRMA, recommendations are "such measures as it [the MVEIRB] considers necessary to prevent the significant *adverse impact*" (Government of Canada, 1998: section 128(1), emphasis added). In fact, there is a disconnect between the assessment process and follow-up for all socio-economic issues, including benefits. This concern was highlighted at a recent workshop organized by MVEIRB in Yellowknife: "the legislative capacity of someone to do something" is not considered sufficient for those recommendations related to socio-economic impacts and benefits generated by the EA (MVEIRB, 2006c). Since mines and other non-renewable resource developments require economic and social benefits, at the bare minimum, to move towards sustainable development, the MVEIRB EA process cannot, at this time, guarantee this goal.

Discussion

It is evident from this evaluation that the MVEIRB EA process is exemplary, in that it avoids many common failures of EA. It uses a comprehensive definition of the environment, incorporates traditional and local knowledge in a meaningful way, uses learning to improve, applies a robust approach to cumulative effects assessment, and employs a fair and rigorous decision-making process. On the other hand, the results also show some important deficiencies in both the design and practice of the MVEIRB EA process.

The purpose of the evaluation was to identify a possible rationale for supraregulatory agreements, where it was hypothesized that these agreements stem from deficiencies of EA. The evaluation supports this hypothesis — these deficiencies could certainly account for the rise of supraregulatory agreements. Further evidence is provided by the responses of the key informants when asked directly about their rationales for using these agreements.[15]

Table 3 shows that the EA deficiencies identified in the evaluation correspond with the rationales identified by key informants for using supraregulatory agreements. In particular, the responses indicate that these agreements arise from the following deficiencies described in the previous section: inadequate follow-up to enforce decisions made during the EA process; inadequate capacity of Government stakeholders; lack of trust felt by Aboriginal stakeholders; and failure to maximize and ensure equitable distribution of the benefits associated with natural-resource developments that are necessary to ensure lasting positive outcomes. We will discuss each of these rationales in turn.

While the MVEIRB EA process creates a forum for raising a broad set of issues, many of these issues are not dealt with by existing regulatory instruments (for instance, water licences) and so cannot be addressed effectively through EA. For certain issues and their potential effects, including economic benefits and

Table 3. Findings from key informant interviews regarding the rationale for supraregulatory agreements

EA deficiencies	Rationale for supraregulatory agreements	Impact and benefit agreement	Environmental agreements	Socio-economic agreements
Inadequate follow-up	Effectively inform decision-making	Catch benefits-related issues excluded from recommendations	Fulfils federal responsibility to follow-through on recommendations	Fulfils government responsibility to regulate socio-economic impacts
		Perceived as enforceable contracts, like permits	Aims to regulate in more holistic manner	
Lack of trust	Build positive relationship	Create sense of partnership	Cooperation through monitoring agencies	Cooperation through monitoring agencies
		Create mutually dependent 'good neighbours'	Improves transparency, public involvement, impartiality	De Beers Agreement conveys partnership discourse like IBAs
Inadequate capacity	Relieve capacity strains	Does not explicitly provide funding or capacity building for EA follow-up	Avoids increasing capacity strain of government for follow-up	Avoids increasing capacity strain of government for follow-up, given increased developments to monitor
Insufficient and unequal flow of benefits	Secure local benefits	Compensation for adverse impacts	Does not aim to secure benefits	Fulfils government responsibility for economic development
		Share benefits from mine		
		Contributes to sustainable development		

Note: For each deficiency, a rationale for each type of supraregulatory agreement is presented: shaded cells indicate no apparent rationale

culture, cumulative effects and migratory terrestrial species, and regional services and other social impacts that are not clearly the result of a single project, there are obvious gaps in the regulatory system, where no mechanism exists to 'catch' related EA recommendations or commitments.

Instead, these issues have been addressed in the Canadian North through IBAs, environmental agreements, and socio-economic agreements, respectively. According to interview respondents, the first general rationale for supraregulatory agreements is to catch in a legally binding instrument these outstanding issues that are of concern to the signatories. Referring specifically to IBAs, a non-governmental analyst said that they "make sure that nothing falls off the table" and act as a form of "security." For example, one Aboriginal informant considered IBAs akin to "a permit for social and cultural impacts" (see, for example, CBC, 2006), while others emphasized the economic benefits that have been enshrined, such as hiring targets for Aboriginal community members represented by the signatory group.

