MMSD

Mining, Minerals and Sustainable Development

Social Impact Assessment in the Mining Industry: Current Situation and Future Directions

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1 Introduction

This review of Social Impact Assessment (SIA) and its use in the mining industry has been prepared as a background document for the MMSD Project. The intent is to provide input to the project team and stakeholder engagement process, based on review of literature, professional experience, and input from other professionals. This paper relies primarily on the author's personal experience conducting and reviewing SIAs, primarily related to the mining industry, and on the review document 'Social Impact Assessment and Mining' provided by Dr. Magnus MacFarlane, which is attached as Appendix A. Further input and guidance, have been provided by Ginger Gibson and Ian Thomson.

The field is dynamic and evolving and, while it is important to signal the new directions and approaches being taken, it is equally as important to identify past and current problems in its application. The underlying tension that cuts across all of the issues associated with SIA is the difference between its potential (currently realized in a small percentage of projects) and its general current use. The difference can be extreme. At one end, the SIA is a dynamic, ongoing process of integrating knowledge on potential and real social impacts into decision-making and management practices; at the other end, it is a static, one-shot technocratic assessment undertaken to gain project approval or financing, with little or no follow through. Most SIAs fall somewhere along a continuum between the two.

The paper does not claim to be a comprehensive review of the theory or current literature on SIA, rather it is intended to address how SIA might assist the mining industry in meeting the challenges of sustainable development. SIA is currently the most widely applied 'tool' used to address the impact and mitigation of social issues associated with the process of mine development. For some time there has been discussion of the desirability of conducting social assessments earlier, before reaching the development stage, and of the weakness of using SIA only to satisfy short term ends in gaining project permits rather than as a instrument to assist management and decision making. Nevertheless, SIA is as yet rarely used by mining companies in it's fuller capacity to manage social impacts on an ongoing basis throughout the life of a project, from exploration through to closure and beyond. Furthermore, the potential exists for SIA to provide information and understanding that can be applied to achieve durable net benefits for people affected by mining projects, and thus assist in meeting the objectives of sustainable development.

2 Impact Assessment as a Political Process

Perhaps the single most important point of departure in considering how SIA may contribute in the future is to understand the extent to which both SIA and EIA feed into, and are shaped by, political and social forces. Numerous writers highlight the fact that environmental permitting - the decision to proceed or not - is a political decision, which means that it is influenced by societal attitudes and expectations, and by changes in social values (R. Gibson 2000, Filer, 1993).

The emergence of SIA during the 1990's as a significant component within EIA and today as (sometimes) an independent activity, coincides with changes in how development was perceived and valued, and what 'society's concerns were (shaped also by who had the capacity to express a dissenting viewpoint). The regulatory process in developed countries grew out of conflict over, principally, the environmental costs of developments. In this context the role of SIA was quite subsidiary, except for a few exceptional cases such as the Berger Inquiry. SIA was part of an EIA process which served as a mechanism to evaluate whether a project met the test of 'do-no-harm/acceptable impacts' (R. Gibson, 2000). There was, and remains, an underlying presumption in the regulatory process as well as in legal systems, that projects have *a priori* rights to proceed.

In the last decade the emergence of other values - cultural survival, indigenous rights, the anti-poverty mandate of development banks, anti-globalization, etc - raised serious new challenges about the projects being undertaken. At the same time, the expansion of democracy and global communications have provided isolated, politically powerless communities and peoples a 'voice' in the process, the ability to express a different and at times dissenting, viewpoint. Through multiple social and political change processes at work, SIA has become more significant - certainly more necessary if not always more effective.

The more recent move to incorporate the principles of sustainable development - at least in Canada - has begun to shift the way in which development is appraised, challenging projects to go beyond acceptable or minimal damage and show that they can maximize long term net gains for multiple parties (R. Gibson, 2000). Because sustainable development is generally conceived to be, at least in part, the meeting of locally defined goals, the (at times divergent) values of the parties must be considered. Social values are putting pressure on the permitting process and potentially redefining not only how yes-no decisions are made about resource projects, but also what level of impacts are considered acceptable, what and how impacts should be mitigated, how risks and benefits are distributed, and how long term net gains might be achieved. With this shift in social values, SIA is now asked to give voice to other values than those which underpinned historical economic development, the right to development of a resource.

In terms of the future, the question is can SIA serve as a mechanism for integrating the various value systems, or mediating between the competing interests, of affected parties?

3 What is Social Impact Assessment?

Social Impact Assessment is a field of applied social research and practice that developed originally (1970s) in response to the requirements of environmental regulations. SIA introduces knowledge about the social implications of an activity, into the planning, decision-making and management process associated with that activity. As a research field, SIA has been primarily within the discipline of Sociology, and related sub-fields (Rural Sociology, Environmental Sociology, Human Geography, etc.) but in practice, professionals from many disciplines have developed expertise and experience in the field.

A simple definition of SIA is:

> The process of assessing or estimating, in advance, the social consequences that are likely to follow from specific policy actions or project developments

> (ICGP 1995, cited by MacFarlane).

As an activity required by environmental regulations, SIA has most frequently been conducted when it was deemed necessary for project permitting, which coincides with not only a company decision to develop a project but also, in the mining industry generally, with perceptions of when the real impacts begin to occur. As a component of project permitting, SIA has tended to be conducted as a once-off study and planning process, seldom accompanied by thoughtful and carefully designed monitoring of predicted social impacts.

The broader usefulness of SIA as a management tool, rather than a permitting hurdle, is a relatively new concept for the mining industry, but being successfully applied at a number of operations.

3.1 A Brief History of SIA

The origins of SIA as a distinct field are usually traced to the United States, becoming formalised with the passage of the US National Environmental Policy Act (NEPA) of 1969 (Petts 1999). NEPA required that 'major federal actions significantly affecting the quality of the human environment,' must first prepare a balanced, and publicly available assessment of the actions likely impacts - now known as an Environmental Impact Assessment (EIA). There existed considerable ambiguity, however, as to what NEPA required with regard to social impacts (MacFarlane, Appendix A).

A landmark event in the establishment of SIA was the inquiry by Chief Justice Thomas Berger into the proposed Mackenzie Valley gas pipeline, from the Beaufort Sea, Yukon Territory to Edmonton, Alberta, 1974-8. This was the first time that social impacts had been formally considered in project decision-making (Berger 1983, Gamble 1978), and led to the recommendation that the project be postponed for at least ten years to allow sufficient time for land claims to be settled, and for new programs and new institutions to be established to support the native population. The findings were, at the time, unprecedented and marked the start of a huge growth in SIA. Prior to the inquiry a study identified just 12 Canadian SIAs. Three years later a study identified over 3,000 Canadian SIAs (D'amore 1981).

