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From Boom and Bust to Regional Waves: Development Patterns in the Peace River Region, British Columbia

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ABSTRACT

Many studies of rural and remote resource region development focus upon the stresses associated with economic booms or busts. But what happens in regions where, over time, the pattern has become one of on-going and alternating up- and down-swings in economic activity? Rather than coping with the pressures of growth or contraction at various times, communities must adapt to a perpetual state of readiness to react and plan within a much more compressed timeline. We use the concept of “regional waves” to describe this new pattern of economic development and impact on remote rural regions. To explore this phenomenon, we draw upon the Peace River region of northeastern British Columbia, Canada, where the oil and gas industry has been well established for decades. We begin with a review of Staples Theory, and the challenges for local and regional economies associated with staples dependency and the staples trap. This is followed by the introduction of regional economic waves that are set against a context in which communities, as a result of neoliberal policies, are increasingly left on their own to react to the pressures of change. The paper goes on to examine how communities with limited capacities and service resources are reacting through innovative responses to the regional wave pattern. We review community innovation in response to four issues: infrastructure deficit, human and social service provision, services to industry, and housing. The discussion then highlights how this oil and gas frontier region has experienced rapid and alternating cycles of economic up- and down-swings; how these connect with the role of the private sector; the consequences of a neoliberal approach to development policy; and the demand for a new model of resource town development that addresses the need for ongoing readiness.

Keywords: oil and gas development, regional development, boom-bust, regional development waves

1.0 Introduction

Many studies of rural and remote resource industry development focus on the stresses associated with economic change. Scholars have explored the socio-economic impacts of economic booms in resource-based towns and a range of associated implications (Lawrie et al., 2011); for example, these places must cope with increasing pressures on housing, physical infrastructure, health, education, community services, local and regional transportation, etc. (Storey & Jones, 2003). Simultaneously there exist concerns about social problems, such as drug and alcohol addiction, strained relationships, and increased crime and violence (Goldenberg et al., 2010; Parkins & Angell, 2011). Also present are challenges with recruiting, retaining, and addressing the needs of labour, not just in industry but in other professional and service sectors as well. In terms of economic downturns, much of the attention has focused upon the impacts of industrial restructuring on the life cycle, decline, or closure of resource-based towns (Bradbury, 1987; Browne et al., 2011); for example, it has been argued that following industry decline, and the loss of jobs and household income, there is an increased demand for welfare, education, training, and other support services (Bluestone & Harrison, 1982; Harvey 1993). Moreover, impacts on physical and mental health, as well as strained family and social relationships, are coupled with the loss of health benefits. Unfortunately, services and program supports are often withdrawn when they are needed the most in order to support capacity and economic renewal (Halseth et al., 2003).

But what happens in regions where, over time, the pattern has become one of on-going and alternating up- and down-swings within sector activity? Rather than coping with the pressures of growth or contraction, communities are forced into a perpetual state of readiness in order to react to both scenarios. In this paper, we draw upon the Peace River region of northeastern British Columbia (BC), Canada, where the oil and gas industry has been well established for decades. We begin with a review of Staples Theory and the related challenges created for local and regional economies. This is followed by the introduction of regional economic waves that are set against a context in which communities, as a result of neoliberal policies, find themselves increasingly on their own to react to the pressures of change. The paper goes on to examine how communities with limited capacities and service resources are reacting through innovative responses. We review community innovation in responding to four classic boomtown issues: infrastructure deficit, human and social service provision, services to industry, and housing. The discussion then highlights how this oil and gas frontier region fits neither boom nor bust characterizations, and how a new model of resource region development is required. However, it must be made clear that rather than refuting the very valuable contribution represented by boomtown and economic collapse literatures, we are arguing that they are a valued foundation that needs to be augmented through the recognition that up- and down-swing cycles now occur with great rapidity in contemporary resource frontier development regions. As Freudenburg and Frickel (1994, p. 283-284) argue, “there is a need, in short, for development theories to consider...the factors that are more specific to a given time and place”.

2.0 Staples Theory, and Local and Regional Economies

Differing from traditional market-based theories of development (Drache, 1976; Mackintosh, 1991), Staples Theory provides a useful approach to understand the dependencies that connect resource-based activities with local and regional economies. Established by Harold Innis in 1933, it describes the dependency of the Canadian economy on the successive export of raw resources (mainly forestry, mining, and oil and gas in BC). These resource commodities are known as “staples”. In the case of northern BC, there is a clear dependence on staples commodities as provincial policies through the 1950s and 1960s expanded resource-based development as an economic engine to facilitate expansion and growth in the province (Markey et al., 2012).

There are several key weaknesses with a staples-based economy. First is the dependent nature of the economy on exported raw materials that are influenced by demands and prices in more technologically advanced countries. This dependency upon the needs and demands of external markets enhances the vulnerability of resource-based towns (Barnes, 1996). Secondly, development of resource-based towns and regions can be ‘truncated’ due to the significant capital investments that are required to support large resource-based projects (Innis, 1950). In the case of BC, the province used incentives to attract foreign capital in order to meet capital investment needs (Hayter, 1982): creating specialized regional economies for export to global markets (Polèse, 1999). The goal was to create a comparative advantage for lagging regions by using resource extraction to expedite development (Gunton, 2003). The quantity and quality of natural resources in the Canadian hinterland allowed provincial governments to benefit from resource rents and entice resource companies to facilitate the expansion of settlements into remote areas (Markey et al., 2008). Concomitantly, this resulted in a loss of control over strategic investment decisions. With no impetus for diversification, many companies are content to continue exporting raw commodities needed to meet market demands or as inputs into the other components of their international holdings (Markey et al., 2008). The “staples trap” is where a resource hinterland remains just that: a resource hinterland with little economic diversification (Carson, 2011). Economic change since the early 1980s has created a more complicated rural and small town landscape. While some areas are diversifying their economic foundations, northern BC remains heavily staples dependent (Baxter, 2002; Baxter et al., 2005; Markey et al., 2012).