Although many of the issues addressed in environmental and socio-economic agreements are part of the general responsibility of federal or territorial governments (for instance, the Government of the Northwest Territories is generally responsible for health and social services for territorial residents), these agreements provide an additional commitment and specify how these responsibilities will be met. The enabling legislation for the EA process requires Government to "act in conformity with the decision to the extent of its authority," where a 'decision' is an approved EA recommendation (Government of Canada, 1998: section 130(5)). However, many recommendations are not clearly within the scope of existing legislation. In the environmental agreements, this responsibility has been extended to matters such as cumulative effects management, as in the requirement in the Snap Lake agreement that companies use "holistic and ecosystem-based approaches" and "collaborate with Diavik Diamond Mines [and] BHP Diamonds," the developers of other mines in the region (DBC, 2004a: s 8.1(c)).

Stemming in part from a sense of mistrust felt among Aboriginal signatory groups towards the EA process, IBAs commit the signing parties not only to act like 'good neighbours,' but also to act like professional partners. One Aboriginal respondent pointed out that IBAs aim to create a sense of partnership that is based on "mutual trust, mutual respect, and mutual understanding" as well as to build business relationships through contracts with companies based in Aboriginal communities.

Similarly, the socio-economic agreements highlight "cooperation", "fairness", and "respect" (DBC, 2004b: section 2.2). Environmental agreements also aim to establish cooperative relationships among developers, governments, and Aboriginal groups, in part, by forming a monitoring agency composed largely of community members or members appointed by the signatory groups. These agencies depend on community involvement and are considered reliable 'watchdog agencies' (see, for example, Ross, 2004; DDMI, 2000: section 4.2), describing the aims of the Environmental Monitoring Advisory Board).[16] A Government respondent agreed, "we need people out there challenging — we need questions asked of government and of industry. So I think [the monitoring agencies] help provide that."

A third rationale for these agreements, according to respondents, is to address the lack of capacity identified in the MVEIRB EA process evaluation. While agreements do not explicitly respond to the lack of capacity available during the EA phase, they do aim to build capacity in the *ex post* follow-up and monitoring phases of the process. The Government of the Northwest Territories suffers from this capacity shortage, as it is often unable to provide follow-up programs in the light of the demands facing the regulatory system as a result of the current economic boom. The Deputy Premiere of the NWT, Jim Antoine, frankly described his Government's dilemma in October 2003, "As a government, *we are going broke*, which is the result of the mining and the oil and gas development … [,] the increased fiscal pressures on this government and the increased demand for our services as government" (LANWT, 2003, emphasis added).

Each agreement establishes a board or committee that aims to ensure implementation and, in the cases of the environmental and socio-economic agreements, carry out the terms of the agreements. These committees and boards rely on funding from the company signatory and, in the cases of the environmental and socio-economic agreements, Government (for instance, DDMI, 2000a: section 2.1.16). Thus, Government does not bear the entire financial burden of this increased demand on social and environmental services.

Like many EA processes, the MVEIRB EA does not fully address benefits-related issues; recommendations do not clearly fall within the responsibility of particular regulatory bodies: consequently, these issues may be overlooked once an EA is complete. A fourth rationale for supraregulatory agreements arises from this common failing. Indeed, ensuring benefits and supporting economic development was the theme most frequently mentioned by respondents in reference to socio-economic agreements and IBAs.

Environmental agreements, however, do not explicitly aim to gain benefits, with the limited exception of moving towards a generally positive goal of sustainable development (DBC, 2004a: section 1.2(b)). In the case of IBAs, many Aboriginal respondents consider cash payments and other benefits addressed in IBAs as compensation for the use of their traditional territories in addition to these benefits. One non-governmental respondent agreed, highlighting the purpose of these agreements as two-fold:

> [1] Compensation for destroying part of your backyard, whether that is land, water, or air and then [2] benefits for being present there. Ultimately, if there is a sawmill across the street from where I live and it's my land or my traditional area that I use, then I should at least be benefiting from it. I should be able to work there maybe get some training maybe get my kids sent to university for a couple of years.

