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# Avoiding the Resource Curse: Indigenous Communities and Canada's Oil Sands

BRENDA L. PARLEE*

*University of Alberta, Edmonton, Canada*

**Summary.** — Concerns about a resource curse in Canada have been raised in response to rapid growth in the petroleum sector in northern Alberta. In previous research, there has been little consideration of how symptoms of the resource curse are experienced and managed at a regional scale and by Indigenous communities. An analysis of effects and responses is offered using a natural, financial, human and social capitals framework. Without consideration of how to manage the symptoms of the resource curse, oil and gas activity is likely to further disadvantage Indigenous populations already living on the margins of Canadian society.


*Key words* — resource curse, natural resource management, Indigenous peoples, petroleum sector, economic development

The Chief of the Attawapiskat First Nation meets with the Grand Chief. "Sir," he says, "I have got some good news and bad news." The Grand Chief asks for the good news first and is told that the De Beers has just discovered diamonds near Attawapiskat. The Grand Chief is happy. He says, "Well, this is great. Hope for our youth. What could the bad news possibly be," he asks the Attawapiskat Chief. The reply is, "The bad news is that De Beers have just discovered diamonds near Attawapiskat." (Peerla, 2005).

## 1. INTRODUCTION

Indigenous communities in many parts of the world are socio-economically marginalized, a condition that has been recognized by numerous international covenants and declarations (Corntassel, 2012; Dahl, 2012; O'Faircheallaigh, 1998). Such poverty appears most paradoxical in resource rich regions of the world, including that of northern Alberta. Communities in such resource rich regions would seem best situated for economic opportunity and 'development', when compared to those in regions less well endowed. Evidence garnered over the last 30 years, however, suggests the inverse. Paradoxically, resource abundance, or economic dependence on natural resources, is associated with *slower* economic growth (Sachs & Warner, 2001). Although this pattern is most evidenced in parts of Africa and Latin America, this paradox of plenty has also been the subject of research in North America in the last decade (Kusel, 2001; Kwang-Koo, Marcouiller, & Deller, 2005; Leake, Adamowicz, & Boxall, 2006; Machlis & Force, 1988; Papyrakis & Gerlagh, 2004; Stedman, Parkins, & Beckley, 2005).

The resource curse is a problem most clearly defined by macroeconomic indicators such as inflation and national currency exchange rates (Sachs & Warner, 1995); however, its causes and symptoms are more complex. This paper discusses the resource curse theory and its applicability to a regional natural resource development scenario. Given that both the benefits and costs of large-scale resource development are differentially distributed, it would follow that some populations and regional economies may be more sensitive to symptoms and effects of the resource curse than others (Langton & Mazel, 2008). With this assumption in hand, the paper asks: are Indigenous communities (First Nations and Métis) in northern Alberta vulnerable to the symptoms of the resource curse and what capacity do they have to address its effects?

Answering these questions for this paper, required consideration of the specific symptoms of the resource curse and their significance relative to the socio-economic histories and contemporary realities of Indigenous communities in Alberta, Canada. Ultimately, the aim was to better understand how First Nations and Métis communities can be *better off* as a result of the unprecedented resource development boom occurring in western Canada.

## 2. SETTING AND THEORETICAL FRAMEWORK

The oil sands are a major source of unconventional oil involving the mining and processing of bitumen (oil sands). Canada hosts the only major oil sands mining industry in the world; almost half of the country's oil production comes from such mining in northern Alberta. There are three major bitumen deposits in northern Alberta – Athabasca, Cold Lake, and the Peace. The largest is the Athabasca deposit, which is located in the northeastern Alberta in the Regional Municipality of Wood Buffalo. Oil sands production from this area currently results in over two million barrels of oil per day. Production is expected to increase in coming decades. The provincial energy board, which regulates the industry, estimates that production will total 3.8 million barrels per day

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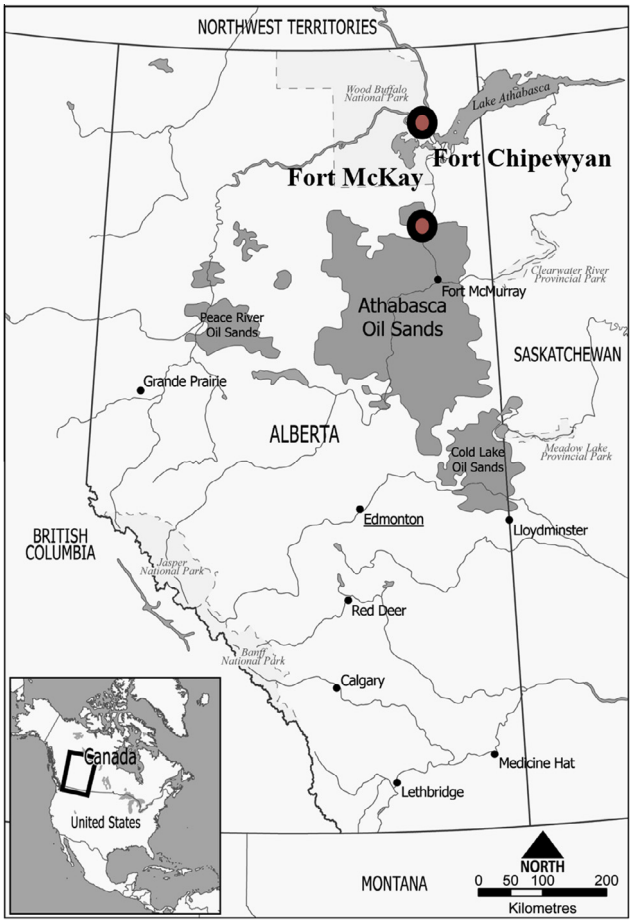


**Study Area:**
Oil Sands, Alberta

Figure 1. *Oil sands regions of northern Alberta, Canada.*

(1.39 billion barrels per year) by 2022 (Alberta Government, 2013).

The Athabasca oil sands have been in commercial production since the late 1960s with the largest projects led by Suncor, Syncrude and Shell Canada. Another nine projects were in operation in 2013 with the total area under operation calculated at over 5,000 km$^2$(see Figure 1).

