

# Journal of Rural and Community Development

## Natural Resource Exploration and Extraction in Northern Canada: Intersections with Community Cohesion and Social Welfare

**Authors:** Prescott C. Ensign, Audrey R. Giles, & Jacquelyn Oncescu

**Citation:**

Ensign, P. C., Giles, A. R., & Oncescu, J. (2014). Natural resource exploration and extraction in Northern Canada: Intersections with community cohesion and social welfare. *Journal of Rural and Community Development*, 9(1), 112-133.



**BRANDON  
UNIVERSITY**  
Founded 1899

**Publisher:**

Rural Development Institute, Brandon University.

**Editor:**

Dr. Doug Ramsey



**Open Access Policy:**

This journal provides open access to all of its content on the principle that making research freely available to the public supports a greater global exchange of knowledge. Such access is associated with increased readership and increased citation of an author's work.

# **Natural Resource Exploration and Extraction in Northern Canada: Intersections with Community Cohesion and Social Welfare**

**Prescott C. Ensign**

School of Business and Economics  
Wilfrid Laurier University  
[ensign@wlu.ca](mailto:ensign@wlu.ca)

**Audrey R. Giles**

School of Human Kinetics  
University of Ottawa  
[audrey.giles@uottawa.ca](mailto:audrey.giles@uottawa.ca)

**Jacquelyn Oncescu**

Faculty of Kinesiology and Recreation Management  
University of Manitoba  
[jacquelyn.oncescu@umanitoba.ca](mailto:jacquelyn.oncescu@umanitoba.ca)

## **Abstract**

This paper examines the role that the search for and removal of non-renewable fossil fuels plays in northern, often Aboriginal, communities in Canada. Such settlements at the social, political, and geographic “periphery” or “frontier” of Canada are often characterized by transient populations and social welfare challenges. While the economic boom brought about by oil and gas development is undeniable, it is unevenly spread. Further, communities that would otherwise be facing sizable challenges now must address even greater and more urgent struggles. These rural and remote settlements have drawn strength from their social cohesion, but presently, the strain is heightened. Insiders may be at odds with outsiders; one generation may be divided against the generation before and after it. Environmental concerns and traditional culture may be displaced by competing interests. In this paper we provide an overview of the existing and proposed extraction of non-renewable natural resources in several parts of northern Canada and examine their economic impact, but also their social impact. In particular, we focus on their ramifications in terms of community cohesion in general and on Aboriginal communities more specifically.

Keywords: Canada, north, Aboriginal, community cohesion, social welfare, economic development

---

## **1.0 Introduction**

Canada has considerable natural resources, many of which are located at the periphery of human settlement. The various minerals, materials, and gases are spread wide and far; nevertheless, access to this bounty is growing due to advancing harvesting technologies and ever increasing global energy demand and rising fuel prices. While consensus holds that there is little reason to curtail natural resource collection for monetary gain, the benefits are frequently called into question in the

name of social and environmental costs. Indeed, there exists what Banta (2006, p. A19) described as the natural resource curse:

Oil or gas or mining can generate enormous wealth, yet the resource rich regions too often have poor economic growth, inadequate investment in health, education, and sanitation and low levels of child welfare because the resource wealth is diverted elsewhere.

Certainly, an abundance of natural resources can be seen as a mixed blessing—particularly, as we will argue, for residents of communities in Canada’s provincial and territorial north.

Residents of rural and remote communities, many of them in Canada’s north, face a great deal of pressure from external forces—and, increasingly, internal forces, to extract oil and gas. In this article we provide an overview of both current and proposed extraction of non-renewable natural resources in several parts of northern Canada (chiefly northern Alberta, Yukon Territory, Northwest Territories, and Nunavut as depicted in Figure 1) and examine their economic and social costs and benefits. In particular, we focus on the ramifications of extraction in terms of community cohesion in general and on Aboriginal communities more specifically.<sup>1</sup> Striking a balance between residents’ desire for economic prosperity and the desire to maintain and strengthen the environment and land-based social and cultural practices continue to be at the heart of the debate concerning resource extraction in the North. In short, we argue that tensions between what Thomas Berger (1977) succinctly identified in the 1970s as the “frontier versus homeland debate” continues to shape attitudes toward oil and gas development today.

Figure 1: Map of this Article’s Area of Discussion.



Source: IEEE Northern Section.

<sup>1</sup> We find the mere act of discussing natural resources to be divisive and damaging to communities and families. While dialogue may ultimately be useful, it too comes with real costs.

## **2.0 Oil and Gas Development in Northern Canada**

Oil and gas production plays a large though controversial role in the Canadian economy. According to the Canadian Association of Petroleum Producers (CAPP), the industry boasted of production and exploration in 12 of 13 provinces and territories (see Table 1). CAPP (2013) claimed \$50 billion of private capital<sup>2</sup> invested yearly since 2007 and at least \$25 billion per annum to the government of Canada via royalties, land payments, and income tax. CAPP (2013) asserted that the oil and gas industry accounts for 500,000 jobs across Canada, making it the largest single private sector in the country. Below, we provide an overview of oil and gas development in northern Alberta, the Northwest Territories, the Yukon, and Nunavut.

### **2.1 Northern Alberta**

In the provincial and territorial north there are several key areas for oil and gas production. The Athabasca oil sands, located in northern Alberta, are perhaps the best known. Proximate to the oil sands are natural gas deposits; though not a geological coincidence, the pairing is convenient as natural gas provides the fuel in sufficient quantities and cheaply enough to make extraction and production of oil in situ possible. Canada's oil sands refer to a tremendous deposit of bitumen, something that can be refined into synthetic crude oil. Before European explorers arrived in North America, bitumen was used by Aboriginal peoples for waterproofing birch bark canoes (Poveda & Lipsett, 2012). The primary bitumen deposit is known as the "Athabasca;" Fort McMurray is located in the midst of this deposit.

In the early 1900s, this bitumen was used as a road paving material (Finch, 2005). The practice was efficient for local use, but transporting the viscous hydrocarbon sludge any significant distance was not economically viable. In the 1930s the province of Alberta funded research demonstrating that oil could be claimed from the tar sands. During the war years, increasing interest in extraction was shown, but fires and other construction setbacks delayed progress. Levels of investment and attention then waxed and waned for another twenty years (Breen, 1993). By the 1960s various parties were again vying to find a profitable way to claim the underground bounty.

The price of the final oil output as well as extraction technology have both played a role in the various types of deposits harvested (Cummins, 2012). High fuel prices on the open market led to serious forays into Canadian exploration and extraction in the 1970s. Though the value of the tar sands deposits has been evident for the past century, even the big crude oil producers Suncor and Syncrude could not profitably extract oil and gas until relatively recently. Much of the reason had been political, with government—foreign and domestic—subsidizing oil prices (Flanders, Brown, Andre'eva, & Larichev, 1998; Knapp, 2012).

---

<sup>2</sup> The large sums of capital invested include both foreign and domestic funds.