Socio-economic agreements also help to address the responsibility of the Government of the Northwest Territories for sustainable economic development for all residents of the NWT. These agreements catch those EA recommendations related to training and procurement targets (see, for example, recommendation number 36 from MVEIRB (2003a)) and bind commitments related to creating training programs, securing a quantity of rough diamonds to support the diamond polishing industry, and establishing hiring preferences for northern residents, all of which are funded, in part, by the developer.

Conclusions

Given the emergence of IBAs and other supraregulatory agreements in a region known for its exemplary EA process, this paper has aimed to determine if the EA process used by the MVEIRB is indeed reflective of the best practices identified in the literature. The assessment has been through a formal process of evaluation that focused on criteria of particular importance for large-scale developments affecting Aboriginal peoples.

The findings show that the MVEIRB's EA process is impressive in that it uses a comprehensive definition of environment, incorporates traditional and local knowledge in a meaningful way, uses learning to improve the process, applies rigorous cumulative effects assessment, and has a fair and rigorous decision-making process. Based on this reading, we could be led to agree with supporters of the view that EA can move, and is moving, towards excellence (for instance, Armour, 1991; Boyd, 2003; Gibson, 2002; Meredith, 1992; Noble, 2002; Noble and Storey, 2005) and that the rise of IBAs cannot be attributed to perceived failings of EA.

Notwithstanding its strengths, however, the MVEIRB EA process is less than ideal in four ways:

- follow-up programs do not adequately harness EA recommendations;
- mistrust is felt among many stakeholders;
- certain stakeholder groups are discouraged from participating because of inadequate capacity; and
- benefits are not adequately dealt with, thereby precluding the attainment of lasting positive outcomes for all parties.

This finding not only suggests a link between the rise of IBAs and the design and practice of EA, but also lends credence to those who regard EA as flawed (for instance, Nikiforuk, 1997; Rees, 1980; Wismer, 1996). This latter point is especially supported by the fact that two of the identified key deficiencies, inadequate follow-up and the overlooking of benefits, are largely beyond the authority of the MVEIRB; in other words, the Board can do little to redress them, barring substantial interagency cooperation.

It is hardly surprising, then, that supraregulatory agreements like IBAs are now an expected part of the planning process for large mines in the Mackenzie Valley, NWT. It is apparent that these agreements deliberately serve to offset failings in the design and practice of the MVEIRB EA process. Given that other jurisdictions within Canada and elsewhere in the world also suffer these failings, it would appear that the pairing of IBAs or similar types of agreements with a well designed and well implemented EA process offers the greatest possibility for achieving what Gibson (2002) describes as "advanced environmental assessment."[17]

Before such a claim can be proven, it is critical to determine the degree to which IBAs and other supraregulatory agreements are meeting their intended aims, and thereby actually addressing the failings of EA design and practice. Just as public EA processes must be, and have been, subjected to scrutiny, supraregulatory agreements must be assessed to determine their effectiveness from the perspectives of all signatories. In short, are they working?

While this represents an obvious area for future research, considerable insight was gained in the course of conducting research for this paper. Anecdotal evidence suggests that supraregulatory agreements have produced many positive outcomes. One independent expert explained (Galbraith, 2005: 100–101):

> You are going to leave behind a lot of people that say, "You know the best damn job I ever had was working for BHP?" … The Dogrib, before BHP came along in 1995 or so, they had 2 or 3 students in post-secondary studies. They have over 150 now … that's what these IBAs do.

However, many people have voiced significant concerns with IBAs and other supraregulatory agreements. For example, the private (that is, confidential) nature of some of these agreements conflicts with the public nature of EA. The MVEIRB's (2003a: 23) review of the EA for De Beer's Snap Lake project highlights this problem:

> A false sense of security may have developed among the Parties to the EA based on their assumptions about the matters which will be addressed and resolved by these [private]

> agreements … there is no guarantee as to their contents.

