DIAMONDS IN CANADA'S NORTH: A LESSON IN MEASURING SOCIO-ECONOMIC IMPACTS ON WELL-BEING

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ABSTRACT / RÉSUMÉ

This paper reviews efforts made in the North West Territories to measure socio-economic impacts of diamond mining. It critically compares the more traditional forms of measurement, which use readily available statistical sources to track socio-economic impacts and trends, to a community based monitoring projects – the West Kitikmeot/Slave Study – that is based in traditional knowledge and reviews community health among other issues. The hope is that this critical comparison will help in identifying the advantages and disadvantages of these two very difference methods of measurement which may eventually lead to a hybridized means of simultaneously measuring economic impacts as well as cultural and community well-bring.

Cet article examine les efforts déployés dans les Territoires du Nord-Ouest pour mesurer les répercussions socioéconomiques de l'exploitation des mines de diamants. Les auteurs font une comparaison critique des formes de mesure les plus traditionnelles, qui utilisent des sources de statistiques facilement accessibles pour suivre les répercussions et les tendances socioéconomiques, à des projets communautaires de surveillance _ l'Étude des provinces du Kitikmeot Ouest et des Esclaves, fondée sur le savoir traditionnel, et examine la question de la santé communautaire, entre autres. Les auteurs espèrent que cette comparaison critique aidera à déterminer les avantages et les désavantages de ces deux méthodes de mesure très différentes, qui pourraient mener finalement à un moyen hybride de mesurer simultanément les répercussions économiques ainsi que le bien-être culturel et communautaire.

INTRODUCTION

Diamonds are a government's best friend. Or so it would seem when one reads the various socio-economic reports prepared by the three mining companies active in the Northwest Territories (NWT): De Beers (Snap Lake), BHP Billiton (Ekati), and Diavik. This impression is reinforced by the Government of the Northwest Territories' (GNWT) own "Diamond Facts" (2006b), supported by Statistics Canada's analysis (2004) and the GNWT's "Benefit Cost Analysis" (2006a). These documents invariably paint a picture of an industry performing at a stellar level.

Impacts on local Aboriginal communities are a key component of these documents. Each reports on conventional measures of employment and targets of hiring northerners and Aboriginal persons and person years, as well as employment benefits (e.g., literacy programs, apprenticeship/training and career development opportunities), business opportunities/spending, purchasing statistics, capital operating and social investments (BHP Bilton 2007; De Beers 2006; Diavik 2007).

The GNWT "Diamond Facts" adds information on such items as its regulatory and economic development responsibilities and the economic scope of the industry, including value added opportunities. The GNWT also produces an annual publication called "Communities and Diamonds" (most recent is from 2006). This report, a requirement under socio-economic agreements made with the three diamond mining companies, goes beyond employment and spending to focus on well-being at the community, family and individual levels, cultural well-being and traditional economy, the non-traditional economy and the net effect on government. An overarching goal of all of these reports is to use readily available statistical sources to track socio-economic impacts and trends.

The Community Based Monitoring Project of the West Kitikmeot/Slave Study (WKSS), in contrast, represents a multi-year, multi-stakeholder funded initiative designed to track changes in the communities' health from the communities' own perspectives and understandings. This article reviews these efforts to measure socio-economic impacts from NWT diamond mines in the hope of identifying advantages and disadvantages of two very different methods.

A CRITICAL ANALYSIS OF MONITORING METHOD

The general impression from the "Communities and Diamonds" reports is that small local communities - those most impacted by the mines - have experienced relative improvement in economic terms since mining activity began. Communities have also seen an increase in rates of indicators associated with social and family dysfunction such as lone-parent families and children receiving services (see Table 1). However, little of either of these changes can be directly attributed to diamond mining. Even in those few instances where rates and trends for small local communities differ from remaining NWT communities, it is not possible to attribute these differences solely to impact from the mine; in fact, it is not at all clear that the measures permit a rigorous assessment of the impacts to community, family and individual well being, except as measured in very conventional, economic terms. This is because the data is primarily drawn from existing sources rather than being specifically gathered for monitoring purposes in relation to the mines.

Understanding the impacts of diamond mining on Northern Aboriginal communities requires an appreciation of the complex, highly inter-related nature of cultural, social, economic and environmental dynamics. These communities are characterized by traditional, mixed and wage economies; consequently, many of the indicators employed, while still necessary, maybe insufficient to measure economic activity and growth. Moreover, roles and responsibilities for action in response to fluctuations in these indicators are weakly defined. There appears to be no mechanism established to analyze and respond to impacts on Aboriginal community well-being based on community values, needs and visions. In this sense, there is a perceived lack of control for the communities involved as well as non-participation and poor governance opportunities.