Following the Berger Inquiry, the field continued to develop, with the founding in 1980 of the International Association for Impact Assessment (IAIA), the first international conference on SIA, held in Vancouver, British Columbia, in 1982 and the publication of important state-of-the-art SIA papers in the mid-1980s (see MacFarlane, Appendix A). In 1985 the first major EIA case was overturned on social grounds in the U.S. on the grounds that it failed to consider the social impacts on residents, especially in this case the Northern Cheyenne Tribe (Freudenburg 1986:56).

In 1985 the EEC established a directive requiring EIAs from their members (although Europe continues to lack specifically accorded SIA legislation). By the early 1990's, many of the US federal agencies and the US Council on Environmental Quality (CEQ) had incorporated SIA into their EIA reviews or regulations. By the mid-1990's, the World Bank had social safeguard policies, and established a Social Development Department at the World Bank and a social review unit at the IFC, promoting the adoption of SIA principles for both public and private sector projects (Francis & Jacobs 1999).

Other Development Banks, some private sector corporations, regional donor organizations and Non-Government Organizations (NGOs) have incorporated SIA-like procedures into their project appraisal procedures, and many national governments have made SIA a mandatory activity for project proposals (MacFarlane, 2001).

3.2 Models, Methods, and SIA

There are many different models of the SIA, set out in a number of texts, and referenced in the IIED's *Directory of Impact Assessment Guidelines* (Roe *et al*.1999). They include, among others, *Guide to Social Assessment* (Branch *et al.* 1984), *Methods for Social Analysis in Developing Countries* (Finsterbusch *et al.* 1990), *Community Guide to SIA* (Burdge 1984), *Environmental Assessment Sourcebook* (World Bank 1991). However, a real watershed in the development of SIA procedures was the publication of *Guidelines and Principles for Social Impact Assessment* by the Inter-organisational Committee on Guidelines and Principles for Social Impact Assessment (ICGP) (1994).

Burdge (1996:12) declared the ICGP guidelines to be 'the most significant development in recent SIA history'. The guidelines have comprehensive precondition and post-review procedures for SIA that reflect the consensus of key academics and professionals in the SIA community, as well as creating a process consistent with a recognised EIA framework. This in turn comprises the successive stages of alternatives identification, baseline data collection, issues scoping, prediction of impacts (direct, indirect, induced, cumulative), development of mitigation measures, and finally the design of monitoring and audit procedures to verify, adjust and adapt the management of social impacts.

A variety of SIA methods exist both for the data collection process as well as for the analysis of the data. Methods range in complexity from simple checklists, which help to ensure that the assessment does not overlook areas of information or categories of impacts, to complex computer generated information systems capable of calculating demographic shifts and statistical significance of certain impacts at different levels of analysis. Data collection methods may rely on use of secondary data sources, conduct primary quantitative data

collection in the field through surveys or focus groups, or require participant observation in which the researcher lives and participates in the daily lives and activities of the people being researched. An entire field has developed around participatory methods of data collection, which not only draws on traditional knowledge of the social and biophysical environment being affected but frequently involves local people defining and then tracking their own key social indicators, such as the work of Martha McIntyre (G. Gibson, pers.com, 2001). The choice of the methods depends on the stage and purpose of the analysis, the size of the population, and the availability of secondary data. Appendix A provides a description of various methods as well as the set of 12 guiding principles from ICGP.

Of real concern, however, is the nature of the questions being asked. Many SIAs in the mining industry do not ask questions fundamental to determining how the well being of people will be affected by change. Examples include whether culture or social systems (the social fabric) will be affected and what impacts that may have; what might be the impacts of introducing social change or new forms of wealth into social groups; or what kinds of job opportunities do local people want? Many studies begin from a set of a priori values or assumptions which are never challenged[1] and which predetermine the information to be gathered and often the results.

Once the right questions have been asked, the challenge is matching the method to the kind of data *or* the level of analysis required by the SIA. This is, to some extent, a matter of professional judgement based on the kinds and severity of impacts that are anticipated in the specific case. But when an activity is expected to accelerate social change at the local level, as is the case with mine development projects, it is nearly always necessary to have detailed (sometimes household level) socio-economic and cultural data from the directly affected communities. Rare is the situation in which social impacts can be assessed through secondary data on infrastructure and social services; the SIA team must go to the field and frequently collect primary data. This is most often done through detailed family level surveys, focus group discussions and key informant interviews, participant observation, stakeholder consultations, and other direct data collection methods.

3.3 Integration of Technical and Participatory Approaches

Integration of Qualitative Information

A particular challenge to conducting SIA is the need to incorporate human experience and subjective perceptions into what otherwise (speaking of the overall EIA process) is usually considered a logical, technical and scientific process. There are several reasons why a strictly quantitative approach is inherently limiting including:

- The difficulty of predicting social behavior and response as compared to impacts on the biophysical elements, such as water or animals,

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[1] The difficulty for consultants of providing objective and complete assessments of the potential impacts from project development when they are being paid to assist a company to develop a project can be quite extreme.

- The fact that social impacts are as much to do with the perceptions people or groups have about an activity as they are to do with the actual facts and substantive reality of a situation, and

- The fabric of social interactions and social well-being (today being recognized and labeled as social capital) which are in the end where many social impacts take place, can only be measured or evaluated through qualitative and participatory processes.

The fundamental objective of SIA is to provide planners, decision-makers and managers with a competent assessment of the anticipated social impacts of proposed actions (Sadler 1988, 1998). In meeting this requirement two distinct methodological approaches have been employed in the last decade: the *technocratic* and the *participatory* approaches (Taylor *et al*. 1995, Bryan *et al*. 1998).

The technocratic approach regards SIA as a rational mechanism for assessing impacts. The task of the SIA practitioner is seen to be one of providing reasoned and dispassionate information to centralized decision-makers that operate in an environment in which politics are subordinated to technical analysis (Dietz 1987).

At the other extreme, the participatory approach to SIA has evolved from a desire to incorporate the actor's perspectives into SIA (Ross 1992, Howitt 1995). This approach views society and social goals as pluralistic and conflicting. Social reality is seen to be subjective, bounded and defined by social rules and meanings formed by the actors within it. The subjective perspective of all stakeholders is therefore regarded as intrinsic to the SIA process. As such, the SIA practitioner is seen as the facilitator rather than the arbitrator of knowledge, with the expertise located in the affected culture. With this prioritization given to subjective perspectives, the decision-making process in which SIA is situated is portrayed as value laden and political in character, with the ultimate determinant of action being a value choice (Craig 1990, Chase 1992).