3.0 Neoliberal Approach to Development Policy

Neoliberalism has dominated public policy since the 1980s and has resulted in a process of government de-regulation, the withdrawal of program supports, and the dismantling of central planning policies of government intervention (Peck & Tickell, 2002). Jessop (2002) describes how neoliberal policy shapes economic, political, and social relations by endorsing the market economy, minimizing government intervention, and maximizing the freedom of individuals. One consequence has been the removal of regional equalization policies that provided communities with some protection from fluctuating global markets and the mobility of foreign resource-based companies (Polèse, 1999). It has also meant that rural and small town places have been pushed by senior levels of government to compete in the global market to attract private investment to support economic development and fund local infrastructure and services (Markey et al., 2006).

Neoliberalism is redefining the roles and responsibilities of government and industry in resource-based rural regions. As senior levels of government promote resource development, they are also reducing their direct financial support for local communities (Markey et al., 2008; Polèse, 1999). Albareda et al. (2008) suggest that governments are filling the financial support void by advocating for increased corporate social responsibility (CSR) practices. Reliance on CSR programs “to develop collective action to deal with social demands that cannot be met by the state” (Albareda, et al. 2008, p. 349) brings into question government and corporate roles and responsibilities for distributing resource wealth back to rural communities. Sadler and Lloyd (2009, p. 616) describe the growing reliance of governments on CSR programs as creating an “in-between” policy space, setting new “extra-local rules for corporate activities”. These in-between policy spaces are being created outside of official policy spheres, where political leverage, recommended practices, and negotiations now dominate how corporations, governments, and local communities interact (Heisler & Markey, 2013).

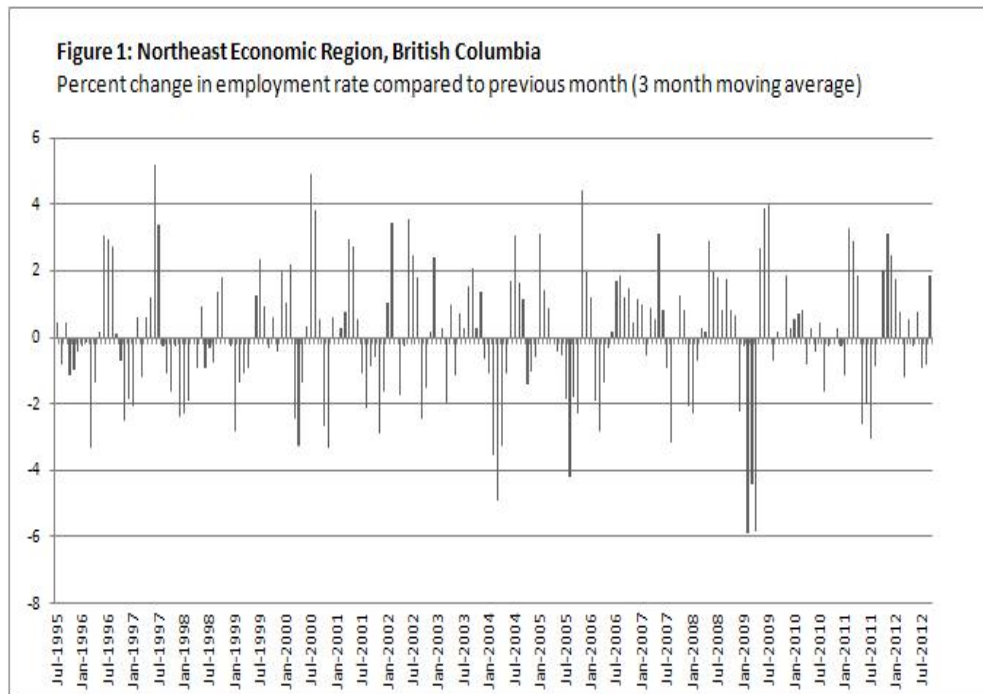
CSR programs can empower local communities by providing the opportunity to negotiate greater control and benefit from resource activities occurring within rural regions (Cheshire, 2010; Esteves 2008a, 2008b; Kemp & Brereton, 2006; Kemp, 2009; Shanks, 2006; Sosa & Keenan, 2001); for example, Freudenburg and Frickel (1994) argue that communities should capture “backward” linkages by providing inputs for resource production (i.e., food, supplies, equipment), as well as “forward” linkages by pursuing value-added production. With the adoption of labour shedding technologies and streamlined processes, attention has built upon this focus of pursuing employment and economic benefits toward capturing more benefits from industry partners to support long-term legacy investments and community development initiatives. However, in practice CSR can be used as a political tool to advance the neoliberal economic development agenda by placing more responsibility in the hands of the private sector to distribute benefits from the development of public resources to local communities (Fidler & Hitch, 2007; Hamann, 2003; Sadler & Lloyd, 2009). Dependence on corporate donations to fund infrastructure and services for rural communities also becomes problematic when the interests of shareholders take precedence over the interests of the public.

4.0 Regional Economic Waves

Much of the literature depicts a resource development landscape where communities experience boom and bust cycles of economic activity (Bradbury, 1984; Shandro et al., 2011). In some cases, Freudenburg and Frickel (1994) argue that the close proximity of different types of resources can create opportunities for mutual support and additional manufacturing. It can also create a greater sense of interdependency across resource sectors. They further argue that there is a need to explore how the operation of one resource-based industry impacts another. These literatures are important in describing the wide range of pressures that economic up- and down-swings place upon communities and regions. As demand for resource-based commodities subsides, more and more multi-national corporations are able to idle their resource production facilities (Markey et al., 2012). With the adoption of labour shedding technology, these highly automated and “turnkey” industries are able to wind down or restart their operations quite quickly in response to market activity. Over time, rural and small town places may experience more frequent, on-going, and alternating up- and down-swings in activity across resource sectors.