Another concern surrounds the inconsistent temporal place of IBA negotiations in the EA process. Recently, an IBA was struck between De Beers and a local Aboriginal organization almost two years after regulatory approval of the mine development application (CBC, 2006). From the perspective of the Aboriginal signatories, this (poor) timing undermined the partnership function of IBAs and significantly reduced their negotiation leverage. Indeed, the leverage they had prior to the granting of approvals could only have been rebuilt if the groups persuaded the Government to intervene, by threatening civil disobedience or a lawsuit.

It is clear that systematic research is required to determine the overall effectiveness of IBAs and other supraregulatory agreements. In particular, it would be useful to assess the conditions under which these agreements are most effective (for instance, negotiation timing within the project planning phases, degree of integration into existing legal and policy regimes) and to assess the degree to which these agreements legitimately achieve positive outcomes (for instance, degree of conflict with state-led governance methods such as EA, degree of benefit to local stakeholders, tangible movement towards achieving sustainable development and environmental justice).

In the Mackenzie Valley and elsewhere, if supraregulatory agreements are ineffective, they may create an unnoticed governance gap for the impacts and benefits associated with mining developments. Formally assessing these agreements represents an important step in achieving less harmful or possibly even sustainable outcomes for mining projects in the future.

Acknowledgements

This paper benefited from financial support from Simon Fraser University, and Indian and Northern Affairs Canada's Northern Scientific Training Program, as well as in-kind support from Gartner Lee Ltd, the University of Guelph, and Simon Fraser University. Additionally, the authors are grateful to David Livingstone, the staff and Board members of the Mackenzie Valley Environmental Impact Review Board, Shirley Tsetta, Archie Catholique, Ted Blondin, and everyone else in Yellowknife, NWT who helped to support this research. The authors appreciate the thoughtful feedback of the two anonymous reviewers.

Notes

1. The MVEIRB was established in accordance with the Gwich'in Land Claim Act (Government of Canada, 1992: chapter 24) and the Sahtu Dene and Métis Land Claim Act (Government of Canada, 1994). The more recent Tlicho Land Claim and Self Government Act (Government of Canada, 2005) also applies.
2. The federal Canadian Environmental Assessment Act (Government of Canada, 1993a) only applies to EAs in the Mackenzie Valley under a specific and very limited set of circumstances outlined in the MVRMA (Government of Canada, 1998) under sections 130(1)(c) and 141(2)(a).
3. Private benefit-sharing agreements are not unique to Canada and Australia, as similarly intentioned private agreements exist elsewhere with different labels. For example, in Europe, Good neighbour agreements are emerging between industrial operators and their neighbouring communities to address pollution concerns (see Illsley, 2002), while in California, 'Community Benefit Agreements' are emerging between developers and neighbouring communities for developments like Los Angeles' Staples Center (see Gross, 2005).
4. The Latin term 'supra' is used here to reflect the fact that these agreements operate on top of, or in addition to, public regulatory procedures like EA.
5. Some jurisdictions in Canada that have settled their land claims have included stipulations about these agreements, such as Nunavut, where subsection 26.4.1 of the Nunavut Land Claims Agreement Act (Government of Canada, 1993b) requires certain developments to commence negotiations of Inuit IBAs with a designated Inuit organization, and Tlicho, where subsection 23.4.1 of the Tlicho Land Claims and Self-Government Act (Government of Canada, 2005) requires that a developer proposing a mine must enter into negotiations with the Tlicho Government for the purpose of concluding an agreement related to the project.
6. An alternative view characterizes supraregulatory agreements not as 'correctors' of EA deficiencies, but rather as simply another step in the evolution of EA. However, because they are negotiated and often confidential, we prefer to treat them as supplemental to the public regulatory and permitting process of which EA is a part.
7. The use of the term 'compensation' here is inconsistent with its normal use in EA. While EAs in Canada commonly utilise compensation as a management tool to offset commercial land-use and environmental impacts (especially where mitigation is not possible), a similar provision for impacts to Aboriginal rights does not exist.
8. A Google Scholar search for Sadler (1996) revealed more than 50 subsequent citations.
9. Galbraith (2005) provides a sample interview schedule, data collection and analysis tables and additional details on the evaluation scoring process.
10. These documents included statutes like The Mackenzie Valley Resource Management Act (Government of Canada, 1998), which direct the region's EA process, specific applications for development such as EA01-044 submitted by De Beers Canada Mining Ltd in support of their Snap Lake diamond mine, and communications from formal and informal EA review personnel. These documents were variably housed in the offices of the MVEIRB, the Department of Indian and Northern Affairs, the Independent Environmental Monitoring Agency, the Resources, Wildlife and Economic Development division of the Government of the NWT, and Terriplan Consultants, all of which are located in Yellowknife, NWT.
11. There are four regional land and water boards that issue land-use permits and water licences for developments in the Mackenzie Valley: the Gwich'in, Sahtu, Wek'èezhìi, and Mackenzie Valley Land and Water Boards. All four boards are co-managed.
12. See Donihee *et al*, (2000), *EIA Guidelines* (MVEIRB, 2004a), and Haefele and Cliffe-Phillips (2004) for a more detailed description of the MVEIRB EA process.
13. The respondents are not identified by name in this paper, but are described by the group they represent. The name and job title of each key informant are described in Galbraith (2005).
14. It should be stated here that, while MVEIRB does not provide participant funding during an EA, the Board has attempted to gain these resources, recently meeting with officials from Indian and Northern Affairs Canada to request such funding (MVEIRB, 2006a).
15. See Galbraith (2005) for a more detailed description of these interviews.
16. Monitoring agencies have been established for each of the Ekati, Diavik, and Snap Lake projects (see, for example, www.monitoringagency.net and www.emab.ca).
17. In the specific context of the EA process for BHP's EKATI diamond mine project, Couch (2002) makes the same point.