Table 1. *Oil and Gas in Canada*

	<b>Spending on oil and gas exploration and development in 2011</b>	<b>Production of oil (in barrels) and gas (in cubic feet) in 2011</b>	<b>Reserves of oil and gas in 2011</b>
<b>Yukon and Northwest Territories</b>	\$.12 billion	10,500 barrels per day;.03 billion cubic feet per day	408 million barrels; .5 trillion cubic feet
<b>Nova Scotia</b>	\$.15 billion	.2 billion cubic feet per day	.3 trillion cubic feet
<b>Newfoundland and Labrador</b>	\$1.5 billion	267,000 barrels per day, (300,000 per day in 2012); no natural gas is being produced	2.9 billion barrels; 10 trillion cubic feet offshore
<b>New Brunswick</b>		10 million cubic feet per day	80 trillion cubic feet
<b>Manitoba</b>	\$.9 billion	40,600 barrels per day	50 million barrels
<b>Saskatchewan</b>	\$5.1 billion	432,328 barrels per day; 440 million cubic feet per day*	4.2 billion barrels; 4 trillion cubic feet
<b>British Columbia</b>	\$6.7 billion	20,000 barrels per day; 3.5 billion cubic feet per day	117 million barrels; 1.4-2.0 trillion cubic feet**
<b>Alberta</b>	\$48.5 billion	2.09 million barrels per day; 10.2 billion cubic feet per day	171 billion barrels; 33 trillion cubic feet***

Source: Data cited from Canadian Association of Petroleum Producers website (2012).\* Government of Saskatchewan (2012). \*\* CBC News (2013). \*\*\* Government of Alberta (2013).

A Statistics Canada report in 2007 valued the oil sands at \$342.1 billion, 5% of Canada's real wealth, while the Centre for the Study of Living Standards (CSLS) calculated a number of \$1,482.7 billion (Sharpe, Arsenault, Murray, and Qiao, 2008). Interestingly, the CSLS then subtracted \$69.4 billion, an estimate of the social costs related to green-house gas emissions, to arrive at a final figure of \$1,413.3

billion. The CSLS asserted that its “report does not account for non-GHG [greenhouse gas] related environmental and social costs” (p. i). Chan et al. (2012) noted that Canada’s oils sands industry has a tremendous economic impact—“the largest of its kind in the world” (p. 540).

## **2.2 Yukon Territory**

Oil and gas exploration is emerging in the Yukon Territory. In the Eagle Plain region of northern Yukon, Northern Cross Ltd. sought to compete with the ‘big players’ in oil and gas (Northern Cross, 2014). Though small in comparison to some oil and gas firms, Northern Cross obtained exploration rights for 1.3 million acres. Northern Cross, according to its then president David Thompson “could produce 2,000 barrels a day, enough to supply the entire Yukon with its bulk petroleum products if we construct a refinery” (Byfield, 2000, p. 35).

When the finds were made in the 1960s, they were deemed “too small to support construction of a pipeline to southern markets” (Byfield, 2000, p. 35). Sitting on an oil discovery and two natural gas strikes, Northern Cross hoped that energy prices would rise sufficiently to justify bringing a mini-refinery online. While energy prices did rise, it was the influx of outside capital that offered a renewed push.

On June 30, 2011, Northern Cross announced that an affiliate of China National Offshore Oil Corporation, one of the largest independent oil and gas exploration and production companies in the world, had made an investment in Northern Cross. The statement released to the press noted that the investment was expected:

To create employment, diversify the sources of primary energy for Yukon... and support infrastructure development. All activities will be conducted in a manner that mitigates environmental impacts, respects the interests of First Nations and furnishes net benefits to Yukon. (Canadian News Wire, 2011, para. 2)

As a result of this controlling interest, Zhang Fenjiu became the Chairman of Northern Cross and President of China National Offshore Oil Corporation Canada. With a 60% stake in Northern Cross, xenophobic or otherwise, some feared that Chinese goals might diverge from those of residents in remote and northern Canadian communities. This fear, rational or not, has arisen before<sup>3</sup>—multinational corporations finance much of Canada’s oil and gas exploration and extraction. In 2010, ConocoPhillips (an American corporation) sold its stake in Syncrude to Sinopec (a Chinese state-owned enterprise) for \$4.65 billion.

## **2.3 Northwest Territories**

Oil and gas development has a long history in the Northwest Territories (NWT) (Bone & Mahnic, 1984). According to Alunik et al. (2003), the first oil well was dug in the NWT in Norman Wells in 1920. The federal government advocated for the construction of an oil and gas pipeline to link these northern resources to southern markets. In fact, the government announced plans for the construction of a highway to the Arctic that would be completed by 1974 (Alunik et al., 2003); as a result, an

---

<sup>3</sup> In 1957, foreign ownership was directly addressed for the first time. By 1968, a national policy considered Canadian interests vis-à-vis multinational corporations. Screening of foreign acquisition occurred throughout the 1970s, culminating in the Foreign Investment Review Act.

economic boom ensued. The boom went to bust in 1977, however, when the Mackenzie Valley Pipeline Inquiry (1974–1977), also known as the Berger Inquiry, recommended that the pipeline's construction be delayed for ten years to allow for Aboriginal land claims to be settled (Nuttall, 2010). During this time, oil and gas exploration in the Mackenzie Delta and Beaufort Sea continued, as it does today (Dana et al., 2008).

The Berger Inquiry was the first formal, systematic inquiry into the socio-economic impacts of resource development on northerners (Usher, 1993). Prior to the Berger Inquiry, government and industry controlled and funded consultations concerning resources that were conducted with Aboriginal communities; community members had little opportunity to have their voices heard (Usher, 1993). Instead, companies suggested how local community members might adapt themselves to the plans companies announced (Usher & Noble, 1977). By contrast, the Berger Inquiry listened to the voices of residents of the NWT, which at the time included what is now Nunavut, and expert witnesses in formal and informal hearings. Public funding was also provided to allow non-governmental organizations to participate in the Inquiry (Usher, 1993).

The Berger Inquiry revealed two fundamentally disparate views of the land through which the failed pipeline would have passed. So important were these views to the Inquiry, they appeared in the title of Justice Berger's 1977 report: *Northern Frontier, Northern Homeland: The Report of the Mackenzie Valley Pipeline Inquiry*. In his report, Berger famously noted:

I discovered that people in the North have strong feelings about the pipeline and large-scale frontier development. I listened to a brief by northern businessmen in Yellowknife who favour a pipeline through the North. Later, in a native village far away, I heard virtually the whole community express vehement opposition to such a pipeline. Both were talking about the same pipeline; both were talking about the same region - but for one group it is a frontier, for the other a homeland. (p. 7)

The frontier versus homeland debate continues to this day. Indeed, due to fluctuations in politics and the world's economy, Nuttall (2010) argued:

The Arctic is being imagined as a new...frontier for oil, gas and mineral extraction, a frontier that is viewed as important for supplying global energy needs and meeting increasing global consumption demands. Oil and gas companies talk of searching for new resources in frontier areas that are harsh and challenging, such as the Arctic. (p. 32)

As such, there is renewed interest in the development of a Mackenzie Valley pipeline. At the same time, however, there is increasing concern that the social impacts of such development on residents of communities that engage willingly or not in oil and gas exploration/extraction, especially Aboriginal peoples, might be too great.

## **2.4 Nunavut**

Nunavut officially separated from the Northwest Territories in April of 1999 through the Nunavut Land Claims Agreement (NLCA)—an arrangement negotiated between the Government of Canada and the Inuit in the region (Library and Archives Canada, 2005). Nunavut Tunngavik Inc. manages the Nunavut Land Claims Agreement.