Gibson and Klinck (2006) have observed that the impacts of mining in the NWT is an under researched area. However, they point to related studies of the impacts of mining in similar situations that are useful for predicting negative impacts. For instance, jobs in mines create significant mental stress, anxiety and exhaustion; there are also significant risks of increased substance abuse, gambling, prostitution and HIV/AIDs and STDs, contributing to increases in various adverse health effects, child neglect, family conflict and dissolution.

There is tension between the local communities' culturally driven approach to land use and sustainable economies and the Eurocentric, capitalistic values and institutions directing resource extraction (Rattle 2008). Citing a 2002 report by the North Slave Lake Métis Association, Gibson and Klinck note that 71% of mine workers are spending less time on the land and, thus, are unable to learn or transmit traditional skills and ecological knowledge to younger generations. Fumoleau (1975) shows that adopting a wage-based labour system results in a cultural orientation towards greater individualism, which is antithetical to Aboriginal values (North Slave Métis Association 2002) and collective responsibility. Increased individualism can also affect social networks (Littlebear 2000) including extended families and communities, which has implications in terms of family support for raising children. The GNWT's own "Communities and Diamonds" (2006b) notes trends of increasing violent crime in Yellowknife, increasing instances of reported STDs, increasing instances of single parent families and children receiving services in small local communities and a reduced proportion of high income earners. Bielawski noted that cultural activities had been cancelled due to a lack of drummers, many of whom had been denied cultural leave by BHP (2003).

There are also potential gender inequity issues in a predominantly male based industry. The "Communities and Diamonds" reports include indicators of teen births and women and children using shelters, single-parent families and spousal assault complaints. However, there is no generalised gender disaggregation of data for a better understanding of how the impacts from mining activity may be felt differently by women and men. Finally, Wilkinson and Marmot (1999) show how mining activities stratify

TABLE 1: Selected SEMA results trends tables

INDICATOR	COMPANY PREDICTED TRENDS			GNWT OBSERVED TREND	
	BHP	DIAVIK	DE BEERS	SMALL LOCAL COMMUNITIES	YELLOWKNIFE
Years lost (early death)	Up	Up	Down	Down	No change
Injuries	Up	Up	Down	No change	Down
Suicides	No change	No change	Up	No change	No change
Sexually Transmitted Diseases	No change	Up	Up	Up	Up
Teen births	No change	No change	Up	Down	No change
Single parent families	Up	No change	Up	Up	No change
Children receiving services	Up	Up	No change	Up	No change
Family Violence	Up	Up	Up	No change	No change
Crime	Up	Up	Up	No change	Up
Violent Crimes	Up	Up	Up	No change	Up
Property Crimes	Up	Up	Up	Down	No change
Federal statute crimes	Up	Up	Up	Up	No change
Housing (ownership/sharing)	Up	UP	UP	No change	Up
Crowding	Down	Down	Down	Down	No Change
Core need	Down	Down	Down	Down	Up
Home language use to mother tongue	Down	Down	Down	No change	Down
Workforce aged engaged in traditional activities: Trapping	Down	Down	No change	Up	No change
Hunting and fishing	Down	Up	No change	Up	Down
Non-traditional economy: Average income	Up	Up	Up	Up	Up
Proportion of high income earners	Up	Up	Up	Down	Down
Income assistance cases	Down	Down	Down	Down	Down
Employment rate	Up	Up	Up	Up	No Change
Unemployment rate	Down	Down	Down	Down	No change
Participation Rate	Up	Up	Up	No change	No Change
Education: High school completion	Up	Up	Up	Up	Up
Less than grade 9	Down	Down	Down	Down	Down
Sustainable development: Secondary industry	No Change	No Change	No Change	No Change	No Change

Source: GNWT (2006)

communities into "haves" and "have-nots". These are just some of the potential negative impacts mining can bring Aboriginal communities.

It needs to be acknowledged that for all the challenges brought to bear, diamond mining also brings tangible benefits, including GDP growth, opportunities for increased employment and income, training and education as well as business growth. Moreover, the "Communities and Diamonds" (2006b) report shows progress with respect to housing (e.g., increased availability and reduced crowding), non-traditional economies, income assistance, educational attainment, early deaths and so on. However, some of this enthusiasm has been tempered in recognition of the economic costs associated with secondary industries (GNWT 2006a) – while the diamond industry accounts for over 50% of the NWT GDP, development of secondary industries have come at considerable costs to the GNWT and with that comes significant financial risk. It is further worth noting in this context that empirical and applied research demonstrates that human well-being diverges

significantly from GDP per capita beyond a relatively modest income level (Max-Neef 1995; Coleman 2001; Young and Einarsson 2004).