In an attempt to avoid the weaknesses and build on the respective strengths of the extreme approaches, an *integrative* approach to SIA is advocated and increasingly utilised in SIA practice (Taylor *et al*. 1995, Vanclay 1999). Adopting a pragmatic stance to SIA, the integrative approach regards the two approaches as 'method types' or different ways of conducting social investigation, which may be appropriate to different kinds of research question and therefore capable of integration (Taylor *et al*. 1998). The weight of opinion favors a situation in which both community and expert opinion contribute to the criteria of significance and acceptability that underpin the impact assessment process.

Filer (1993) provides a compelling argument for the use of such multiple methods in monitoring social impacts when he discusses the need to integrate story telling into social monitoring programs at mining projects in Papua New Guinea. Local peoples perceptions and evaluation of the impacts they experience to their culture, emotional well-being, sense of control or dependency, etc. will be shared, he argues, not by answering survey questions but through the traditional practice of telling stories, jokes, gossip, myths, etc. The challenge is to help the company and the other actors/agencies understand the significance of the stories. Other impacts, related to the distribution of benefits, should be measured quantitatively.

Perhaps the strongest endorsement of the integrative approach, however, can be found in case study reports.

It is significant to note that the two most frequently cited cases in which SIA dramatically affected project development involved integrative SIAs. The first case is the aforementioned Berger Inquiry of 1974-8, into the likely impacts of a proposed gas pipeline through the Mackenzie Valley on the environment and the native communities of the region. This continues to be cited as *the case* where the findings of a SIA actually provided justification not to proceed with a project (Burdge & Vanclay 1995). The Inquiry used expert testimony and technocratic methods, while simultaneously representing the perspectives of native peoples using consultative approaches: he went out and listened to the communities. (Dietz 1987, Craig 1990):

> In this way we tried to have the best of both worlds: at the community hearings, the world of the everyday, where most witnesses spend their lives; and, at the formal hearings, the world of professionals, the specialists and the academics

(Berger 1983:387)

The implication for the inquiry, and SIA, was that the proposed pipeline project had to be evaluated not according to technical or value-free criteria, but rather in terms of the vision of the people whose communities it would affect. The question was better cast in terms of whether the project would help or hinder the realization of that vision. Where the technical model of SIA focused on economic well-being as measured by income and employment, the political model emphasized social well-being, self-determination, and the centrality of cultural values and social institutions (Usher 1993, cited in Henricksen, 1998).

The question remains in the case of the Berger Inquiry, as to what weight would the vision of the affected people have had at that time, if the economics of the project had been stronger?

The second case concerns an SIA of a proposed mine at Coronation Hill in the Northern Territories of Australia. Again, the SIA involved an integrative approach, 'designed to overcome many of the conceptual and methodological flaws observed in more traditional approaches' (Lane *et al*. 1997:302). According to Ross (1990) the approach recognized that:

> In predicting the potential impacts of forthcoming developments or policies, the people's own predictions, in the form of optimism and fears, are a significant component of people's behaviour and hence of the impacts. This does not diminish the role of experts or other informed outsiders in making analyses that a community might otherwise be unaware of, contributing technical knowledge and experience beyond that already possessed by a community

In their SIA, Lane et al (1990) and the Northern Land Council (NLC) concluded that the effect of mining at Coronation Hill would be too adverse for the Jawoyn Aborigines, especially those traditionally affiliated with the spiritual site at Coronation Hill. As a result,

Australia's federal cabinet voted against permitting the mineral development (Rickson *et al.* 1995). Reflecting on the assessment, Lane *et al.* (1997:302) conclude that:

> *…practitioners must remain mindful of the need to retain an essential core of technical SIA research, and find ways of integrating this with participatory and political components of the process*

Despite the rich case history experience, the ability of SIA to actually predict social impacts has been called into question (Muth & Lee 1986, Cochrane 1998). In the only systematic empirical investigation of performance to date, Macfarlane (1999) found that in a select group of case histories the integrative SIA was significantly better at predicting the direct and indirect social impacts that resulted from the project than were either the purely technocratic or participatory SIA.

4 SIA in the Mining Industry

4.1 Social Impacts of Mining

There are comprehensive discussions of social change processes and social impacts (Vanclay, 2000; Freudenburg, 1986, Appendix A). The following discussion focuses instead on analytical categories applied to impacts in SIAs, and a discussion of their usefulness. The intention is to demonstrate the range of potential impacts on communities and families by a mining project. What will not be done here is to break the impacts into project stages, but that is an important consideration, especially given the difficulty many mining industry people have in understanding that substantive social impacts can result from exploration or pre-development stage activities.

- the actual impacts experienced at a given project site will depend on a variety of factors. Some of the most important are:

- the pre-existing situation (baseline conditions),

- the process of community engagement and capacity-building,

- the design of the development process and mine,

- the role of governments, and

- the other processes of social change either already under way, or which may develop during the life of the mine.

Assessing Causation and Significance

Social impacts of mining have generally been assessed by two principal criteria: order of causation and measure of significance. Order of causation means how directly the project itself caused the impact (see Appendix A for fuller discussion). A common typology of causation is direct, indirect, induced, and cumulative in which:

- Direct impacts are due to a specific project related activity - resettlement, employment, road construction,

- Indirect impacts are due to actions resulting from direct impacts, such as increased income to carpenters as local employees improve their houses, and

- Induced impacts are those whose cause is several times removed from project actions, such as loss of access to land by poor local squatters due to land speculation.

The reason for assigning causation, while not usually explicitly defined, has to do with identifying responsibility for the mitigation of impacts. Those which are direct impacts can be addressed by specific actions, changes in or new policies, etc. There is a fairly direct causal relationship and therefore responsibility to manage the impacts. As the causation gets more distant, it is less clear how directly responsible a given project or activity is for that impact and its mitigation, and less clear how effective mitigation measures taken by one player would be.

Similarly, cumulative impacts are increasingly recognized as serious problems which lie somewhat outside of the regulatory framework. This is because they require consideration of the combined impacts of various projects, rather than the impacts of any specific project, which is usually subject to regulatory assessment on the basis of its own impacts only. There are few regulatory environments which require cumulative social impacts to be addressed. MacFarlane (see Appendix A) describes cumulative impacts as being particularly likely to develop only over time, and cites Acquah (1999) that the cumulative social impacts of mining tend to:

- Manifest themselves in alterations to the traditional social practice and core cultural identity of the community;

- Occur later in the project cycle than direct and indirect social impacts and;

- Be more irreversible than direct and indirect social impacts.

However cumulative impacts are also more likely to be influenced by other social change processes, independent from the mining activity, again making it difficult to identify the sources of social impacts, and by extension to apportion responsibility.

The measure of significance is the second, and most difficult/critical part of SIA. In this step, impacts are described in terms of their position on vectors such as the level of intensity of an impact, the directionality (positive or negative), the duration, and its geographic extension. Significance is necessarily defined on a project by project basis using professional judgement. How these judgements are made is determined by how the categories are defined, e.g. what constitutes a short, medium and long term impact, and why? This is where participation by locals should rightly inform an assessment through collection of data on what are impacts, and at what level impacts become significant *as defined by them*.