References

Armitage, D 2004. Collaborative environmental assessment in the Northwest Territories. *Environmental Impact Assessment Review*, **25**(3), 239–258.

Armour, A 1991. Impact assessment and the planning process: a status report. *Impact Assessment Bulletin*, **9**(4), 27–33.

Baker, D C and J N McLelland 2003. Evaluating the effectiveness of British Columbia's environmental assessment process for Aboriginals' participation in mining development. *Environmental Impact Assessment Review*, **23**(5), 581–603.

Beanlands, G E and P N Duinker 1983. *An Ecological Framework for Environmental Impact Assessment in Canada*. Halifax: Institute for Resource and Environmental Studies.

Berger, T R 1988. *Northern Frontier, Northern Homeland: the Report of the Mackenzie Pipeline Inquiry*. Vancouver: Douglas and McIntyre.

Berkes, F 1988. The intrinsic difficulty of predicting impacts: lessons from the James Bay Hydro Project. *Environmental Impact Assessment Review*, **8**(3), 201–220.

Bone, R M 2003. *The Geography of the Canadian North: Issues and Challenges*. Don Mills: Oxford University Press.

Boyd, D R 2003. *Unnatural Law: Rethinking Canadian Environmental Law and Policy*. Vancouver: UBC Press.

CBC, Canadian Broadcasting Corporation 2004. Value Aboriginal knowledge, science forum hears. Available at <http://www.north.cbc.ca>, last accessed 16 September 2004.

CBC, Canadian Broadcasting Corporation 2006. New diamond agreement to aid traditional Tlicho. Available at <http://www.north.cbc.ca., last accessed 2 April 2006.

CEAA, Canadian Environmental Assessment Agency 1996. *NWT Diamonds Project: Report of the Environmental Assessment Panel*. Hull: Federal Environmental Assessment Review Office.

CIRL, Canadian Institute of Resource Law 1997. *Independent Review of the BHP Diamond Mine Process*. Calgary: CIRL.

Couch, W J 2002. Strategic resolution of policy, environmental and socio-economic impacts in Canadian Arctic diamond mining: BHP's NWT diamond project. *Impact Assessment and Project Appraisal*, **20**(4), 265–278.