Through this Inuit receive resource royalties, but these funds are earmarked for the Aboriginal population, not programs and infrastructure for the territory as a whole (Canadian Press, 2012).

Though the territory's government aims to promote the exploitation of its cultural resources as well as wildlife, most outside interest in Nunavut has been in precious minerals and radioactive material. Territorial authorities collect no royalties from its resources; the Canadian Press (2012) reported "The money all flows to the federal government" and as much as 90% of Nunavut's budget comes from the Canadian government. Resources expected to be of commercial interest include coal, diamond and other gemstones, gold, lithium, platinum, uranium, rare earth elements, and base metals iron, nickel, zinc, and copper. Nunavut's Department of the Environment aims to "protect, promote and enhance the sustainable use of our environment" and asserts that one means for doing so is "by creating healthy and prosperous communities" (Nunavut Department of Environment, 2013). The Department of Lands and Resources at Nunavut Tunngavik Inc.—in addition to minimizing costs and maximizing benefits—has the following driving principles: attract investment in Nunavut, resolve land use conflicts, improve consultation and clarify decision-making, and maintain Inuit ownership and management right to the lands and resources (Nunavut Tunngavik Inc., 2014).

In August of 2013, from Rankin Inlet, Nunavut, the Prime Minister's office announced that it was committed to supporting responsible resource development in Canada's north and released 32 new data and knowledge products (utilizing geo-mapping technology) "that will help unlock the mineral and energy potential in Nunavut, with a considerable focus on the Kivalliq region" (Prime Minister of Canada, 2013).

As resource exploration/extraction encroaches on settlements and the vast lands surrounding communities in Nunavut, one concern is the present population's capacity to negotiate or even resist during the consultation process and then ultimately participate in or manage ongoing development activity (Canadian Press, 2012). The rationale for this concern is that residents of Nunavut may not have the education and preparedness to assess, render decisions on, and administer the commercial exploitation of non-renewable natural resources. In response to this 2007 federally commissioned report, Nunavut Premier Eva Aariak dismissed these concerns as no longer relevant citing that "The number of young people that are getting ready through education and employment and training" will have the capacity (Canadian Press, 2012, para.12). As communities strive to behave responsibly, capacity for doing so will be built. This involves reinforcing competence and confidence.

### **3.0 Community Cohesion**

#### **3.1 Social Elements**

Social capital of communities concerns "the mechanisms that strengthen the integration of societal values, solidarity and togetherness that creates consensus and sustains a stable society" (Oncescu & Karlis 2009, p. 28). Social capital, if sufficient and of a positive nature, binds a community together and enables its safe passage—or the semblance of—through assaults and conflict. But over time social institutions of communities change and transform (Robinson et al., 1989). Many remote settlements across Canada are feeling the repercussions of increasing oil and natural



gas infrastructure. In his annual summer Arctic tour, Canada's Prime Minister "Stephen Harper looked to strike a balance between the enormous social deficit of the Far North and the region's overwhelming resource potential" (Brewster, 2013, para. 1). Though he spoke of "shared goals in seeing strong, healthy, prosperous Inuit families and communities," interests do diverge and in particular—even with common goals—the views on remedies are even more varied and contentious (Brewster, 2013, para. 7). Harper spoke of "rapidity in historic development," present social challenges and the potential of the next generation (Brewster, 2013, para. 8). However, a question was raised: Will the rising economic tide leave some individuals and communities behind?

### **3.2 Economic Elements**

Even if there is agreement with the Prime Minister's assertion, "Economic development really is critical to social development" (Brewster, 2013, para. 11), the oil and gas industry is eminently manic and results in periods of growth, stasis, and decline when these projects phase out (Van Hinte et al., 2007). spurts of rapid growth can lead to an influx of workers with or without their families to these regions, which can double or triple the communities' populations (Seydlitz et al., 1993).

Changes in social equilibrium experienced by affected communities vary considerably (VanderKlippe, 2010). Larger communities experience higher rates of inflation, social upheaval, greater investments in unrealistic project expansion and housing storages (Goldenberg et al., 2010; Van Hinte et al., 2007). The social structures and resources that once stabilized these towns are unable to meet the demands of residents as populations expand. The reputation of Fort McMurray, Alberta had been so tarnished that the mayor of Fort McMurray's website specifically tackled some negative public conceptions. While the community's reputation might be unfairly harsh, certainly, social services, education and public and private sectors are stressed when communities try to meet the demands of a rapidly growing population (Smith & Krannich, 2000). The sudden changes in population brought by sizable oil and gas ventures not only strain these communities' social structures and resources, but also their shared values and vision.

### **3.3 Demographic Shifts**

An artefact of oil and gas industries is reliance on cyclical work schedules, which "prevents opportunities for consistent and productive family and community relationships" (Parkins & Angell, 2011, p. 39). This can negatively affect community cohesion—a crucial element in a sustainable, healthy community. A review of literature by Lev-Wiesel (2003) found cohesion was most often understood as a shared sense of belonging based on common goals and social values, respect for differences and acceptance of the rights and obligations of community members working towards a common goal and healthy community. Cohesion is also a process that can create social networks and the social infrastructures that underpin these networks. Social interactions and group experiences are attributes of cohesion that cultivate a sense of belonging and a sense of community and improve morale for individuals and communities (Lev-Wiesel, 2003; Pretty, 2001). Cohesion is also an intermediary to group formation that increases positive initiatives within communities (Lev-Wiesel, 2003). Because of the attributes, social scientists believe cohesion is one of the most important small group variables (Lev-Wiesel, 2003). Community cohesion is crucial for the development of strong communities and

relationships between individuals living in communities (Miller & Sinclair, 2012). The characteristics of the oil and gas industry, however, challenge rural and remote communities' cohesiveness.

Given that oil and gas production attracts a large transient population, the influx of new arrivals prepared to embrace oil and natural gas work brings a myriad of reactions for residents in northern Canada. These responses can vary considerably, even over time for the same individual. A local merchant may welcome the increased sales and the new faces and fresh relationships, but this may diminish over time, particularly as newcomers overwhelm existing infrastructure and a community's social fabric.

Workers employed in the petroleum industries have substantial incomes that afford them frequent opportunities to travel back to their home communities during long breaks in their work schedule. In Fort McMurray, there are large numbers of non-resident workers that commute to the region for weeks at a time, but then leave once their scheduled shifts are complete (Shields, 2012). These transient populations become problematic for rural and remote communities' cohesion because they increase anonymity, and extreme individualism, and reduce concerns for neighbours and the broader community (Flora & Flora, 2003; Seydlitz et al., 1993). Transient workers often lack a sense of rootedness to the community, which negatively affects community cohesion. As a result, social ties among residents weaken, which can heighten social isolation among newcomers (Jackson et al., 2001). Further, having a highly transient population leads to social distancing and poor social community cohesion. As oil and gas extraction is reliant on shift work, this too "prevents opportunities for consistent and productive family and community relationships" (Parkins & Angell, 2011, p. 39).

### ***3.4 Insiders and Outsiders – Some Harmony, Some Discord***

Although oil and gas industries do attract large transient populations, some communities will experience an influx of newcomers who become more permanent residents. The influx of new arrivals brings a myriad of new ideas, attitudes, values, norms, and money that can alter local cultures and traditions. Researchers have reported that rapid growth in oil and gas harvesting can heighten discrepancies in attitudes and values between long-time residents and newcomers (Smith & Krannich, 2000). Parkins and Angell (2011) found that a community reliant on natural resource employment "gives rise to income disparity and social inequality" (p. 39). As a result, communities can experience stress on small-town values, which can divide the community and increase social conflict (Smith & Krannich, 2000).