The area known to petroleum producers as the Athabasca Oil Sands, is part of the traditional territory of Dene and Cree First Nations – Mikisew Cree First Nation (pop. 2592), Athabasca Chipewyan First Nation (pop. 905), Fort McKay First Nation (pop. 668), Fort McMurray First Nation (pop. 621) and Chipewyan Prairie (pop. 718). While First Nations' reserves and Métis settlement areas comprise just over 5% of the land area, a much larger proportion of the land in the region was and continues to be used and occupied by First Nations and Métis peoples (Government of Alberta, 2013).

The boreal ecosystem of the Athabasca oil sands continues to be the socio-economic basis of subsistence and livelihood for these First Nations communities, as well as the foundation of cultural traditions and spiritual beliefs (Carter, 1999). However, oil sands mining has restricted their access to these land and resources. Industrial land leases surround most Aboriginal communities in the oil sands region, making it unsafe and difficult for harvesters to use those areas. Such leases create both physical and institutional barriers to resource practices such as hunting, fishing, and trapping, as well as plant harvesting. Little has been done to recover these areas; by one government estimate, less than 1% of the roughly 50,000 km$^2$ mined by the largest leaseholders has been reclaimed (Government of Alberta, 2008).

Much of the debate about the impact and benefit of oil sands development in northern Alberta has rested upon its ecological effects.

> As Alberta's economy has grown so has ecological degradation in the form of habitat loss, landscape fragmentation, pollution levels, species endangerment, etc. The major disturbances of oil and gas, forestry, and agriculture interact in complex ways; some of these disturbances are increasing exponentially (e.g., clear cut logging), may double soon or are widespread but little studied (Timoney & Lee, 2001, p. 387).

Questions about the health of water resources and the consequent effect on human health of the Mikisew Cree and Athabasca Chipewyan communities have drawn a great deal of public and celebrity attention (Chen, 2009; Kelly *et al.*, 2009). As told by Dene elder Pat Marcel from Fort Chipewyan, 'Oil sands development in the Athabasca region has had devastating effects on our people. We are afraid to drink the water or eat the fish from the river as we have always done. The fish have strange tumors, and cancer rates in our community have increased dramatically in the last 10 years' (Pat Marcel, in Holroyd, 2008, p. 30).

Those less concerned with ecological impacts have argued that there are other benefits that more than offset these environmental disturbances and losses to the province's stores of natural capital. Is this plausible? Numerous approaches to

analyzing the costs and benefits of resource development have been undertaken – cost–benefit modeling, input–output formulas and ecological footprint analyses (Ness, Urbel-Piirsalu, Anderberg, & Olsson, 2007; Thirwell, 2006). Sustainable development theory would assert that, at minimum, the benefits of any given development activity should outweigh the environmental and socio-economic dis-benefits (Thirwell, 2006). The ability of decision-makers to determine what constitutes a significant benefit and/or cost however, is complicated by the uncertainties surrounding the effects and the diverse perspectives and experiences of those affected (Walker *et al*., 2002). Benefits and costs also tend to accrue at different scales. While concerns are growing about the contributions of oil sands mining to the climate change problem, First Nations living downstream of oil sands mining arguably bear much of the environmental effects. Benefits (revenues) tend to be captured provincially and federally, the trickle down of these benefits is perceived to be limited according to statistics on income distribution. Statistics Canada data show significant disparities between Aboriginal and non-Aboriginal peoples, particularly in the resource rich Regional Municipality of Wood Buffalo (Statistics Canada, 2006). There are also significant environmental and socio-cultural implications that fly under the radar of economic valuation (Timoney & Lee, 2001).

The resource curse has largely been theorized as an economic phenomenon, but, it has much broader economic, social, political, and cultural roots and implications (Auty, 2001). Macro-economic indicators offer definitive symptoms, however, a multifaceted conceptual lens, such as that offered by the community capitals framework (Emery & Flora, 2006), can help uncover its effects at more refined regional and local scales (Emery & Flora, 2006).

The community capitals framework refers to the assets, capabilities, and resources found within, and available to, communities for achieving their development goals (Bebbington, 1999; Sen, 1997). The capitals framework has been theorized and applied to myriad issues of community development (Bourdieu, 1986). 'The proliferation of types of 'capital' – cultural capital, environmental capital, human capital, natural capital, social capital, etc. – that have been added to the initial category of financial capital reflects the growing recognition of the complexity of economic growth' (Corbett & Swibold, 2002). What do these *capitals* really mean? Natural capital is defined here as those renewable and non-renewable resources that produce economic opportunities and benefits including financial capital. Human capital refers to the contributions of individuals as well as the education, skills, and knowledge acquired by individuals (and communities) including that valued in the market place (e.g., electrician/trade certificate); it also includes the knowledge and skills valuable by society but not priced in the market place (e.g., traditional ecological knowledge of Indigenous peoples). Social capital refers to the level of trust, civic commitment, and capacity for cooperation of a community or group (Lin, 2000) but in this paper, is also inclusive of political and cultural capital.

A capitals framework provides the basis for thinking about the effects of the resource curse as well as the tools and capacities for coping with these effects (Figure 2). The framework offers opportunities to consider the kinds of issues being experienced within northern Alberta more holistically than might otherwise be possible through one single disciplinary, theoretical, or conceptual lens.

While well developed in the broader literature, the capitals framework has not been used to study the resource curse phenomenon to any significant extent. But using this framework

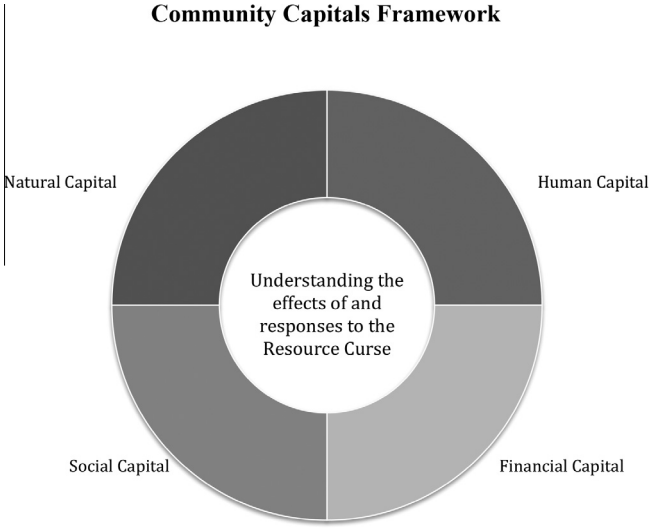


Figure 2. *Community capitals framework: The framework developed here was inspired by the work of Emery and Flora (2006); for simplification, however, the spheres of social, political and cultural capital defined by Emery and Flora (2006) are collapsed under the banner of social capital.*

and drawing lessons from the broader literature, this paper offers insights into the kinds of barriers and opportunities to economic development theorized to be present, and experienced by, Indigenous communities and other communities facing the paradox of plenty (Anderson, 1999; Kendall, 2001; Loxley, 2010).