Drawing upon Statistics Canada data from 1995 to 2012, Figures 1 and 2 depict the percentage change in employment rates, compared to the previous month, using a 3-month moving average for both the Northeast Economic Region in BC and for the province as a whole. The Northeast Economic Region is predominantly driven by oil and gas, mining, and forestry. The data highlight not only the pace and direction of employment change, but also how the region has experienced a continually shifting set of fluctuations or waves of economic activity over time; however, what is unique is that the fluctuations or percent change in the employment rates vary much more drastically when compared to trends exhibited for the province as a whole. Rather than coping with the pressures of growth or contraction, communities are forced into a perpetual state of readiness in order to react to both circumstances. As a direct result, we argue that there is a need for a new model of resource industry development.

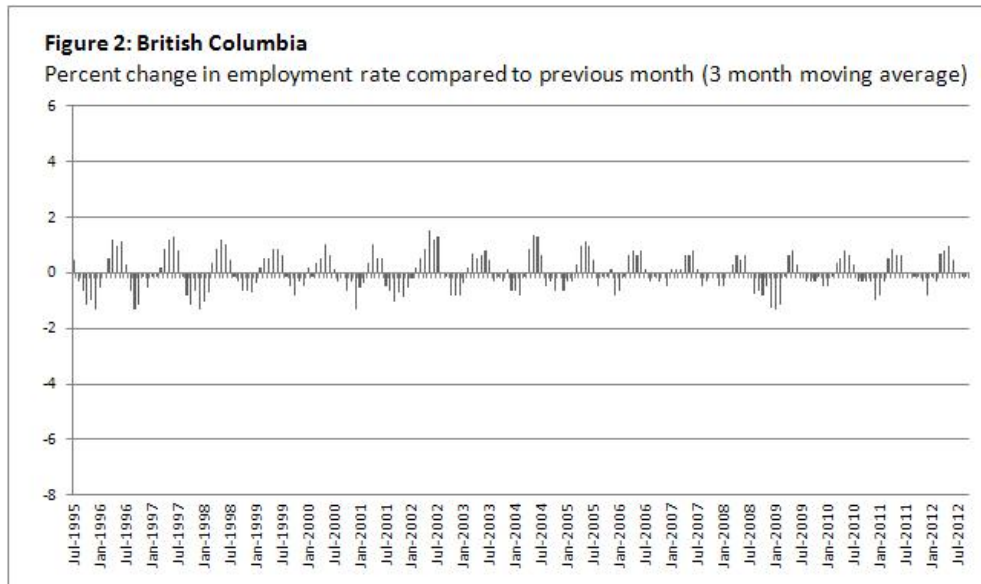
Figure 1: Northeast Economic Region, British Columbia.
Percent change in employment rate compared to previous month (3 month moving average).



Source: Statistics Canada, Labour Force Survey, CANSIM Table 282-0054.

Brown et al. (2005) also discuss the notion of boom and bust cycles in order to account for how communities adjust to shifts in economic and social conditions. They argue that a people's evaluation of, and responses to, community change occur not only during economic up- or down-swings, but also during the "recovery" cycles that occur in between these periods. However, in building upon this work, we would argue that unlike single industry resource towns, rural and small town places that have multiple resource sectors may not experience boom and bust cycles, but rather regional waves as different sectors experience boom and bust at different times. In such a context, communities may be simultaneously responding to both the impacts of a boom and bust cycle across various resource sectors.

Figure 2: British Columbia. Percent Change in Employment Rate Compared to Previous Month (3 Month Moving Average).



Source: Statistics Canada, Labour Force Survey, CANSIM Table 282-0054.

5.0 The Peace River Region

The impacts of industrial investments and waves of economic activity can be significant and transformative across many sectors including social, community, service, economic, and governance. Some resource-based regions have considerable experience with large industrial projects. Most notable is the Peace River region in northeast BC that has recent and continuing experience with major coal, oil, and gas developments. This region, located in the northeast corner of British Columbia (BC), Canada (see Figure 3), has a regional population of 60,082 (Statistics Canada, 2011). The main regional service centers are Fort St. John (18,609 population) and Dawson Creek (11,583 population), which are surrounded by smaller communities such as Chetwynd, Hudson's Hope, and Tumbler Ridge.

There are four key types of industrial development projects throughout the Peace River region: numerous oil and gas related projects, initiated by companies such as Encana, Spectra, Shell, and Talisman Energy; several mining operations around Tumbler Ridge and Hudson's Hope; the expansion of wind farm projects; several forestry endeavors (i.e., logging, sawmill, pulp and paper); and bio-energy related projects (i.e., co-generation and pellet plants). Other important activities in the region included agriculture, construction, and hydro development.

Since 2000, resource sectors across the Peace River region have undergone a series of fluctuations. Westcoast Energy announced the closure of the Aitken Creek natural gas processing plants near Fort St. John in 2000 ("Gas plant set to close", 2000). In the mining sector that same year, the closures of the Bullmoose and Quintette mines in Tumbler Ridge were announced (Halseth et al., 2003). The forest sector also experienced successive shutdowns during 2001, along with the sale of the Louisiana-Pacific pulp mill in Chetwynd to Tembec in 2002 (Nielsen, 2002). This did not prevent the mill from being closed for more than a year, it eventually re-opened in 2003 ("Chetwynd pulp mill reopened after delays", 2003). While Canfor closed its

Taylor operations in 2003, it injected \$40 million into mills located in Fort St. John and Prince George during that same year (Hoekstra, 2003). Mine production by companies such as Western Canadian Coal, Peace River Coal, and Pine Valley Mining began around Tumbler Ridge and Chetwynd in 2004, 2005, 2006, 2007, and 2010 (Hoekstra, 2006, 2004; Woodford, 2010); although, there were closures in 2006 and 2009 (Holloway, 2009; “Chetwynd area coal mine closes”, 2006). Following the subprime crisis in the U.S. in 2007, there was a slowdown in the economy that included the forestry, mining, and oil and gas industries, which affected contractors and suppliers (BC Government, 2010; Holloway, 2008). Proposed developments were delayed as companies re-examined their business plans or failed to obtain adequate investment capital from tightening global capital markets. At the same time, there were a series of announcements for new pipeline construction projects (“Pipeline projects on the go”, 2007). In 2008, Canfor announced a \$13.5 million investment to construct a wood residue energy facility in Fort St. John (“Canfor announces new Fort St. John mill”, 2008), while also closing its sawmill in Chetwynd for roughly two years between 2008 and 2010 (Bergland, 2010a; Hoekstra, 2007).