The excessive consumption of drugs and alcohol in resource-rich communities can be problematic for residents and community life. Communities that have expanded quickly as a result of the boom of oil and gas projects are often behind in developing appropriate social services and resources needed to sustain social, health, education, and housing services (Goldenberg et al., 2010). A study conducted in Fort St. John, British Columbia, found that newcomers who worked in the oil and gas industry consumed high amounts of alcohol and drugs because they had fewer social support networks in the community as compared to local residents (Goldenberg et al., 2010). Without the social underpinnings to cultivate social relationships and networks, workers new to the community struggled to maintain or develop social supports necessary for a high quality of life; hence, individuals new to the community could feel alienated and socially excluded, which does not facilitate community cohesion.

Rural and remote settlements have typically been known for their strong social bonds and self-sustaining practices that have cultivated strong levels of community cohesion; however, with transient populations, culture clashes between locals and newcomers, limited social supports and fewer essential services, communities embedded in oil and gas industries struggle to sustain or even develop into cohesive entities. Speer et al. (2001) found that as social continuity lessens from the changes in rural communities, people tend to fall out of relationships with each other, which then leads to a greater sense of social isolation, declining civic trust, lower levels of participation in community activities, and less investment in social infrastructure. Thus erosion in community cohesion can be a downward spiral.

### ***3.5 Community Welfare: The Sum of Individual Physical, Mental and Cultural Health***

Mental and physical well-being underpin many models of community welfare. Evidence of the erosion of civility is found in violent crime rates per capita higher than in southern Canada. The Honourable Robert Kilpatrick who has been part of the legal system in the north since the 1980s, as a lawyer, Crown prosecutor and now Chief Justice formally submitted to the Minister of Justice for additional judicial appointments stating “the Territory’s demand for judicial services will continue to increase for the foreseeable future” (Nunavut Court of Justice, 2010, p. 2). Judge Kilpatrick’s assessment is that the journey for the Inuit is not over. The Canadian Press reported him as suggesting: “the traditional role of the male as hunter and provider is fading away and some young men feel they’ve lost their place in society. More Inuk females are becoming primary breadwinners, which is leaving some males resentful” (Jones, 2012, para. 26).

The interplay between community and natural environment is well recognized too. Environmental change is having a noticeable impact on cultural practices and everyday life in regions where the connection and reliance on surroundings (air, land, sea, flora, and fauna) is considerably greater than in urban and suburban Canada. It has been pointed out that global warming actually makes it easier to extract resources in much of the North. Further, the infamous Northwest Passage is now considerably more navigable. Will greater access to the rest of Canada and connection to the world increase or decrease community cohesiveness?

### ***3.6 The Value of Community Cohesiveness***

Community cohesion in remote communities is important because these settlements at the periphery contribute to local, provincial, and national economies through the resources they extract. Although oil, gas and other natural resource-based industries can cultivate large economic gains, they often appear to do so at the cost of the local community. Hodgkins (2008) aptly noted that “youth and elders [in NWT communities] are now in conflict with the vision concerning oil and gas development expressed by many of their leaders” (p. 308).

Rural and remote communities frequently cultivate self-sustaining social and economic practices that are embedded in a grassroots approach to solving community issues that is founded on strong levels of cohesion. Without community ‘buy in,’ local strengths and assets that promote community participation and leadership decline; this is problematic for rural and remote communities. Typically, when communities take responsibility for their own development, they are more likely to survive economic and social crises, and become empowered by building

their existing capacity and by using the skills they have within their community to map out their own future (Daws, Simpson, & Wood, 2003). If communities embedded in oil and gas industries lose their cohesive social fabric, residents will be more likely to experience feelings of alienation, exclusion, and community dissatisfaction. Consequently, these already physically-isolated communities could end up also being socially and psychologically isolated, which decreases residents' quality of life. The challenges brought about by oil and gas exploration appear to have particularly strong and divisive effects on residents of Aboriginal communities.

#### **4.0 Aboriginal Communities**

According to Alunik et al. (2003, p. 177), the social impact of the oil and gas boom of the 1970s on residents of Inuvik, NWT was enormous:

It brought work, money and many southern transients. Inuvik's bars were often rocked with scenes of drunken conflict. Young people dropped out of school to take high-paying – but temporary – jobs in the oil industry. Violent assault, break and enter, theft, and suicide all increased. Drugs and sexually transmitted diseases appeared. Even trappers living far from town would sometime come face to face with oil workers moving heavy equipment across their traplines.

Past experiences with development, like the kind that has occurred on Inuvialuit land, have resulted in consensus that industrial progress in Canada's north "has the sharpest effects on the small, largely Native communities...because their socio-economic characteristics, and the cultural and historical forces that created them, differ significantly from those of southern Canadian communities, rural or urban" (Alunik et al., 2003, p. 117). Thus, despite the eagerness to develop extractive industries in this frontier, there is an understanding that the North is not a vast, empty place, but rather Aboriginal peoples' homeland; as such, they are—or ought to be—major stakeholders in discussions concerning resource development. This is one of the legacies of the Berger Inquiry.

Consultations with Aboriginal communities do seem to be occurring. For example, in 2005, China National Offshore Oil Corporation (CNOOC) acquired shares of MEG Energy, an oil sands producer with exploration and extraction operations in northern Alberta. According to the company's Community Relations: "MEG employees take the time to get to know many local residents, Elders and business people to learn about the needs and traditional values in their communities" (MEG Energy, 2012, para. 1).

MEG Energy's website proclaims proudly that the organization supports youth and community organizations in their operating areas: "MEG is committed to helping build healthy, productive communities. MEG encourages local hiring where qualified candidates are available, helping local residents to develop new skills and bringing a communal spirit" (MEG Energy, 2012, para. 4). Interestingly, MEG has funded community policing programs including two additional law enforcement officers to keep the communities of Janvier, Chard and Conklin safe—all predominantly Aboriginal communities in northern Alberta. There thus exists a paradox: while oil and gas development can result in enhanced social problems, the money from oil and gas development is also used to address these problems. The net

benefits to the communities, at least in this situation, are somewhat questionable. We now turn to economic development.