It seems likely that the typologies of causation and significance will remain the same in the future, but that the underlying logic in their use will shift - the nature of the effort will become more variable and responsive to local situations. It is likely that the criteria used to define what is significant, of how to identify significance of an impact, will be different in each project, determined by a combination of objective and subjective criteria and measured through a combination of quantitative and qualitative data collection methods. The question remains: Will these criteria in fact be locally defined, project by project?

A second shift that seems likely if SIA is to help projects meet sustainable development goals, is that cumulative impacts (impacts of various projects) become a shared responsibility of all actors and stakeholders, instead of one which by default is no one's. One can consider how a functional community would address a common threat, such as a flood. Rather than being a singular responsibility in legal terms, a collective response would be necessary as all stakeholders saw their common good at risk. The broader approach to addressing cumulative social change impacts would be necessary if enhanced future well being (durable net gains) were to become one of the outcomes sought for a project.

Closely related to cumulative impacts is the requirement to look at the relationship between predicted project impacts and background (independent) processes of social change and how they are exacerbated or perhaps mitigated/reduced by the proposed new activity. The same requirement would exist to develop shared responsibility for the resultant impacts.

4.2 Current Practice and the Need for Standards

In spite of the existence of a number of good guidelines on SIA, as detailed above, the reality is that in the world of applied practice, there is no widely recognized standard which is well known, referred to, and used consistently.[2] One of the most persistent problems with a lack of recognized standards is that none of the parties to the process are necessarily aware of what should be done for a responsible SIA in a given situation. Low expectations on the part of one party (government regulators, company, consultants) can result in reduced quality of a SIA.

4.3 Public Consultation and the Focus on Process

Public consultation has been traditionally understood as a fairly narrowly defined process of communicating to affected groups and the interested public about a project during the EIA process. By regulation, it has been applied as a formal process of integrating public input into an EIA/SIA process and identifying public concerns. It is also part of the data collection process for SIA. As work in the mining industry (amongst others) has evolved to address growing challenges, public consultation has come to mean a much broader activity of communicating, and engaging with, the communities of interest associated with a project.

Historically, the industry focussed exclusively on the need to succeed in the permitting process. Mine development plans were prepared together with accompanying EIA and SIA documentation, which supported the plan. This was disclosed to the local population, typically in an open house presentation at which people could ask questions. The proponent would have attempted to anticipate the questions and have prepared answers. There was no attempt or intention to change the plan to accommodate local suggestions, interests or concerns. This approach of decide, announce and defend is NOT consultation. Nevertheless, it remains a possible process in some jurisdictions and a popular ideal with some elements of the industry (Thomson and MacDonald, 2001).

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[2] It may be that such standards have emerged in other jurisdictions not as well known to the author (such as Australia), but if so they have not emerged as international standards.

In recent time, a significant number of projects have applied a more integrative process of consultation. In this the project design EIA and SIA are presented to project affected people and other stakeholders who are invited to ask questions and voice their concerns. The proponent then analyses these inputs and may modify the project to accommodate these ideas, needs or concerns. The proponent then returns to the community and stakeholders and presents the project again showing where changes have been made and explaining why other suggested modifications could not be made.

Industry best practice continues to evolve. The current model, employed by a few companies is to engage in a process of continuous dialog and consultation with the community and other stakeholders as plans for the project evolve and the EIA and SIA are prepared. A high level of interaction is maintained, community needs and concerns are discussed and wherever possible built into the mine development plan, SIA and EIA studies and documentation. Despite the effectiveness of this approach, it is not uniformly popular with industry because of a perceived loss of control over timing and costs (Thomson and MacDonald, 2001).

This expansion in the role and function of public consultation is very much parallel to the shift in SIA's role from a formal permitting process, to a management tool throughout the life cycle of a mine. In the same way, public consultation's role shifts from a regulatory requirement to part of a management strategy, which recognizes the need to pro-actively involve affected and interested parties into the project throughout its life cycle. Similarly, it becomes a tool for managing the social dimensions of mining projects from exploration all the way through to closure, and becomes intrinsic to all stages of a mine life cycle.

The development of the IFC's best practice guidelines on public consultation (IFC, 1998), provided the first widely accepted international standard for the development of a broader and more inclusive approach to public consultation. The manual emphasises that consultation is a two-way process of communication between a project sponsor and the public. The manual broke new ground in a number of ways, such as requiring thorough public consultation as part of the EIA process, beginning with the identification of issues to be included in the EIA studies based on public and stakeholder concerns (IFC, 1998). The IFC guidelines call for consultation to continue from project permitting through development and operational stages, however the main leverage to comply with the guidelines exists during the permitting and financing process. The guidelines, if applied as intended, represent a significant cultural shift for many companies, the most challenging aspects of which seem to be transparency and information access, and engaging stakeholders outside of those immediately affected.

What constitutes a truly consultative process is a matter of debate, however, and as a practice public consultation is evolving. Currently, one of the biggest debates is the extent to which consultation implies, or requires, some degree of shared decision-making. In some fields the term consultation specifically refers to processes for co-management, or shared decision-making (G.Gibson, pers.com., 2001). While mining companies are increasingly recognizing that communities and NGOs should be involved in defining mitigation measures or social/community development projects, sharing decision making on core management issues is not easily accepted. Regardless of the comfort level in companies, however,

communities and interest groups will not see consultation processes as valid unless and until they see that their concerns affect decisions about projects.

In discussing public consultation, the question that must be asked is why is the 'public' being consulted, and about what? Also, who should consult, who should engage? Who should pay for it and why? the answers to these latter questions are determined by the answer to the first – why is consultation being undertaken in the first place?

Good practice on public consultation requires the development of an understanding of the project-affected people, which in turn requires a broad understanding and a broad definition of who could be affected. Not only should affected groups be consulted with, but they should also have access to adequate information about the project, the studies and their results. The intention is to provide affected people with what they need to effectively participate in the identification of concerns, potential impacts, and appropriate mitigation measures. That requires clear information that is accessible to people, e.g. targeted to their understanding. It also means identifying when and where people may need additional assistance to adequately understand the topics or concerns under discussion. This may involve providing additional information to communities, giving them access to other points of view about the activities, or assisting them to bring in experts or consultants whom they trust.

A further component of best practice in consultation is the importance of full transparency about what stakeholders have said. It is important for credibility of the consultation process, and for the responsiveness of a project to its stakeholders, that all sides of the story be told fully and honestly when reporting on consultations. When opinion is negative, or mixed about a project or a specific activity, it needs to be reported that way. The practice of only reporting part of what is said, or comments by supporters, undermines the process as a whole, it's credibility, and its validity.