## 3. UNDERSTANDING THE RESOURCE CURSE IN INDIGENOUS COMMUNITIES

The resource curse concept is based on evidence of an inverse relationship between resource abundance and poor economic growth; the phenomenon was first identified in Africa and Latin America (Auty, 2001; Sachs & Warner, 1995; Wheeler, 1984). Since that time, symptoms and strategies for managing the resource curse have been studied in Norway and the United States (Table 1).

Evidence of the resource curse has also been growing in Canada. Prior to the 2008–09 and most recent recessions, Statistics Canada and economic policy experts were beginning to point out possible symptoms of a resource curse tied to booming oil sands mining (Bowlby, 2005). It was hypothesized that Alberta, like other regions and countries rich in oil resources, would have a higher propensity toward such problems as consumptive spending, rent-seeking behavior and 'crowding out' (Table 1). Low investment in research and development and labor shortages in other sectors including manufacturing were also noted (Emery and Flora, 2006). Statistics Canada has also reported Alberta as having one of the highest high school drop-out rates in the country at 25%, a trend attributed to the lure of high wages in the oil and gas sector (Bowlby, 2005) (see Table 2).

Historically, Indigenous peoples in Canada were self-determining peoples with their own economic traditions (Corntassel, 2012; Frideres, 2000). However, Indigenous communities are also part of a global political economy which has significantly eroded these traditions. While there are powerful stories of political and economic resistance (Alfred, 2009), Indigenous communities in Canada are also considered

Table 1. *Symptoms of the resource curse*

| | |
|---|---|
| Mis-management of rents | Resource extraction industries, particularly petroleum and mineral resources, are characterized as boom/bust industries due to the volatility of global markets for those commodities. Research suggests that some resource curse problems are attributable to the apathy that comes of sudden wealth from resource extraction. Governments may perceive a lesser need for sound economic management and institutional quality (Gylfason, 2001; Papyrakis & Gerlagh, 2004; Sachs & Warner, 1995). Sudden increases in wealth can also lead to consumption rather than investment of resource rents at individual and institutional levels. Specifically, there is a strong correlation between economic 'booms' or sudden increases in wealth and the following:<br>• Increased public spending (Ross, 1999)<br>• Inefficient allocation of resources (Corden & Neary, 1982)<br>• Bad economic decision-making (Sachs & Warner, 2001)<br>• Rent-seeking behavior (Mehlum, Moene, & Torvik, 2006; Olsson, 2003; Torvik, 2009) |
| Crowding out of other sectors/ weakening of human capital | The 'crowding out' effect and the weakening of human capital is also symptomatic of the resource curse. The best example of crowding out was coined the Dutch disease; a boom in Holland's domestic revenue following the discovery of offshore oil led to un-competitiveness in other sectors of the economy particularly manufacturing. Inflation caused by large foreign exchange generated by exports was a key problem that went unaddressed by the Dutch government<br>An associated problem in Holland and in other economies experiencing the resource curse is brain/skill drain. High wages offered by resource sector industries can serve to draw away scarce labor from other sectors of the economy, making it difficult for them to compete. The same high wages can create disincentives for education, entrepreneurship, and innovation in other sectors effectively degrading the pool of human capital that may be necessary to develop other sectors of the economy (Gylfason, 2001; Sachs & Warner, 2001) |
| Weakening of governing institutions and social capital | Globalization critics including 'dependency' theorists have argued that the multi-national nature of resource extraction industries limits the capacity of national and local scale governments to regulate and manage resource development for their own benefit (Auty, 2001). The concern is that in boom economies in which the majority of state revenues are captured from one industry, the nation-state becomes sub-servant to multi-national interests. Scholar argue that the need for national autonomy in the face of globalization is underestimated, with geography and borders matter far more than is generally assumed (Helliwell, 2002) |
| Resource rents flowing out of the community and region | Another symptom of the resource curse relates to the leakage of resource rents. Essentially economic growth is slow because revenues leave the region/country rather than are reinvested in economic diversification or social goods (Auty, 2001). In addition to its association with the resource curse, the issue has been investigated in broader research on social and economic sustainability. Gaventa studied the effect of absentee ownership on well-being in communities in rural Appalachian, and found reduced well-being as a result of lack of access to land, lack of investment in human and physical infrastructure, and lack of economic development opportunities (Gaventa, 1995)<br>Absentee owners are also suspected of holding less commitment to community sustainability than local owners (Freudenberg, 1992; Marchak, 1983). This theory is not universal. Varghese *et al.* suggest that the link between ownership and community resiliency varies significantly depending on the composition (e.g., private *vs.* public; mill *vs.* forest license *vs.* coupled mill & forest license), type (social, cooperative, trust and/or direct-share ownership), extent of ownership (percentage of local *vs.* extra-local shares), and the level of control (e.g., proportion of locally held seats on the Board of Directors) associated with ownership (Varghese, Krogman, Beckley, & Nadeau, 2006) |