Craig, R E and F J Tester 1982. Indigenous peoples: reassessing directions for SIA. In *Indian SIA: the Social Impact Assessment of Rapid Resource Development on Native Peoples*, eds. C C Geisler, D Usner, R Green and P West, pp. 55–72. Ann Arbor: University of Michigan Press.

Cutter, S 1995. Race, class and environmental justice. *Progress in Human Geography*, **19**(1), 111–122.

DBC, De Beers Canada 2004a. *Environmental Agreement*. Yellowknife: DBC.

DBC, De Beers Canada 2004b. *Snap Lake Diamond Project Socio-Economic Agreement*. Yellowknife: DBC.

DDMI, Diavik Diamond Mines Inc 2000a. *Environmental Agreement*. Yellowknife: DDMI.

Donihee, J, J Gilmour and D Burch 2000. *Resource Development and the Mackenzie Valley Resource Management Act: the New Regime*. Calgary: Canadian Institute for Resource Law.

Donihee, J and H Myers 1990. Coming of age: territorial review. In *The Challenge of Arctic Shipping: Science, Environmental Assessment, and Human Values*, eds. D vander Zwaag and C Lamson, pp. 154–166. Montreal and Kingston: McGill-Queen's University Press.

Edelstein, M R and D A Kleese 1995. Cultural relativity of impact assessment: native Hawaiian opposition to geothermal energy development. *Society and Natural Resources*, **8**(1), 19–31.

Ehrlich, A and S Sian 2004. Cumulative effects assessment in Canada's far north. Paper presented at the International Association of Impact Assessment, Vancouver, 24–29 April.

Fletcher, T H 2003. *From Love Canal to Environmental Justice: the Politics of Hazardous Waste on the Canada–U.S. Border*. Peterborough: Broadview Press.

Freudenburg, W 1986. Social impact assessment. *Annual Review of Sociology*, **12**, 451–478.

Gagnon, C, P Hirsch and R Howitt 1993. Race and environmental equity: an overview of the environmental justice issue in the policy process. *Polity*, **26**(2), 281–300.

Galbraith, L 2005. *Understanding the Rationale for Supraregulatory Agreements: an Evaluation from the Mackenzie Valley, Northwest Territories*. Burnaby: Simon Fraser University. A Masters dissertation available at <http://www.impactandbenefit.com/Galbraith_MAThesis_2005_LIBRARY_FINAL.pdf>, last accessed 2 February 2007.

Gibson, R B 2000. Favouring the higher test: contribution to sustainability as the central criterion for reviews and decisions under the Canadian Environmental Assessment Act. *Journal of Environmental Law and Practice*, **10**, 39–54.

Gibson, R B 2002. From Wreck Cove to Voisey's Bay: the evolution of federal environmental assessment in Canada. *Impact Assessment and Project Appraisal*, **20**(3), September, 151–159.

Gross, J 2005. Community benefits agreements: making development projects accountable. Available at <www.californiapartnership.org/downloads/CBA%20Handbook%202005%20final.pdf>, last accessed February 2006.

Government of Canada 1992. Gwich'in Land Claim Settlement Act. Chapter 53, Bill C94 assented to 17 December. Ottawa: Cat no: YX4-1992/53.

Government of Canada 1993a. Canadian Environmental Assessment Act. Chapter 37, Bill C-13 assented to 23 June 1992. Ottawa: Cat no: YX4-1992/37.

Government of Canada 1993b. Nunavut Land Claims Agreement Act. Chapter 29, Bill C133 assented to the 10 June 1993. Ottawa: Cat no: YX4-1993/29.

Government of Canada 1994. Sahtu Dene and Metis Land Claim Settlement Act. Chapter 27, Bill C-16 assented to 23 June. Ottawa: Cat no: YX4-1994/27.

Government of Canada 1998. Mackenzie Valley Resource Management Act. Chapter 25, Bill C-6 assented to 18 June. Ottawa: Cat no: XY4-1998/25.