Practical experience has shown that there are significant additional benefits to good consultation. Perhaps the most important for a mining project is that the process helps foster genuine relationships with mutual respect, shared concerns and objectives between the company pursuing the development project and the community.

Social Acceptance

The extent to which their perceptions or degree of acceptance of the project are taken into consideration depends to some extent on the local regulatory environment. In reality there are few mechanisms or regulatory frameworks that formally require social acceptance of the project for it to proceed. Nevertheless, many jurisdictions (Peru for example) implicitly require acceptability by the affected population because of the volatile political implications of the lack of social acceptance. In these and many other circumstances, public consultation practices have been criticized for providing a false veneer of acceptability to a project, and for selectively consulting with those who approve of or seek direct benefits from a project. Not only is this poor consultation practice, but it becomes a negative social impact itself, part of a 'divide and conquer' image. When offers to negotiate economic or other benefits become part of consultations, they can create serious internal tensions within communities and

cultural groups, or exacerbate ones already existing. The long term ramifications of these, especially when the tensions tend to split generations, can be very serious and very negative for the social fabric of a community (Whitehead and Mamen, 2001).

4.4 Traditional Ecological Knowledge

The recognition of the value of traditional ecological knowledge (TEK) and its incorporation into EIAs is closely tied with the theory behind participatory methods and the validation of the knowledge and the perspectives of the local people.

Besides public consultation, the recognition of the value of traditional ecological knowledge (TEK) and it's importance in adequately predicting impacts has led to greater participation by traditional users of an area into the EIA process in some regions. The integration of TEK has become a de-facto part of the regulatory regime in Canada's north even in the absence of statutory requirements, much as Impact and Benefits Agreements (IBAs) with project-affected communities have become the norm.

There are emerging tensions over the use of TEK in EIAs, however, and what some First Nation people are calling the 'exploitation' of TEK by companies or consultants who apply the ecological knowledge outside of the spiritual and cultural context in which it was shared by elders or community members. An explanation provided by one First Nations group is that the TEK was shared in order to strengthen cultural preservation when in fact the elders have come to perceive that the sharing of TEK (required to be integrated into all EIAs for the permitting of new mines in their region), undermined their culture by assisting an accelerating process of project approval and development (Ronaghan, pers. Comm. 2001).

When used in the context of a mine, however, TEK holds the potential for improved accuracy in predicting the social and cultural impacts. It is an unparalleled source of information on beliefs and practices which may be affected by either direct activities or spin off ones, offering important clues to trained ethnographers as to how the social fabric of a community or society might be disturbed by a proposed activity. TEK can talk about impacts in the past and how they affected the community, allowing lessons to be applied on future impacts. If understood broadly as oral histories and not just ecological knowledge, then issues of ethics, morals, what happens to society and taboos as cultural change happens, may also be uncovered. (G. Gibson, pers. comm. 2001).

5 Challenges and Opportunities

While specific methodological problems are widespread and persistent, is not the intent of this paper to address them. Instead, the focus in this section will be to highlight problems in the application of SIA which undermine its usefulness both for the permitting stage as well as for management of impacts.

5.1 Process Problems

Measuring What Matters[3]

The first question to be asked about SIAs is whether they are in fact addressing, predicting, measuring, and mitigating, the social impacts of mining. In a background document on SIA prepared for the World Commission on Dams, Frank Vanclay (2000) makes the fundamental distinction between social change forces and agents which result from a project or intervention and place pressure on social systems, and the social impacts themselves, the results of the change process or pressures. Social impacts, in Vanclay's work, are qualitative in nature and difficult to measure or objectively evaluate. He argues that, as a consequence, what most SIAs measure are in fact simply the pressures on social systems, not the resulting impacts themselves. Thus the forced resettlement of 100 families is not a social impact but a change process. The social impacts are what happen to their networks, interactions, way of life, their sense of well-being (amongst other things) as a result of those forces of change (Vanclay, 2001).

The challenge in this conceptualization of what impacts actually are, is how to relate this back to the framework of environmental and social legislation, and legal obligations. It is easier to define where and when a physical process of resettlement and economic readjustment begins and ends, than it is to identify, or verify, that the social well-being of a community has re-established itself after the shocks and adjustments of reconstituting a community in a new location. And the difference is between what a company verifiably has done (met their commitments), and how the people feel about what was done for and to them.

Follow Through on Social Management

The SIA is generally still conducted as a once-off activity, a step in the permitting process. In the better cases, the identified mitigation measures are integrated into Environmental Management Plans (EMPs) or Systems (EMSs) but not always very well conceived or planned. Frequently the outcomes being sought are not well understood and as a result monitoring is poor in terms of how and what to measure, and how to evaluate the resulting information.

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[3] This language and the concept are drawn from the CSIRO document by Fiona Solomon, entitled "Counting What Counts: External verification of the Australian Mineral Industry Code of Environmental Management, 2000.

Perhaps even more problematic, given the difficulty of accurately predicting human behavior or social impacts, is that it is extremely rare for monitoring programmes to be set up to identify unanticipated social impacts in the affected communities, which would require further attention and, potentially, the development of additional mitigation measures. This requires a broad social monitoring approach which looks at the entire social system being affected, and addresses the impact of change processes both resulting from, and independent of a specific project, or mine. It is also important that monitoring and evaluation become more rigorous, such as creating a Social Management Plan (SMP) or Social Action Plan parallel to (or integrated into) the widely used Environmental Management Plan. The SMP would be developed directly from the social impact assessment and mitigation measures, and puts in place the systematic management systems to implement the process, with responsibilities, budgets, monitoring schedules, implementation plans, etc.

One mechanism to strengthen the management of social impacts is the application of performance based management systems, such as those increasingly used by development agencies, which start from the definition of clear goals and objectives, and set out to measure whether or not they have been attained.

Understand the Social and Cultural Context

Given the diversity of social and cultural situations into which mining is moving today, there is a strong case for conducting early social assessment (as the baseline component of SIA) and for evaluating how the intrusion of a new activity may influence the existing social, political, and economic dynamics. Without a serious look at these dimensions (in particular the politics), the company is flying blind. SIA can provide the eyes, but again, it is rarely used in that capacity because it is seen as an activity, a study undertaken for environmental permitting. So what aspects can catch a company unawares?

The credibility or trust in the government, its institutions and laws, as well as attitudes towards private and/or foreign capital, will affect a community's attitudes towards the process. If the government is not trusted, why would environmental laws have any credibility? If people have been promised things before by companies or politicians and have been disappointed, it is less likely that they will believe that benefits offered will actually be delivered.