## **5.0 Economic Impact**

Energy boomtowns are not a new phenomenon and have been under scrutiny for many years (Gilmore, 1976). Indeed, Western Canada was opened up with railroad construction and gold rushes, which held many of the same attributes as their modern counterparts. The impact of energy extraction on frontier towns has been studied on most continents (Gagnon, 2008). Energy development presents an array of opportunities and challenges to communities and local government (Jacquet 2009). How best to respond is not easily tackled when there is uncertainty with regard to future needs. Will the influx of workers remain and take root? Will they create or bring their families? For how long will oil and gas extraction continue? Will it be years or decades, will it be intermittent? If so, will the cycle be predictable or sporadic? If fluctuations in population or compositions of populations cannot be determined, it is difficult to assess needs (Carson et al., 2011). Building new schools for one generation may not translate into need for subsequent generations. Such resources are largely immobile and not easily re-deployed. Even the arrival of ancillary merchants and industries to support the locating and collecting of oil and gas and their workforces is not easy to forecast or manage. Strains are placed on local entrepreneurs and residents as the economy heats up (and cools down) and inflation puts pressure on those unable to keep up (Ensign et al., 2011). At the same time that there are rising costs, which benefit some and marginalize others and their livelihoods, day-to-day living expenses generally increase and competition is heightened as new enterprises spring-up or arrive in search of profits. For those able to keep pace with the spiralling pressure and turbulent market forces and participate fully in the growth that the energy sector brings, the benefits—at least as measured financially—will be substantial; for others, the result will be marginalization where they will be left to sit on the sidelines (McCluskey & Ensign, 2008). Remote and northern communities in Canada can, nevertheless, assess and prepare for the positive and negative social and economic consequences coming their way (cf. Jacquet, 2009). The government of Nunavut is taking the bold move of borrowing money: for the first time it will issue a \$140 million bond through a public-private partnership to help finance the overhaul of the territory's main airport in Iqaluit (Gutscher & Miller, 2013). Embracing modernity, the aim of the airport upgrade is preparedness for a vibrant future of growth and expansion based on mining (Gutscher & Miller, 2013).

Rural and remote northern communities facing the prospects of oil and gas development must anticipate change. Such planning considers socioeconomic changes both immediate and decades into the future (Reed & Britton, 1971): linkages and assumptions must be made regarding economic and demographic transformations. The results of these exercises, which should be continually updated, need to be communicated to all stakeholders so that constituents can be informed and prepared. Of course, given the uncertainty of markets and approval processes, such forecasting can be difficult. For example, in a formal report in 2004, the Economic Development Office of the City of St. John's in Newfoundland and Labrador was graciously receptive to the impending injection of \$800 million into the local economy from the offshore oil and gas industry, which was to provide an estimated 5,000 to 6,000 jobs. The City, however, recognized "the timing of new exploration and development activities are unknown, making it difficult to plan for

economic impacts” (City of St. John’s, 2004, p. 1). The City of St. John’s favoured/welcomed this sector and the benefits that would ensue but knew that it could not anticipate how, where and when this bonanza might arrive. The City did know, however, that numerous communities near and far in the province would be affected by what happened on and off shore related to oil and gas exploration. One community might feel an economic boost while another might be hollowed out. Recognizing the major contribution that the oil and gas industry had made and would continue to make to the local economy, St. John’s could not afford to be too critical. Looking to “continue to reap benefits into the future as new developments occur,” the City remained positive in its official stance toward existing and prospective big oil and gas developers (City of St. John’s, 2004, p. 4).

Like the City of St. John’s, preparing for and embracing the oil and gas industry’s arrival is the stance many residents of northern communities will most often take. The assumption is that welcoming the industry to town will create jobs, opportunities and bring in cash. Are the jobs of high-quality? Will the employment be for a fixed period of time (during construction) or ongoing? Is it unskilled work or is the training received transferrable? Will a community at the periphery become more self-reliant or more dependent? Will a remote community be revitalized or transformed into something not to its own liking? Will Aboriginal communities be able to meaningfully engage in the process that determines their outcomes?

In 2012, Alberta’s provincial leaders rejected an initiative from all 47 Alberta First Nations to build and operate the country’s first Aboriginal-run oil sands refinery (McDermott, 2012). Rejection of the proposal to build a \$6.6 billion facility was seen as offensive, a disenfranchisement, even racist (Stoymenoff, 2012). Ken Horn, President of Teedrum Inc.—a partner of the Alberta First Nations Energy Centre (AFNEC)—stated “they just don’t want to see the advancement socially or economically for First Nations” (Stoymenoff, 2012, para. 7). Tait (2012) reported:

The grand chiefs argue AFNEC would reduce poverty and enable higher education for its expanding population, while aligning the bands with the industry and province’s oil sands objectives... [and] put \$3.6 billion in the hands of Alberta’s first nations over 30 years. (para. 6)

The rejection of the First Nations’ proposal was all the more surprising considering that 80% of Albertans polled “want the government to do more to increase upgrading and refining operations in the province, instead of exporting precious jobs and resources to other markets” (Stoymenoff, 2012, para. 19). Certainly, issues rooted in colonialism continue to inform oil and gas exploration and production.

In addition to some northerners taking an open posture toward economic development—whether or not this attitude is supported by government—many corporations recognize that they must approach local constituents with the community’s interests in mind. Richard Wyman, president of Northern Cross emphasized:

...that the company would endeavour to both hire and purchase goods and services in the Yukon. While the exploratory program would not create a great number of jobs, the company’s preferred plan would produce local economic opportunities in the production phase (Davidson, 2012, para. 24–25).

During a “road show” presentation to various communities, Northern Cross conveyed that a base camp was being built adjacent to the Dempster Highway to support field operations and that they would commence drilling in the summer of 2012. Northern Cross PowerPoint slides distributed publicly in 2012 indicated training opportunities for Yukon residents, building local expertise, and regional economic development in northern Yukon. Regarding the Northern Cross presentation to Dawson City residents, Davidson (2012) reported:

The feeling at the meeting was very positive, though it might be noted that Dawson saw this same kind of optimism in the 1990s and actually renamed the annual gold show to add gas and oil to its name, a change which was short-lived at that time (para. 26).

Similar scenarios likely play out around the world; corporate, community, and government expectations and intentions contort based on seen and unforeseen circumstances caused by each other or exogenous, often economic or political, conditions.

## **6.0 Moving Forward**

Given disparate views on resource extraction, how do we make sense of potential benefits and drawbacks that oil and gas development can have on communities, particularly those with large or predominately Aboriginal populations? Our search for a framework for future engagement with communities begins with assessment criteria. Any framework must incorporate idiosyncrasies in data and relationships (gender, generational divide, dimensions of remoteness, education, etc.). A model must be able to tackle hard facts like income and age as well as inputs like aspirations and preferences.<sup>4</sup> It is acknowledged that an array of theories and methods from across the social sciences may usefully be brought to bear for projections of the coming together of community and resource exploration/extraction. The coalescing of community (on social, economic, and other dimensions) and the companies, governments, and other stakeholders involved in the non-renewable resource industry may point to disparate results (e.g., spikes in economic benefits and social costs) and interpretations may vary considerably even while pointing to the same results. That is, even if data input are agreed upon, the implications drawn will not inevitably be clear or unanimous.

One approach is a social impact assessment (SIA), which is “generally understood to be a means of determining how and to what extent specialized social groups will become better or worse off as a result of certain externally generated actions” (Usher, 1993, p. 99). Van Hinte et al.’s (2007) review of the literature identified several important socioeconomic impacts that large-scale resource development projects’ construction phases can have on First Nations communities: “significant short-term increases in employment and population, economic and business development, and inflation effects” (p. 127). These “boom” phase impacts can result in the uneven distribution of positive impacts and also negative impacts, such as “social upheaval, unrealistic expectations for future growth, excess investment in project expansion and housing shortages... increased infrastructure demands, community wellness effects, loss of traditional Aboriginal harvesting areas and culture, impacts on other economic sectors and loss or damage to heritage and archaeological resources” (Van Hinte et al., 2007, p. 127).

---

<sup>4</sup> We thank an anonymous reviewer of this journal for suggesting this point.