Table 2. *High school dropout rates internationally (2002) and in Canada (2000–06)*

| United Kingdom | Canada | United States | Germany | France | OECD-25 | Italy |
|---|---|---|---|---|---|---|
| 8 | 10.9 | 12.3 | 14.2 | 14.5 | 14.7 | 26.6 |
| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| CAN | 11.7 | 11.3 | 11.1 | 10.9 | 10.4 | 10.1 | 9.5 |
| NL | 14.2 | 11.3 | 9.5 | 8.6 | 8.3 | 7.9 | 8.9 |
| PE | 11.5 | 11.9 | 11.2 | 11 | 10.5 | 9.7 | 8.9 |
| NS | 12.7 | 11.4 | 11.6 | 10.8 | 10.2 | 9.3 | 8.5 |
| NB | 10.2 | 10.4 | 10.3 | 9.8 | 8.8 | 9.2 | 9.5 |
| QC | 14.5 | 14.4 | 14.3 | 13.8 | 13 | 11.9 | 11.4 |
| ON | 9.7 | 9.1 | 9.1 | 9.4 | 9.2 | 9.1 | 8.4 |
| MB | 14.2 | 14.6 | 13.9 | 13 | 12.7 | 13 | 12.6 |
| SK | 12.5 | 12.1 | 11.4 | 10.9 | 10.7 | 10.7 | 10.2 |
| AB | 12.7 | 12.6 | 12.1 | 11.9 | 11.4 | 12 | 11.3 |
| BC | 9.8 | 9.4 | 9.2 | 8.6 | 8 | 7.5 | 7.4 |

socio-economically marginalized. Those living in frontier or resource rich regions bear the greater burden of the adverse socio-economic and ecological effects of mineral production, oil and gas exploration and development (Auty, 2001; O'Faircheallaigh, 1998; O'Rourke & Connolly, 2003). There is some evidence supporting this hypothesis in resource rich areas of Canada. Gysbers and Lee argue that Indigenous communities in forested regions of Canada experience poorer socio-economic conditions than the nation as a whole including lower incomes and rates of employment (Gysbers & Lee, 2003). A similar pattern also seems to exist at provincially. Northern Alberta, which boasts one of the largest deposits of oil in the world, is also home to some of the most impoverished Indigenous communities in the country. Significant disparities exist with respect to almost every social and economic indicator (Aboriginal Affairs and Northern Development, 2003; Statistics Canada, 2006). Using four indicators – educational attainment, employment, income, and housing conditions, Statistics Canada reports that the well-being of Indigenous communities in the prairie provinces is in the bottom 1/3 percentage of the Indigenous population as a whole. In addition, some of the highest disparities between the well-being of non-Indigenous and Indigenous people have been found in northern Alberta (Armstrong, 2001).

The 'resource curse' was first coined to explain the uneven patterns in economic growth among countries rich in natural resources and those less endowed. Although narrowly defined by economic indicators (e.g., currency exchange rates), the symptoms of the resource curse are more complex with many socio-cultural and political dimensions (Table 1). To what extent are Indigenous communities in northern Alberta more susceptible to the symptoms of the resource curse than non-Indigenous communities? What are the means by which communities may be able to address resource curse effects to build more sustainable communities?

(a) *Economic history of Indigenous communities in the oil sands*

The present day economies of Indigenous communities in northern Alberta have been shaped by both pre-colonial and colonial histories (Coulthard, 2007; Frideres, 2000). Historically, the livelihoods of First Nations and Métis communities in northern Alberta were oriented around subsistence harvesting – hunting, fishing, and the accumulative of forest resources including berries and medicinal plants. The development of the fur trade economy in western Canada including northern Alberta, arguably transformed the relationship of First Nations and Métis communities to the land and resources as well a subsistence livelihoods. As noted by Tough (1996), the fur trade economy was highly exploitive of the labor of Indigenous peoples who were often the victims of highly variable prices of furs in the European market.

> The HBC's concept of profit was based on an effort to make profit on both sides of the exchange cycle; this included the pattern of buying low and selling high when it came to fur prices as well as goods traded. Under monopoly conditions, the Company could 'whipsaw' the Indian trapper by reducing the buying price of furs and increasing the selling price of trade goods. Innis argued that the HBC could protect itself from a fall in prices because "the Company must take a wide margin on the price of the goods (Tough, 1996, p. 268).

By the end of the fur trade, the effects of such economic exploitation were widespread with varying degrees of consequence. But the situation was not one-dimensional: there was significant variation in contact experiences. 'Indigenous people with widely varying histories, economies and cultures had quite different responses to the strangers in their midst, including accommodation' (Carter, 1999, p. 35). The economic vulnerability caused by decades of trade as well as alienation and exploitation of other resources including fish, forests, and minerals facilitated by the Treaty process, compounded the health consequences of diseases such as small pox, tuberculosis, and influenza (Waldram, Ann Herring, & Kue Young, 2006). By the late 1800s, many scholars including historians described Indigenous people as almost completely disenfranchised from the emerging mainstream economy of western Canada. Indigenous people were viewed, not as allies in frontier development, but as a 'problem' to be mitigated or addressed.

> I want to get rid of the Indian problem. Our objective is to continue until there is not a single Indian in Canada that has not been absorbed (Duncan Campbell Scott, Superintendent-General of Indian Affairs, 1920; cited in (Moffat & Herring, 1999, p. 114).

Strategies at assimilation, such as the residential school system, were developed by the federal governments of the time to rid the country of the 'Indian problem' (Moffat & Herring, 1999, p. 114). By the 1960s, however, it was clear that assimilationist approaches were not a viable solution to the growing poverty on reserves, particularly for communities in northern regions of the province. The Federal government began encouraging Indigenous peoples to leave their remote communities and land-based lifestyles and move to cities (Hawthorn, Cairns, & Tremblay, 1967). On the whole, communities did not benefit to any great extent from these economic development strategies. The efforts, however, well intentioned, had many negative consequences. The social and cultural costs of the residential school system have been grave (RCAP, 1993).

Encouraging local entrepreneurship and business development was the strategy that came into vogue in the 1970s, however, lack of viable markets, inadequate infrastructure, and the small size and remoteness of many Indigenous communities were major impediments to the success of this strategy (Saku, 2002). Attention eventually turned to human resource development; resources were allocated to education at the primary and secondary level as a means of developing knowledge and skills for wage employment and business development. This approach was relatively successful when compared to earlier programs (Saku, 2002). The effort increased rates of completion of high school and post secondary school during 1981–99 from 41% to 55% (McCallum, 1999).

By the 1980s, policy makers began to recognize the need to address a broader set of socio-cultural (and environmental factors) at the same time as economic goals in order to achieve sustainable economic development. Today Indigenous communities are encouraged to hitch their economic development futures to the boom in the petroleum sector. Government leaders, policy analysts, and some Indigenous leaders tout it as a panacea out of poverty. But how viable is this approach to economic sustainability for Indigenous communities? It is in this context that we return to the question of the resource curse.