All this is affected by traditional struggles, such as indigenous people for recognition, for land rights and titling, of marginal or minority people to protection or equal access to goods, by the degree, or absence, of integration into the formal political process or the monetary economy. How the government (various levels of it) responds or has responded, or what role they are able to play is determined by internal and external pressures or dynamics just as complex.

All of these factors, which play out differently at each site, or for different interest groups affected by one project, contribute to determining how people, and the groups to which they belong, will react to a potential project. Without an up-front understanding of the pre-

existing context, it is understandable that the actions and expectations of local groups would be difficult to comprehend.

5.2 Opportunities

One of the great shifts in the context for SIA is the emerging emphasis on enhancing the positive impacts of a project. This can be done both through adjustments internal to the project design as well as by planning additional measures such as Community Development Plans, or training programs. As with any intervention or activity, effective design and implementation are strengthened and focused through the use of SIA.

External to project operations, the vulnerabilities of local populations represent problems and risks. They can undermine other investments in development and community well-being, as well as the mine remaining a target for social dissatisfaction even if problems are not caused by the mining project. Identification of these vulnerabilities through SIA can help to put in place pro-active programs to reduce their vulnerability. For example, a mine can create impetus to resolve land use claims and provide incentive to formally recognise land users and resources can be provided by the project to title lands not directly impacted by the project either.

Participatory processes such as public consultation and the best practices of SIA and EIA have an additional, highly significant potential to assist change in many parts of the world. The act of involving people directly in information exchange and the decision making process has an empowering effect which, along with the capacity building, networking, informing, transparency and accountability that takes place, contribute to a strengthening of civil society and the democratic process. In developing countries and other states where democracy is weak, immature or illiberal, this can be a transforming experience for the communities involved.

5.2 Practical Concerns

Conflicts of Interests

In dealing with social, cultural and socio-economic issues there is the need to maintain objectivity and avoid bias. There are real and perceived difficulties with achieving this under the current procedures for conducting SIA and EIA and the immediate potential for three levels of conflict of interest:

- The SIA is invariably carried out by consultants who are retained to work on behalf of, and by implication act in the interests of, their client – the company proposing the project;

- The company is potentially in conflict by preparing the studies to support it's proposal for a mine development, and

- The State is in conflict by being the owner of the resource, the proponent and beneficiary of resource development, and also the regulator.

While these conflicts can and often are managed satisfactorily, they have emerged as highly significant issues in countries where there are weak institutions or long standing tensions over resource development. Peru is currently the scene of vigorous debate over the credibility of SIA and EIA because of these conflict of interest issues.

Timing of SIAS

SIAs are almost exclusively commissioned and financed by the proponent, after considerable investment in proving the technical viability of the mineral deposit. Moreover, they are carried out with the objective of getting a project permitted and so are conducted relatively late, after lengthy exploration and feasibility work has taken place on the ground which will have already created some social impacts. Rarely do companies do baseline studies during early exploration, which is arguably when a true 'pre-impact' social environment exists. Doing it later has different consequences depending on whether the company has created good or bad will along the way. Currently there are no regulatory requirements for early baseline data collection and there are very few known instances where such pro-active investigations have in fact been carried out.

Social research, consultation, and capacity building take time, and seldom are SIA's conducted with a time frame adequate for gathering cultural and social data adequately.

Why Are They Done?

Within the industry, the motivation for carrying out SIA is changing rapidly from simple compliance with regulatory requirements to a broader accommodation of corporate and social objectives. The following are important drivers:

- To meet the regulatory requirements for EIA and permitting. This remains a prime reason for SIA.

- To obtain project financing and/or insurance. Financing and/or underwriting of mine development projects by the World Bank Group (IFC and/or MIGA) is contingent on demonstrating that there are adequate social safeguards, relevant social management and development plans, and the risk of social disruption is under control; factors that are consequent on SIA. Other finance and insurance institutions are now following the same pattern as a means of managing the social risk side of loans.

- As a pragmatic response. A number of companies have learned by hard experience that any failure to understand and address the social impacts of mining can result in real problems. They do not want to caught napping and conduct SIA as a pre-emptive management strategy.

- In an attempt to apply sustainable development policies or guidelines. Leading industry practice is to apply SIA as a management tool which goes beyond the recognition and mitigation of impacts to identify opportunities for creating net benefits and mechanisms for achieving them.

Verification

Due diligence investigations on the outcomes of SIA are few and far between. It is essentially unknown for the state to review project social impacts after giving approvals. With the exception of the World Bank Group -IFC and MIGA - (which have recently taken on specialist personnel), few of the financial institutions that are asking for SIA, social management and development plans have any social staff. If they do, they have a very limited number and are often dependent on outside consultants to carry out audits and reviews. The World Bank Group require annual monitoring reports and supervision missions, a level of accountability that is being progressively adopted by other institutions.

In the absence of regulatory requirements for reviews and audits and a perceived weakness in the capacity of the financial institutions, there has been increasing action by NGO groups to act as watchdogs and fulfil this role (see the website of Oxfam America and others).

Biased Assumptions And Methodologies

A profound characteristic of resource companies is that they hold a clear moral and ethical imperative to create industrial development (Berger, 1983). With this imperative comes a focus on economic well being as measured by income, employment and material benefits. Such a preconception leads to assumptions of what development should look like that often persist into the terms of reference for SIA studies commissioned by the companies. The result can be an SIA that is biased towards economic indicators rather than social and/or cultural well being, often applying a template of potential project impacts as might occur in a developed, fully monetarized and technologically modern economy. In the case of traditional or indigenous societies, the SIA can become grossly mismatched to the reality of the people impacted by the development. It in this context that Freudenburg (1986:470) remarks that:

> One scarcely needs to be a sociologist to know that people rarely attempt or commit suicide because of inadequate sewage treatment facilities yet recognition of that fact in EISs has at times been painfully slow.

Professional Ethics

Practitioners trained in social science must be involved in the design and management of SIA, and research ethics should be applied to the data collection. A critical ethical consideration is transparency, which means:

- The investigator can not lie or obscure the reason for the collection of social data;

- People must be told why the data is being collected, for whom it is being collected, and how it will be used;

- Consent must be obtained in culturally appropriate ways - often done at community meetings or similar public forum; and

- Data collection from the communities creates an ethical obligation to provide the data and the results back to the community. This involves not only a check by the

community on the correctness or truthfulness with which their information was used, but also acknowledges that they are the authors of the information.[4]

A natural benefit of this practice is that it builds knowledge and understanding within the community about the work.

Regrettably, there remain instances where consultants are pressured to not reveal the identity of clients or the reasons for studies. More commonly, deficiencies arise from the speed at which SIAs are expected to be delivered, and a consequent failure to recognize cultural sensitivities such as how much time is required for consultation with communities, how decision-making operates, etc.