Figure 3: Peace River Region.



Map credit: Kyle Kusch.

To explore responses to regional waves of economic and social pressures, we engaged in a qualitative study with stakeholders in five communities across the Peace River region. Each town has a similar development history: most experienced resource industry expansion through the 1960s and 1970s, at which time they attracted young families and acquired local social and physical infrastructure to meet those needs. The exception is Tumbler Ridge, which was a planned town created in the early 1980s in response to global demand for coal (Gill, 1994).

6.0 Methodology

In the spring of 2012, key informant interviews were conducted with 21 stakeholders. Key informant interviews were strategically selected to “learn a great deal about issues of central importance to the purpose of the research” (Patton, 2002, p. 46). Using purposive sampling (Goering & Streiner, 1996), key informants were drawn from community groups, service providers, local and regional government, businesses, and industry. The goal was to interview people most closely involved in the management and operations of a range of community organizations. The interviews were not evenly distributed among the five study sites, as smaller communities have fewer organizations. It is also important to note that people in small communities often take on multiple roles (see Table 1); for example, some key informants were able to give perspectives both as a leader on their municipal council, and as a representative of an organization where they were employed or volunteered. Furthermore, every participant, through their senior role in their organization or business, was able to discuss hiring issues. Two members of the research team conducted each interview.

Participants were asked open-ended questions to explore their thoughts surrounding key pressures experienced from large industrial development, and actions undertaken to prepare for, and respond to, pressures and needs associated with large industrial development. The subject areas included in the interview guide were based on issues in the literature, and were reviewed with our partners to reflect issues that were deemed important to their respective communities. During each interview, comments were recorded and the text was provided to interviewees for review to ensure accuracy. Responses were then evaluated through latent and manifest content analysis by the project lead and two additional members of the research team (Babbie, 2004; Krippendorff & Bock, 2009). To improve consistency and reliability, members of the research team worked closely in the same office to code and categorize themes emerging from early interviews in order to develop a common coding approach. As new codes and themes emerged, they were shared and discussed across the coding team. In terms of manifest content analysis, the research team consolidated information about pressures, actions, and advice for each of the subject areas. By highlighting key words, the research team was able to create a series of categories and sub-categories (Andersen & Svensson, 2012). In terms of latent content analysis, the research team explored deeper meanings and connections across themes. Quotes have been provided to illuminate these themes.

We acknowledge that our research is framed by certain limitations; namely, it is not based on a longitudinal approach, and did not start prior to a boom period or immediately following a bust period. Rather, a retrospective approach was adopted, which can undermine attempts to determine the full extent or timing of impacts (Brown et al., 2005). Stakeholders may also minimize some concerns and emphasize others according to their own agenda. It is also important to recognize that while participants spoke about issues related to both periods of economic growth and decline, many of their comments were focused upon immediate pressures experienced at the time of the interview; therefore, a stronger emphasis was placed on pressures and responses associated with the growth period.

Table 1: *Participant Knowledge Areas*

Sector	# Respondents	% Respondents
Local /regional government	13	61.9
Physical infrastructure	14	66.7
Regional transportation	16	76.2
Housing	21	100.0
Education	20	95.2
Health	18	85.7
Community services	15	71.4
Protection services	14	66.7
Recreation	16	76.2
Hiring	21	100.0
Business recruitment / retention	14	66.7
Environment	14	66.7
Total participants	21	

Source: KTIDS Northwest Project Interviews, 2012. Note: participants could identify multiple knowledge areas.

7.0 Findings

Despite the withdrawal of senior government policies and program supports (Young, 2008), our findings suggest that communities were pursuing new ways to support infrastructure and program investments. In the following section, we explore how leaders, service providers, businesses, and community groups in five resource-based communities across the Peace River region are responding to four key pressures associated with regional waves of economic activity: infrastructure deficit, human and social service provision, services to industry, and housing.

7.1 Infrastructure Deficit

Limited / inadequate infrastructure

Across the Peace River region, infrastructure has been impacted in a number of ways by regional waves of economic activity. During economic growth, participants talked about increased demands placed on infrastructure, including water, sewage, utilities, roads, and airports. These increased demands came from industry, new residents to the region, and the influx of transient workers. Unfortunately, inadequate communication between industry, senior levels of government, and community stakeholders can make it difficult to determine, plan for, and develop

appropriate infrastructure (Sosa & Keenan, 2001). Participants expressed concerns about the lack of infrastructure in place to respond to industry needs. In some cases, the length of the airport runways has been inadequate to accommodate commercial air traffic. In other cases, infrastructure that was once heavily relied upon during peak mining operations, such as helicopter pads, was decommissioned following mine closures only to be needed again when the mines re-opened. Since a significant portion of the infrastructure was developed during the 1960s, the region is also coping with the problem of aging infrastructure. Upgrades are needed on everything, from public and private sector buildings to waterlines.