### (b) *Natural capital and Indigenous rights to lands and resources in Alberta*

Large-scale resource extraction activities are often approved on the assumption that the public will benefit from the economic activity – governments attempt to capture rents that facilitate 'development' or improved quality of life. For Indigenous communities, one of the keys to leveraging such rents is the recognition by industry, the province and federal government of their rights to capture economic benefits from the lands and resources around them. These rights have been analyzed as fundamental to Indigenous livelihoods and conceptualized here as one of the 'capitals' needed to achieve economic development outcomes (Anderson, Dana, & Dana, 2006, p. 47).

'Aboriginal rights' to lands and resources are defined and protected within Treaty and the Canadian Constitution (1989). However, given that Indigenous communities were systematically marginalized through European settlement, their 'rights' to lands and resources are complex and contested arrangements (Ross, 1999). The greatest contest has been between First Nations and the Government of Alberta. The Natural Resources Transfer Agreement, 1930) transferred 'authority' over natural resources from the federal to provincial governments. In opposition to Treaty #8 (1899) signed with First Nations of the region and the state, the NRTA states that: 'only the Alberta government has a legal right of ownership and management of provincial lands and resources' (Government of Alberta – Aboriginal Affairs and Northern Development, 2001). Currently, the province enjoys: broad discretionary powers in allocating rights to access and use of public lands and natural resources (Kennett & Ross, 1998). Alberta's provincial legislation provides no real guidance on if or how to acknowledge and protect treaty rights. Any protection of Aboriginal rights in the resource development context 'often results indirectly from provisions that are designed to minimize environmental impacts during the development process' (Ross, 1999, p. 21). Further evidence of the province's lack of consideration of Indigenous land interests can be found in the 2003 Amendment to the *Public Lands Act*. This amendment further entrenched the rights of corporations to public lands by limiting access of Indigenous peoples and others to roads and other resource corridors; it essentially created a system of 'open access' to crown lands in which Indigenous peoples have become marginalized (Ross, 1999).

This conflict between Indigenous rights and the efforts of the state to develop First Nation and Métis lands have consistently been flagged by the Canadian courts. In Alberta, provincial government and industry interests have systematically disregarded or opposed efforts of First Nations and Métis to exercise Treaty and constitutional rights. The situation of the Lubicon Cree First Nation is perhaps the most public case of land dispossession becoming a human rights case considered by the United Nations Human Rights Tribunal (Huff, 1999). As noted by Goddard, the Lubicon case is demonstrative of 'what can happen when an [Indigenous] community tries to assert its rights to a territory rich in oil' (Goddard, 1991, p. 6). Faced with almost insurmountable barriers to land claims in Alberta, First Nations and Métis have thus turned to other legal, political, and social mechanisms to meet their political and economic interests (Parlee, Goddard, Łutsël K'é Dene First Nation, & Smith, 2014).

Legal requirements to 'consult' now offer some opportunities to influence both government and industry. Supreme Court rulings such as *Delgamuukw v. British Columbia (1997)*, *Haida Nation v. British Columbia (Minister of Forests) (2004)*, and *Taku River Tlingit First Nation v. British Columbia (2004)*, and *Mikisew v. Crown* have also created a range of obligations and requirements for consultation and the involvement of Indigenous people in resource management decision-making. Although there is currently no province-wide consultation policy or set of guidelines, consultation (which occurs under through the environmental assessment process in accordance with the *Environmental Protection and Enhancement Act* as well as community-specific consultation processes) have enabled Indigenous communities in Alberta to influence development to some extent – ensure their rights to resources are respected. [1] But as noted by some scholars, the current process of consultation remains relatively ineffective at protecting the rights and interests of Indigenous peoples in Alberta (Passelac-Ross & Potes, 2007; Sharvit, Robinson, & Ross, 1999). Although sitting on lands and resources of significant economic value, Indigenous communities in northern Alberta thus have limited means to develop those resources in ways that create or sustain their economic futures.

### (c) *Managing community revenues from resource development: financial capital*

Despite the complexity and conflict over land and resource rights, some First Nations and Métis communities have been able to garner revenues from petroleum exploration and development on their traditional lands through agreements with industry. Many such arrangements have come about, not as a result of the benevolence of government, but through litigation of threatened litigation on the part of First Nations (Passelac-Ross & Potes, 2007). Such revenues are not, however, an absolute assurance of economic growth or 'development'.

Empirical study of natural resource development economies reveal a consistent problem in the management of resource rents including inefficient management and allocation of resources (Corden & Neary, 1982), bad economic decision-making (Sachs & Warner, 2001), rent-seeking behavior or corruptive economic practices (Baland & Francois, 2000; Krueger, 1974; Olsson, 2003; Torvik, 2009) and unsus-

tainable levels of public spending (Ross, 1999). Economists attribute this systemic problem of bad governance to a kind of apathy or a false sense of security about the sustainability of the economy that can come with the sudden increases in wealth. Such issues of governance are not only apparent at a national level. Regional and community governments are also guilty of this kind of mis-management and rent-seeking behavior. 'There is a growing recognition that the payment of royalties to incorporated bodies in areas affected by mining can result in excessive regional politicking for these moneys, with a concomitant lack of attention to longer-term economic opportunities and an inability to accumulate venture capital for investment' (Altman, 1996, p. 298).

What is the solution? Research with Indigenous communities in Australia, Canada, and Alaska point to some key tools and mechanisms for capturing and sustaining benefits from these kinds of economic rents. These include: informal resource-sharing arrangements, impact and benefit agreements, and business contracts with community organizations or corporations. How do these revenues translate as benefits? In some cases, revenues are allocated out on a per capita basis to individuals recognized as having legal rights. In other incidences communities withhold all or a percentage of revenues for re-investment in the community programs, events, or infrastructure. Trust funds are a common model in some case studies. 'The Alaskan oil fund, with quarterly payment of the dividends to all Alaskans, seems to be one of the most transparent and effective arrangements for these funds. The Kiribati trust fund, built up earlier from phosphate mining revenues and more recently from fishing license fees, and under direct government control, has been well-invested and continues to grow' (Duncan, 2003, p. 320).