The impacts are not, however, entirely negative. Indeed, as Nuttall (2010) has pointed out, some Aboriginal groups have stated objectives of participating in, shaping the direction of, and deriving benefits from extractive industries. As such, he argued it is important to understand that Aboriginal peoples are not simply victims of oil and gas development. By way of example, Nuttall (2010, p. 23) reminded readers that the Inuvialuit Development Corporation has “ownership shares in [oil] wells, processing facilities and pipelines” and that “Mikisew Cree First Nation [in northern Alberta] owns companies employed in the oil industry”. Somewhat paradoxically, however, Nuttall (2010, p. 82) has also pointed out that the spoils that come from these employment and financial benefits could result in Aboriginal groups becoming *more* dependent on the federal government due to “increasing dependence on national government for the provision of infrastructure, environmental assessments, anti-pollution measures, occupational health and safety policy, and for policy responses to the uncertainties and fluctuations inherent in the global energy economy”.

Another way to determine whether or not resource extraction should take place is through the use of an ethical approach. For instance, Lertzman and Vredenburg (2005, p. 240) argued that it is “unethical to surrender the viability of Indigenous cultures in the pursuit of resource extraction to maintain industrial society”. Lertzman and Vredenburg (2005, p. 243 and p. 251) contended that current rates of consumption and the associated need for industrial expansion are unsustainable and are undermining the natural, social, and cultural systems that sustain humans and other species. By engaging with a holistic approach to sustainable development, these authors argued that if we are to engage in resource development, we must engage a form of sustainable development that is able “to maintain and cultivate the trust, relationships and organizational resources necessary for a healthy and robust society”. Part of a robust society includes ensuring that cultural practices, many of which are reliant on access to and use of traditional lands, are able to continue in ways that are consistent with Aboriginal peoples’ “wishes, cultures, and means for survival as they determine these to be”. While such an approach seems ethical, one must be cognizant of the fact that though many northern communities are tiny in population, there exists a wide range of views on oil and gas exploration. As such, reaching consensus on Aboriginal peoples’ “wishes, cultures and means for survival” might actually be an incredibly difficult, if not impossible feat—just as it would be for any metropolis or democratic community.

## Conclusions

Were it not for the favourable repercussions of sizable oil and gas projects, some rural and remote Canadian communities would be in decline or stasis. Nevertheless, an influx of cash and newly arriving workers represent both opportunities and challenges. With the dramatic effects brought in by non-renewable natural resource development, these towns may be swayed by new interests—including those arising from long-time residents. As a result, long-standing social and cultural forces may be derailed. Nuttall (2010) noted,

Indigenous peoples have long been involved in struggles to make sense of, adapt to, and negotiate the impacts and consequences of resource development and the extractive industries, but have also been involved in struggles to gain some measure of control over development as well as to benefit from it. (p. 8)



While new money may bolster income and lifestyle for a few or many, change is inevitable. Wealth entering a community may be exhibited in a variety of ways—a new pickup truck or snowmobile, alcohol, or other vices (Newton, Fast, & Henley, 2002). While individual interests may be displayed with outwardly selfish or benevolent behaviour, it is important for communities to harness economic prosperity so that real and sustained progress occurs at a community level (Hipwell et al., 2002; National Aboriginal Health Organization, 2008).

Though rural and remote communities with access to oil and gas revenues may experience substantial economic prosperity, they struggle to provide adequate infrastructure and social programs that are needed for residents (Arku & Arku, 2011). If these communities are unable to harness their economic prosperity in a manner that supports adequate housing, education, recreation and social services, there could be implications for the communities' cohesion and longevity. Without community cohesion and adequate support for community structures, families are less likely to relocate to or remain in these regions (Arku & Arku, 2011), which can compound the transient lifestyle of these communities. To anchor a more sustainable quality of life, oil and gas industries might have to look to the community as a partner in resource development. Researchers have argued for oil and gas industries to be more engaged with the community, "that an active community engagement in the sector's development is indispensable not only for a cordial relationship among stakeholders, but also to facilitate shared benefits and cooperation in resolving any concerns" (Arku & Arku, 2011, p. 008).

The determination of competing objectives and the sorting out of stakeholder interests is complex. Reconciling the perspectives is cumbersome, maybe not even achievable.<sup>5</sup> Sovacool (2007) pointed out that economic health often trumps community values and social welfare. Early environmentalist and pioneer in ecological ethics Leopold (1947: 214) saw society's greed running rampant; he observed a transformation of the landscape from a social symbol, nature as humbling, to an economic agent to be exploited. More recently, Wolke (2003) has noted that an obligation to act as a steward of the land has been lost, conservation replaced with a mind-set of selfish extraction of value; wilderness preservation is in contrast to "civilization's ignoble quest" (p. 16). In Canada, as elsewhere, it has been lamented that the spiritual and symbolic value of pristine land has been quickly eroded (Creative Spirits, 2012). The impact that oil and gas industries have on northern rural and remote communities is complex and varied. The cultural and historic values of Aboriginal communities and ways of life do not always align with the economic interests of oil and gas industries.

Robinson & Ghostkeeper (1987) stated, "it is time to question once again... the relevance of linking northern development to resource industry megaprojects" (p. 138). They continued:

As hinterland regions typically do not control the economic opportunities introduced by the metropolitan powers, they continue to be dependent upon outside capital, labour and expertise for the development of their resource-

---

<sup>5</sup> Although the National Aboriginal Health Organization did generate a "final" report in 2008 "Exploring Community-Based Responses to Resource Extractive Development in Northern Canada," as well as a 25-page annotated bibliography, five separate reports were produced. One each on Resource Extraction and Aboriginal Communities in Northern Canada and: political considerations, social considerations, gender considerations, cultural considerations, and economic considerations.

related industries. The end result is underdevelopment, cyclical swings in local economic fortunes, and very often, high levels of entrepreneurial frustration. (Robinson & Ghostkeeper, 1987, p. 142)

Theberge (1981) bluntly noted that supply and demand have displaced “trophic structures, dollar flow has intervened upon caloric flow for all but a small portion of northerners” (p. 281). No longer are the limits either to human populations or to human activities in the North established directly, through immediate ecological factors. Capacity of the land was a time “before northern resources expanded to include oil and gas, iron ore, uranium, [and] zinc” (Theberge, 1981, p. 281). Returning to such days of balance—living off the land—are unlikely. Duerden (1992) called for mutual appreciation and a “reciprocal relationship” between urban centres and the northern periphery. Distant control and distant—often imposed—interests exacerbate the tensions among the periphery and the central region. Duerden (1992) also asserted that the social impact of industrial incursion – particularly on Aboriginal society – should be carefully considered. As long ago as 1975, eminent political scientist, Nils Ørvik, Director of the Centre for International Relations, Queen’s University proclaimed that most Aboriginal peoples in the “North desire modernization, i.e., some form of adaptation to the conditions prevailing in the southern, developed parts... [they] desire parity of material condition and esteem with the peoples in the southern areas and modernization is seen by them as a means of achieving this equality” (1975, p. 67).

Natural resources that are extracted from rural and remote regions contribute to fifty percent of Canada’s exports (Federation of Canadian Municipalities, 2014). The governance of natural resources will continue to remain at the forefront of policy considerations globally. In Canada, both urban and rural residents may weigh in on the matter but it is likely that those for whom the land on which oil and gas development occur is home, are the ones who will feel the substantive effects. Having synthesized the current bodies of knowledge pertaining to economic development, community cohesion, and Aboriginal cultural practices, we conclude that though often tiny in population, the degrees to which oil and gas exploration and development in Canada’s north influence these communities deserves concerted and consistent attention.