Hidden pressures on infrastructure

Infrastructure deficits emerged because participants felt that the pressures on infrastructure are somewhat “hidden”. These hidden pressures are reflected in the strong presence of workers commuting to the region for work, but who are not accounted for in Census figures for municipalities (Pratt, 2012). Provincial funding that is allocated to municipalities is based on population counts (Treasury Board of Canada Secretariat, 2012). Participants further argued that municipalities could face a number of other financial barriers to addressing infrastructure deficits, such as limited tax revenues as many industrial activities are located outside of municipal boundaries. The provincial government oversees resource activities that take place outside of municipalities, on rural Crown land (Markey & Heisler, 2011). Furthermore, participants noted that there are fewer community benefits in the form of tax revenues due to the influx of transient workers who commute to the region for work and do not pay local taxes to support the services or infrastructure they use in the community. At the same time, there is more competition for a shrinking pot of provincial funding, and communities are unable to keep pace with growing infrastructure demands.

Complexity with infrastructure planning and development

Communities are increasingly challenged by the complexity of operations in a fast-paced and constantly changing economy. While dealing with multiple projects at once, participants had concerns about determining the extent of senior government involvement, including the processes associated with such involvement. One concern included the limited ability to respond to infrastructure problems that are beyond local jurisdiction, such as airport infrastructure.

Responses to infrastructure pressures

Communities across the Peace River region have responded to infrastructure deficit pressures by working with the provincial government to expand their financial resources through the “Fair Share Agreement” (FSA). This agreement reallocates provincial royalties from oil and gas revenues back to municipalities across the Peace River region in order to support ongoing infrastructure investments (Markey & Heisler, 2011). It is an agreement that has been re-negotiated and has evolved over time. The most recent agreement provides a starting contribution of \$20 million to the region for the period between 2005 and 2020 (Ministry of Community, Aboriginal, and Women’s Services, 2005). Based on the rural industrial assessment tax base that fluctuates from year to year, indexing is in place to provide up to \$28 million annually. The development of the FSA agreement was significant for two reasons: (1) the recession in the late 2000s exposed the vulnerabilities associated

with resource dependency. The FSA was intended to off-set periodic declines and to provide long-term, stable funding to support diversification and infrastructure investments; (2) the FSA reinforced a developing view that local governments were on their own in preparing for, and addressing, community development foundations for renewal. The adoption of neoliberal policies by the provincial government (Young & Matthews, 2007) meant that local governments needed more certainty over financial resources to support infrastructure investments. Despite the financial benefits that this agreement brings to these communities, some participants did not feel that this funding was enough to cover accelerating infrastructure costs. Participants also noted that the FSA funding fluctuates according to economic activity. This can make budget planning and the sustaining of infrastructure programs quite difficult.

Local governments have also been investing more resources into research activities in order to gain the information required to make informed infrastructure investment decisions. This has included conducting their own count of both the resident and transient worker populations. Given the increased demand for water resources by both industry and residents, local governments have implemented new water use regulations and conservation policies. Through their official community plan and zoning bylaws, local governments have been working to encourage densification in order to reduce infrastructure costs. Land was allocated for new water reservoirs and treatment systems. Municipalities have also made a number of infrastructure investments, such as installing water meters and upgrading sewage treatment plants. Communities have also been collaborating with industry to address water supply and infrastructure needs; for example, the City of Dawson Creek developed a partnership with Shell to develop a water reclamation plant where waste water, rather than potable water, would be used by industry (Bergland, 2010b; Shell Canada, 2012).

In terms of local transportation, more four way stops have been developed to improve traffic flow. Maintenance programs were also developed to rate road repair needs. Local governments have also worked with industry to create appropriate staging areas to pick up industry workers. To improve regional transportation infrastructure, the provincial government approved funding to twin the highway and provide more passing lanes.

7.2 Human and Social Service Provision

Boom, bust, and recovery periods can bring an increased demand for services. Supports may be needed to build the capacity of residents to be prepared to engage in employment and business opportunities. There may be an increased need to provide immigrant services in support of an influx of foreign workers. An increased demand for health care services may occur as residents cope with mental and physical health stresses; for example, during boom periods workers can experience fatigue, loneliness, poor dietary habits, injuries, and stress in a range of risky work settings. Shift rotation schedules can be stressful and create functional lone parent families. Mental health and addiction issues, as well as violence, can also exist during both boom and bust periods (Shandro et al., 2011). However, during difficult economic times there is often pressure to reduce government expenditures and remove services that would otherwise support capacity and economic renewal, as well as the ability of households to cope with the ongoing stress of change (Halseth & Ryser, 2006). Once services are cut, it is difficult for them to be revived (Shandro

et al., 2011). The challenge for some communities is when boom and bust cycles start repeating with increased frequency.

Low-skilled workforce

When we spoke to stakeholders across the Peace River region, they identified a number of pressures that were influencing community services. In terms of education, concerns were expressed with low high school graduation rates, particularly among Aboriginal residents, as well as the need for upgrading skills and renewing certifications. In resource towns, it can be a challenge to get residents, including youth, to see the value of education, which has been historically undervalued as residents have been used to high paying industry jobs with lower levels of education (Ryser et al., 2013). This history of low-skilled jobs is being lost with the adoption of labour shedding technologies and a movement toward more skilled labour (Harvey, 1993). This is putting low-skilled workers at risk of living in poverty during both boom and bust periods.

Limited availability of services

Participants generally felt there has been a lack of poverty and literacy programs to support residents through transition periods. At the same time, participants identified the increased demand for health care services, affordable day care, child development services, recreational programs, and supports to address crime and other social problems associated with the increased cost of living during boom periods (Ryser and Halseth, 2011). There was also a concern about a lack of financial planning programs, as well as long-term and follow-up addictions supports for residents during boom, bust, and recovery periods.

Limited human resources

Participants also identified a number of issues that impacted the availability and operations of services and programs. They spoke about the limited human resources that were available to deliver programs and services. Shortages were identified in a range of sectors, and included a lack of instructors, doctors, nurses, ambulance attendants, medical specialists, social workers, clerical staff, restaurant staff, and trades professionals. During boom periods, some called for a poverty advocate to help low-income residents retain affordable housing and provide help to maneuver through processes to access employment and social supports during both economic up-swings and down-swings. At the same time, people were concerned about an aging workforce across all sectors. These staffing pressures have meant that existing staff must take on additional roles and workloads, often leading to burnout. Staffing pressures were magnified during industry shutdowns, when there is a large influx of people spending more time in the community. As community groups work to recruit staff to deliver needed supports, they are challenged to compete with industry wages.