Overall, the image provided by reports based on conventional measures and relying on preexisting data is one of tension between the apparent successes of the NWT diamond industry and the potential weakening of other indicators for community and individual well-being. Is this satisfactory? We know that well-being in the Aboriginal context is closely related to health and the integrity of the eco-system. One conclusion, therefore, might be that reporting should seek to go beyond simple economic cost-benefit analysis and apply instead a holistic approach that clearly links complex interrelationships of social, economic, political and cultural determinants to the natural environment. It could also take into account the aspirations of the affected communities. Aboriginal values and practices reflect this: when elders speak of important issues or indicators identified by the community, they do not speak of them in isolation from one another.

Following this observation, there are certain inherent weaknesses in the aforementioned socio-economic monitoring agreements (SEMAs) that should be addressed. First, they generally appear to incorporate a limited scope of effects primarily related to economic impacts on social engagement – jobs, income, training, and education, business opportunities and development as well as capacity development. Second, while cultural and community well-being are included in most cases, they are based on fewer indicators for which opportunities to assess progress and identify mitigative measures are constrained relative to economic indicators

Later SEMAs have improved on such shortcomings. However there remains a significant lack of indicator disaggregation to allow monitoring of the details of community well-being at the individual community level. Further, all small communities located close to the mines are aggregated together and compared to Yellowknife and the rest of the NWT; hence, it is not possible to determine how any single community is faring in comparison to the other local communities let alone with Yellowknife, the rest of the NWT or the rest of Canada. Overall, the data continue to show stellar performance on indicators related to jobs and employment, health service results and income. However, the evidence is inconclusive on cultural well-being and overall quality of life changes. The socio-economic indicators being used remain aligned with Eurocentric measurement approaches, which mean that they are crude instruments at best for determining the effect of diamond mining on community and cultural well-being.

A radically different approach to measuring well-being was taken by the Community Based Monitoring Project of the WKSS. Researchers worked with the community of Lutzel K'e on a traditional knowledge study of community health to develop a set of indicators, measure trends over time using regular surveys of community members and create a community based monitoring system and toolkit that could be used by other affected communities. The most recent incarnation of this project, termed "Watching the Land" (2005), continues to monitor indicators developed in the earlier analysis, including both environmental and socio-economic components. It concludes that Chipewyan language use and traditional skills are rapidly declining among youth and that few individuals take part in traditional cultural activities.

The WKSS seeks to provide a deeper understanding of the social impacts on Aboriginal communities than could be hoped from pre-existing, usually inadequate, data sources. However, it is more expensive to develop and maintain and more onerous on the community. "Watching the Land" (WKSS 2005) for example, contains a long litany of data gathering and interpretation problems related to funding, capacity and staff training and turnover. This type of analysis, which reflects the shared values internal to a given community, also suffers from a lack of comparable data with other communities.

The confines of this form of monitoring are also reflected by the limited objective of providing the community with the tools necessary to take whatever corrective measures that are within its power related to changes brought about by the diamond mines. This is a laudable goal and a necessary coping mechanism for the community. There is much that industry and governments can also learn from such an alternative methodology.

CONCLUSION

Based on this discussion, we conclude that the existing monitoring function of SEMAs is in need of enhancement. Specifically, we believe there is need for improved integration of existing monitoring methods as well as better indicators, greater disaggregation and more advanced analysis (see also Rattle 2008). One key challenge: the reports point to economic growth as evidence of progress but fail to situate economic growth within the broader context of community well-being, which is bothersome since these same reports reveal limited connection between economic growth and community well-being. In contrast, there is significant evidence that, where cultures depend on the environment for their spiritual, physical, social and cultural well-being, those elements of well-being are often negatively impacted by local and regional economic growth.

What is ultimately required is a socio-economic monitoring system that is neither limited to conventional measures of economic well-being nor reliant on existing data sources. A system is required that takes Aboriginal interests into consideration and is able to measure direct

social impacts from a community's own observations. Ellen Bielawski (2003) offers a number of recommendations in *Rouge Diamonds*, including ensuring sufficient on-the-ground support for environmental, health and cultural monitoring. Such a system would recognize that the communities in question have wage, mixed and traditional economies; that wage economy measures ignore the contribution of traditional practices to Aboriginal community well-being; and, that a growing body of evidence shows that income, beyond a certain level, does not necessarily correlate with improved well-being.

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