Government of Canada 2005. An Act to give effect to a Land Claims and Self-government Agreement among the Tlicho, the Government of the Northwest Territories and the Government of Canada, to make Related Amendments to the Mackenzie Valley Resource Management Act and to make Consequential Amendments to other Acts. Chapter 1, Bill C-14 assented to 15 February. Ottawa: Cat no: YX4-2005/1.

Haefele, H and K Cliffe-Phillips 2004. EIA made in the north. Paper presented at the International Association of Impact Assessment, Vancouver, 24–29 April.

Hammond, K, J Mumpower, R Dennis, S Fitch and D Crumpacker 1983. Fundamental obstacles to the use of scientific information in public policy making. In *Integrated Impact Assessment*, eds. F Rossini and A Porter, pp. 168–183. Boulder CO: Westview Press.

Holling, C S 1978. *Adaptive Environmental Assessment and Management*. New York: Wiley.

Illsley, B M 2002. Good neighbour agreements: the first step to environmental justice? *Local Environment*, **7**(1), 69–79.

Jobes, P C 1986. Assessing impacts on reservations: a failure of social impact research. *Environmental Impact Assessment Review*, **6**(4), 385–394.

Keeping, J 1999. *Local Benefits from Mineral Development: the Law Applicable in the Northwest Territories*. Calgary: Canadian Institute of Resource Law.

Kennett, S 1999. *A Guide to Impact and Benefits Agreements*. Calgary: Canadian Institute of Resource Law.

Klein, H, J Donihee and G Stewart 2004. Environmental impact assessment and impact and benefit agreements: creative tension or conflict? Paper presented at the International Association of Impact Assessment, Vancouver, 24–29 April.

Lawrence, D P 2003. *Environmental Impact Assessment: Practical Solutions to Recurrent Problems*. Hoboken: John Wiley and Sons.

LANWT, Legislative Assembly of the Northwest Territories 2003. *14th Assembly of the Northwest Territories Legislative Assembly, 6th Session, Day 34*. Yellowknife: LANWT.

Marsden, S 1998. Importance of context in measuring the effectiveness of strategic environmental assessment. *Impact Assessment and Project Appraisal*, **16**(4), 255–266.

Meredith, T C 1992. Environmental impact assessment, cultural diversity, and sustainable rural development. *Environmental Impact Assessment Review*, **12**(1–2), 125–138.

Mulvihill, P R and D C Baker 2001. Ambitious and restrictive scoping: case studies from northern Canada. *Environmental Impact Assessment Review*, **21**(4), 363–384.

MVEIRB, Mackenzie Environmental Impact Review Board 2001. *Guidelines for EIA in the Mackenzie Valley*. Yellowknife: MVEIRB.

MVEIRB, Mackenzie Environmental Impact Review Board 2003a. *Report of Environmental Assessment and Reasons for Decision on the De Beers Canada Mining Inc. Snap Lake Diamond Project*. Yellowknife: MVEIRB. Available at <http://mveirb.nt.ca/registry/>, last accessed July 2006.

MVEIRB, Mackenzie Environmental Impact Review Board 2003b. *Rules of Procedure for Environmental Assessment and Environmental Impact Review Proceedings*. Yellowknife: MVEIRB.

MVEIRB, Mackenzie Environmental Impact Review Board 2004a. *Environmental Impact Assessment Guidelines*. Yellowknife: MVEIRB.

MVEIRB, Mackenzie Environmental Impact Review Board 2004b. *Report of Environmental Assessment and Reasons for Decision on the New Shoshoni Ventures Preliminary Diamond Exploration in Drybones Bay*. Yellowknife: MVEIRB.

MVEIRB, Mackenzie Environmental Impact Review Board 2005. *Lessons Learned: from the MVEIRB's Snap Lake Environmental Assessment Process*. Yellowknife: MVEIRB.

MVEIRB, Mackenzie Environmental Impact Review Board 2006a. Participant funding. *Valley Talk Newsletter*, **1**(8), 2.

MVEIRB, Mackenzie Environmental Impact Review Board 2006b. *Reasons for Decision and Report of Environmental Assessment for the DeBeers Gahcho Kué Diamond Mine, Kennady Lake, NT*. Yellowknife: MVEIRB, Available at <http://www.mveirb.nt.ca/upload/project_document/1151527459_EA0506-008-Gahcho_Kue-Report_of_Environmental_Assessment.pdf>, last accessed July 2006.