Limited financial resources

Community service groups are also facing a number of financial challenges. In addition to provincial funding cuts to programs, there is a heavy reliance on project-based funding rather than long-term supports to sustain programs. Concerns were also expressed about the inability to change compensation from government contracts as the community experiences growth. Others noted that the provincial government is now encouraging non-profits to adopt a social enterprise or business

model (BC Social Innovation Council, 2012) that few are equipped to achieve. Additional pressures and stresses increase the likelihood of organizational collapse.

Operational challenges

These fiscal and human resource constraints have impacted the operations of community services. While there may be program cuts during economic decline, there is often a short time frame to reinstate services and support program development as industry projects ramp up. Participants identified problems with long waiting lists to access health care and other community supports. Staff shortages have also resulted in reduced hours of operation for small businesses, and after hours care has been eliminated for some community supports. Concerns were expressed about the disconnection between the design of training programs and industry needs:

The BC trades program sucks. The quality of training that's required out in the workforce is falling way behind on the education side. What I'm getting at, if you're a heavy equipment operator, you go in to get a heavy equipment operator certification. They're training you on equipment that's 5, and 10, and 15 years old. And when you, ok you've got that ticket. Okay, I'm a heavy equipment operator now, and I invite you in to come and sit on my new CAT. Yeah they're both yellow and that's about where they're at. And you're all educated and trained up and got the certificate. Now, as an employer, I've gotta go in and I've gotta run you through a training program and teach you from day 1 about how to use a joy stick, and try to understand the concepts of running that CAT (KTIDS Interview #13).

Low unemployment rates during economic growth can also reduce participation in educational programs. Such reduced participation can leave programs vulnerable to cuts and unavailable to support capacity renewal when needed.

Responses to service pressures

Under the fiscal constraints imposed by senior levels of government, community groups have had to find new ways to deliver the supports when required. They have responded to the reduced roles of senior levels of government through collaborations, in order to generate greater efficiencies and to access a broader range of resources; for example, partnerships have been formed with other communities to share capacities. Community groups have shared grant writers in order to pursue more financial resources while allowing staff to focus on core service needs. As one participant explained:

I actually did bring on a grant writer and was able to get that paid through Northern Development Initiative, NDIT, and because I've got four entities if you will, I asked them, their programs are only 4 months long for one grant writer, and I said could we piggy back so there is one consistent grant writer. And so again, pilot project, and it's been very successful and we were able to actually keep [name of agency] doors open. We've had well over nearly \$2 million come in from grant writing to the region, really, really cool. So that keeps our social services running (KTIDS Interview #10).

Some service providers, such as high schools, post-secondary education institutions, and First Nations groups, also have industry specific committees and collaborations in order to strengthen local training capacities. In such cases, industry has not only played a role in developing educational infrastructure, but is also playing a stronger role in college orientations, program design, safety briefings, and sponsoring students. Interagency groups, leadership circles (including industry, First Nations, and community stakeholders), and regional roundtables have also been formed to tackle issues such as employment, skills gaps and training needs, seniors' housing, and low-income housing. In-house industry training is also coordinated with official curriculum. Furthermore, mutual aid agreements have been developed to share expertise, human resources, training facilities, and equipment across industry rescue teams and local fire departments.

One participant also explained how new local collaborations and support from business and industry has been able to expand the social infrastructure in the community:

We have a youth drop in centre. It's funded minimally by the Ministry for Children and Family Development.... But we were in this old building that I think had been made out of grain elevators or something. It was falling apart, literally falling apart. Some days you couldn't even open the doors. So we went to the college who has a residential construction program and they went into partnership with us and this was their project for the year. So in 8 months, they built a new building basically. We had to come up with the materials, so the community really got behind it and donated an awful lot of materials, and then the balance is left up to us to pay, but it's all complete as of the end of April. They completed their course and that meant our building was completed (KTIDS Interview #15).

In addition to existing food bank or hamper programs, both community gardens and community kitchens have been developed to increase the food security of residents. Industry support has also been used to expand educational infrastructure through the acquisition of equipment simulators and the placement of an oil-drilling rig on campus. More attention has also been paid to strengthening the social infrastructure, in order to address a range of health and social issues in the community. Examples of such strengthening include Fort St. John donating land for a new hospital; new senior care facilities developed to begin addressing the needs of an aging population; new walk-in clinics opened around the region to relieve pressures on emergency wards; communities expanding their indoor and outdoor recreational infrastructure, etc. In some cases, communities have opted to convert their infrastructure into multipurpose recreational facilities; for example, an old arena has been converted into an indoor soccer pitch. Another community converted their curling rink into a pool for the summer. Using swipe card technologies, communities are also working to provide more flexible ways for people to access facilities. As one person told us:

They built a fitness facility in Fort St. John and Dawson Creek, those fitness facilities are privately run because there's a business case to have those not owned publically but to have them owned privately, but in Chetwynd there isn't. And we created that facility with swipe cards so you can pretty much go into their facility any time you want, and it's amazing, the people that

can go in before, or after, or even in the late hours to utilize the facilities (KTIDS Interview #13).

In terms of funding, community groups have also obtained support from local businesses and the oil and gas industry to support organizational operations and events; to obtain materials; to develop recreational facilities; and even to sponsor cross medical training. This has helped to strengthen the availability of programs and services in order to respond to industry pressures. Given the shortage of trade workers in the region (BC Chamber of Commerce, n.d.; Northeast Regional Workforce Table, 2012), industry and educational institutions are working more aggressively to recruit and develop the next generation of industry workers; for example, the regional college and high school have established a dual credit program that allows high school students to begin their post-secondary trades training in high school. As one person told us:

So kids coming out of school, you know, like they've got a dual credit program right now with the school district and the colleges. So you can actually start apprenticeship in grade 11, so by the time you're 20 you can be a, you know, journeyman ticket, welder, whatever, carpenter. They're trying to speed that up to get people into the job place sooner that are ticketed, which is a good program (KTIDS Interview #8).