## References

- Alunik, I., Kolausok, E., & Morrison, D. (2003). *Across time and tundra: The Inuvialuit of the Western Arctic*. Seattle, WA: University of Washington Press.
- Arku, F., & Arku, C. (2011). The up and down sides of oil and gas development in the Wood Buffalo Region of Alberta, Canada: Position Ghana for progressive gains. *International NGO Journal*, 6(1), 001–009.
- Banta, R. (2006, February 25). Plundering of our true North keeps it weak and colonized. *Edmonton Journal*, p. A19.
- Berger, T. (1977). *Northern frontier, northern homeland: The Report of the Mackenzie Valley Pipeline Inquiry* (Vol. 1/2). Ottawa, Ontario, Canada: Department of Supply and Services.
- Bone, R. M., & Mahnic, R. J. (1984). Norman Wells: The oil center of the Northwest Territories. *Arctic*, 37(1), 53–60.

- Breen, D. H. (1993). *Alberta's petroleum industry and the conservation board*. Edmonton, Canada: University of Alberta Press.
- Brewster, M. (2013, August 22). Harper says development 'critical' to solutions for social ills. *The Chronicle Herald*. Retrieved from <http://thechronicleherald.ca/canada/1149396-pm-economy-key-to-north>
- Byfield, M. (2000). A mini-refinery in the Yukon. *The Report*, 27(4), 35.
- CAPP (2012). Canadian Association of Petroleum Producers. Retrieved from <http://www.capp.ca/canadaIndustry/industryAcrossCanada/Pages/default.aspx>
- Canadian Press (2012, May 24). Nunavut natural resources: Feds discuss province-like powers for territory.
- Carson, D., Ensign, P. C., Rasmussen, R. O., & Taylor, A. (2011). Perspectives on 'Demography at the Edge'. In D. Carson, R. O. Rasmussen, P. C. Ensign, L. Huskey, & A. Taylor (Eds.), *Demography at the edge: Remote human populations in developed nations* (pp. 3–20). London, United Kingdom: Ashgate.
- CBC News (2013, November 6). B.C.'s natural gas reserves double previous estimates.
- Canadian News Wire (2011, June 30). Northern Cross announces new investment to fund exploration at Eagle Plain. Retrieved from <http://www.newswire.ca/en/story/799429/northern-cross-announces-new-investment-to-fund-exploration-at-eagle-plain>
- Chan, G., Reilly, J. M., Paltsev, S., & Chen, Y.-H. H. (2012). The Canadian oil sands industry under carbon constraints. *Energy Policy*, 50, 540–550.
- City of St. John's (2004). Local economic impact study of the offshore oil and gas industry. St. John's, Newfoundland, Canada: Economic Development.
- Creative Spirits. (2012). Threats to Aboriginal land. Retrieved from <http://www.creativespirits.info/>
- Sharpe, A., Arsenault, J.-F., Murray, A., & Qiao, S. (2008). *The valuation of the Alberta oil sands*. Centre for the Study of Living Standards (Research Report No. 2008-7). Ottawa, Canada.
- Cummins, C. (2012, November 2). Mining Canada's oil sands: Suddenly, not a sure thing. *Wall Street Journal*, p. B1.
- Dana, L. P., Meis-Mason, A., & Anderson, R. B. (2008). Oil and gas and the Inuvialuit people of the Western Arctic. *Journal of Enterprising Communities: People and Places in the Global Economy*, 2(2), 151–167.
- Davidson, D. (2012, February 15). Northern Cross promotes exploration plans. *Whitehorse Star*. Retrieved from <http://www.whitehorsestar.com/>
- Daws, L., Simpson, L., & Wood, L. (2003). Community capacity building: Starting with people not projects. *Community Development Journal*, 38(4), 277–286.
- Duerden, F. (1992). A critical look at sustainable development in the Canadian north. *Arctic*, 45(3), 219–225.

- Ensign, P. C., Giles, A., & Reed, M. G. (2011). Labour migration: 'What goes around comes around.' In D. Carson, R. O. Rasmussen, P. C. Ensign, L. Huskey, & A. Taylor (Eds.), *Demography at the edge: Remote human populations in developed nations* (pp. 190–212). Surrey, United Kingdom: Ashgate.
- Federation of Canadian Municipalities (2014). About rural and northern issues. Retrieved from <http://www.fcm.ca/home/issues/rural-and-northern/about-rural-and-northern-issues.htm>
- Finch, D. (2005). *Hell's half acre: Early days in the great Alberta oil patch*. Surrey, Canada: Heritage House Publishing.
- Flanders, N. E., Brown, R. V., Andre'eva, Y., & Larichev, O. (1998). Justifying public decisions in Arctic oil and gas development: American and Russian approaches. *Arctic*, 51(3), 262–279.
- Flora, C. B., & Flora, J. L. (2003). Social Capital. In *Challenges for Rural America in the Twenty-First Century* (pp. 214–227). State College, PA: Pennsylvania State University Press.
- Gagnon, N.D. (2008). The energy costs and gains of oil and natural gas extraction worldwide. Master's thesis. State University of New York, College of Environmental Science and Forestry.
- Gilmore, J. S. (1976). Boom towns may hinder energy resource development: Isolated rural communities cannot handle sudden industrialization and growth without help. *Science*. 191, 535–540.
- Goldenberg, S. M, Shoveller, J. A., Koehoorn, M., & Ostry, A. S. (2010). And they call this progress? Consequences for young people of living and working in resource-extraction communities. *Critical Public Health*, 20(2), 157–168.
- Government of Alberta (2013). Natural gas and coal bed methane. Retrieved from <http://www.albertacanada.com/business/industries/og-natural-gas-and-coal-bed-methane.aspx>
- Government of Saskatchewan (2012, April 9). Oil production figures reflect strength. Retrieved from <http://www.gov.sk.ca/news?newsId=e96c8113-c8a9-4ed6-b40e-24f173ed723b>
- Gutscher, C., & Miller, H. (2013, August 26). Cold war bomber hub gets revamp in Nunavut debut: Canada credit. *Bloomberg News*. Retrieved from <http://www.businessweek.com/news/2013-08-26/cold-war-bomber-hub-gets-revamp-in-nunavut-debut-canada-credit>
- Hipwell, W., Mamen, K., Weitzner, V., & Whiteman, G. (2002). *Aboriginal peoples and mining in Canada: Consultation, participation and prospects for change*. Working Paper. The North-South Institute. Ottawa, Canada.
- Hodgkins, A. P. (2008). A critical analysis of Freirean pedagogy: The case of development in northern Canada. *Journal of Transformative Education*, 6(4), 302–316.
- IEEE Northern Section (2014). <http://northerncanada.ieee.ca/section-map/>
- Jackson, C., Peterson, N. A., & Spear, P. W. (2001). The relationship between social cohesion and empowerment: Support and new implications for theory. *Health Education and Behaviour*, 28(6), 716–732.