Regardless of the mechanism of revenue sharing, there are concerns about how such revenues influence the course of development of specific communities. 'The ability of local people, particularly Indigenous people, to bargain effectively and protect their social and cultural autonomy in a corporate framework is a strategic dimension of community change and a necessary focus of social assessments of change' (Lane & Rickson, 1997, p. 125). Inequities of power in the relationships between Indigenous people, governments, and corporations stemming from histories of exploitation and dependency affect the ability of Indigenous communities to effectively negotiate (Snipp, 1986).

What constitutes an effective revenue-sharing arrangement is also not well understood beyond the experience of individual communities. Greater consideration is needed on how 'processes and relationships constructed at one scale interpenetrate and are interpenetrated by those constructed and manifested at other scales' (Howitt, 2002, p. 137).

Commitment and good faith on the part of both the community and the corporation in negotiating revenue-sharing arrangements or contracts is critical from an economic development standpoint. Conflicts often create uncertainties that can lead to reduced interest in exploration and development and reduced investment. In the Australia context for example, disputes between Indigenous peoples and corporations are common, a problem that Duncan attributes to an 'asymmetry of information between developers and the mining companies, the time inconsistency of contracts, and the incompleteness of contracts' (Duncan, 2003, p. 318). What is required is better design of contracts to ensure security for companies and benefits for communities including better revenue-sharing arrangements (Duncan & Duncan, 1997). In Australia, Indigenous communities identified the need for better models on which to develop contracts. 'Avoiding such 'rent-seeking' behavior and ensuring that mineral discoveries make the best possible contribution to the welfare of [Indigenous] communities involves negotiating effective contracts with mining companies and the effective management of the share of mining revenues accruing to the communities' (Duncan, 2003, p. 318). More research is needed on the institutional arrangements and systems of governance that work in Indigenous communities and will ensure governing elite manage funds in the best interests of beneficiaries.

### (d) *Avoiding the brain drain: the importance of human capital*

Of the most enticing promises of petroleum resource sector to Indigenous communities is the promise of employment. For those living on the socio-economic margins, the possibility of high wages in the oil and gas sector has been particularly significant in drawing support and participation of northern Alberta's Indigenous communities. This is no surprise. Unemployment levels in Indigenous communities are significantly higher than in other communities in northern Alberta including the Regional Municipality of Wood Buffalo. The unemployment rate in communities closest to Fort McMurray ranges between 11% and 33% (Statistics Canada, 2006). In some communities, the unemployment rate can be as high as 82% – extreme when compared with the 4–5% unemployment rate calculated for this Alberta region defined as Wood Buffalo/Cold Lake (Government of Alberta, 2010; 2014).

Indigenous communities have historically been conceptualized as a mixed economy in which both the formal and informal economy are interrelated (Abele, 1989; Usher, Duhaime, & Searles, 2003). Individuals and households in such an economy have knowledge and skills relevant for both wage employment in the petroleum sector and for 'traditional' forms of work including subsistence harvesting (Wilson & Rosenberg, 2002).

Although there is a trend toward greater employment in a wage economy, the informal economy in many northern Alberta communities continues to persist; it may indeed be serving to offset some of the symptoms of a resource curse. As the benefits of the formal economy fluctuate, individuals and households rely more or less on the traditional economic sector. 'Subsistence in a mixed economy acts like a sponge, absorbing labor when other opportunities decline and releasing it when they arise' (Usher *et al.*, 2003, p. 178).

Some policy analysts suggest that employment in the petroleum sector is the big ticket out of the poverty trap for Indigenous peoples (Bains, 2013). Employment of Indigenous peoples in the mineral/petroleum sector in northern Alberta and Canada has remained relatively steady in the past decade (2007–12) at 5%, however, there are concomitant efforts to increase this margin (Government of Canada, 2013). Over-emphasis on employment in petroleum sector, while creating short-term individual benefits, can have medium long-term adverse effects. In many resource curse economies, the draw of higher wages in the resource sector, particularly the oil and gas sector, can precipitate a skill and brain drain or skill drain away from other sectors of the economy (Table 1). The need for unskilled labor or semi-skilled labor also serves as a disincentive to higher education, training and entrepreneurship (Cohn & Addison, 1998).

Is this a major concern given the high levels of unemployment that exist in many First Nations and Métis communities? A brain/skill drain issue may not be a problem, if individuals were indeed moving in a black and white fashion from an absolute state of unemployment or low employment to one of full employment. But often those most likely to be success-

ful in achieving employment outside their community are those already skilled and gainfully employed. As such the unemployment rate may not decline as employment in the petroleum sector increases, but communities may be facing shortages in skilled and knowledgeable workers in key areas of the local economy.

As such increasing wage employment in the petroleum sector many not be resulting in any real development or advance in human capital for the community or region – especially if positions are for unskilled labor. The draw of high wages in the unskilled wage sector, is seen as exacerbating an already existing problem of low educational attainment across the province and in Indigenous communities (Mendelson, 2006) (see Table 3).

Why is educational attainment so low? The intergenerational trauma that has resulted from the residential school system in Canada, coupled with lack of culturally appropriate curricula can explain much of the present statistics. The lack of role models in professional positions is also thought to exacerbate the lack of interest and trust of Indigenous peoples in education and training as a means of development (Tanner, Krahn, & Hartnagel, 1995). This is not uncommon in other parts of Canada and similar economic contexts of Australia. In an Australian study on attitudes toward higher education, those students from low socio-economic backgrounds were less likely to perceive university as important, perceived limited parental support of higher education, and anticipated more barriers to achieving a university education (James, 2003). Given such low educational attainment trends, Indigenous communities will tend to feel the losses associated with a brain/skill drain more acutely.

To address this problem, some communities have attempted to build a more fixed link between education and wage benefits through firm-specific training. While this appears to have been effective in creating employment and addressing labor shortages in the short term, emphasis on firm-specific training over the long term may perpetuate a resource curse problem by creating over-dependency on a single industry; or in other words, limit the capacity of individuals and communities to adapt to other economic development opportunities (Middleton, 1993; Ziderman & Horn, 1995).

### (e) *The importance of social capital in coping with the resource curse*

Social capital has been theorized as important to communities coping with the ups and downs of economic opportunity, environmental hazards (such as climate change), alleviating poverty, and achieving food security (Portes, 1998). While not a panacea, it may also be valuable for those coping with the regional effects of the resource curse.