There are important ethical considerations involved in the use of Traditional Ecological Knowledge or types of cultural and spiritual knowledge. The sharing of such information often involves a trust, a commitment to honor the information or the bigger picture out of which it came. There are currently conflicts emerging about the use of the environmental parts of TEK when the spiritual context for that knowledge is ignored and left out of the reports; a situation which is seen by the traditional authors/owners of the information as a selective, unethical exploitation of their ecological knowledge.

Where is the State, and the Regulators, in the Discussion?

Mention has already been made of the conflict that exists for the State as both owner and regulator of mineral resource development. In the developed world there are, for the most part, legal and political structures that minimize the risk of these conflicts surfacing as actual events. From a practical point of view, however, the situation becomes extremely difficult, as in the case of some developing countries, where the people who staff or run the state or are responsible state institutions, are also member of a ruling elite that is:

- Promoting a model of foreign investment-export based development that is opposed by local people in the project area;

- Hold an interest in corporate entities that will benefit from the proposed development; or

- Stand to gain political advantage from the development in a manner that disadvantages the local population.

These are questions that bridge conflict of interest and political interests and are complex, dynamic and problematic, raising further significant ethical and political questions. They are however real.

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[4] This can be problematic for the independence of studies, however, particularly in highly politicized environments, and raises concerns about the difficulty of obtaining unbiased social data when conflict and/or political struggles exist.

6 The Way Forward

Based on personal experience in the field, and drawing on the materials, reviewers, and practitioners consulted in the preparation of this background report, the following challenges and opportunities exist for developing SIA into a more effective tool for enhancing the sustainable development aspects of mining projects. The increased effectiveness is important for increased efficiency (time, resources, money) in addressing social impacts, the improved understanding and management of social aspects of mine development, as well as for the promotion of Sustainable Development goals through mining industry activities.

6.1 Procedural Aspects

To more certainly contribute to the objectives of sustainable development, SIA needs to be strengthened and augmented in various ways.

Foremost, there is urgent need for the identification of best practice principles for SIA in the mining industry, emphasizing full life cycle approach and SIA as a management tool throughout that cycle.. Existing models have been adopted on a scattered, ad-hoc basis and the absence of any commonly accepted standard for SIA has become a limiting factor. It is suggested that the experience of applied practitioners is the most credible base for the development of such guidance. Furthermore, there is an opportunity here for industry to show leadership in developing and adopting such standards for SIA, which might then become accepted in the various regulatory regimes where the companies are active.

These guidelines should themselves include consideration of such process elements as:

- The SIA should gather information on the capacity of the key parties to participate in a development process, and creation of such capacity should be a first order outcome, or parallel process to conducting baseline studies. At present there is a general absence of relevant capacity in companies, in governments, in communities, and in civil society. While there is a logical role for the company in funding capacity building, it also falls to the State, which is promoting resource development to educate and train its population, to participate in the process.

- Social baseline assessments need to look at the dynamics of the change processes already underway in communities and cultural groups and, as discussed by Filer (1993) clearly differentiate social change which is NOT driven by the project/mine.

- Recognize the requirement of meeting the obligations of respect and transparency, which are generally agreed to be necessary to contributing to sustainable development processes.

- Achieve effective integration of qualitative and quantitative approaches. As part of this there is a need to address the validation of the qualitative material collected in the form of oral histories, story telling as knowledge and communication. The application of multiple methodologies will be necessary to accommodate the layering of kinds of information, and objective balance is needed to avoid the common bias of giving preference to technical data-driven information over human experience. The validation

of these sources of information poses significant methodological challenges, as detailed by Filer (1993).

- Take advantage of the opportunity provided by SIA to plan how a mineral development project can best support sustainable development and the *community's* vision of their future. With appropriate forethought, all aspects of the SIA, from data collection through to design of monitoring and evaluation strategies, can be directed at three aspects:
  - building the capacity of communities to define and achieve their vision of their future,
  - the delivery of effective net benefits, at the same time as
  - mitigating specific negative impacts to identified populations.

6.2 Policy Considerations

SIA, Sustainable Development and Public Policy

The dynamic and evolving nature of SIA provides an opportunity to strengthen its application in a policy-making role and, again, there is the potential for industry to provide leadership in any move towards sustainable development. In approaching this discussion, it is important to recognize that decisions about resource development and the acceptable costs, or trade-offs, are fundamentally political decisions. They are also crucial elements of public policy and beg the further question: Based on what VALUE system are these decisions made? Embracing sustainable development requires a major rethinking of the value base for making decisions, who gets to make them, and thus who's values will hold sway?

SIA, like EIA, provides information into a decision making process. The decisions are made within the framework of values provided by the political public policy regime and would normally be expected to reflect the current norms expected by society. If these public policy positions, the norms, have already been established in favor of developing the resource, as is the case in most developing countries, than the role of SIA is limited to properly identifying the winners and losers, the acceptable outcomes, and to develop the required measures to mitigate negative impacts and enhance the positive. If on the other hand the public policy is flexible enough, than the results, the findings of SIA can feed into the decision-making process, inform public policy, and shape the determination of the norms to be applied in that case.

Sustainable development presents a more open-ended situation that is much more challenging, and for which many regulatory regimes in the developing world are poorly prepared. For example, mining is often given a greater right than other land use activities on the basis of its economic significance to governments. If the mining industry is to make a meaningful contribution to sustainable development, it will have to be prepared to demonstrate how some of these value based, and inherently political decisions, can be made. SIA can provide information, it can not make the political decisions that must be made in order to weigh alternate values. More particularly, if the political framework for decision making is open, the question becomes one of how to weigh the relative merit of conflicting

values and stories about what is "good". The SIA then informs a decision making process which does not "know", at the outset, whether the project is appropriate or not. The information needs of such a process are profoundly different form the former case.

Moving to sustainable development thus raises more questions than answers in terms of when decisions should be made and how the balance of power or moral suasion changes between parties changes as a project progresses. It also begs the need for appropriate methodologies of information acquisition and presentation and a move from SIA to Sustainable Development Assessment. It also reveals the need for profound public policy discussions, which, of necessity, must involve governments.

Industry could usefully provoke such a discussion as a continuation of the MMSD process.

Can SIA Become a Meaningful Tool for Sustainable Development Planning?

Attention has already been given to the need for capacity building, cooperative strategic planning and the importance of communities defining their own visions forward. All are believed to enhance the potential to achieve sustainable development. It is reasonable to ask,

> To what extent has it worked so far?

Mining industry experience is relatively limited with only a few years of practical applications, and could be best described as "evolving". Nevertheless, early indicators are reasonably positive. Programs at a number of mining operations are meeting at least a minimum level of expectations, particularly those put in place in the last three years. Examples include the Antamina development in Peru and the Ekati and Diavik projects in Canada. However, there are other outcomes than the strictly empirical accuracy of development statistics, notably the transformational role of methodologies, which should reflect on future SIA procedures.