Educational institutions are expanding this program to address labour shortages in other sectors, such as early childhood education, social work, and culinary skills. In addition to support from the provincial government and the Northern Development Initiatives Trust, companies such as Shell, Encana, Canfor, Spectra Energy, and Canadian Natural Resources are key partners in contributing operational funds and scholarships for this program. To address labour shortages in the health care sector, the University of Northern British Columbia's Northern Medical Program was also developed to train doctors in the North for the North. There are also more English as Second Language programs, literacy programs, and immigrant settlement services to support the influx of foreign workers. Attention has also been focused on strengthening social programs and services such as drop-in programs, parenting programs, youth and child development programs, and programs for women.

A key part of strengthening social services throughout the region has been the attention paid to the recruitment and retention of human resources; for example, committees have been formed to address the recruitment and retention of health care staff. The Northern Health Authority and the school district have also been collaborating on joint recruitment ads and strategies. The Family Friendly Initiative was also adopted in Fort St. John to enhance the recruitment and retention of workers in local organizations and businesses. The goal is to make the workplace a welcoming environment for families. This may include developing flexible work hours in order to help employees juggle family responsibilities. This initiative offers a toolkit that can provide businesses and organizations with a family-friendly designation that they can use in their recruiting material. They are also profiled on the "Family-Friendly" website as to why they are a family-friendly business. Industries have also used the "Family-Friendly" website to provide information to prospective workers. Furthermore, organizations have provided incentives to retain employees, such as financial bonuses, fitness rewards, better benefit packages, access to wellness programs, and point programs to obtain goods and services.

7.3 Services to Industry

Lack of information

When large-scale industry projects develop, there can be many opportunities for local contractors and suppliers. Participants identified two primary concerns with services to industry. The first involved a lack of information that is shared. Some businesses do not know where to find information about contract bids, and industry often does not know where to find contractors for specific jobs.

Operational challenges

The second key problem identified concerned operational challenges, as contractors were experiencing delays in being paid by industry. In some cases, invoices had not been processed for up to six months. As one participant explained, “Small companies don’t have \$1 million in credit to hold themselves over for 6 months” (KTIDS Interview #21). Concerns were also expressed about the capacity of local firms to do industry jobs.

Responses to improve services to industry

In response, Energy Services BC was developed to provide a BC-based procurement system for industry. This system provides a one-stop shop for industry bidding. It also provides potential contractors with information about certification and other related procurement requirements that need to be met in order to be ready to submit bids. As one stakeholder explained:

We’re looking at an initiative to actually have a one stop for industry to put their bids, their contracts on their bidding, and that’s just in the process right now. So it’s to really encourage and make sure that all the contractors here again have an opportunity, and if they’re not up to snuff or they don’t have enough, what’s the word I’m looking for, not capacity, its more... You have to understand that 15 years ago, because we’ve had oil and gas in this region since 1950 and a lot of the contractors did an awful lot of stuff by just on a handshake. So while they may be very, very good at what they’re doing, they never had to have the management skills behind them, such as for accounting, HR, and all that kind of stuff. So its understanding who needs to be educated up in that, so that they can actually actively qualify for bids because industry is now demanding computer generated bids and all that (KTIDS Interview #10).

A quick pay system has also been developed to enable suppliers and contractors to submit invoices online and be efficiently processed by industry. Through the quick pay system, contractors’ invoices are generally processed within 30 to 45 days.

7.4 Housing

Lack of housing / accommodations

Through the analysis, we identified five key housing pressures that were facing these communities. The first involved a limited availability of all housing types. Concerns were expressed about full camps, the shortage of rental properties, the lack of hotel

vacancies available for tourists, and the limited availability of accommodation for industry workers, as well as non-industry workers such as professionals, students, and service sector workers.

Limited affordability

The second issue concerned the limited affordability of the housing stock. An influx of workers and new residents has prompted rising housing and rental costs. In some cases, participants talked about problems stemming from the renovation of lower cost housing into higher cost housing; as a result, there are fewer affordable housing options for unskilled workers and low-income residents.

Limited capacity to support housing planning and development

While there has been some effort to address housing issues, there is a lack of accurate information to support needs assessments, as the exclusion of transient workers from Census figures distort local needs. There was also a concern that the focus on workers has distracted the community from addressing other needs, such as seniors' housing. At the same time, there exists difficulty in attracting developers, as shocks from previous closures have prevented people from investing in housing projects. As one participant noted:

The shock experienced with the round of mine closures lingers. Now, with industry operating, growing, and projecting long-term activity, it's difficult for people to feel confident enough to make investments. Developers aren't purchasing and building because of the high expense due to the remoteness and due to that insecurity (KTIDS Interview #4).

Finally, there is also a lack of residential construction trade workers to complete housing projects.

Responses to housing pressures

To strengthen the housing infrastructure, communities have strategically adopted local planning tools, and have worked with a range of stakeholders. In addition to encouraging densification and the development of secondary suites in homes through zoning bylaws and official community plans, local governments have offered financial incentives to encourage private sector investments; for example, Chetwynd offers a five year tax break on six family unit investments. Industries and local businesses have also stepped up to address housing needs for their employees; for example, one person commented:

Our Tim Horton's, and like Subways and stuff like that, they've actually brought, been using a lot of immigrant people from the Philippines and Mexico and so forth just to fill the positions because they're lower end positions. And, of course, when most people are making \$25-\$30 an hour, then they can't pay that and they had quite a shortage. With doing that they've actually had to buy some houses round town and house people. They actually purchased homes and put people in them just so they'd have workers here (KTIDS Interview #14).