Early references to social capital can be found in the work of Coleman and other sociologists who observed that individuals draw on the collective resources of groups in addition to traditional forms of economic capital (physical, human, and natural) to address their individual needs and interests (Portes, 1998). Putnam defined social capital as 'features of social organization, such as networks, norms and social trust, that facilitate coordination and cooperation for mutual benefit' (Putnam, 1995, p. 67). It differs from other forms of capital discussed above in its relative intangibility, 'for it exists in the relations among people' (Coleman, 1988, p. S101). Numerous scholars have evolved the concept, demonstrating that without adequate forms of social capital, individuals and communities may be unable to develop other forms of capital (e.g., human capital, effective) and may be limited in their ability to achieve critical goals such as cultural sustainability, political efficacy, and economic development (Portes, 1998).

The intangibility of social capital makes it difficult to assess and measure. Mignone and O'Neil suggest that social capital in the First Nation context can be measured by the degree that its resources are socially invested; that it presents a culture of trust, norms of reciprocity, collective action, and participation; and that it possesses inclusive, flexible, and diverse networks (Mignone & O'Neil, 2005). Other attributes of social capital may be visible in social indicators research or that related to well-being. Parlee *et al.* provides a model of Dene health and well-being with indicators revolving around the community's capacity for self-government, healing, and cultural preservation (Parlee, O'Neil, & Lutsel K'e Dene First Nation, 2007). Social capital of a bonding nature is closely reflected in such indicators as intergenerational knowledge sharing (elders sharing knowledge with youth) family cohesion (parents supporting youth); volunteerism, civic participation (participation in public meetings), social interaction and communication, demonstration of traditional values (respect for the land); and participation in cultural events such as caribou hunting and spiritual gatherings (Parlee *et al.*, 2007).

Many aspects of social capital are grounded in the cultural traditions and subsistence economies of Indigenous communities (Usher *et al.*, 2003); the associated knowledge, practices, and institutions might equally be framed as cultural capital (Berkes & Folke, 1994). As Duhaime and others have noted, subsistence does not simply involve hunting, fishing, and other food gathering activities; '...it is a powerful ideology that extends into other areas of life including raising of children, and the treatment of elders. It also contributes to the structure of social relations, community leadership and moral authority' (Duhaime, Searles, Usher, Myers, & Frechette, 2004). As communities become more involved in other kinds of economic activity, there are real risks that the social norms that ensured the well-being of communities become eroded. Finding ways to maintain or build upon the social capital associated with subsistence economies in emerging resource development economies will create opportunities for real economic opportunity and benefit. The lack of continuity in social norms, or the disruption of social systems, may greatly limit the continuity of identity and community known to be protective of many aspects of community health and well-being (Chandler & Lalonde, 1998).

Table 3. *Percentage of Canadian aboriginal people in post secondary education (Mendelson, 2006)*

| | Aboriginal identity (%) | Total Canadian population (%) |
|---|---|---|
| Less than high school graduation certificate | 48 | 31.3 |
| High school graduation certificate only | 9.9 | 14.1 |
| Trades certificate | 12.1 | 10.9 |
| College certificate | 11.6 | 15.0 |
| University certificate | 1.4 | 2.5 |
| University degree | 4.4 | 15.4 |

> The ancestral customs, thin as they may wear in some cases, serve as ideological mooring where the collective imagination can anchor and elaborate a concrete identity, even if invented, even if tainted by borrowing from the very culture it claims to oppose politically, constitutes the impregnable rock on which Indigenous peoples lay their claim, mobilize themselves and express their desire to gain autonomous control of their collective destiny (Salée, 1995, p. 293).

There are different forms of social capital that may help address the resource curse problem; these can be classified as bonding and bridging social capital. The former refers to the value assigned to social networks between homogeneous groups of people and the latter to that of social networks between socially heterogeneous groups.

> Identifying ways to link *exclusive* forms of indigenous social capital to more *inclusive* forms of social capital that integrate families, communities and nations into global economy is a core problem of our age... this can be seen as a need to find ways to connect traditional forms of *bonding* social capital to new forms of *bridging* social capital" (O'Brien, Phillips, & Patsiorkovsky, 2005, p. 1041

Those communities with strong social capital of a bonding nature may have a greater capacity to offset socio-economic inequities associated with the resource curse. Furthermore, those communities able to build social capital outside of their own communities to other locales may be less vulnerable to external pressures from government or industry and may be able to take advantage of new opportunities and innovations (Woolcock, 2001, p. 12).

Many economists are now recognizing the value of social capital as a factor in the management of natural resources (Pretty, 2003) and as a precursor to economic development (Casey & Christ, 2005; Light & Dana, 2013). How does this work?

> The implied causal chain starts with membership in civic and social organizations, creating generalized bonds of trust within a community. These in turn serve to lower economic risk and reduce transaction costs (by increasing the 'social costs' of malfeasance and free riding), which facilitates the dissemination of organizational and technical knowledge, enhancing both economic and governmental efficiency and, finally, enhancing community prosperity (Casey & Christ, 2005, p. 828).

The value of social capital as an indicator of economic growth is not, however, universal. Miguel *et al*. studied social capital indicators across 274 Indonesian states and found no correlation with economic development outcomes from industrial activity (Miguel, Gertler, & Levine, 2005).

Indigenous communities in northern Alberta have well-developed forms of social capital that have enabled them to cope with an inordinate degree of social change in their communities over the last half century; examples of endogenous forms of social capital arguably including cultural and oral traditions and practices for hunting, trapping, and fishing which still continue despite the encroachment and effects of resource development (McCormack, 2010). Food-sharing networks as well as other social supports (e.g., traditional health care and healing practices) have also provided strength in facing a growing list of environmental changes, human health problems which are attributed to oil sands activity including increased cancer rates (Chen, 2009; Kelly *et al*., 2009). Despite being a small community, Mikisew Cree First Nation and Athabasca Chipewyan First Nation have been successful in building other forms of social capital outside their community.