Beyond their informational contribution, a key value often attached to participatory methods is their ability to imbue actors with a sense of control over project development, and to engage them in project learning. This can mitigate anxiety, a social impact that is being recognized as increasingly significant. Perhaps more importantly, these methods may strengthen democratic and civil society processes in regions in which these are weak or in their infancy. Recent experience in Peru has confirmed these attributes (G. Gibson, I. Thomson, pers. comm.).

The Question of Equity

Historically, discussion of benefits has been dominated by the development paradigm, which stresses economic and other material gains. There have been exceptions, as discussed above, and the move to sustainable development is encouraging a more holistic consideration of what constitutes a benefit. Of particular consequence is the impact of economic wealth on community structures. Filer (1993) points to the way in which the arrival of new wealth from mines in New Guinea has created new elites and power structures, poverty and marginalized groups, destroying long standing relationships and provoking social stress. Clearly, not all cultures deal with wealth accumulation and

stratification well and many do not value material benefits in the same way as does the developed world. Such cultural characteristics must be incorporated into SIA, the future seen through the eyes of the people impacted by development and decisions made based on their ideas of equitable benefit.

There is an explicit tension in sustainable development around the issue of poverty. In the absence of basic needs of some groups being met, there can be no argument that sustainable development is taking place.. As required by the development banks, SIA for sustainable development must identify and protect the interests of the most vulnerable groups; the poor, the marginalized. These populations, small or large, have traditionally been the ones who carried a disproportionate amount of the cost of projects - the subtle, unanticipated costs such as surges in land values, inflation in basic goods, etc. Such safeguard guidelines are already in place in the social policies of most of the financial institutions, but are frequently not incorporated into SIA data collection and analysis, especially if the IFIs are not involved.

Should SIAs Be Managed Within a Multi-Stakeholder Framework?

Moving to an inclusive SIA process will address one of the major issues around mine development, which is disparities in power. Inclusive, multi-stakeholder processes run by independent parties will reduce the power differential between the company and the community and similarly avoid the sense of hopelessness felt by many communities when confronted by the potential for change induced by large, powerful external companies.

Two existing models are:

- The Development Forum in PNG (Filer); and

- The Community Advisory Committee, currently used in a more restricted way for communication and participation.

Either model could be adapted to build the vision of the mine as part of the community.

Russo (1999) proposes the need for collaborative environmental assessment (COEA) in which an assessment team is composed of project regulators, lenders, developers, NGO's, members of the community and other stakeholders. The team would ultimately prepare an environmental and social impact assessment that could be supported by the majority of participants. They would also share the responsibility for the mitigation and monitoring needed to avoid significant adverse or unexpected social impacts. However, while it is important to involve all stakeholders in the assessment, it is those at the project level that must be particularly well targeted. According to Oakley *et al* (1998: 38):

> If project level stakeholders are not directly involved in understanding and explaining effect and impact, then efforts to evaluate social development will be futile.

Community advisory committees (CACs) are an increasingly popular mechanism for allowing the communication of stakeholder issues in project assessment and decision-making. They traditionally involve the appointment of local actors (NGO directors, village chiefs, district officers etc.) to represent the interests and concerns of the public to project

proponents and assessors. CACs can provide a good mechanism for continued public involvement in project assessment, allow project proponents to communicate with a representative group rather than whole communities, and provide for public participation in decision-making (Petts 1999). They can also become the basis for a longer-term relationship as the vehicle for communications and participation throughout the life of a mine. However, care must be taken to ensure that the members of the CACs are genuinely representative of the community and that their views are properly accounted for and acted on in project assessment and planning.

6.3 The Shifting Expectations Towards SIA (and EIA)

In a recent paper, Robert Gibson (2000) identifies a significant shift underway in the way that projects may be reviewed under the Canadian Environmental Assessment Act (CEAA). Gibson argues that CEAA has generally been interpreted as requiring proponents and responsible authorities to show that the proposed project will have no significant adverse environmental (and social) effects. The emphasis, consistent with most environmental regulatory frameworks, is on avoiding or mitigating serious negative effects.

Gibson looks at two recent Environmental Review Panels, operating under provisions of the CEAA: the Voisey's Bay Mine project and the Redhill Creek Expressway[5]. In providing guidelines for environmental impact statements under the Canadian Environmental Asssessment Act, the Panels have required the project proponents to provide evidence that their undertakings will make positive contributions to sustainability and respect the precautionary principle. A third and more recent case, the Tulsequah Chief Mine project (Hodge, 2001), can be added to that list. At least on the face of things, this "positive contribution to sustainability" criterion is substantially different from the "mitigation of significant adverse environmental effects" criterion that has been the focus of most assessments under CEAA.

> Applied to environmental assessment, a commitment to sustainability implies requiring proponents to go beyond minimizing damage – they are to make positive contributions to improving ecological and community conditions for the long term. A sustainability objective in environmental assessment implies that undertakings should maximize durable net gains.

Gibson, 2000.

There seems to be a substantial difference between the
   minimal or justified damage
and
   maximum desirable net gains
approaches. Gibson stated that the minimal or justified damage interpretation of CEAA requirements remained the dominant one under CEAA, in spite of the two cases he mentions that apply what he calls "a higher test" to project approval decisions. In the case of

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[5] Voisey's Bay Mine Project and the Redhill Creek Expressway Project are the basis for Gibson's discussion of the shift. The Tulsequah Chief Mine Project has taken the process one step further. Information on the significance of the Tulsequah Chief Mine Project panel decision was provided by Anthony Hodge.

the Tulsequah Chief panel, approval of the project was overturned on the grounds that significant social and environmental aspects – specifically the environmental interests, economic and social well being of the local first nations community - had not been considered in terms of sustainability. (Hodge, 2001).

To conclude, the potential for SIA to contribute to sustainable development goals is there, and has been there since the practice of SIA began. The question is how we chose to frame the decision-making process once the facts, and the professional knowledge, are available. The findings of the Berger Inquiry were repeated recently (Henricksen, 1998) at the Voisey's Bay Hearings, and continue to point to the central role of SIA in meeting the challenge of sustainable development:

> The implication for the inquiry, and SIA [Social Impact Assessment], was that the proposed pipeline project had to be evaluated not according to technical or value-free criteria, but rather in terms of the vision of the people whose communities it would affect. The question was better cast in terms of whether the project would help or hinder the realization of that vision (Usher 1978). Where the technical model of SIA focused on economic well-being as measured by income and employment, the political model emphasized social well-being, self-determination, and the centrality of cultural values and social institutions.

> (Usher 1993: 112).

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