MVEIRB, Mackenzie Environmental Impact Review Board 2006c. *Raising the Bar for Socio-Economic Impact Assessment*. Yellowknife: MVEIRB.

Nikiforuk, A 1997. *The Nasty Game: the Failure of Environmental Assessment in Canada*. Available at <http://www.sierraclub.ca/national/n-g/nasty-game.pdf>, last accessed December 2003.

Noble, B F 2000. Strengthening EIA though adaptive management: a systems perspective. *Environmental Impact Assessment Review*, **20**(1), 97–111.

Noble, B F 2002. The Canadian experience with SEA and sustainability. *Environmental Impact Assessment Review*, **22**(1), 3–16.

Noble, B F and K Storey 2005. Towards increasing the utility of follow-up in Canadian EIA. *Environmental Impact Assessment Review*, **25**(2), 163–180.

O'Faircheallaigh, C 1999. Making social impact assessment count: a negotiation-based approach for indigenous peoples. *Society and Natural Resources*, **12**(1), 63–80.

Rees, W E 1980. EARP at the crossroads: environmental assessment in Canada. *Environmental Impact Assessment Review*, **1**(4), 354–377.

Ross, W 2004. The Independent Environmental Watchdog: a Canadian experiment in EIA follow-up. In *Assessing Impact: Handbook of EIA and SEA Follow-up*, ed. J Arts, pp. 178–192. Sterling: Earthscan.

Ross, W, A Morrison-Saunders and R Marshall 2006. Common sense in environmental impact assessment: it is not as common as it should be. *Impact Assessment and Project Appraisal*, **24**(1), 3–10.

Royal Commission on Aboriginal Peoples 1996. *Report of the Royal Commission on Aboriginal Peoples*. Ottawa: Supply and Services.

Sadler, B 1996. *International Study of the Effectiveness of Environmental Assessment*. Final Report. Available at <http://www.iaia.org/Non_Members/EIA/EAE/EAE_10E.PDF>, last accessed 1 February 2007.

Sallenave, J 1994. Giving traditional ecological knowledge its rightful place in environmental impact. *Northern Perspectives*, **22**(1), 16–19.

Sinclair, A J and A P Diduck 2001. Public involvement in EA in Canada: a transformative learning perspective. *Environmental Impact Assessment Review*, **21**(2), 113–136.

Sosa, I and K Keenan 2001. *Impact Benefit Agreements between Aboriginal Communities and Mining Companies: their use in Canada*. Available at < http://www.cela.ca/international/IBAeng.pdf>, last accessed January 2004.

Todd, S 2001. Measuring the effectiveness of environmental dispute settlement efforts. *Environmental Impact Assessment Review*, **21**(1), 97–110.

Tollefson, C and K Wipond 1998. Cumulative environmental impacts and Aboriginal rights. *Environmental Impact Assessment Review*, **18**(4), 371–390.

Usher, P 1997. The North: one land, two ways of life. In *Heartland and Hinterland: A Regional Geography of Canada*, 2nd edn, eds. L McCann and A Gunn, pp. 161–204. Scarborough: Prentice Hall.

Watkins, M 1977. From underdevelopment to development. In *Dene Nation — the Colony Within*, ed. M Watkins, pp. 84–99. Toronto: University of Toronto Press.

Wilkins, H 2003. The need for subjectivity in EIA: discourse as a tool for sustainable development. *Environmental Impact Assessment Review*, **23**(4), 401–414.

Wilkinson, P 2003. *Impact and Benefits Agreements: an Overview and Evaluation*. Montreal: Paul F Wilkinson and Associates Inc.

Wismer, S 1996. The nasty game: how environmental assessment is failing Aboriginal communities in Canada's north. *Alternatives*, **22**(4), 10–17.

Wood, C 2003. *Environmental Impact Assessment: a Comparative Review*, 2nd edn. Toronto: Prentice Hall.