- Jacquet, J. (2009). *Energy boomtowns & natural gas: Implications for Marcellus Shale local governments & rural communities*. (NERCRD Rural Development Paper No. 43). University Park, PA: Pennsylvania State University.
- Jones, A. (2012, November 18). The adventurous lives of judges in Nunavut. *Canadian Press*. Retrieved from <http://thechronicleherald.ca/canada/180692-the-adventurous-lives-of-judges-in-nunavut>
- Knapp, G. (2012, January 25). *Alaska's experience with Arctic oil and gas development: History, policy issues, and lessons*. Paper presented at the conference Energies of the High North – Arctic Frontiers conference, Tromsø, Norway.
- Leopold, A. (1947). *A Sand County Almanac*. New York, NY: Ballantine.
- Lertzman, D. A., & Vredenburg, H. (2005). Indigenous peoples, resource extraction and sustainable development: An ethical approach. *Journal of Business Ethics*, 56(3), 239–254.
- Lev-Wiesel, R. (2003). Indicators constructing the construct of 'perceived community cohesion'. *Community Development Journal*, 38(4), 332–343.
- Library and Archives Canada (2005, in perpetuity). Canadian Confederation. Retrieved from <http://www.collectionscanada.gc.ca/confederation/023001-3090-e.html>
- McCluskey, C. J. & Ensign, P. C. (2008, August 24). *Entrepreneurship at the periphery: Self-employment and small business proclivity in northern Canada*. Paper presented at the International Arctic Social Sciences Association—International Polar Year Conference, Nuuk, Greenland.
- McDermott, V. (2012). Ethics commissioner called in over refinery rejection. Retrieved from <http://www.fortmcmurraytoday.com/2012/03/20/ethics-commissioner-called-in-over-refinery-rejection>
- MEG Energy (2012). Community Relations. Retrieved from <http://www.megenergy.com/corporate-responsibility/community-relations>
- Miller, B., & Sinclair, J. (2012). Risk perceptions in a resource community and communication implications: Emotion, stigma, and identity. *Risk Analysis*, 32(3), 483–495.
- National Aboriginal Health Organization (2008). *Final report: Roundtable discussion exploring community-based responses to resource extractive development in Northern Canada*. Ottawa, Canada.
- Newton, S. T., Fast, H., & Henley, T. (2002). Sustainable development for Canada's Arctic and Subarctic communities: A backcasting approach to Churchill, Manitoba. *Arctic*, 55(3), 281–290.
- Northern Cross Ltd. (2014, January 31). Presentation to Yukon Select Committee on Hydraulic Fracturing.
- Nunavut Court of Justice (2010, September 7). Submission to the Court of Justice on additional judicial appointments.
- Nunavut Department of Environment (2013). Retrieved from <http://env.gov.nu.ca/>

- Nunavut Tunngavik Inc. (2014). Department of Lands and Resources. Retrieved from <http://ntilands.tunngavik.com>.
- Nuttall, M. (2010). *Pipeline dreams: People, environment, and the Arctic energy frontier*. Copenhagen, Denmark: International Work Group for Indigenous Affairs.
- Oncescu, J., & Karlis, G. (2009, April 30). *Social capital, leisure and transformation: The case of a school closure in a small town in Saskatchewan*. Proceedings of Leisure, Space, and Change Symposium. Ontario Research Council on Leisure.
- Ørvik, N. (1975). Northern development: Modernization with equality in Greenland. Canadian Political Science Association conference. Edmonton, Alberta, Canada.
- Parkins, J. R., & Angell, A. C. (2011). Linking social structure, fragmentation, and substance abuse in a resource-based community. *Community, Work & Family*, 14(1), 39–55.
- Poveda, C. A. & Lipsett, M. G. (2012). Wa-Pa-Su project sustainability rating system: Assessing sustainability in oil sands and heavy oil projects. In C. A. Brebbia & T.-S. Chon (Eds.), *Environmental impact* (pp. 115–128). Southampton, United Kingdom: WIT Press.
- Pretty, G. (2003). Sense of place amongst adolescents and adults in two rural Australian towns: the discriminating features of place attachment, sense of community and place dependence in relation to place identity. *Journal of Environmental Psychology*, 23(3), 273–287.
- Prime Minister of Canada (2013). <http://www.pm.gc.ca/eng/media.asp?id=5616>
- Reed, J. C. & Britton, M. E. (1971). Time of decision. *Arctic*, 24(1), 3–8.
- Robinson, M. & Ghostkeeper, E. (1987). Native and local economics: A consideration of economic evolution and the next economy. *Arctic*, 40(2), 138–144.
- Robinson, M., Pretes, M., & Wuttunee, W. (1989). Investment strategies for northern cash windfalls: Learning from the Alaskan experience. *Arctic*, 42(3), 265–276.
- Seydlitz, R., Laska, S., Spain, D., & Trice, E. (1993). Development and social problems: The impact of the Offshore Oil Industry on suicide and homicide rates. *Rural Sociology*, 58(1), 93–110.
- Shields, R. (2012). Feral suburbs: Cultural topologies of social reproduction, Fort McMurray, Canada. *International Journal of Cultural Studies*, 15(3), 205–215.
- Smith, M. & Krannich, R. S. (2000). Culture clash revisited: Newcomer and longer-term residents' attitudes toward land use, development, and environmental issues in rural communities of the Rocky Mountain West. *Rural Sociology*, 65(3), 396–421.
- Sovacool, B. K., (2007). Environmental damage, abandoned treaties, and fossil-fuel dependence: The coming costs of oil-and-gas exploration in the “1002 Area” of the Arctic National Wildlife Refuge. *Environment, Development and Sustainability*, 9(2), 187–201.

- Speer, P., Jackson, C., & Peterson, N. (2001). The relationship between social cohesion and empowerment: Support and new implications for theory. *Health Education & Behavior*, 28(6), 716–732.
- Stoymenoff, A. (2012, March 19). Alberta blasted over rejection of First Nations oil sands refinery proposal. *Vancouver Observer*. Retrieved from <http://www.vancouverobserver.com/world/canada/2012/03/19/alberta-blasted-over-rejection-first-nations-oil-sands-refinery-proposal>
- Tait, C. (2012, September 6). Alberta rejects first nations refinery as too risky. *The Globe and Mail*. Retrieved from <http://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/alberta-rejects-first-nations-refinery-as-too-risky/article4096107/>
- Theberge, J. B. (1981). Commentary: Conservation in the North – An ecological perspective. *Arctic*. 34(4), 281–285.
- Usher, P. J. (1993). Northern development, impact assessment, and social change. In N. Dyck & J. B. Waldrum (Eds.), *Anthropology, public policy, and Native peoples in Canada* (pp. 98–130). Montreal, Canada: McGill-Queen’s University Press.
- Usher, P. J., & Noble, G. (1977). New directions in northern policy making: Reality or myth? In Canadian Arctic Resources Committee (Ed.), *Mackenzie Delta: Priorities and alternatives* (pp. 87–105). Ottawa, Ontario, Canada.
- Van Hinte, T., Gunton, T. I., & Day, J. C. (2007). Evaluation of the assessment process for major projects: A case study of oil and gas pipelines in Canada. *Impact Assessment and Project Appraisal*, 25(2), 123–137.
- VanderKlippe, N. (2010, April 9). The North scrapes bottom: The Northwest Territories has feasted on diamonds for two decades, but with the great mine nearly tapped out another painful economic stretch is just beginning. *The Globe and Mail*. Retrieved from <http://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/the-north-scrapes-bottom/article4315086/>
- Wolke, H. (2003). National wilderness preservation system under siege. *Wild Earth*, 13(1), 15–19.