Evidence of bridging social capital at work can be found in the social relations between, built by and with the Indigenous community of Fort Chipewyan in northern Alberta, environmental organizations and other governments outside of Canada. Specifically, the community has seemingly been able to educate and build social capital to help address the negative experiences with oil sands development. Media releases (involving celebrities) and films, such as 'Dirty Oil' and 'H2Oil' have been part of that effort. Other formal lobbying in international forums has also been important. In 2005, leaders from Fort Chipeywan traveled to Geneva to make a presentation before the United Nations on Human Rights and Climate Change. The use of media to influence the imaging of oil sands and its effects has been highly effective in building social capital outside of Alberta and Canada. 'Save Fort Chipewyan' campaigns have seemingly emerged in many parts of the globe – from Germany to Japan. What will be the net effect or value of such social capital? Further research is needed to explore the ways in which Indigenous communities may be better off as a result of these linkages established within and outside of their community. While not a panacea for addressing the resource curse, social capital may provide some key resources needed for coping with many of the oil sands effects and may also serve as a point of leverage for building other kinds of capitals (discussed earlier) needed to achieve greater benefits and mitigate effects.

## 4. DISCUSSION AND CONCLUSION

Large-scale natural resource development poses both opportunities and challenges for Indigenous communities including those living in northern Alberta, Canada. A rich endowment of natural resources in the region would suggest that economic growth is guaranteed, yet socio-economic statistics, as well as Aboriginal leaders, tell a much different story. Many Indigenous communities in Alberta suffer disproportionately from the adverse socio-economic and ecological implications of resource development and see few socio-economic benefits (Anderson, 1999; Armstrong, 2001; Kendall, 2001; Loxley, 2010). The paradoxical slow pace of economic growth in a region, so rich in natural resources, may be considered a regional example of the resource curse (Kangning & Jian, 2005; Papyrakis & Gerlagh, 2007). This paper considered to what extent Indigenous communities have the means to cope and adapt to the regional and local effects of resource curse in ways that ensure benefits and minimize disbenefits. While the socio-economic equity and development challenges in Alberta cannot be absolutely labeled a resource curse problem, the analysis and framework offered here might nonetheless be useful in thinking about the broader social-economic, cultural, and political dimensions of this economic phenomenon. Using a community capitals framework that features natural, financial, human and social capital, the paper considered these other dimensions in a manner meant to highlight how communities might be better off despite the 'development' occurring in their regions.

The paradox of plenty evidenced in Alberta is arguably deeply rooted in colonial histories of land and resource dispossession (e.g., forced resettlement of Indigenous peoples to marginal reserve land) (Frideres, 2000). As a result many First Nations and Métis communities are without the natural capital (land and resources) needed for sustainable livelihoods. However, with the recognition of Aboriginal rights in the Canadian constitution and fiduciary obligations to consult, there are emerging opportunities for communities to leverage their legal rights and interests to achieve greater economic opportunities. Best practices for accessing such economic benefits at the regional or community level (e.g., revenue-sharing arrangements) are not well established; nor is it clear how and to what extent, the increase in revenues are currently translating into improvements in the quality of life, well-being, or sus-

tainability of communities. Efforts to capture benefits through increased training and employment in the petroleum sector, while considered a panacea by some policy analysts, may carry risks synonymous with the resource curse. Brain/skill drain is a real issue for communities unable to compete with high wages in the petroleum sector.

On the whole, Indigenous communities in northern Alberta, as elsewhere in Canada, are marginalized in their access to natural, financial, and human capital; recognizing that the availability of and access to these forms of capital are interconnected with the resource curse phenomenon (e.g., Table 1), one might argue that as resource development continues, the effect of the resource curse will worsen, with Indigenous communities having fewer and fewer resources and assets on which to draw to cope with its effects.

In that context, social capital may be the most critical form of capital; there is evidence that some Indigenous communities have been highly effective at developing both bonding and bridging forms of social capital and that these social, political, and cultural resources are important to may aspects of livelihood and well-being. There is also the potential that social capital can help address losses of other forms of capital. For example, social movements involving organization of community groups in Fort Chipeywan with environmental organizations in other parts of North America and Europe, have placed pressures on provincial and federal governments to address gaps in their environmental monitoring programs including lack of traditional knowledge.

The question of whether such social capital has developed (and can continue to flourish) in spite of, or because of the marginality of Indigenous peoples in mainstream development, is an important one moving forward. While some research indicates that the availability of social capital and its value in achieving development goals hinges on the support of the state (Skocpol, 1996; Tendler, 1997), this may not be true in this Canadian context. Indigenous scholars in Canada and elsewhere have indeed argued and evidenced that dependence on the state has done more to erode social and cultural traditions of social and economic organization in Indigenous communities and it is only by resisting engagement with the state that Indigenous communities can move forward and achieve economic self-sufficiency and self-determination (Alfred, 2009; Corntassel, 2012). Others have argued that the withdrawl of the state and the creation of more neoliberal approaches to economic development can create greater opportunities for Indigenous engagement in mainstream society (Flanagan, 2008; Slowey, 2008).

The petroleum sector in northern Alberta is expanding at a pace and scale not previously seen in Canada or globally. The 'oil sands' is now the largest industrial project on the globe with millions of dollars being generated annually for provincial and federal governments. As oil sands mining continues, the relative poverty being experienced by Indigenous communities in this regional context becomes even more apparent. The persistence of such poverty amidst plenty precipitated this research on the 'resource curse' and consideration of the relevance of this theory to the regional context of northern Alberta. This paper has demonstrated that symptoms of the resource curse are present in northern Alberta and felt acutely by Indigenous communities. At the same time there are opportunities to address these symptoms such that Indigenous communities can be *better off* as a result of the oil sands boom. The paper does not attempt to prescribe a course for development but rather has sought to understand why some communities may be better able to achieve benefits from a booming natural resource economy and others do not. Access to different forms of natural, human, financial, and social capital suggests a typology for thinking about what resources and capacities are available to communities coping with the stresses of resource curse effects in their regions. While arguments have been made through other global case studies, that social capital matters to the livelihoods of Indigenous communities, this paper advances our understanding of the similarities between these case studies and the experiences of Indigenous peoples in Canada and the significance of social capital to sustainable resource development.

## NOTES

1. Under the Environmental Protection Timber Harvest Planning and Operating Ground Rules, there are also 'Procedural requirements' to inform individuals with trapping licenses who may be affected by resource development activities. It is important to note however, that this requirement is based on the trapping license and not treaty rights (Ross, 2003, p. 24).

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