Economic development officers have connected industry with hotel and apartment owners that have resulted in the development of long-term lease agreements. In one

case, industry purchased a local hotel to provide housing for their workers, while leasing the bottom floor for public use. Long-term lease agreements have also been developed with multi-family dwellings. Furthermore, local governments have been working with industry to ensure that camps are temporary. As a result, many types of accommodations have been expanded, such as hotels, apartments, condos, and new subdivisions. There has also been greater attention to expand the social housing infrastructure by creating a warming shelter, by developing more low-income housing, and by expanding seniors' housing options.

If we place the capacity limitations within the context of neoliberalism and regional waves of economic activity, communities cannot assume responsibility alone to address infrastructure, human and social services, services for industry, and housing. Despite several innovative approaches and partnerships to address needs across these areas, limited community capacity has been exposed and exacerbated by senior government policies that download responsibilities onto overburdened local government and service sectors. A more proactive and comprehensive strategy to better position these communities cannot be developed without strategic senior government support that facilitates cooperation and informed responses to the challenges and opportunities associated with regional waves.

8.0 Discussion

Our findings suggest that this oil and gas frontier region fits neither boom nor bust characterizations, but instead is responding with limited state involvement to an on-going set of regional development waves. The discussion sets this region's experience into debates about the consequences of a more neoliberal approach to development policy, and the need for a new model of resource region development that explores a more contextually nuanced understanding of compressed fluctuations within regional economies.

During boom periods, there is a scramble to capitalize and maximize on economic upswings, which can stress the limited capacity for future planning. Local governments, businesses, and community organizations can become consumed by the opportunity as stakeholders react to change (Evans & Sawyer, 2009). During bust periods, there can be a scramble for assistance from industry and senior levels of government that can create sub-par conditions for good planning (Ryser & Halseth, 2010). Communities struggle to cope with declining revenues that left them with more lean administrative and on-the-ground human resources, while also seeking to mitigate the social impacts of unemployment. During periods of economic crisis, community organizations and quality of life services can be vulnerable to cuts.

In the case of the Peace River region, there are multiple resource sectors that boom and bust at different times. Through the struggles of the forest industry to the booming oil and gas period in the late 2000s, we can see how communities in this region are simultaneously responding to the impacts of both economic boom and bust pressures. The adoption of labour shedding technologies and the movement toward more skilled labour has meant that socio-demographic characteristics typically associated with bust periods (i.e., unemployment, poverty, etc.) are concomitantly being exposed during periods of growth, as some residents are not prepared to engage with or optimize the benefits associated with that booming economy.

Fresh memories about recent economic declines have limited investment during recovery and boom periods. While industry may be better positioned to respond faster during boom periods due to their increased capital flow, local governments, small businesses, and community groups do not have the human or financial capital flow to respond as quickly. Despite industry support, there are gaps in community infrastructure and supports that need to be in place in order to strengthen community resiliency and renewal during regional waves. As more responsibilities have been downloaded to municipal governments (Halseth et al., 2003), local efforts have been further hampered by the limited availability of timely and relevant information to support and attract infrastructure and program investments. Exploring these issues is important given that the degree of labour mobility that supports industry activities in rural regions is not captured in census data.

While our findings suggest that we are seeing a transformation in the role of industry, the goals of industry stakeholders are not always strongly integrated with the development of community foundations that support long-term stability and renewal. Much of the industry support highlighted by our participants was focused on mutually beneficial infrastructure and support for the labour force that will directly tie into meeting industry needs. Industry has been more silent with regard to a wider range of community needs. Furthermore, neoliberal approaches that rely on corporate social responsibility as a part of community resiliency and renewal strategies, fail to recognize that local industry offices have limited control over investment decisions that are controlled by stakeholders in distant places. Future research could examine the extent to which CSR benefits from industry are making up for shortfalls in senior government revenues to support infrastructure and program investments. There is also a limited understanding of the underlying mechanisms, processes, and tools linking CSR with the outcomes of community and economic development initiatives (Aguinis & Glavas, 2012). As we see neoliberal policies implemented and the role of industry transformed, more research could explore how these spaces of negotiation are formed, especially in rural landscapes where much of the resource activity is located outside of municipal boundaries.

Our findings also suggest that non-profit organizations are feeling new pressures from senior levels of government to adopt a social enterprise model as yet another tool to support the neoliberal agenda. These new policies expose the limitations of nonprofits that have a lack of human resources; limited social, business, and political networks; limited access to adequate infrastructure; and limited business management skills. Policies that encourage non-profits to adopt social enterprise models must be accompanied with commensurate supports that uphold administrative and business management planning and training.

There is a question of whether policies and programs delivered in this neoliberal era are purposeful or strategic enough to support community stability and resiliency, when the very foundation of such concepts is certainty: something that is difficult to obtain under operating conditions that increasingly rely on corporate social responsibility and social enterprise models as key community development tools. The role of senior levels of government in this neoliberal era has arguably changed from partner to facilitator (Halseth et al., 2010). In our study, there was confusion about the timing and extent of senior government roles as a partner in, or facilitator of, development; as a broker of building relationships across stakeholders; or as a regulator. Senior levels of government have adopted top-down approaches to reduce government expenditures and find greater efficiencies in order to create lean

governments, regardless of the needs associated with growth and decline across rural and small town places. With a focus on “responding” to urgent issues, inadequate resources have been invested in anticipating and positioning the region to optimize benefits for growth. The more recent regional debates about importing foreign labour (Clark, 2012) to this region provide an example of the failure to invest in the educational and training infrastructure. In this neoliberal era, programs are viewed as costs rather than investments.

Reflecting upon these pressures, a new model of resource region development is required to better incorporate the idea of readiness for regional waves. This new model is urgently needed in order to shape policies and build appropriate capacities that reflect our understanding of these communities. New approaches are also needed to support comprehensive planning and investments across a range of physical and social infrastructure, in order to better position the communities and their residents to respond to the challenges and opportunities associated with regional waves.

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